EASTERN CREEK ENERGY FROM WASTE FACILITY - SSD 6236 - D510/18

RESPONSE TO DPE ASSESSMENT REPORT

URBIS

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SA5220
PREPARED FOR THE NEXT GENERATION NSW PTY LTD

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TABLE OF CONTENTS

FIGURES:

TABLES:

1. INTRODUCTION

Urbis Pty Ltd (Urbis), on behalf of The Next Generation NSW Pty Ltd (TNG), submit this report in response to the Department of Planning & Environment's (DPE) Assessment Report for the Eastern Creek Energy from Waste Facility (SSD 6236) and in doing so seek to provide the Independent Planning Commission (IPC) with all of the information considered necessary to make an informed decision on the presented application.

This submission clearly details responses to the views expressed in the DPE Assessment Report, the related independent advice on which the Assessment Report is based, and the assumptions made within the recommendation.

This report is structured as follows:

1. Identification of the strategic importance of SSD 6236.
2. Consideration of the key reasons for refusal, including TNG's response.
3. Provision of key information to the IPC to enable informed deliberation, including a breakdown of areas where the DPE Assessment Report contains factual errors or where information has been misrepresented or misinterpreted.
4. An alternative recommendation to that presented in the Assessment Report.

1.1. PROJECT OVERVIEW

1.1.1. Background

As detailed in the DPE Assessment Report, SSD 6236 has been subject of an iterative process in reaching the current amended application presented to the IPC for determination. The following is a brief summary of the project to date:

- **April 2015:** SSDA for a two stage Energy from Waste Facility (capacity to treat 1.35 million tonnes of residual waste per annum) submitted to the DPE and placed on exhibition between 27 May 2015 and 27 July 2015.
- **November 2016:** In addressing the submissions received from the community, Government agencies, key stakeholders and interest groups, the SSDA was formally amended and an amended Environmental Impact Statement (EIS) and associated documentation was submitted to the DPE for a facility to treat up to 1.105 million tonnes of residual waste fuel per annum. The amended EIS was placed on exhibition between 9 December 2016 and 1 March 2017.
- **July 2017:** A Response to Submissions Report (RTS), was prepared responding to the further submissions received in response to the exhibition of the amended EIS was submitted. This confirmed that TNG was only seeking approval of Stage 1 of the facility only.
- **September 2017:** A revised RTS was submitted to the DPE with additional modelling and technical documentation for the Stage 1 facility only.

The modifications and amendments to the proposed facility have generally been undertaken in response to concerns expressed by some in the local community, Government agencies and key stakeholders. TNG has openly consulted with the DPE and their technical experts in addressing issues, queries, and providing additional information to inform the DPE on the use and operation of the best practice technology proposed to be used in the facility.

Ultimately, the information presented by the applicant has been reviewed by relevant agencies and forms a robust and comprehensive assessment of the proposed development.

1.1.2. Proposal

For the avoidance of doubt it is important to clearly outline the development for which approval is sought under SSDA 6236:

The proposal involves the construction and operation of Stage 1 of an Energy from Waste Facility for the treatment of 552,500 tonnes per annum of residential waste fuels (engineering capacity for approximately 405,000 to 675,500 tpa with an optimum expected throughput of 552,500 tpa). This will involve the following plant, equipment and systems:

- Tipping hall and fuel storage.
- Waste bunker.
- Combustion line 1.
- Combustion line 2.
- Two independent boilers.
- Flue gas treatment systems.
- One stack.
- One turbine.
- One air cooled condenser.
- Associated auxiliary equipment (including two emergency generators).
- Control room, workshop, offices and amenities.
- Laydown areas.

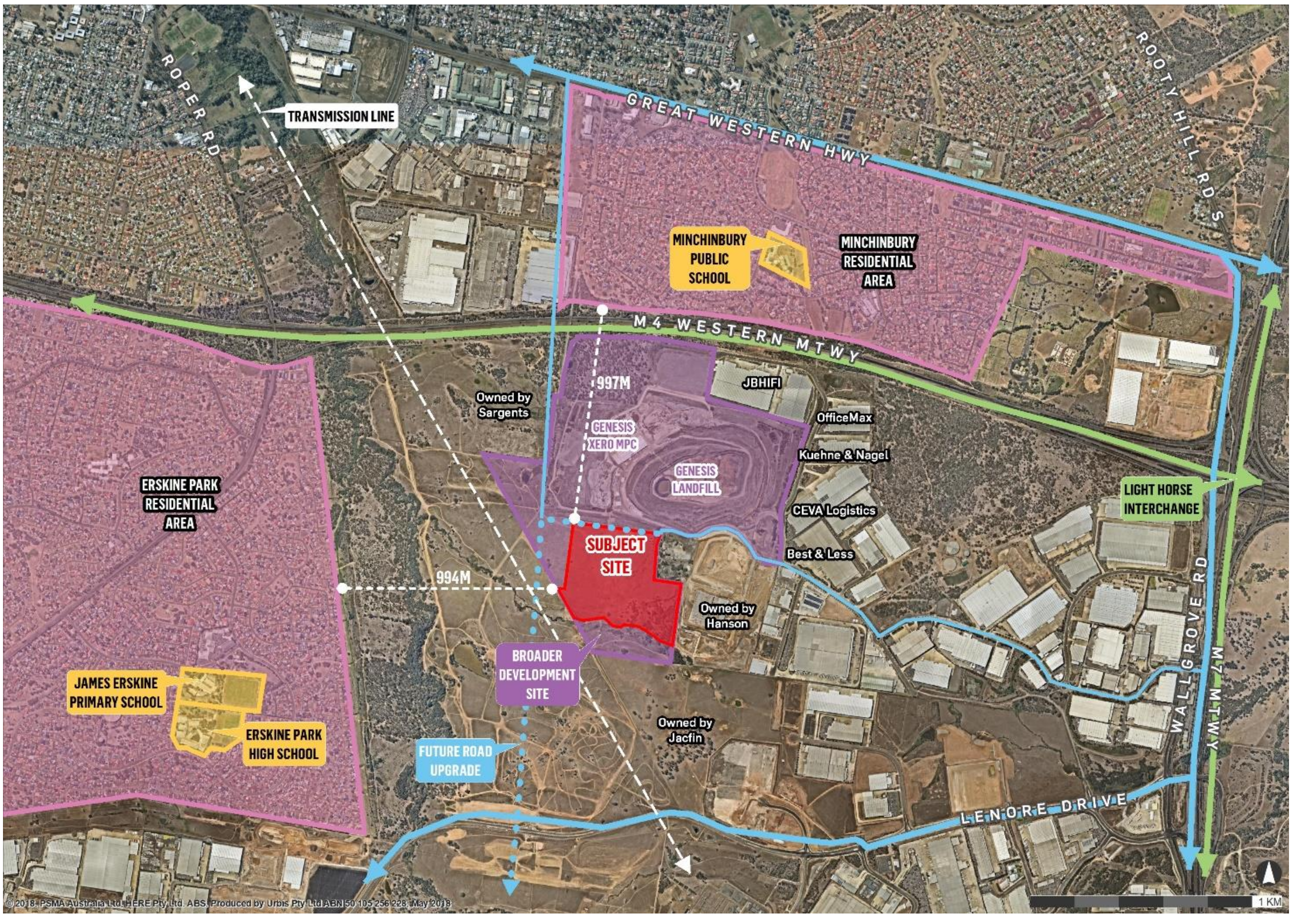
The development is proposed to occur immediately adjacent and to the south of the existing Genesis Xero Waste MPC, recycling centre, and landfill (Genesis MPC). **Figure 1**, clearly outlines the extent of the proposed development in the context of its surrounds.

The proposed facility has been designed to enable future expansion if the need arises in the future. Notwithstanding this the Energy from Waste Facility as proposed can operate effectively as proposed and is not reliant on a future later Stage to achieve operational efficiencies.

The proposal presented is in a logical location within the existing Industrial Precinct (Eastern Creek) in the Western Sydney Employment Area (WSEA) and will provide a number of synergies and operational efficiencies with the existing adjacent Genesis MPC.

The proposal is located approximately 997 metres from the Minchinbury residential area to the north and approximately 994 metres from the Erskine Park residential area to the west. The topography of the site minimises any perceived visual impact.

Figure 1 – Surrounding Land Uses



2. STRATEGIC IMPORTANCE

The Eastern Creek Energy from Waste Facility will provide a sustainable solution to waste disposal and renewable energy generation. This is driven by the following strategic factors:

- The need to reduce the generation of greenhouse gases and contribute towards meeting the energy and waste disposal needs of Sydney over the next 50 years.
- To manage or reduce the need for landfill in Metropolitan Sydney.
- To provide New South Wales with the highest standard of technology in the Energy from Waste sector that is tried and proven successful, assists in delivering on the targets of the NSW Renewable Energy Action Plan, and aligns with the EPA NSW Energy from Waste Policy.
- To create a consistent source of green energy directly into the state's electricity grid.
- To create an employment generating land use, consistent with the objectives and intentions of the Eastern Creek Precinct within the broader Western Sydney Employment Lands.
- To retain high conservation value land within the site.

The *Waste Avoidance and Resource Recovery Act 2001* aims to ensure that consideration of resource management options follows the following priorities:

- Avoidance of unnecessary resource consumption.
- Resource Recovery (including reuse, reprocessing, recycling **and** energy recovery).
- Disposal.

TNG does not have the ability to influence the extent of resource consumption within the Sydney Metropolitan area however the proposal as presented will complement the current resource recovery operations at the adjacent Genesis MPC and will provide for energy recovery for materials that are unable to be reused, recycled or reprocessed.

Continued population growth across the Sydney metropolitan area is contributing to an increase of waste materials associated with the building and construction industry, as well as the operation of commercial and industrial premises. Despite continual improvements in waste recycling and material reuses, a portion of all waste streams cannot be reused or recycled as it is either too small or too dirty. These residual wastes are presently landfilled.

Waste modelling undertaken for the project identified approximately 1,625,000 tonnes of residual waste was disposed of by landfill in the 2016/2017 financial year, material that could have been rendered suitable for energy recovery (referred to as eligible feedstock). Recent legislative changes in regards to waste receipt within Queensland from other states and the cessation of the export of recyclable waste to China, signals that there is a clear need for an alternative solution to landfill for waste management within NSW.

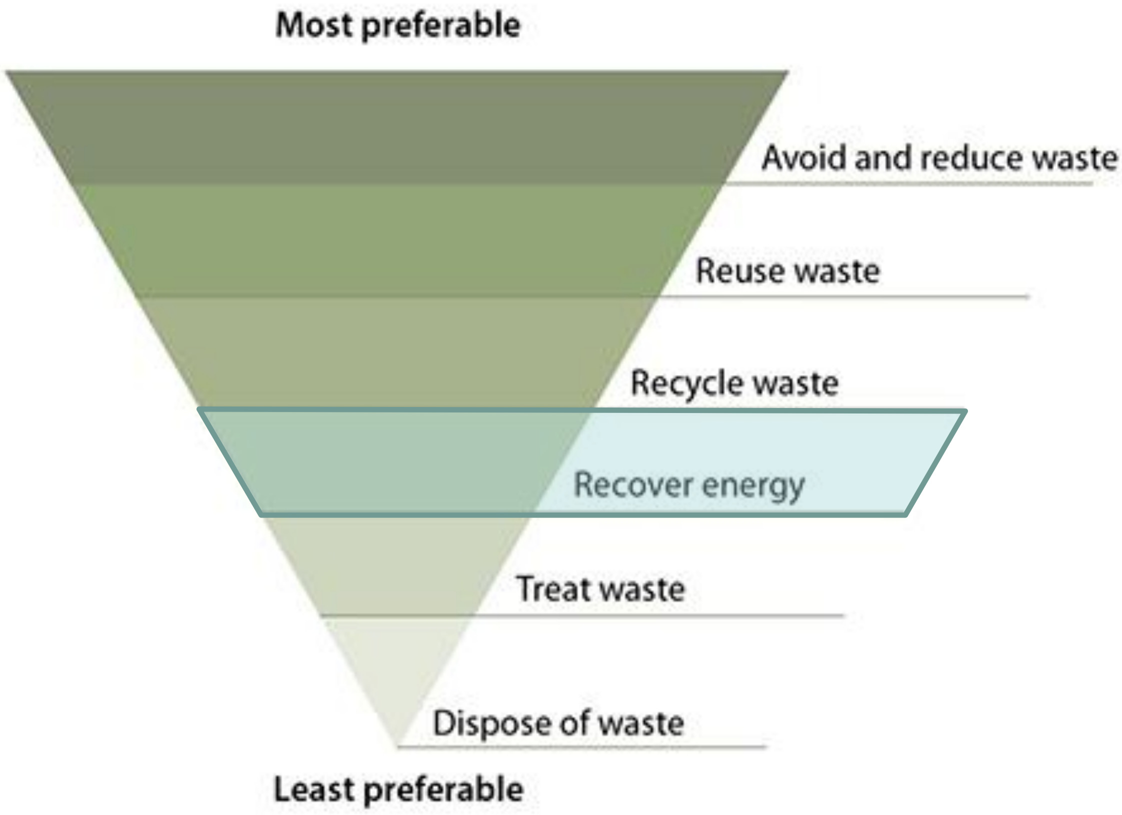
Understandably, NSW is taking positive steps to improve its waste management practices. The NSW Energy from Waste Policy Statement recognises that:

'the recovery of energy and resources from the thermal processing of waste has the potential, as part of an integrated waste management strategy, to deliver positive outcomes for the community and the environment.'

Energy from Waste, and in particular the facility proposed under SSD 6236 will deliver a better resource recovery outcome than waste treatment (recycling and reuse) and disposal alone.

The TNG proposal seeks to generate energy from waste in accordance with the resource recovery priorities established by the waste hierarchy which reflects the strategic importance of this proposal.

Figure 2 – The Waste Hierarchy (EPA, NSW)



2.1. PROJECT BENEFITS

The proposed development is an important step in the diversion of waste from landfill. The result will be a major contribution for the reduction of methane emissions from landfill and provision of low carbon energy whilst also dealing with NSW waste disposal challenges.

The DPE Assessment Report while identifying perceived issues and procedural concerns, does not identify or discuss any of the project benefits.

The proposal offers a number of substantial and tangible benefits:

1. **Resource Recovery:** Introduction of tried and proven technology in resource recovery to break the future reliance within NSW and Metropolitan Sydney on landfilling as the sole repository of residual waste. The facility will provide a safe, clean and reliable form of energy generation for Metropolitan Sydney now and in the future, resulting in improved waste management and a reduction in the need for new and additional landfill sites in the medium term in Metropolitan Sydney.

2. **Investment and Jobs:** The proposal will deliver over $340 million of investment in the locality during the construction and establishment of the facility. This is in addition to a proposed voluntary planning agreement which provides for the payment of $3,048,193 in contributions for the delivery of regional transport infrastructure services. The proposal is expected to support 500 direct jobs during construction and 55 permanent direct jobs during operation.

3. **Sustainable solution:** The proposal offers a sustainable solution to Sydney's growing levels of waste generation resulting in a net positive greenhouse gas effect, eliminating the emission of approximately 13.6 to 17.1 Mt CO2-E over a 25-year period and generation of up to 68.65 MWe of energy whch can power over 100,000 homes.

4. **Location:** The location is well separated from residential localities. The development has been designed to respond to the site's natural topography minimising the visual impact of the facility from the public domain and nearby sensitive land uses.

Therefore, in addition to addressing the NSW Waste Hierarchy and presenting a sustainable solution to resource recovery, the proposal offers a number of substantial and tangible benefits locally and regionally. The substantial investment and creation of employment, in addition to reduced pressures on landfill should be a key consideration, particularly as it has been demonstrated that the technical issues are able to be resolved and managed appropriately. The proposal represents the most efficient use of an available resource with no increase in the risk of harm to human health or the environment.

As demonstrated in the technical report, the amended EIS and associated technical report the proposed facility will recover energy from waste using international best practice techniques in terms of process design and control, emissions control equipment and design, real time emissions monitoring and control processes.

3. RELEVANT FACTS AND INFORMATION

It is submitted that the DPE Assessment Report does not provide a detailed and accurate description and discussion of the details contained within the RTS, technical reports and the additional information provided by the applicant to the authorities in response to requests for additional information.

This report summarises the key elements of the proposal as detailed in the technical reports and documentation submitted to date. The content of these reports reflects substantial work by TNG through its consultant team having undertaken a number of briefing sessions with representatives of the DPE and their technical experts and other government agencies.

TNG and its technical advisers consider that the DPE Assessment Report contains misinterpretations and misrepresentations of information submitted. These incorrect elements have resulted in an incomplete and not fully informed assessment of the proposal.

It is submitted that:

1. All reasonable efforts have been made by the applicant to respond to requests for information from the DPE. The issues raised by authorities during the assessment period have been addressed in agreed amendments to the scale of the project or commitments by the applicant; few of which are reflected in the DPE Assessment Report.
2. The scale of the facility has been addressed as part of the amended application with only Stage 1 of the facility proposed and the subject of the application before the IPC for determination.
3. The nature of the facility is entirely consistent with its location and the IN1 General Industrial zoning of the site and locality.
4. Human health and air quality impacts have been comprehensively modelled and addressed as part of the proposal.
5. A genuine and adequate consultation process has been entered into between the applicant and the community throughout the application process.
6. The design fuel mix proposed with the inclusion of ‘floc waste’ complies with the resource recovery criteria within the NSW EfW Policy.
7. The proposal offers substantial benefits locally and regionally and is able to be approved with conditions.

4. RESPONSES TO REASONS FOR REFUSAL

The following sections consider and respond to the key reasons for refusal listed in the DPE Assessment Report. **Table 1** provides guidance as to where the reasons for refusal listed are responded to in this report.

Overall, TNG rejects the grounds for refusal on the basis that the reasons given for refusal:

a) Are unsubstantiated and are not based on technical evidence.

b) Are vague and uncertain to a degree that no reasonable authority could rely upon them.

c) Rely upon matters which are not relevant to planning assessment and approval process.

d) Have taken into account extraneous material including matters indicative of a political bias.

e) Have failed to take into account and lend due weight to all of the evidence submitted by the applicant including the positive social, environmental and economic impacts that will be delivered by the proposal.

In support of the above, technical inputs have been sought from the applicant's consultant team in addressing the reasons for refusal. These inputs should be read in conjunction with the sections below and are included at **Appendices A-G** of this report**.**

Table 1 – Reasons for Refusal

Reason for Refusal	Response Location
a) the development is inconsistent with key requirements of the *NSW Energy from Waste Policy Statement (EPA 2015).*	Section 4.1, Section 4.2, Section 4.4, Section 4.5, and all appendices.
b) the impacts to air quality and risk to human health are unknown.	Section 4.2 and Appendix D and E.
c) the Applicant has not adequately justified the scale of the facility.	Section 4.3.
d) the development has the potential to result in waste being used for energy recovery rather than higher order resource recovery outcomes directly contravening the overarching principles of waste avoidance and recovery enshrined in the waste hierarchy.	Section 4.3, Section 4.4, and Appendix F.
e) the development is inconsistent with State and regional strategic planning for waste infrastructure needs.	All sections.
f) the development is not supported by the local community, local councils, special interest groups and local businesses.	Section 4.5 and Appendix G.
g) the Applicant has not obtained community acceptance for the proposal.	Section 4.5.
h) the development is not in the public interest.	Section 4.6.

4.1. NSW ENERGY FROM WASTE POLICY STATEMENT (EPA 2015)

4.1.1. Review of NSW EfW Policy Statement Objectives

The *NSW Energy from Waste Policy Statement* (NSW EfW Policy) identifies the need to engage in a genuine dialogue with the community and ensure that planning consent and other approval authorities are provided with accurate and reliable information.

Separate to the statutory exhibition and consultation undertaken by the DPE the applicant has undertaken an extensive community consultation process as detailed in **Section 4.5** of this report. The consultation exceeded that required to be undertaken for the project under the SEARs issued by the DPE. It is acknowledged that, the NSW EfW Policy has an introductory statement that '…*the recovery of energy and resources from thermal processing of waste has the potential, as part of an integrated waste management strategy, to deliver outcomes for the community and the environment. Energy from waste can be valid pathway for residual waste where:*

- *Further material recovery through reuse, reprocessing or recycling is not financially sustainable for technically achievable.*
- *Energy from waste can be a valid pathway for residual waste where: community acceptance to operate such a process has been obtained.'*

The NSW EfW Policy attempts to elevate an assessment of the state of public opinion beyond that which is provided for in the planning assessment process within legislation such as the *Environmental Planning and Assessment Act 1979* (EP&A Act) and is a consideration not supported by planning legislation. This is reinforced as follows:

- The *Protection of the Environment Administration Act 1997* (POEO Act) does not authorise the NSW EPA to establish or require a 'community approval' or 'community support' as a condition of granting an approval or making a favourable recommendation.
  - A purported requirement on an applicant to demonstrate community approval or support is ultra vires under the POEO Act.
  - If such a requirement is not ultra vires, it is nevertheless not a relevant planning consideration under the objects of the EP&A Act.
- The wording of 'public' or 'community' are not defined in legislation and neither is there any requirement or metric as to how community acceptance is measured.

In addition to the above, there are a number of inconsistencies and broad terminology used within the NSW EfW Policy, as detailed below:

- The NSW EfW Policy is imprecise. This is demonstrated in the use of expressions such as 'same technologies', 'like waste streams', and 'similar jurisdictions'
- The test of comparability in the NSW EfW Policy is thought to be capable of being complied with the use of the words 'same', 'like', and 'similar' are to be treated as synonyms and the word 'like' is not to be interpreted as 'identical'.
- The NSW EfW Policy incorrectly assumes that nomenclature of waste is identical across all similar jurisdictions. Waste streams are therefore not capable of a direct comparison on that basis.
- The NSW EfW Policy contains provision for the exclusion of specific materials on the basis that they are hazardous or restricted but contain no guidance as to materials which 'might' or 'could possibly' contain unacceptable materials.
- The NSW EfW Policy **does not** exclude 'floc' (being the waste generated from the shredding of motor vehicles and metal goods) as an eligible waste fuel. In response to an enquiry and at meetings between the applicant and the DPE and its experts, no suggestion was made in relation to the potential exclusion of floc as a component of the residual waste fuel stream.
- The NSW EfW Policy fails to take into account the effect of the interstate transfer of recyclable waste from NSW to Queensland, the effects of that practice on recycling in NSW and also the likely effects of the imminent cessation of that practice.

The policy objectives detailed above have resulted in a misapplication of the NSW EfW Policy in relation to this project. The applicant identifies the following:

1. The NSW EPA required the applicant to demonstrate the quantities of waste available to the applicant for use in the project. This requirement as accepted by the DPE is not stated in the NSW EfW Policy. It is considered that this is a commercial consideration for the proposal and therefore irrelevant in the application of the NSW EfW Policy.

2. In application of the policy, the DPE failed to appropriately consider a range of relevant considerations, or in the alternative failed to accord sufficient weight to them as below:

    - The cessation of the export of recyclable waste to China.
    - The exportation of waste interstate and the cessation of exporting recyclable waste.
    - The shortage of landfills in Sydney
    - The power generation needs of the State and the closing of power stations.
    - The pollution and air quality and health effects of electricity generation with the continued use of coal as a fuel.
    - The mitigation of the generation of landfill gases in assisting towards compliance with the Paris Accords on Climate Change.

The DPE has failed to correctly interpret, lend due weight, and take into account various aspects of the proposal in its assessment against the NSW EfW Policy.

4.1.2. Operational Reference Facility

The NSW EfW Policy outlines the following requirement:

> *'4. Energy recovery facilities*
>
> *Energy recovery facilities must use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to <u>fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions.'</u>*

The DPE Assessment Report uses this argument as a central theme in the recommendation for refusal, concluding that:

> *'the Applicant has not identified a suitable reference facility and therefore the expected air emissions from the proposed design fuel are unknown'.*

Response:

As outlined in the documentation to date, the applicant nominated an existing energy from waste facility in West Yorkshire in the United Kingdom known as Ferrybridge Multifuel 1. This facility was selected based on the following:

- The United Kingdom is a similar jurisdiction to NSW and the plant was design and constructed to comply with the European Industrial Directive on energy from waste facilities.

- The Ferrybridge Facility has an annual design capacity of up to 513,000 tonnes comparable with the proposed Facility capacity of 552,500 tonnes. The Ferrybridge Facility is comparable in terms of compositional analysis and the waste stream NCV.

- The Ferrybridge Facility was constructed by Hitachi Zozen Innova (HZI) which is the chosen supplier for the proposed Facility. The technology proposed is identical with the technology used at Ferrybridge.

- The Ferrybridge Facility has operated since 2015 and remains operational.

The DPE and their technical expert ARUP concluded that the reference facility at Ferrybridge qualifies as a fully operational plant and that the technology is identical to that proposed as part of this proposal. However, it was concluded that the design fuel mix is <u>not</u> comparable with Ferrybridge.

It is important to note that a similar jurisdiction is not to be confused with an <u>identical</u> jurisdiction. There are some differences in waste terminology across the UK and Australia. MRA has provided supporting comments to address these differences and application of the NSW EfW Policy for the reference facility. This is included at **Appendix A.**

Comparison of Terms

In addressing whether the Ferrybridge Facility constitutes an operation reference facility for the purposes of assessment against the NSW EfW Policy, further comparisons in terms of waste streams and fuel mix has been undertaken by the applicant's consultant team.

HZI has prepared a memo (and associated annexures) detailing the operational parameters for the Ferrybridge Facility at **Appendix B**, this is further supported by information prepared by Ramboll and is included at **Appendix C.**

The following should be considered:

- The NSW EfW Policy acknowledges that technologies used in facilities must be 'proven, well understood and capable of handling' the expected variability in waste feedstock over time. Waste streams refer to broad categories of waste and can be based on source of generation, processing method etc.

  It is common for the same waste types to be present in a range of waste streams. This applies particularly to the Commercial and Industrial (C&I) and Construction and Demolition (C&D) waste streams, which are often used interchangeably with respect to specific waste types (e.g. cardboard, plastic, paper, glass etc.) in both Australia and the UK.

- The terms Refuse Derived Fuel (RDF) and Solid Recovered Fuel (SRF) to classify the Ferrybridge Facility feedstock are not waste stream definitions and **do not** refer to, or imply, a source of generation. They describe a product (waste) in terms of its **purpose** (feedstock for an energy from waste operation). The use of the terms RDF and SRF are not valid, since RDF and SRF are not waste streams.

- The Department for Environment Food & Rural Affairs (DEFRA) in the UK defines RDF as:

  > material that is produced from waste, has undergone some sort of treatment process, and is intended for use as a fuel. There is no single standard for RDF but end-users provide their own specifications based on calorific value, ash content and chlorine levels in the fuel.

- Essentially, RDF is subject to a contract with an end-user for use as fuel in an energy from waste facility. The contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.

  In other words if HZI as the operator contractually agrees that the plant will process/burn a particular mix of waste within specific parameters then that material is to be called RDF.

- HZI is the supplier for Ferrybridge and the proposed EfW Facility. The contract which HZI accepted for Ferrybridge reflects that waste characteristics of the facility are variable and will change over the life of the project. The Ferrybridge Facility was permitted to use a wide range of waste types which are even more exhaustive under the European Waste Code.

- European regulators back the use of such undefined waste material in EfW plants as it is well understood within the industry and regulators that:

  - Waste is by definition variable in composition (chemical, material types, humidity, calorific value).
  - EfW plants are therefore permitted for acceptable EWC codes (again, based "on a combination of what they are, and the process or activity that produces them" and not chemical or specific material compositions).
  - Design fuels are used inclusive of minimum and maximum limits for chlorine, sulphur, moisture, and calorific values.
  - Due to the variability of waste at all times, HZI and all its serious competitors have to design robust flue gas treatment systems which can assure the safe operation of the EfW plant at all times.

- The Ferrybridge Facility includes 50% of the input stream as C&I and 50% MSW (**Appendix B**). This is then mixed to create 'RDF'. At 50% MSW and 50% C&I, the Ferrybridge facility would process 'like waste streams' to the proposed Facility. The characterisation by stream indicates that Ferrybridge inputs include all TNG input streams and all specific waste types (wood, timber, paper, plastic etc). The same material types present in the Ferrybridge feedstock will also be present in the proposed facility.

- The air quality assessment and ongoing operation of the Ferrybridge Facility confirms that the emissions are within the IED limits.

In summary, the NSW EfW Policy does not require the % make-up of the waste stream to be the same nor the streams to be identical. The proposed development and Ferrybridge Facility reflect like, or common input streams (MSW, commercial waste) and match regarding input waste types (wood, paper, plastic, glass etc.).

MRA concludes that:

'the reference facility is capable of managing the input materials with no change in air emissions. This is the point of the reference facility test. The fact that the percentage characterisations are different is beside the point. It is the capacity of the facility to appropriately manage diverse and variable streams which is in question. Ferrybridge adequately shows that to be the case.'

4.1.3. Floc Waste

The DPE Assessment Report states the following in regards to floc waste:

> *'Insufficient information has been provided to confirm the source, composition and temporal variability of floc waste to be satisfied this material would not contain hazardous waste.'*
>
> *'ARUP and the EPA concluded floc waste is a potentially hazardous waste which makes up a significant portion of the Applicant's proposed design fuel (15%) and is an excluded waste under the EfW Policy.'*

Response:

Floc is not an identified or specified waste category in NSW, it is the result of the shredding of motor vehicle and metal consumables.

MRA Consulting has reviewed the findings related to 'floc waste' and clarifies the following:

- The view presented in the DPE Assessment Report is new. The applicant was not advised at any point during the development of nor the assessment of the application that floc waste is excluded under the NSW EfW Policy.
- There was no reference to shredder floc being banned since the adoption of the EfW Policy. Shredder floc is allocated to the category of 'Mixed C&I waste' and a metal scrap yard as a 'Facility processing mixed C&I waste', per Table 1 of the NSW EfW Policy.
- There is no further definition of 'hazardous wastes' nor any mention of shredder floc in the EfW Policy. Further, the POEO Act contains the definition of hazardous waste. Shredder floc is not mentioned as a stream that is explicitly defined as a hazardous waste.

In addition to the above, the following clarification is provided by the applicant's technical consultants:

Variability

There is no evidence that floc waste is highly variable. Given that floc waste is derived from the shredding of motor vehicles and metal recyclables and that these are mass produced highly standardised consumer items it seems highly unlikely that there would be any great variability in floc composition over time.

Fines

The independently conducted analysis of floc waste concluded that 58.2% consisted of 'fines'. Fines were defined as components so small that their nature or composition was not discernible on visual examination.

The fines were therefore subjected to chemical analysis to examine for the presence of potentially hazardous material. As described in the revised RTS Report the fines were found to be inert consisting largely of dirt.

Harmful Air Emissions

Refer to Section 4.2. The emission treatment technology is capable of ensuring that harmful emissions are neutralised or reduced to acceptable levels.

It is clear that because 'floc' is not widely known or understood it has become a focus to generate concern and opposition to the proposal notwithstanding that there is a complete absence of evidence to validate those concerns.

4.1.4. Temperature Requirements

The DPE Assessment Report identifies a lack of satisfaction that the applicant has provided sufficient detail regarding the proposals quality control procedures would ensure materials containing halogenated organic substances would be excluded from the waste stream and therefore maintain chlorine levels below 1% as required by the NSW EfW Policy.

Response:

This matter has been specifically addressed by the applicant as part of the assessment process. The proposed facility will operate at 850 degrees Celsius to meet the temperature requirements of the IED.

The above statement demonstrates a misunderstanding of what might occur if plastic wastes (PVC) were present in the plant operation at any given time on any given day. The resulting impact would be an instantaneous spike detectable in the emissions monitoring and shut down procedures initiated.

Notwithstanding, this event is highly unlikely to occur. The applicant has demonstrated and verified the mixing and homogenisation process, both proposed as part of the EfW Facility and the existing Genesis facility which would minimise any risk of these materials being fed into the fuel mix.

As detailed in the independent waste audits and composition analysis within the revised RTS Report, the PVC component by weight was shown to be approx. 0.65%, resulting in a chlorine content of 0.37% in the Chute Residual Waste (CRW). It is to be noted that this result is achieved by excluding PVC from recovered resources **and concentrating it in to CRW** which is presently landfilled. By applying the same separation processes to CRW as are currently applied to resource recovery even this small component can be reduced significantly.

In all other waste fractions, the chlorine content is between 0.06% and 0.52%.

There is therefore a high degree of confidence that in respect of any single waste fraction and the waste in total as an average will not contain more than 1% chlorine.

As such, there is no basis for an expression of a lack of confidence in the outcome of the above procedures nor is there validity in casting doubt on the compositional audits and laboratory analyses which were carried out by NSW EPA accredited waste auditors and independent NATA verified laboratories.

4.2. AIR QUALITY IMPACTS AND HUMAN HEALTH RISK

The DPE Assessment Report presents a position questioning the validity of the air quality impacts and human health risk of the proposal as there is an unknown and potential unacceptable risk to human health given the design fuel mix and no comparable reference facility.

It is noted that the DPE Assessment Report acknowledges that the Air Quality Impact Assessment and Human Health Risk Assessment has adopted standard approaches considered appropriate for Australia.

4.2.1. Air Quality

Response:

The assertions made within the DPE Assessment Report have been reviewed by the applicant's air quality technical expert – ERM (previously, Pacific Environment). A statement has been prepared and is included at **Appendix D.**

A summary of the key responses is detailed below:

Reference Facility:

In terms of emissions to air for a reference facility, it is noted that the air pollution control technology at any modern EfW facility is designed to handle a range of waste derived fuel *without significant impact upon the post-abatement technology emissions to air.*

There is a level of flexibility in the fuel composition which is inherent in the technology in the sense that the air pollution control systems are not an 'efficiency' system (i.e. able to reduce emissions post-abatement on a percentage basis). Rather, they should be considered as a 'constant outlet concentration' system. This will result in a constant outlet particle concentration, regardless of inlet load changes.

Further, a review of the air emission performance of example reference facilities (including Ferrybridge) identified in the documentation reveals that all facilities are operating within the IED emissions limits (and have done so for many years) with a variable design and operation fuel mix over this time.

Air Quality:

The emissions to air from the Ferrybridge Facility are well known and have been quantified via the facility's Continuous Emission Monitoring System (CEMS) outputs as well as periodic stack testing results for a comprehensive list of compounds since 2015. The facility consistently operates well below the IED Limits.

This data has been referenced in deriving the 'expected case' for the proposed EfW Facility (scenario 1). Based on the extent of background modelling and assessment provided to date, the proposal has demonstrated continual compliance operating at the IED emission limits.

As demonstrated in the modelling and the response, the fuel mix does not directly correlate to the emissions of the facility and all reference facilities are currently operating under the IED emission limit with varying fuel mix.

4.2.2. Human Health

Response:

The items in relation to human health outlined within the DPE Assessment Report have been reviewed by the applicant's human health technical expert – AECOM. A statement has been prepared and is included at **Appendix E.**

The statement focuses on the discussion around the magnitude of estimated risks and margin of safety commentary presented in the DPE Assessment Report.

A summary of the key responses is detailed below:

Modelled Scenarios – Risk Estimates:

Scenario 1 presents the normal stack operation parameters which is most representative of normal operations.

The margin of safety in risk estimates presented by the DPEs technical expert, EnRisks have been based on the calculated hazard index from the Human Health Risk Assessment. AECOM notes that the risk estimates are based on a number of conservative assumptions including a cumulative assessment of residential exposure pathways. As such, these estimates are inherently conservative and when looked at collectively, they are likely to be representative of compounding conservatism within the risk estimates.

This has not been accounted for by EnRisks.

Scenario 4 is representative of the IED limits and will be adopted as the licence limits for the proposed EfW Facility. This is representative of the limits in which the facility would be shut down. In addition to the above commentary on the conservative nature of the assessment, it is important to reiterate that the estimated hazard index risks of an Adult at 0.19 and child at 0.25 are representative of the estimated exposure in which the plant would not be operating and would be shut down.

Therefore, commentary provided about a 4-5 fold safety margin (i.e. where the estimated hazard index may exceed the adopted risk target of 1) 'may be considered an acceptable margin of safety' are not valid. In the unlikely event the IED limits were triggered it is considered that exposure would not be representative of chronic exposure (i.e. long periods of time - as has been modelled) based on the plant design, it would be minutes (rather than 30 years) of exposure whilst the plant was in the process of being shut down.

The margin of safety presented within the DPE Assessment Report does not reflect the compounding conservatism included within the applicant's Human Health Risk Assessment and has not taken into consideration the shut-down procedure at reaching the IED limits of emissions.

4.3. SCALE OF THE FACILITY

The DPE Assessment Report states the following:

'the Applicant's assessment is likely to have overestimated the volume of residual waste available for energy recovery in the MLA and has therefore not adequately justified the scale of the proposed facility'

Response:

There is no requirement as part of the NSW EfW Policy for any facility to justify the scale of operation.

The applicant emphasises that that scale of the facility and access to available fuel waste are commercial risks for TNG and are not matters for consideration under the policy or planning assessment.

Notwithstanding this view, the applicant has demonstrated access to sufficient quantities of waste of eligible fuel types to make the project commercially viable, and the facilities to directly maximise resource recovery and prepare the residual waste in accordance with quality control standards.

This information was collected at the request of the NSW EPA and provided as part of the revised RTS Report by MRA Consulting in accordance with the Resource Recovery Criteria of the NSW EfW Policy. This is explored further in Section 4.4.

It is clear that there is a recognised shortage of landfill space in the Sydney Metropolitan area which, because of the costs of transportation cannot be ameliorated by developing compensating landfills in outer regional areas.. This is acknowledged by the NSW EPA and is a fact which underpins the policy of diversion of waste from landfill and efforts to encourage increased resource recovery.

The applicant and its corporate group owns and operates the single largest solid waste **non-putrescible** landfill, in addition to the largest and most advanced recycling facility in NSW (located adjacent the proposed EfW Facility). Together the landfill and recycling facility hold EPLs permitting the receipt of up to two million tonnes of waste per annum.

Further, recent evidence in relation to the cessation of waste exportation in NSW has been brought to the attention of the NSW community. This information was explored in the NSW Parliamentary Inquiry into waste disposal and energy from waste (6 April 2017) and is summarised below:

- The NSW Upper House Parliamentary Inquiry received evidence about the effects of the transportation of otherwise recyclable waste to Queensland and the fears concerning the cessation of exportation of waste to China.

  It was estimated that one million tonnes of waste per annum was being routinely transported from Sydney to Queensland. This practice commenced in 2012 and has continued to the present. It occurred as a result of the abolition of the landfill levy in Queensland resulting in an arbitrage between the high s88 POEO Act levy in NSW and no comparable levy in Queensland.

  The Inquiry recommended that measures be introduced to dissuade the practice noting that there were federal constitutional obstacles preventing legislative or regulatory barriers.

- The Chinese Government announced new standards for the importation of plastics for recycling, effectively closing the Chinese market for processing baled up plastics from yellow household bins from Australia.

  The inquiry report recommended:

  '*that the NSW EPA investigate, identify and implement alternative solutions to the ban on importation of recyclable plastics by China.'*

Since the Parliamentary Inquiry, the Queensland Government has announced its reintroduction of a landfill levy in that State. The levy will be set at a rate which will make interstate transportation of waste to Queensland uneconomical.

It was reported in the SMH April 19th 2018[1] that Ipswich Council in South East Queensland (which was a recipient of much of the NSW waste) will now be landfilling otherwise recyclable waste due the Chinese Government announcement and the associated costs.

The effect of the Chinese Government announcement and the cessation of the interstate transportation of waste will result in a large and immediate increase in waste requiring management, storage and disposal in Sydney.

These recent changes to the waste landscape are central to and underpin the scale of the facility proposed by the applicant. These are the industry drivers which justify the scale of the facility.

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[1] https://www.smh.com.au/politics/queensland/south-east-queensland-city-to-send-all-recycling-from-yellow-top-bins-to-landfill-20180418-p4zabh.html

Notwithstanding these waste drivers, there are additional electricity generating drivers which have influenced the scale of the facility.

It is important to note that there is no requirement to justify the scale of the proposed EfW Facility.

The above demonstrates that there is sufficient waste availability in NSW to justify the scale of the facility, without taking into consideration future projections given the changes implemented by the Queensland and Chinese Government.

4.4. RESOURCE RECOVERY CRITERIA

The EPAs technical experts, ARUP have indicated that the feedstock review is overestimated for three reasons:

1. The resource recovery criteria percentage limits have been applied to the total volume of residual wastes in the MLA market, rather than on an individual facility basis, as required by the NSW EfW Policy.
2. Unjustified projections of increases in waste streams at the Genesis facility.
3. Double counting of feedstock sources from the applicant's operations and the MLA market.

Response:

These reasons have been reviewed by the applicant's waste technical experts, MRA Consulting to test their validity. This is included at **Appendix F.**

In direct response to the above, MRA refutes the above, citing a misunderstanding of the documentation and its purpose. A summary of the response (**Appendix F**) is detailed below:

1. MRA applied the percentage limits to specific facilities. All facilities were assessed for their recovery rate and specific recovery percentages applied. Some rates were assumed and based on industry averages (conservatives). All assumptions were stated.

   ARUP has misinterpreted the two independent parts of the MRA Feedstock Report – Section 2 of the MRA Feedstock Report is a Metropolitan Levy Area (MLA) market assessment, not a facility assessment.

   Section 3 is a specific assessment of the applicant's waste feedstock.

   MRA has not double counted available tonnes. The two sections must be read separately.

2. MRA justified the planned expansions to the applicant's existing facility of the MRA Feedstock Report. Refer **Appendix F** and Section 4.3 above, as any further expansion is a commercial decision.

3. Refer response No. 1. Double counting has not occurred.

There has been a misinterpretation of waste entering the proposed EfW Facility – it is assumed that when waste is transported from other facilities that resource recovery must be demonstrated to have been achieved at the individual premises. This is not the case.

There are a number of points that need to be clarified:

- All the waste (whether pre-processed or not) is first received at Genesis and Genesis is the last receiver of it (as a genuine bona fide resource recovery facility) prior to the residue being sent to TNG for use as fuel.
- All waste sent to Genesis (a component of which may potentially be residual fuel waste) will undergo Genesis processes of higher order resource recovery.
- Further to this, the NSW EPA already gathers (monthly) information from holders of environment protection licences (resource recovery facilities). The waste management contribution reports (WMCR) report in-going and outgoing quantities. The EPA currently knows which facilities achieve higher order resource recovery.

Ultimately, all waste will be subject to the highest order of resource recovery at the Genesis Facility which is the last point of call before being processed at the proposed EfW Facility.

4.5. ISSUES RAISED IN SUBMISSIONS

The DPE Assessment Report states that the NSW EfW Policy requires genuine dialogue with the community and states energy from waste is a valid pathway when community acceptance to operate such a process has been obtained. The DPE does not consider that the applicant has entered into a genuine dialogue with the community nor has it gained their acceptance or support.

As detailed in Section 4.1.1. of this report, this misrepresents both the application of the NSW EfW Policy and the efforts in community consultation undertaken by the applicant and therefore is categorically refuted.

4.5.1. Key Issues Raised in Submissions

An issue raised in the DPE Assessment Report is the significant proportion of public submissions identifying three key issues, being human health risk (50%), suitability of the site (45%), and air quality (28%).

Response:

The public submissions identifying concerns related to the above three key issues have been comprehensively addressed as part of the revised RTS Report and within this response at Sections 4.2.1. and 4.2.2.

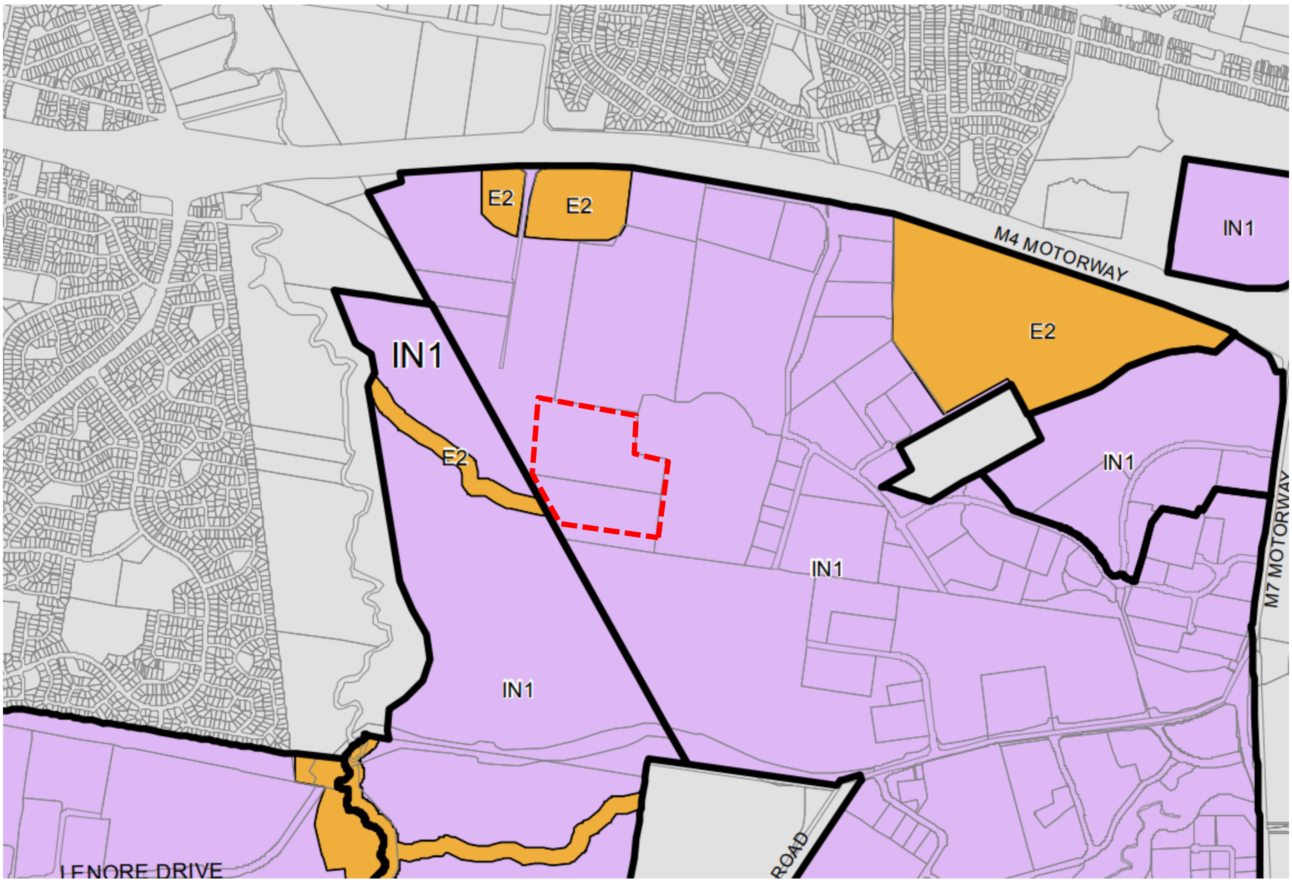
In terms of site suitability, the following is extracted from page 48 of the revised RTS Report:

> ***'Existing Genesis MPC facility***
>
> *The opportunity to provide synergies with the Genesis MPC facility was a major consideration in the selection of the site. The capacity of the location and the ability to share infrastructure with the Genesis Xero Waste facility allows for improved operations and production. It is considered that facilities and services will be shared over the lifetime of the development.*
>
> *Specifically, another location would lack these synergies and place additional pressure on traffic impacts on public roads and risk associated with the transfer of waste.*
>
> ***Accessibility***
>
> *The location is ideal from a vehicular accessibility perspective. The site is located west of the corner of the M4 Motorway and Wallgrove Road, where the M4 Motorway intersects the M7 Motorway. The location allows use of the existing estate road from Honeycomb Drive to enter the facility.*
>
> *Based on this, the site is well-connected to the regional and local road network which is already utilised by the existing MPC facility.*
>
> ***Summary***
>
> *The site selection process has been thoroughly considered and detailed in the EIS. In summary, significant advantages of the site location include:*
>
> - *Proximity to Genesis MPC, which maximises operational efficiency and provides the opportunity to share infrastructure, such as roads.*
> - *Location within an existing Industrial Precinct (Eastern Creek) in the Western Sydney Employment Area (WSEA).*
> - *Proximity to major regional road networks.*
> - *Proximity and access to the TransGrid substation and use of an existing TransGrid easement for service lines.*
> - *Strategic alignment with the objectives of the 'Plan for Growing Sydney 2014' for the WSEA.*
>
> *The project is considered to be an appropriate distance from sensitive receivers, including residential areas, whilst also maximising synergies with the Genesis MPC within an existing industrial area. The subject site is also proximal to waste sources within Metropolitan Sydney. Transporting waste to a similar facility in a regional location would increase traffic impacts on the regional road network and not deliver the net positive contribution to the greenhouse gas effect that this proposal offers. It would also distance the facility from the electrical grid, which means Metropolitan Sydney would not receive the full benefit of electricity produced by the facility.'*

Furthermore, the development site is wholly located on land zoned IN1 General Industrial under State Environmental Planning Policy (Western Sydney Employment Area) 2007 – refer to **Figure 3**. The development constitutes a 'waste management facility' and 'electricity generating works' as defined by the Standard Instrument – Principal Local Environmental Plan. The identified use is not defined in the Dictionary under SEPP WSEA.

Clause 34 of the ISEPP identifies development that is permitted with development consent. Clause 34(1) states that development for the purpose of 'electricity generating works' may be carried out by any person within a prescribed industrial zone, including IN1 General Industrial.

Figure 3 – Land Zoning Map



4.5.2. Assessment Process and Consultation

The DPE Assessment Report presents a position questioning the extent of community consultation undertaken by the applicant as follows:

- Adequacy of community notification and consultation by the applicant.
- Applicant did not address community liaison initiatives recommended by Council.

Response:

The DPE has wrongly concluded that the applicant's consultation with the community has been inadequate or not genuine. The DPE has not lent due weight to the extent of community consultation in which the applicant has engaged.

Public exhibition and consultation on the proposed EfW Facility was undertaken in accordance with the requirements under the EP&A Act and the SEARs issued for the project.

The original SSDA in April 2015, was exhibited from 27/05/2015 to 27/07/2015. Subsequent to this, the scope of the development was amended to respond to matters raised by assessment authorities and the community, accordingly this resulted in the lodgement of the amended EIS and documentation which was exhibited from 09/12/2016 to 01/03/2017 and then a further amendment of the application to reduce the capacity of the Facility to Stage 1 addressing community concerns.

In addition to the above standard exhibition requirements, the applicant engaged in a number of additional consultation measures to address the community. These are detailed in **Appendix G.**

The DPE wrongly asserts that the community consultation has not been genuine. In direct response to this, the following points are clarified:

- The applicant has modified the scale of the facility over various assessments in response to stakeholder and community concerns.
- The applicant has made commitments to the provision of solar panels for 1000 homes in Erskine Park and Minchinbury in addition to funding the cost of a full-time EPA inspector with full access to the facility for a period of a year.
- The initial extended period of exhibition in 2015 only generated 44 submissions. This was the result of significant consultation with a DVD explaining the project, accompanied by information pamphlets being distributed to 3000 households, press articles and a Q&A with Blacktown Council.
- The applicant has continued to engage with the community throughout the assessment process as demonstrated in **Appendix G.**

The applicant has gone above and beyond the standard exhibition requirements in consulting and engaging with the community. For the above reasons, it is submitted that a genuine and adequate consultation process has been entered into between the applicant and the community.

The non-acceptance of the proposal by some members of the local community is acknowledged. This is <u>not</u> considered a relevant planning consideration and should not be given determining weight in the assessment of the proposal.

4.6. PUBLIC INTEREST

The DPE Assessment Report states the following:

'the development is not in the public interest as the public benefit of the proposed development does not outweigh the potential unacceptable impacts the proposed development may have on the surrounding local community now and into the future'

Response:

The proposed development provides a number of substantial and tangible public benefits, as expressed in Section 2.1 of this report.

The Facility is in the public interest as the proposal has significant importance for the management of waste and clean energy production to the local community and wider Metropolitan Sydney. This report and supporting information has demonstrated that the DPE Assessment Report results in unfounded conclusions and any environmental impacts will be low and managed within the locality.

5. CONCLUSION, OPTIONS & RECOMMENDATION

It is not considered the DPE Assessment Report presented to the IPC provides a balanced assessment of this SSDA. Accordingly, this report has sought to provide the IPC members with all of the information considered necessary to make an informed determination. We consider that the proposal is a strategic and local solution to waste management and energy production within NSW, providing substantial benefits and enhancements and does not compromise the objectives of the NSW EfW Policy and Resource Recovery Criteria. In addition to this submission it is proposed that the applicant will respond to issues raised in the public meeting convened by the IPC on 14 May 2018 in a separate report.

This report has demonstrated that the technical matters either have been addressed or are able to be addressed through the application of appropriate conditions. In summary, we have able to address the proposed grounds for refusal through the following:

1. **NSW Energy from Waste Policy Statement:**

   The policy refers to broad terminology of 'like' and 'similar' when referring to reference facilities and jurisdictions. The application of this policy indicates that the Ferrybridge Facility is a comparable operational reference facility given the comparisons between the UK/Australia, assessment of technology, air quality emissions and design fuel mix.

2. **Air Quality Impacts and Human Health Risk:**
   The fuel mix of the proposed EfW Facility does not correlate to the emissions of the facility and all reference facilities are currently operating under the IED emissions limits under this basis. It is concluded that the human health risk assessment includes compounding conservatism which has not been reflected in the DPE assessment which miscalculates the safety of margin for the operating scenarios of the facility.

3. **Scale of the Facility:**
   The scale of the development has been appropriately justified across the waste analysis and feedstock review, applying conservative growth rates and demonstrating ongoing policy changes more broadly identifying the need alternative waste solutions.

4. **Resource Recovery Criteria:**
   The submitted proposal is consistent with the resource recovery criteria. The DPE assessment has misinterpreted the feedstock review. It is concluded that the available waste in the feedstock review has not been overestimated.

5. **Community Consultation:**
   The applicant has gone above and beyond the standard exhibition requirements in consulting and engaging with the community.

The proposal has been lodged following extensive engagement and application amendments to respond to community concerns. A clear framework is in place for the delivery and operation of the facility in order to deliver on the substantial benefits of the proposal and vision for waste in NSW. The proposed Facility represents an important pillar of the waste hierarchy and a step towards the overall reduction of waste entering landfill, in distinct contract to a scenario where the development is not approved.

The IPC is to consider the application on its merits, and may:

a) Refuse the SSDA.

b) Defer determining the application and require additional information.

c) Approve the application subject to conditions.

Refusing the application will remove the impetus and necessary clarity for the applicant to progress with energy from waste technology and is not recommended or warranted. Deferring the application may place the development at risk and should only be pursued should definitive requirements or information be required to enable deliberation.

Based on the information presented and the merits of the proposal we seek that approval be granted.

DISCLAIMER

This report is dated 21 May 2018 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of The Next Generation NSW Pty Ltd (**Instructing Party**) for the purpose of IPC (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A MRA - MEMO

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11th May 2018

RE: Reference facility with like waste streams – application SSD 6236

To whom it may concern,

MRA Consulting Group ("MRA") prepared the report: *Feedstock review in accordance with the Resource Recovery Criteria of the EfW Policy Statement* ("Feedstock Study") for the Proponent of SSD 6236 Proposed Energy from Waste Facility at Eastern Creek. The report deals with the proposed facility's compliance with the NSW Energy from Waste Policy Statement ("EfW Policy"). MRA's Feedstock Study was submitted as part of the Proponent's Response to Submissions (RTS).

This letter has been prepared by MRA in response to findings prepared by the Department of Planning and Environment related to the Proponent's chosen reference facility (Ferrybridge MF1), contained in the report: *State Significant Development Assessment: Eastern Creek Energy from Waste Facility SSD 6236* ("the Assessment Report") (released April 2018).

Pages 39 and 40 of the Assessment Report refer to the Proponent's chosen reference facility, Ferrybridge MF1:

> *"ARUP and the EPA therefore concluded the Ferrybridge facility is not an appropriate reference facility as operationally it is not receiving the same types of waste fuel as the proposed development. Therefore the proposed facility is not deemed compliant with the EfW Policy."*

Pg 6 of the NSW EfW Policy states:

> *"Energy recovery facilities must use technologies that are proven, well understood and capable of handling the* ***expected variability*** *and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating* ***like waste streams*** *in other jurisdictions."* (MRA emphasis)

MRA makes the following points:

1. The EfW Policy recognises that there is an "expected variability" in waste feedstock over time, due to a multitude of factors, including consumption patterns, changes in production and manufacturing, major projects or events etc. As such, the EfW Policy acknowledges that the technologies used must be "proven, well understood and capable of handling" such variability.

   The words "like waste streams" in the EfW Policy should not be read as 'identical wastes'. Waste streams refer to broad categories of waste, and can be based on source of generation, processing method etc. As such, it is very common for the same waste types to be present in a range of waste streams. This commonality applies particuarly to the Commercial and Industrial (C&I) and Construction and Demolition (C&D) waste streams, which are often used interchangeably with respect to specific waste types (e.g. cardboard, plastic, paper, glass, inerts and pallets etc.) in both Australia and the UK. In lieu of any further information in the EfW Policy regarding the required degree of similarity between waste streams, e.g. in terms of ranges and confidence levels, it is not reasonable for the EPA to read the EfW Policy as requiring identical waste streams between the reference and proposed facility.

2. The terms Refuse Derived Fuel (RDF) and Solid Recovered Fuel (SRF), used by Arup to classify the Ferrybridge MF1 feedstock (Table 10 of the Assessment Report) are **not** waste stream definitions and do **not** refer to, or imply, a source of generation, e.g. MSW, C&I or C&D. Rather, they describe a product (waste) in terms of its purpose (feedstock for an energy from waste operation). Arup's breakdown in Table 10 of the assessment report, which lists the operational fuel mix of the Ferrybridge facility at:
   - 82% "RDF/SRF";
   - 18% "MRF residual"; and
   - 0% "Mixed C&I waste; Specified waste (largely wood waste); CRW (sourced from mixed C&D) and Floc Waste".

   Arup's use of the terms RDF and SRF is not valid, since RDF and SRF are not waste streams.

3. Direct evidence provided by the Ferrybridge owner states that 50% of the input stream is C&I and 50% MSW (see HZI letter to the IPC). This is then mixed to create 'RDF'. At 50% MSW and 50% C&I, the Ferrybridge facility would process "like waste streams" to the proposed facility. The characterisation by stream indicates that Ferrybridge inputs include all TNG input streams and all specific waste types (wood, timber, paper, plastic etc). The same material types present in the Ferrybridge feedstock will also be present in the proposed facility.

The EfW Policy does not require the % make up to be the same nor the streams to be identical. It requires them to be like streams.

The proposed facility and Ferrybridge reflect like, or common, input streams, e.g. MSW, commercial waste (C&I/C&D) (albeit in different percentages), and match regarding input waste types (wood, paper, plastic, glass etc). The Ramboll report shows that they represent like or common input streams at the chemical level as well (carbon, nitrogen etc).

Similarly, there are no known streams in the proposed facility that are not represented in some form in Ferrybridge.

As such this demonstrates that the reference facility is capable of managing the input materials with no change in air emissions. This is the point of the reference facility test.

The fact that the percentage characterisations are different is beside the point. It is the capacity of the facility to appropriately manage diverse and variable streams which is in question. Ferrybridge adequately shows that to be the case.

Yours sincerely,

Mike Ritchie (BSc, Hons, MSc, MBA)

Managing Director

MRA Consulting Group

APPENDIX B HZI – FERRYBRIDGE MEMO

Appendix 11A Air Quality Assessment

11A. INTRODUCTION

11A.1. Scope

11A.1.1. This Technical Appendix describes the detailed dispersion modelling of point source emissions and the detailed dispersion modelling of traffic emissions undertaken in support of the Air Quality chapter, including determination of future baseline and Proposed Development contributions.

11A.1.2. Section 11A.2 describes the methodology and data assumptions used in process emissions modelling; Section 11A.3 describes the methodology and data assumptions used in traffic emissions modelling; Section 11A.4 presents the results of the future baseline and impact assessment on human health receptors; Section 11A.5 presents the results of the habitats air quality impact assessment.

11A.1.3. The emissions envisaged from the FM1 plant now under construction have been modelled and the predicted process contributions (PCs) have been added to the traffic contributions (TC) associated with the operation of the power station and the existing baseline concentrations, to establish the modified baseline concentrations at off-site and sensitive receptor locations.

11A.1.4. Emissions from the Proposed Development point source and associated traffic have been modelled to determine the likely worst-case PC and TC for FM2 and these have been added to the modified baseline to determine the Predicted Environmental Concentration (PEC) at sensitive receptor locations for assessment against air quality standards. Full commissioning of the Proposed Development is assumed to have been completed by 2018.

11A.2. Process emissions modelling

Air Quality Standards

11A.2.1. The assessment has been made with reference to the air quality standards and objectives defined in legislation (Refs 11A-1 – 11A-3). In addition, where legislative limits are not specified for the pollutant species potentially released from the Proposed Development, Environmental Assessment Levels (EALs), published in the Environment Agency's Environmental Permitting Regulations - H1 Environmental Risk Assessment document (EPR H1) (Ref. 11A-4), have been used to assess the potential health effects on the general population. These are provided in Tables 11a.1 and 11a.2 below.

Table 11A.1 Air Quality Strategy Objectives

Pollutant	Objective ($\mu g/m^3$)	Averaging period	Percentile	To be met by
Nitrogen dioxide (NO_2)	200	1 hour	99.8th or 18 exceedances/year	31 Dec 05
	40	Annual	Mean	31 Dec 05
Oxides of nitrogen (NO_x, as NO_2) [2]	75	Daily	Mean	-
	30	Annual	Mean	31 Dec 00
Particulate matter (PM_{10})	50	24 hour	90.4th or 35 exceedances/year	31 Dec 04
	40	Annual	Mean	31 Dec 04
Particulate matter ($PM_{2.5}$)	25	Annual	Mean	1 Jan 15
Carbon monoxide (CO)	10,000	8-hour	100th	31 Dec 03
Benzene	5	Annual	Mean	31 Dec 10
1,3 butadiene	2.25	Annual	Mean	31 Dec 03
Lead	0.25	Annual	Mean	31 Dec 08
Sulphur dioxide (SO_2)	266	15 minute	99.9th or 35 exceedances/year	31 Dec 05
	350	1 hour	99.7th or 24 exceedances/year	31 Dec 04
	125	24 hour	99.2nd or 3 exceedances/year	31 Dec 04
	20 [2]	Annual	Mean	31 Dec 00
Polycyclic Aromatic Hydrocarbons (PAH) [1]	0.25 ng/m³	Annual	Mean	31 Dec 10

Table Notes
1. This objective applies to benzo(a)pyrene only but this has been used as a surrogate species for all PAHs in this assessment.
2. Critical Level for Vegetation and Ecosystems

Table 11A.2 Environmental Assessment Levels for Other Identified Study Species

Pollutant	EAL ($\mu g/m^3$)	Averaging period
Cadmium (Cd) and Thallium (Tl) (Cd used as worst-case)	0.005	Annual
Mercury (Hg)	7.5	1 hour
	0.25	Annual
Other Heavy Metals (Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V) [1]	5	Annual
	150	1 hour
Hydrogen Chloride (HCl)	750	1 hour
Hydrogen Fluoride (HF)	160	1 hour
	16	Annual
	5 [2]	Daily
	0.5 [2]	Weekly
Ammonia (NH_3)	2,500	1 hour
	180	Annual
	1 [3]	Annual
Dioxins	N/A	N/A

Table Notes:

1. Sb, Cr (II) and Cr (III) have the most stringent EALs therefore their use allows a conservative assessment to be carried out.
2. Critical Level for Vegetation and Ecosystems
3. Critical Level for Vegetation and Ecosystems, Lichens and Bryophytes

11A.2.2. The AQS does not contain objectives for heavy metals and local authorities have currently no statutory obligation to review and assess air quality against them. In addition, the Air Quality Standards Regulations 2010 (Ref. 11A-1) includes annual mean target values for arsenic (6 ng/m^3), cadmium (5 ng/m^3) and nickel (20 ng/m^3) which only apply to the content of the relevant pollutant in the PM10 fraction, in ambient air. The target values are intended to be attained by 31st December 2012, "in so far as is possible". The target values are derived from the Fourth Air Quality Directive (Council Directive 2004/107/EC) (Ref. 11A-3), which states that these values would not require any control measures entailing disproportionate costs. For industrial installations, this would not involve measures beyond the application of Best Available Techniques (BAT). In particular, the Directive states that these target values are not to be considered as environmental quality standards.

Dispersion Model Selection

11A.2.3. Dispersion modelling calculates the predicted ground level concentrations arising from the emissions to atmosphere, based on Gaussian approximation techniques. The model employed has been developed for UK regulatory use and its use in such assessments is approved by the Environment Agency.

11A.2.4. ADMS5 uses a continuous calculation method to determine the conditions of the receiving atmosphere based on the Monin-Obukhov length, which represents the height of the boundary layer and the degree of turbulence within the atmosphere. This is generally regarded as a more comprehensive modelling approach than that employed by older models such as ISC, which use discrete approximations to the atmospheric conditions known as Pasquill stability classes. The degree of turbulence in the atmosphere affects the rate at which pollutants from point sources are dispersed in the environment. The more unstable the atmosphere, for example due to high solar insolation, the greater the degree of mixing. While this is in principle the desired effect for the release of pollutants through stacks at elevated heights, this can also lead to localised peak concentrations if the plume is rapidly brought to ground level.

11A.2.5. ADMS5 utilises site-specific hourly sequential meteorological data to enable a realistic assessment of dispersion from point sources to be conducted for meteorological conditions that are directly applicable to the site.

11A.2.6. Various parameters can affect the degree of dispersion from a source, and these are accounted for in the modelling scenario where appropriate. The presence of elevated or complex terrain in the vicinity of the source can affect the flow pattern of the wind field, which can in turn bring a plume to ground more rapidly. Buildings of sufficient height located close to the emissions sources can affect dispersion – inducing downwash in the emitted plume and entraining pollutants towards ground level.

11A.2.7. Sensitivity of the predicted concentrations to variations in these model representations has been undertaken to ensure that the reported results provide a realistic worst-case assessment.

Modified Baseline - FM1 Emission Parameters

11A.2.8. The FM1 plant includes two boilers, each venting to atmosphere via a dedicated flue, contained within a common windshield. These have been modelled as a single emission source.

11A.2.9. The relevant stack and emission parameters are provided in Table 11A.3 and 11A.4 below.

Table 11A.3 FM1 Stack Release Parameters

Parameter	Value
Number of Stacks	1
Stack Location	447243, 424992
Stack Height (m)	100
Efflux Velocity (m/s)	20.8
Emission Temperature (°C)	140
Combined Volumetric Flow (Nm^3/hr)	412,800
Effective Combined Flue Diameter	3.3
Pollutant Emission Rates	See Table 11A.4 below.

11A.2.10. The assessment of the emissions has been based on Emission Limit Values (ELVs), as defined in the Environmental Permit for the plant (Ref: EPR/SP3239FU). The ELVs used in the assessment are presented in Table 11A.4 below, together with the mass release rates from the operational Proposed Development when the volumetric flow from the two boilers is taken into account.

11A.2.11. It is assumed that both boilers are operating concurrently at maximum load (peak emission flow rate) and at the ELVs. The model therefore represents the worst-case estimation of FM1 process contributions to the modified baseline.

Table 11A.4 FM1 Emission Limit Values and Release Rates

Pollutant	Daily Average ELV (mg/Nm^3)	FM1 Release Rates (g/s)
Oxides of Nitrogen	200	23.3
Sulphur Dioxide	50	5.8
Particulates	10	1.2
Carbon Monoxide	50	5.8
Hydrogen Chloride	10	1.2
Hydrogen Fluoride	1	0.12
Volatile Organic Compounds[1]	10	1.3
Cadmium and Thallium	0.05	0.0060
Mercury	0.05	0.0060
Other Metals[2]	0.5	0.060
Ammonia[3]	10	1.2
Dioxins and furans	1×10^{-7}	1.2×10^{-8}

Table Notes:
1. VOCs conservatively assumed to be 100% benzene
2. Includes Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V
3. Emission rate derived for SNCR abatement from the Best Available Technique Reference Document for Waste Incineration.

Proposed Development Emission Parameters

11A.2.12. The Proposed Development includes two boilers, each venting to atmosphere via a dedicated flue, contained within a common windshield. These have been modelled as a single emission source assuming both boilers are operational concurrently, therefore representing a worst-case impact assessment.

11A.2.13. The relevant stack and emission parameters are provided in Tables 11A.5 and 11A.6.

Table 11A.5 FM2 Stack Release Parameters

Parameter	Value
Number of Stacks	1 (twin flue)
Stack Location	447272, 425342
Stack Height (m)	120
Efflux Velocity (m/s)	15.3
Emission Temperature (°C)	140
Combined Volumetric Flow (Nm^3/hr) for 2 process lines	482,000
Effective Combined Flue Diameter within single stack	4.0
Pollutant Emission Rates	See Table 11a.6 below.

Table Notes:

1. Reference conditions 273K, 0% O_2, dry

Table 11A.6 FM2 Emission Limit Values and Release Rates

Pollutant	Daily Average ELV (mg/Nm^3)	FM1 Release Rates (g/s)
Oxides of Nitrogen	200	26.8
Sulphur Dioxide	50	6.7
Particulates	10	1.3
Carbon Monoxide	50	6.7
Hydrogen Chloride	10	1.3
Hydrogen Fluoride	1	0.13
Volatile Organic Compounds[1]	10	1.3
Cadmium and Thallium	0.05	0.0067
Mercury	0.05	0.0067
Other Metals[2]	0.5	0.067
Ammonia[3]	10	1.3
Dioxins and furans	1×10^{-7}	1.3×10^{-8}

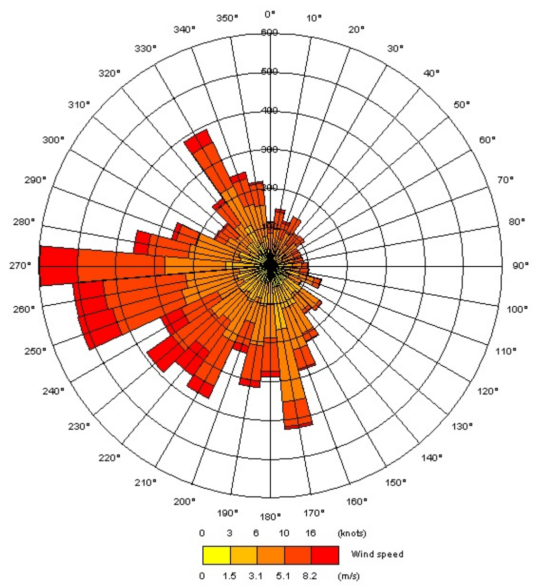
Table Notes:
1. VOCs conservatively assumed to be 100% benzene
2. Includes Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V
3. Emission rate derived for SNCR abatement from the Best Available Technique Reference Document for Waste Incineration.

11A.3. Meteorological Data

11A.3.1. Actual measured hourly-sequential meteorological data is available for input into dispersion models, and it is important to select data as representative as possible for the site that is modelled. This is usually achieved by selecting a meteorological station as close to the site as possible, although other stations may be used if the local terrain and conditions vary considerably, or if the station does not provide sufficient data.

11A.3.2. The meteorological site that was selected for the assessment was Church Fenton, located approximately 15 km northeast of the site, at a flat airfield. The modelling for this assessment has utilised meteorological data for the period 2007-2011, with 2007 providing the worst-case results, and therefore this year has been used to generate the reported results provided below. The wind rose for Church Fenton in 2007 is provided in Figure .11A.1.

Figure 11A.1: Church Fenton Wind Rose (2007)



11A.4. Buildings and Terrain

11A.4.1. The presence of buildings or structures near to the emission points can have a significant effect on the dispersion of emissions. The wind field can become entrained into the wake of buildings, which causes the wind to be directed to ground level more rapidly than in the absence of a building. If an emission is entrained into this deviated wind field, this can give rise to elevated ground-level concentrations. Building effects are typically considered where a structure of height greater than 40% of the stack height is situated within 8-10 stack heights of the emissions source.

11A.4.2. Buildings associated with the Proposed Development considered to be of sufficient height and volume to potentially impact on the dispersal of emissions from the stack include the Boiler Hall and Bunker Hall. At this stage, while the final dimensions of the buildings for the process are determined, the air quality assessment is conservatively based on the proposed worst case building dimensions from the different technology providers. In reality, the building dimensions may be smaller than the ones used in the assessment, however, this would be expected to reduce the significance of building impacts on the dispersion of emissions from the main stack; the results presented in this report are therefore considered to be conservative with respect to building effects.

11A.4.3. The FM1 plant buildings that could affect dispersion from the FM1 stack, for modified baseline determination, include the boiler hall and bunker hall.

11A.4.4. In addition, the existing Ferrybridge 'C' cooling towers have the height potential to affect dispersion from the Proposed Development stack and are situated within 8-10 stack heights of the Proposed Development.

11A.4.5. It is recognised that when in use, the hot cooling tower plumes will generate a thermal up-draught, which could potentially increase the buoyancy and hence dispersion from the Proposed Development stack, and consequently reduce the ground level concentrations. In this way, it could be argued that any impacts arising from the effects of the cooling tower structures would be offset by the increased buoyancy of the gases, which is a modelling approach frequently used in the assessment of emissions from thermal power stations. However, the coal-fired plant cooling towers may not always be in operation when the Proposed Development is running and any up-draught effect from the cooling towers cannot be adequately represented in the dispersion model, due to the model limitations; consequently the cooling towers have been included as structures within the modelling assessment in order to present a worst-case assessment. Parameters representing the buildings and cooling towers included in the model are shown in Table 11A.7 and a plan showing the buildings used in the ADMS simulations is also shown in Figure 11A.2 below.

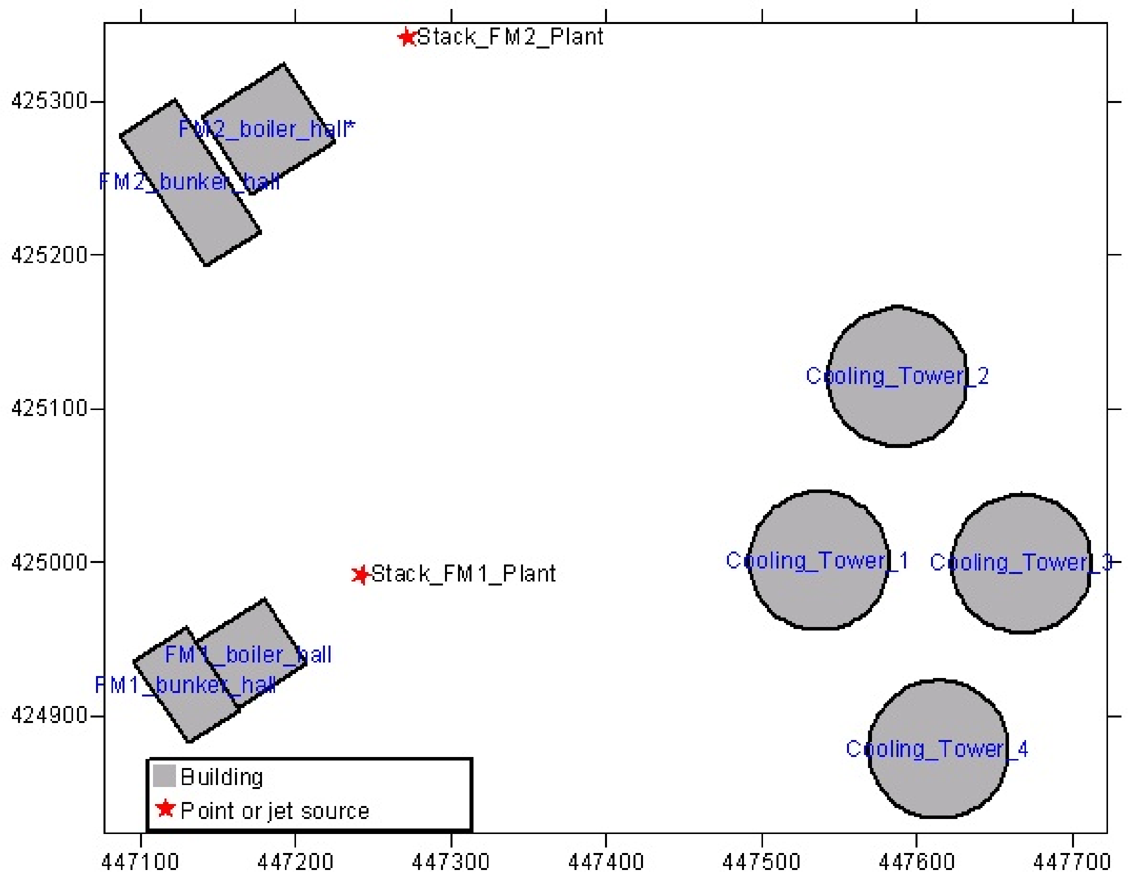
Table 11A.7 Buildings Incorporated into the Modelling Assessment

Building	Grid Reference (x,y)	Height (m)	Length (m)	Width (m)	Angle [1]
FM2 Boiler House	447182, 425282	58	63	60	57
FM2 Bunker	447132, 425252	48	42	102	57
Cooling Tower 1	447537, 425001	113	90	-[2]	-[2]
Cooling Tower 2	447588, 425119	113	90	-[2]	-[2]
Cooling Tower 3	447668, 424999	113	90	-[2]	-[2]
Cooling Tower 4	447614, 424878	113	90	-[2]	-[2]
FM1 Boiler Hall	447170, 424940	49	55	50	57
FM1 Bunker Hall	447130, 424920	42	40	64	57

Table Notes:
1. The angle between the building length and grid north.
2. The existing cooling towers have been modelled as circular structures of 90 m diameter and therefore have no designated 'width' or 'angle'.

11A.4.6. The site is situated on a glacial flood plain adjacent and to the west of the River Aire. The nearest residential and commercial developments are in the hamlet of Ferrybridge, approximately 1 km to the south east of the site, and Castleford town approximately 1 km west of the site. A surface roughness of 0.5 m, corresponding to parkland and open suburbia, has been selected to represent the local terrain. Site-specific terrain data has not been used in the model, as typically terrain data will only have a marked effect on predicted concentrations where hills with gradient of more than 1 in 10 are present in the vicinity of the source, which is not the case at this site.

Figure 11A.2: Visualisation of Buildings in ADMS



Modelled Domain and Receptors

11A.4.7. The model has been based on a grid (54 x 54) extending 4 km from the point source. The grid resolution therefore provides output at 150 m intervals from the source. The nearest sensitive receptor to the source is located approximately 400 m from the source, therefore this resolution is considered appropriate. A lower resolution grid has also been used to assess impacts on ecological receptors up to 10 km from the plant. In addition, the nearest sensitive human and ecological receptors have been identified and represented as specified points for the model output, as detailed in Tables 11A.8 and 11A.9 below.

Table 11A.8 Sensitive Human Health Receptors

Receptor Number	Sensitive Receptor	Type of Receptor	In AQMA?	Grid Reference	Location from Plant
R1	Manor Farm Ferrybridge	Residences	Yes	447975, 424560	1.1km SE
R2	Pollard's Fields Ferrybridge	Residences / School	Yes	447705, 424365	1.1km S
R3	Limetrees Pontefract	Residences	Yes	447395, 423733	1.6km S
R4	Pontefract Road	Residences	Yes	447613, 423920	1.5km S
R5	Sunny Nook, Stranglands Lane	Residence	Yes	448152, 424575	1.2km SE

Receptor Number	Sensitive Receptor	Type of Receptor	In AQMA?	Grid Reference	Location from Plant
R6	The Elms, The Square	Residence	Yes	448288, 424502	1.3km SE
R7	Holmfield Farm	Residence	Yes	446845, 424820	0.7km SW
R8	Kirkhaw Bungalow	Residence	Yes	447989, 424591	1.0km SE
R9	Brotherton School	School	No	448355, 425363	1.1km East
R10	Oakland Hill – Fryston Lane	Residences	Yes	446745, 425020	0.6km West
R11	Low Street	Residences	No	448400, 425270	1.1km East
R12	Castleford Lane	Residences	Yes	447885, 424446	1.1km SE
R13	Wentcliffe Cottage	Residences	Yes	448337, 424253	1.5km SE
R14	Pinfold Close	Residences	Yes	448339, 424122	1.6km SE
R15	Doncaster Road	Residences	Yes	448384, 423821	1.9km SE
R16	The Square	Residences	Yes	448400, 424430	1.5km SE
R17	Kirkhaw Lane	Residences	Yes	447969, 424722	0.8km SE

Table 11A.9 Sensitive Ecological Receptors

Receptor Number	Sensitive Receptor	Type of Receptor[2]	Grid Reference[1]	Location from Plant
E1	Fairburn and Newton Ings	SSSI	447379, 427282	1.9km N
E2	Madbanks and Ledsham Banks	SSSI	446010, 429770	4.6km NW
E3	Sherburn Willows	SSSI	448760, 432275	7.1km NE
E4	Wentbridge Ings	SSSI	447700, 418215	7.1km S
E5	Brockadale	SSSI	450065, 417680	8.2km S
E6	Forlorn Hope Meadow	SSSI	454250, 417210	7.5km SW
E7	Townclose Hills	SSSI	440850, 430300	8.1km NW
E8	Roach Lime Hills	SSSI	441995, 431330	8.0km NW
E9	Micklefield Quarry	SSSI	444600, 432410	7.6km NW
E10	Mickletown Ings	SSSI	440725, 427320	6.8km NW
E11	Well Wood	LNR	445700, 426600	2.0km NW
E12	Fryston Wood	LWS	447100, 425500	0.2km N
E13	Fryston Park	LWS	446905, 425570	0.4km NW
E14	Bank of River Aire	LWS	447547, 426240	0.9km N
E15	Byram Park, Burton Salmon	LWS	448687, 426237	1.7km NE
E16	Woodland, western edge of Byram Park	LWS	448497, 426417	1.6km NE
E17	Orchard Head	LWS	446250, 423697	1.9km SW

Table Notes:
1. Taken as the nearest point to the Proposed Development
2. SSSI = Site of Special Scientific Interest, LNR = Local Nature Reserve, LWS = Local Wildlife Site

Sensitivity Analysis

11A.4.8. Sensitivity analysis has been conducted on the model input variables to determine the effects on predicted results, and to ultimately identify the realistic worst-case results for inclusion in the assessment. These variables include:

- meteorological data;
- buildings and structures; and
- emissions parameters.

11A.4.9. Five years of meteorological data from Church Fenton have been assessed, with 2007 data providing the worst-case long term and short term predicted results. The highest predicted results from all five years met data have been used to provide a worst-case assessment, in accordance with H1 guidance.

11A.4.10. In order to ensure that a worst-case assessment of the emissions from the Proposed Development has been carried out, numerous model runs have been undertaken for different building configurations as part of the model sensitivity analysis, and it was found that, of these additional structures, only the four cooling towers nearest the Proposed Development affected the predicted ground level concentrations arising from the emissions, and therefore were included in the final model run. The worst-case buildings representation, as indicated in section 2.5, has been used in this assessment.

11A.4.11. Emission parameters for a number of scenarios, including alternative emission temperatures and flow rates, have been assessed through modelling to determine the parameters that result in the worst-case predicted concentrations for the proposed plant design. These have been used in the assessment to provide the worst-case impact assessment for the proposed development.

11A.5. Traffic Emissions Modelling

Introduction

11A.5.1. The impacts from road traffic emissions associated with the Proposed Development have been considered in addition to point source combustion emissions.

11A.5.2. To undertake the assessment of road traffic emissions during the operational phases of the Proposed Development, the latest version of dispersion model software 'ADMS-Model' (v3.1) has been used to quantify pollution levels at selected receptors. ADMS-Roads is a modern dispersion model that has an extensive published track record of use in the UK for the assessment of local air quality impacts, including model validation and verification studies

11A.5.3. This section outlines the methodology and results of the road traffic emissions assessment.

Study Pollutants

11A.5.4. The incomplete combustion of fuel in vehicle engines results in the presence of hydrocarbons (HC) such as benzene and 1,3-butadiene, and sulphur dioxide (SO_2), carbon monoxide (CO), PM_{10} and $PM_{2.5}$ in exhaust emissions. In addition, at the high temperatures and pressures found within vehicle engines, some of the nitrogen in the air and fuel is oxidised to form NO_x, mainly in the form of nitric oxide (NO), which is then converted to NO_2 in the atmosphere. NO_2 is associated with adverse effects on human health. Better emission control technology and fuel specifications are expected to reduce emissions per vehicle in the long term.

11A.5.5. Although SO_2, CO, benzene and 1,3-butadiene are also present in motor vehicle exhaust emissions, detailed consideration of the associated impacts on local air quality is not considered relevant in the context of this Proposed Development. This is because road traffic emissions of these substances have been reviewed by the local authority and nowhere within Wakefield Metropolitan Borough Council administrative area is at risk of exceeding these objectives. The Proposed Development would not be capable of compromising the achievement of the relevant air quality objectives for the protection of human health. Emissions of SO_2, CO, benzene and 1,3-butadiene from road traffic are therefore not considered further within this assessment.

11A.5.6. During operation, the Proposed Development has the potential to change vehicle movements on the surrounding road network. An increase in vehicle emissions can increase the exposure at sensitive receptors to concentrations of NO_2 and particulate matter (PM_{10} and $PM_{2.5}$). This assessment will quantify the concentration of the pollutants most commonly associated with vehicle emissions at the worst affected receptor locations.

Dispersion Model Input Data and Model Conditions

11A.5.7. The general model conditions used in the assessment of road traffic emissions are summarised in Table 11A.10. Other more detailed aspects needed to model the dispersion of emissions are considered within the following sub-sections.

Table 11A.10 General ADMS-Roads Model Conditions

Variable	Model Input
Surface roughness at source	0.5
Minimum Monin-Obukhov length for stable conditions	30
Terrain types	Flat
Receptor location	X,Y coordinates determined by GIS
Emissions	NO_X, PM_{10} and $PM_{2.5}$
Emission factors	EFT Version 5.2 emission factor database.
Meteorological data	1 year (2011) hourly sequential data from Church Fenton 2011
Emission profiles	No emission profile has been used.
Receptors	Selected Receptors Only (No grid points)
Model output	Long-term annual mean NO_x concentrations Long-term annual mean PM_{10} concentrations Long-term annual mean $PM_{2.5}$ concentrations

11A.6. Traffic Data

11A.6.1. The traffic data used within this assessment has been sourced from the URS Transportation Team (URS, 2013) and is set out in Table 11A.11 and Table 11A.12 below.

11A.6.2. Emission rates have been taken from the latest emission factor toolkit (5.2c). As there is some doubt over year on year improvements in emission rates, it has been conservatively assumed that there will not be any improvement in emissions between the current situation and opening year of the Proposed Development.

Table 11A. 11 Traffic Data

Link Description	2011 Baseline			2018 Do-Minimum			2018 Do-Something		
	AADT (veh/day)	%HDV	Speed (mph)	AADT (veh/day)	%HDV	Speed (mph)	AADT (veh/day)	%HDV	Speed (mph)
Hinton Lane	417	0%	20	455	0%	20	455	0%	20
Kirkhaw Lane	874	29%	20	1295	43%	20	1637	51%	20
Stranglands Lane - West of Hinton lane	10012	3%	30	10911	3%	30	10925	3%	30
Stranglands Lane - Between Hinton Lane & Kirkhaw Lane	11066	6%	30	12060	6%	30	12073	6%	30
Stranglands Lane - Kirkhaw Lane & OGNR	11077	7%	30	12401	9%	30	12730	11%	30
The Square - Between OGNR & High Street	113373	5%	30	14614	5%	30	14653	5%	30
A162 North of New Roundabout (Two-Way Flows)	14552	2%	70	15859	2%	70	15859	2%	70
OGNR - Between Stranglands lane & A1	7033	5%	70	7954	9%	70	8243	12%	70
Northbound A162 South of B6136	6350	7%	70	7072	9%	70	7223	10%	70
Southbound A162 South of B6136	6404	3%	70	7130	5%	70	7282	7%	70
Northbound A162 North of B6136 to new Rdb	7276	2%	70	8068	3%	70	8206	5%	70
Southbound A162 North of B6136 from new Rdb	7276	2%	70	8068	3%	70	8206	5%	70
NB On Slip A162	2857	1%	70	3252	5%	70	3390	9%	70
NB Off Slip A162	2949	11%	70	3365	15%	70	3517	18%	70
SB On Slip A162	2688	9%	70	2942	9%	70	2956	9%	70
SB Off Slip A162	3040	2%	70	3313	2%	70	3313	2%	70
A162 South of Knottingley	18282	7%	70	20226	9%	70	20528	10%	70
A162 between OGNR & Sowgate Lane	3401	3%	70	3706	3%	70	3706	3%	70
New Low Street Roundabout	-	-	-	15859	2%	30	15859	2%	30

11A.7. Background Data

11A.7.1. For each receptor considered in this study a receptor-specific background concentration has been determined, based on the receptor Defra grid square concentration (Defra 2010 background maps for 2013). Where the road component has been explicitly modelled for this assessment, contributions to annual mean NO_2, PM_{10} and $PM_{2.5}$ from Primary A Roads and motorway road sources in the modelling domain were removed from the background (sector removal as per LAQM TG(09) guidance (Ref 11A-5) and the modelled road contribution has been added.

11A.7.2. Due to the uncertainty in the assumption that year on year background concentrations will decrease, the 2012 mapped background data has been used for both the baseline and future year assessment.

Bias Adjustment of Road Contribution Pollutant Concentrations

11A.7.3. There is one monitoring location (diffusion tube site 51) within the road traffic model study area. Following the model verification methodology described in LAQM TG(09) (Defra, 2009), modelled predictions were made of annual mean NO_2 concentrations at the location of the diffusion tube. A comparison of the unadjusted predictions and the measured concentrations at this location was undertaken. This showed that the model under-predicted annual mean concentrations of NO_2. As described in LAQM TG(09), the adjustment was made to predicted road NO_x contributions. An adjustment factor of 1.99 was used to correct bias across the study area.

11A.7.4. In the absence of measured or monitored PM_{10} and $PM_{2.5}$ data that is suitable for use in model verification, the same road NO_X factor has also been applied to their road contributions, as per the methodology described in LAQM TG(09).

NOx to NO_2 Conversion

11A.7.5. To accompany the publication of the guidance document LAQM TG(09), a NO_X to NO_2 converter was made available as a tool to calculate the road NO_2 contribution from modelled road NO_X contributions. The tool comes in the form of an MS Excel spreadsheet and uses borough specific data to calculate annual mean concentrations of NO_2 from dispersion model output values of annual mean concentrations of NO_X. This tool was used to calculate the total NO_2 concentrations at receptors from the modelled road NO_X contribution and the associated background concentration. Due to the location of the proposed development, the 'All Other Urban Traffic' setting was selected.

Predicting the Number of Days in which the PM_{10} 24-hr Mean Objective is Exceeded

11A.7.6. The guidance document LAQM TG(03) set out the method by which the number of days in which the PM_{10} 24-hr objective is exceeded can be obtained based on a relationship with the predicted PM_{10} annual mean concentration. The most recent guidance (Defra, 2009) suggests no change to this method. As such, the formula used within this assessment is:

$$\text{No. of } Exceedances = 0.0014 * C^3 + \frac{206}{C} - 18.5$$

Where C is the annual mean concentration of PM_{10}.

Predicting the Number of Days in which the NO2 hourly Mean Objective is Exceeded

11A.7.7. Research projects completed on behalf of Defra and the Devolved Administrations (Laxen and Marner (2003) and AEAT (2008)) have concluded that the hourly mean NO_2 objective is unlikely to be exceeded if annual mean concentrations are predicted to be less the 60 µg/m^3.

11A.7.8. In 2003, Laxen and Marner concluded:

11A.7.9. "…*local authorities could reliably base decisions on likely exceedances of the 1-hour objective for nitrogen dioxide alongside busy streets using an annual mean of 60 µg/m^3 and above*."

11A.7.10. The findings presented by Laxen and Marner (2003) are further supported by AEAT (2008) who revisited the investigation to complete an updated analysis including new monitoring results and additional monitoring sites. The recommendations of this report are:

11A.7.11. "*Local authorities should continue to use the threshold of 60 µg/m^3 NO_2 as the trigger for considering a likely exceeaence of the hourly mean nitrogen dioxide objective*."

11A.7.12. Therefore this assessment will evaluate the likelihood of exceeding the hourly mean NO_2 objective by comparing predicted annual mean NO_2 concentrations at all receptors to an annual mean equivalent threshold of 60 µg/m^3 NO_2. Where predicted concentrations are below this value, it can be concluded with confidence that the hourly mean NO2 objective (200 µg/m^3 NO_2 not more than 18 times per year) will be achieved.

Method for Assessment of Significance

11A.7.13. EPR H1 indicates that for the assessment of point source emissions, long term ground level concentrations arising from point sources which are less than 1% of an air quality objective or EAL can be treated as insignificant (or negligible). Similarly, short term ground level concentrations arising from point sources which are less than 10% of an air quality objective or EAL can also be treated as insignificant (or negligible). Where emissions are not screened as negligible, the descriptive terms for the significance of the effect outlined in Table 11A.12 below have been applied.

11A.7.14. The significance of effects of point source emissions on ecological receptors, through deposition of nutrient nitrogen or acidity, has been evaluated using the Environment Agency insignificance criterion of 1% of the long term objective, as above.

11A.7.15. With regard to road traffic, the change in pollutant concentrations with respect to baseline concentrations has been quantified at receptors that are representative of exposure to impacts on local air quality within the study area. The absolute magnitude of pollutant concentrations in the baseline and with development scenario is also quantified and this is used to consider the risk of the air quality limit values being exceeded in each scenario.

11A.7.16. For a change of a given magnitude, the Institute of Air Quality Management (IAQM, 2009) have published recommendations for describing the magnitude of impacts at individual receptors and describing the significance (Table 11A.13) of such impacts. For example a change in predicted annual mean concentrations of NO_2 or PM_{10} of less than 0.4 µg/m^3 is considered to be so small a to be imperceptible. A change (impact) that is imperceptible, given normal bounds of variation, would not be capable of having a direct effect on local air quality that could be considered to be significant. The magnitude of change is divided into four classes as defined in Table 11A.13.

Table 11A.12 Magnitude of Changes in Ambient Pollutant Concentrations of NO_2 and PM_{10}

Magnitude of Change	Annual Mean Concentrations of NO_2 (µg/m^3)	Annual Mean Concentrations of PM_{10} (µg/m^3)	Exceedances of the 24-hr mean objective for PM_{10} (days)
Large	Increase/decrease >4	Increase/decrease >4	Increase/decrease >4
Medium	Increase/decrease 2 - 4	Increase/decrease 2 - 4	Increase/decrease 2 to 4
Small	Increase/decrease 0.4 - 2	Increase/decrease 0.4 - 2	Increase/decrease 1 to 2
Imperceptible	Increase/decrease < 0.4	Increase/decrease < 0.4	Increase/decrease < 1

11A.7.17. The magnitude of the change in the predicted number of exceedances of the 24-hour objective is directly derived from the predicted annual mean value using the relationship defined in the DMRB Screening Tool. The magnitude descriptors for 24-hour mean PM_{10} in the table above are as proposed by Environmental Protection UK (EPUK, 2010).

11A.7.18. All relevant receptors that have been selected to represent locations where people are likely to be present are based on impacts on human health. The air quality objective values have been set at concentrations that provide protection to all members of society, including more vulnerable groups such as the very young, elderly or unwell. As such the sensitivity of receptors was considered in the definition of the air quality objective values and therefore no additional subdivision of human health receptors on the basis of building or location type is necessary.

11A.7.19. For receptors that are predicted to experience a perceptible change, the effect of the change on local air quality and the risk of exceeding the air quality objective value is summarised in Table 11A.14 for annual mean concentrations of NO_2 and PM_{10}.

Table 11A.13. Magnitude of Changes in Ambient Pollutant Concentrations of NO_2 and PM_{10}

Absolute Concentration in Relation to Objective/Limit Value	Change in Concentration		
	Small	Medium	Large
Increase with Scheme			
Above Objective/Limit Value *With* Scheme (>40 µg/m^3)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value *With* Scheme (36 - 40 µg/m^3)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value *With* Scheme (30 - 36 µg/m^3)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value *With* Scheme (<30 µg/m^3)	Negligible	Negligible	Slight Adverse
Decrease with Scheme			
Above Objective/Limit Value *Without* Scheme (>40 µg/m^3)	Slight Beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value *Without* Scheme (36 - 40 µg/m^3)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value *Without* Scheme (30 - 36 µg/m^3)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value *Without* Scheme (<30 µg/m^3)	Negligible	Negligible	Slight Beneficial

11A.7.20. The criteria in Table 11.1 relate to air quality statistics that are elevated about the objective values in many urban locations: this is not the case with $PM_{2.5}$. A change in the annual mean concentration of $PM_{2.5}$ equivalent to 1% of the objective value is 0.25 µg/m^3. Changes above 0.25 µg/m^3 would be considered to be a small change (up to 1.25 µg/m^3).

11A.7.21. A small increase in annual mean concentrations of NO_2 and PM_{10}, at receptors exposed to baseline concentrations that are just below the objective value (36 µg/m^3 to 40 µg/m^3) is considered to have a minor adverse effect as the minor increase in the risk of exceeding the objective value is significant. However, a small increase in annual mean concentrations of NO_2 and PM_{10} at receptors exposed to baseline concentrations that are below or well below (< 36 µg/m^3) is not likely to affect the achievement of the objective value and is therefore not a significant effect (negligible).

11A.7.22. The equivalent values for just below the annual mean $PM_{2.5}$ objective value where a small increase would cause a minor adverse effect on air quality is 22.5 to 25 µg/m^3. Where baseline annual mean $PM_{2.5}$ concentrations at a receptor are well below the objective (< 18.75 µg/m^3), a small increase is not likely to have a significant effect on air quality.

Assessment of Significance

11A.7.23. The significance of all the reported impacts is then considered for the development in overall terms. The potential for the scheme to contribute to or interfere with the successful implementation of policies and strategies for the management of local air quality are considered if relevant, but the principal focus is any change to the likelihood of future achievement of the air quality objective values set out in Table 11A.1 for the following pollutants:

- Annual mean nitrogen dioxide (NO_2) concentration of 40 µg/m^3;
- Annual mean particulate matter (PM_{10}) concentration of 40 µg/m^3;
- Annual mean fine particulate matter ($PM_{2.5}$) concentrations of 25 µg/m^3; and
- 24-hour mean PM_{10} concentration of 50 µg/m^3 not to be exceeded on more than 35 days per year.

11A.7.24. The achievement of local authority goals for local air quality management are directly linked to the achievement of the air quality objective values described above and as such this assessment focuses on the likelihood of future achievement of the air quality objective values.

11A.7.25. In terms of the significance of the consequences of any adverse impacts, an effect is reported as being either 'not significant' or as being 'significant'. Effects found to be 'minor' are considered to be 'not significant', although they may be a matter or local concern. 'Negligible' effects are considered to be 'not significant'.

11A.8. Results and Discussion

Modified Baseline Calculations - FM1 Process and Road Contributions

11A.8.1. It is considered that the modelled parameters used will result in a conservative estimation of the FM1 process contribution to the modified baseline. These include:

- Use of the worst-case meteorological year (2011) for the reported results;
- Assessment of emission concentrations at the WID limits, when average concentrations are likely to be below these values;
- Assumption that 70% of NO_x emissions are converted to NO_2 in the stack vicinity in the long term;
- Assumption that 100% of particulate emissions are PM_{10} or below;
- 100% plant availability and operation per year;
- Inclusion of buildings within the model, especially the inclusion of the existing Ferrybridge 'C' cooling towers and excluding potential up-draught effects from the cooling tower thermal plumes in the assessment.

11A.8.2. The assessment undertaken for 2018 assumes that there has been no improvement in either background pollutant concentrations for NO_2 or PM_{10} or vehicle emission factors. This is considered to be a conservative approach for 2018 as some improvements are anticipated in both background pollutant concentrations and also vehicle emissions by this date.

11A.8.3. The modelled FM1 traffic data for 2018, including 2018 background, has been added to the FM1 annual process contributions of NO_2 to give the modified baseline at each sensitive receptor. These values are presented in Table 11A.14 below.

Table 11A.14 Modified NO_2 Baseline Calculations

Sensitive Receptor	2011 Annual NO_2 Baseline (µg/m^3)	2018 Annual NO_2 Baseline (µg/m^3)	2018 Annual NO_2 Baseline with FM1 traffic (µg/m^3)	FM1 NO_2 Process Contribution (µg/m^3)	Modified 2018 NO_2 Baseline (µg/m^3)
R1	28.1	28.7	29.0	0.25	28.9
R2	27.6	27.9	28.0	0.30	28.2
R3	30.2	30.2	30.2	0.30	30.5
R4	30.2	30.2	30.2	0.43	30.6
R5	30.9	33.2	34.7	0.43	33.7
R6	29.1	30.4	30.9	0.37	30.7
R7*	24.9	24.9	24.9	0.41	25.3
R8	27.3	28.1	28.6	0.32	28.4
R9*	18.7	18.7	18.7	1.02	19.7
R10*	20.3	20.3	20.3	0.68	21.0
R11	19.4	20.1	20.2	1.06	21.2
R12	27.8	28.2	28.2	0.15	28.3
R13	27.9	28.9	29.5	0.17	29.1
R14	31.3	32.8	33.5	0.15	33.0
R15	24.9	25.7	26.1	0.18	25.9
R16	31.0	32.0	32.3	0.32	32.3
R17	26.3	27.3	28.2	0.75	28.1
R18*	18.7	18.7	18.7	0.69	19.4

Table Notes:
*Denotes location not within 200m of road traffic study area.

11A.8.4. Similarly, the FM1 annual process contributions of PM10 have been added to the modelled PM_{10} traffic baseline with Fm1 traffic contribution to give the modified baseline at each sensitive receptor. These values are presented in Table 11A.15 below.

Table 11.A.15 Modified PM_{10} Baseline Calculations

Sensitive Receptor	2011 Annual PM_{10} Baseline (µg/m^3)	2018 Annual PM_{10} Baseline (µg/m^3)	2018 Annual PM_{10} Baseline with FM1 traffic (µg/m^3)	FM1 PM_{10} Process Contribution (µg/m^3)	Modified 2018 PM_{10} Baseline (µg/m^3)
R1	20.6	20.6	20.7	0.015	20.7
R2	20.6	20.6	20.6	0.024	20.6
R3	20.9	20.9	20.9	0.017	20.9
R4	20.9	20.9	20.9	0.028	21.0

Sensitive Receptor	2011 Annual PM_{10} Baseline (µg/m^3)	2018 Annual PM_{10} Baseline (µg/m^3)	2018 Annual PM_{10} Baseline with FM1 traffic (µg/m^3)	FM1 PM_{10} Process Contribution (µg/m^3)	Modified 2018 PM_{10} Baseline (µg/m^3)
R5	20.3	20.6	20.8	0.027	20.6
R6	20.1	20.3	20.4	0.023	20.3
R7*	19.1	19.1	19.1	0.027	19.1
R8	20.4	20.5	20.5	0.019	20.5
R9*	17.2	17.2	17.2	0.063	17.2
R10*	18.6	18.6	18.6	0.045	18.7
R11	17.4	17.5	17.5	0.065	17.6
R12	20.5	20.6	20.6	0.009	20.6
R13	19.9	20.0	20.1	0.010	20.1
R14	20.5	20.7	20.8	0.009	20.7
R15	21.2	21.3	21.4	0.011	21.4
R16	20.5	20.7	20.7	0.020	20.7
R17	20.2	20.3	20.4	0.051	20.4
R18*	17.2	17.2	17.2	0.048	17.2

11A.8.5. The FM1 annual process contributions of other WID species have been added to the existing baseline concentration, where available, to give the modified baseline at the location of maximum predicted concentration (on- or off-site). These values are presented in Table 11A.16 below. Existing baseline concentrations have been obtained for the nearest representative Defra or CEH monitoring stations.

Table 11A.16 Modified Baseline Calculations – Other WID species, maximum PC

WID Species	Existing Annual Baseline (µg/m^3)	Maximum FM1 Process Contribution (µg/m^3)	Modified 2018 Baseline (µg/m^3)
NO_2	20.5[1]	2.5	23.0
SO_2	7.2[1]	0.6	7.8
PM_{10}	19.6[1]	0.13	19.7
$PM_{2.5}$	12.4[1]	0.13	12.5
CO	355[1]	0.61	356
NH_3	2.0[4]	0.13	2.1
VOC (as benzene)	0.4[1]	0.13	0.5
HCl	0.3[3]	0.13	0.4
HF(as HCl)	0.3[3]	0.013	0.3
Hg	1.8e-5[2]	6.4e-4	6.6e-4
Cd and Tl (as Cd)	2.2e-4[2]	6.4e-4	8.6e-4
Other Metals (as Pb)	1.3e-2[2]	6.4e-4	1.9e-2
Other Metals (as Cr)	7.7e-3[2]	6.4e-4	1.4e-2

Table Notes:
1. Defra Background Mapping, most recent available year, grid ref [447500, 424500]
2. CEH, Sheffield Centre, Urban Heavy Metals
3. Defra, Caenby, AGANET
4. CEH, Tadcaster, NAMN

FM2 Road and Process Contributions

NO_x (as NO_2) Process Contribution Impacts

11A.8.6. The long term process contribution is conservatively based on continuous operation at the WID limit for NO_x and assuming 70% conversion of emitted NO_x to NO_2 in accordance with EA guidance. In practice the conversion rate of NO_x to NO_2 may be less than 70% as it requires ozone to be present in the ambient air; a 70% conversion is therefore conservative. Furthermore the use of the ELV for continuous long-term emissions is also considered a conservative assumption.

11A.8.7. The proposed development is located within the AQMA declared by WMDC for NO_2. The receptor R12 (Castleford Lane) is within the AQMA and is predicted to experience an increase in process contribution of 1% of the long term EAL, with the above conservative assumptions, and is therefore at the threshold for insignificance.

11A.8.8. The highest impacts from the process emissions are predicted in Brotherton. Residences on Church Street (R18) are predicted to experience the worst-case long term PC of 0.8µg/m^3 (2% of EAL) whilst Brotherton School (R9) is predicted to be at the threshold for insignificance. However these receptors are not located within the AQMA and are not affected by increased road traffic emissions from the Proposed Development.

11A.8.9. The short term process contribution assumes a 50% conversion of NO_x to NO_2, as per EA H1 screening guidance. The maximum PEC of NO2 is 33% of the hourly NAQS objective, and therefore can be considered to be well below the objective. It is therefore considered very unlikely that the Proposed Development would result in a breach of the hourly average NAQS at off-site locations, and consequently is unlikely to cause significant impacts on sensitive human health receptors.

Particulates (expressed as PM_{10}) Process Contribution Impacts

11A.8.10. The maximum annual average PM_{10} PC is 0.1µg/m³, representing less than 1% of the annual average NAQS objective.

11A.8.11. The PM10 maximum process contribution (as the 90.4th percentile of 24-hourly averages) is predicted to be 0.2 µg/m^3, representing <1% of the NAQS objective. Due to the relatively high baseline concentration (taken to be 39µg/m³, twice the annual average concentration) the predicted environmental concentration of PM10 is 79%, however it is considered very unlikely that the contribution from the Proposed Development would lead to an exceedance of the NAQS objective.

Particulates (expressed as $PM_{2.5}$) Process Contribution Impacts

11A.8.12. The PM_{10} assessment above includes the proportion of released particulates that is of $PM_{2.5}$ or less, and therefore in order to carry out a conservative assessment, it has been assumed here that the whole PM10 release occurs as $PM_{2.5}$.

11A.8.13. The maximum predicted annual concentration, of 0.1 µg/m³, represents <1% of the $PM_{2.5}$ limit value. The estimated baseline concentration is 12.5µg/m^3, representing 63% of the target value; it is therefore considered very unlikely that the process contribution would result in failure to achieve the limit value or national exposure reduction target.

Sulphur Dioxide Process Contribution Impacts

11A.8.14. Short-term process contributions of SO_2 are screened as insignificant according to the H1 criteria since the PCs for the different averaging periods are less than 10% of the respective NAQS objectives. The PECs for SO_2 are 10% for the 15-minute mean, 7% for the hourly mean and 14% for the 24-hour mean, and therefore can be considered to be well below the relevant NAQS objectives.

Carbon Monoxide Process Contribution Impacts

11A.8.15. The predicted process contribution of CO from the Proposed Development represents <1% of the NAQS 8-hour running mean objective at the location of the maximum predicted concentration.

Ammonia Process Contribution Impacts

11A.8.16. The maximum annual average process contribution of ammonia is predicted to be 0.1 µg/m3, representing <1% of the EAL.

11A.8.17. The maximum hourly average process contribution is <1% of the short term EAL for ammonia.

Volatile Organic Compounds Process Contribution Impacts

11A.8.18. The maximum predicted environmental concentration resulting from the Proposed Development represents 12% of the NAQS for benzene (used as a conservative surrogate assessment species) and is therefore is well below the objective. Given the conservative assumptions made in the assessment, it is considered unlikely that process contributions would result in risk to the attainment of the NAQS objective for benzene.

Acid Gases (Hydrogen Chloride and Hydrogen Fluoride) Process Contribution Impacts

11A.8.19. The maximum hourly average process contribution of hydrogen chloride is predicted to be less than 1% of the EAL.

11A.8.20. The maximum annual average process contribution of hydrogen fluoride is predicted to be less than 1% of the EAL.

11A.8.21. The maximum hourly average process contribution of hydrogen fluoride is less than 1% of the short term EAL.

Mercury Process Contribution Impacts

11A.8.22. The maximum annual average process contribution of mercury is predicted to be less than 1% of the EAL.

11A.8.23. The maximum hourly average process contribution is less than 1% of the short term EAL.

Cadmium and Thallium Process Contribution Impacts

11A.8.24. The maximum annual average process contribution of the Proposed Development is predicted to be 6% of the EAL for cadmium (Cd), as a result of emissions conservatively assumed to be at WID limits continuously. An estimate of the background concentration for Cd has been obtained for this assessment from Defra's Urban Heavy Metals Monitoring Network, operated by the National Physical Laboratory. The background concentrations are measured as the particulate fraction and are taken from the nearest background site, in Sheffield Centre. The estimate for background Cd is 0.2ng/m³. The PEC, including the modified baseline with FM1 contributions, is therefore predicted to be 22% of the EAL and the process contribution is considered unlikely to present a risk of exceedance of the EAL.

Other Metals (incl. Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V) Process Contribution Impacts

11A.8.25. The maximum annual average process contribution of metals, assuming emissions at the WID limit for total heavy metals are wholly comprised of lead, is 0.003µg/m³, representing 1% of the long term NAQS objective, which means this species is screened as having an insignificant impact; given this worst case assumption it is considered that process contributions are therefore unlikely to result in risk of exceedance of the objective.

11A.8.26. The hourly average process contribution of metals resulting from the Proposed Development is <1% of the most stringent short term (hourly mean) EAL (antimony, Sb) for the above species.

11A.8.27. Further analysis of the potential impacts from arsenic, nickel and chromium (VI) has not been conducted at this design stage. In particular the proportion of total chromium in a heavy metals release, and the proportion of chromium(VI) within that, are both unknowns at this stage as they are for any plant prior to construction and commissioning. Until actual emissions monitoring can be undertaken, the situation is further complicated by the unknown split between particulate and vapour phase releases. Therefore no assessment against specific individual metals guideline values can reliably be made at this stage.

11A.8.28. More detailed assessment will be conducted in line with the revised guidance issued by the Environment Agency in June 2011, “Impact Assessment for Group 3 Metals Stack Releases,” and the predicted impacts will be included in the DCO application, at a later stage of process design.

11A.8.29. The emissions of heavy metals have been assessed above based on emissions at the WID Emission Limit Value of 0.5mg/m^3. It should be noted that this limit is set for gaseous and the vapour forms of the relevant heavy metal emissions as well as their compounds and not the PM_{10} particulate phase of heavy metals, which is likely to be lower than the WID ELV, and therefore it is considered that assessing emissions at the WID limit against particulate phase standards represents a very conservative assessment.

11A.8.30. The Proposed Development process contributions (PCs) and traffic contributions (TCs) of NO_2, PM_{10} and $PM_{2.5}$ have been added to the modified baseline at each sensitive receptor to give the Predicted Environmental Concentration (PEC). These values are presented in Tables 11A.17, 11A.18 and 11A.19 below. The number of days that may exceed the 50 µg/m³ air quality objective with the Proposed Development against the modified baseline has also been considered.

11A.8.31. All receptor locations are predicted to comply with the NO_2 annual average NAQS objective. Annual average increases in concentration of NO_2 with the Proposed Development are predicted to range between 0.2 and 1.9 µg/m³. These changes equate to imperceptible and small magnitude changes in concentration. The biggest changes in NO_2 annual average concentration are predicted at Receptor R5 on Stranglands Lane close to the site.

11A.8.32. All receptor locations are predicted to comply with the PM_{10} annual average NAQS objective and no locations are anticipated to exceed the 24-hour PM10 NAQS objective. Annual average increases in concentration of PM10 with the Proposed Development are predicted to range between less than 0.1 and 0.2 µg/m³. These changes in annual average and 24-hour PM_{10} concentration are considered to be of an imperceptible magnitude.

11A.8.33. All receptor locations are predicted to comply with the $PM_{2.5}$ annual average NAQS objective. Annual average increases in concentration of $PM_{2.5}$ with the Proposed Development are predicted to range between less than 0.1 and 0.1 µg/m³. These changes are considered to be of an imperceptible magnitude.

Table 11A.17: Proposed Development NO_2 Operational Contributions

Sensitive Receptor	Modified 2018 NO_2 Baseline (µg/m³)	2018 NO_2 FM2 TC (µg/m³)	NO_2 FM2 PC (µg/m³)	PEC (µg/m³)	cumulative change (µg/m³)
R1	28.9	0.3	0.3	29.5	0.6
R2	28.2	0.1	0.3	28.5	0.3
R3	30.5	<0.1	0.1	30.6	0.1
R4	30.6	<0.1	0.1	30.8	0.1
R5	33.7	1.5	0.3	35.4	1.8
R6	30.7	0.6	0.2	31.5	0.8
R7*	25.3	<0.1	0.1	25.3	0.1
R8	28.4	0.6	0.3	29.3	0.9
R9*	19.7	<0.1	0.4	20.1	0.4
R10*	21.0	<0.1	0.0	21.1	<0.1
R11	21.2	0.1	0.4	21.6	0.4
R12	28.3	0.1	0.4	28.8	0.5
R13	29.1	0.6	0.2	29.9	0.8
R14	33.0	0.7	0.3	33.9	0.9
R15	25.9	0.4	0.3	26.6	0.7
R16	32.3	0.3	0.2	32.8	0.5
R17	28.1	0.9	0.3	29.2	1.2
R18*	19.4	<0.1	0.8	20.1	0.8

Table Notes:
*Denotes location not within 200 metres of road traffic study area

Table 11A.18: Proposed Development PM_{10} Operational Contributions

Sensitive Receptor	Modified 2018 PM_{10} Baseline (µg/m³)	2018 PM_{10} FM2 TC (µg/m³)	PM_{10} FM2 PC (µg/m³)	PEC (µg/m³)	cumulative change (µg/m³)
R1	20.7	<0.1	<0.1	20.7	<0.1
R2	20.6	<0.1	<0.1	20.7	<0.1
R3	20.9	<0.1	<0.1	21.0	<0.1
R4	21.0	<0.1	<0.1	21.0	<0.1
R5	20.6	0.1	<0.1	20.8	0.26
R6	20.3	0.1	<0.1	20.4	0.1
R7*	19.1	<0.1	<0.1	19.2	<0.1
R8	20.5	<0.1	<0.1	20.6	0.1
R9*	17.2	<0.1	<0.1	17.3	<0.1
R10*	18.7	<0.1	<0.1	18.7	<0.1
R11	17.6	<0.1	<0.1	17.6	<0.1
R12	20.6	<0.1	<0.1	20.6	<0.1
R13	20.1	0.1	<0.1	20.1	0.1
R14	20.7	0.1	<0.1	20.8	0.1
R15	21.4	<0.1	<0.1	21.4	0.1
R16	20.7	<0.1	<0.1	20.8	<0.1
R17	20.4	0.1	<0.1	20.4	0.1
R18*	17.2	<0.1	<0.1	17.2	<0.1

Table 11A.19: Exceedances of the 24-hr mean objective for PM_{10} for the Modified Baseline and the With Development Scenario

Sensitive Receptor	Modified Baseline Exceedances of the 24-hr mean objective for PM_{10} (days)	With Development Exceedances of the 24-hr mean objective for PM_{10} (days)	Change in the Number of Exceedances of the 24-hr mean objective for PM_{10} (days)
R1	4	4	<1
R2	4	4	<1
R3	5	5	<1
R4	5	5	<1
R5	4	4	<1
R6	4	4	<1
R7	2	2	<1
R8	4	4	<1
R9	1	1	<1
R10	2	2	<1
R11	1	1	<1
R12	4	4	<1
R13	3	4	<1
R14	4	4	<1
R15	5	5	<1
R16	4	4	<1
R17	4	4	<1
R18	1	1	<1

Table 11A.20: Proposed Development $PM_{2.5}$ Operational Contributions

Sensitive Receptor	Modified 2018 $PM_{2.5}$ Baseline (µg/m^3)	2018 $PM_{2.5}$ FM2 TC (µg/m^3)	PM_{10} FM2 PC (µg/m^3)	PEC (µg/m^3)	cumulative change (µg/m^3)
R1	13.3	<0.1	<0.1	13.3	<0.1
R2	13.3	<0.1	<0.1	13.3	<0.1
R3	13.5	<0.1	<0.1	13.5	<0.1
R4	13.5	<0.1	<0.1	13.5	<0.1
R5	13.5	0.1	<0.1	13.6	0.1
R6	13.3	<0.1	<0.1	13.3	0.1
R7	12.5	<0.1	<0.1	12.5	<0.1
R8	13.2	<0.1	<0.1	13.2	<0.1
R9	11.5	<0.1	<0.1	11.6	<0.1
R10	12.1	<0.1	<0.1	12.1	<0.1
R11	11.7	<0.1	<0.1	11.8	<0.1
R12	13.2	<0.1	<0.1	13.3	<0.1
R13	13.1	<0.1	<0.1	13.2	0.1
R14	13.5	0.1	<0.1	13.6	0.1
R15	14.8	<0.1	<0.1	14.8	<0.1
R16	13.5	<0.1	<0.1	13.6	<0.1
R17	13.1	<0.1	<0.1	13.2	0.1
R18	11.5	<0.1	<0.1	11.5	<0.1

Table Note:
1. Process Contribution worst case assumption that all PM_{10} is in the $PM_{2.5}$ size fraction.

11A.9. Habitats Assessment

Sensitive Habitat Receptors

11A.9.1. The impact of emissions of nitrogen oxides (as NO_2), sulphur dioxide, ammonia and hydrogen fluoride have been assessed through comparison of the maximum predicted process contributions, at any of the identified sensitive Habitat receptors, with the Critical Levels for Protection of Vegetation and Ecosystems (CLPVEs) as defined in Tables 11A.1 and 11A.2. The results of the dispersion modelling and impact assessment are provided in Table 11A.21 below for the worst case Habitats receptors (E15 –Byram Park).

Table 11A.21 Maximum Predicted Concentrations at any Habitat Receptor

Pollutant	Measured as	CLPVE[(1)] (µg/m^3)	PC[(1)] (µg/m^3)	PC / CLPVE	BC[(2)] (µg/m^3)	PEC / CLPVE
NO_x (as NO_2)	Annual mean	30	0.6	2.0%	21	72%
	Daily mean[4]	75	4.2	5.6%	44	65%
SO_2	Annual mean	10[6]	0.2	1.5%	7	75%
NH_3	Annual mean	1[6]	0.03	2.9%	2	204%
HF	Weekly mean[5]	0.5	0.04	8.4%	0.3	75%
	Daily mean	5	0.04	0.8%	0.6	14%

Table Notes:
1. CLPVE=Critical Level for the Protection of Vegetation and Ecosystems, PC = Process Contribution
2. BC = Baseline Concentration (Modified with FM1 data as appropriate), annual mean concentration doubled for short term estimation
3. PEC = Predicted Environmental Concentration
4. 50% conversion of NO_x to NO_2 assumed in short term, 100% in the long term in accordance with EA guidance in H1
5. Assessed 24-hour mean PC against weekly EAL as worst-case

6. CLPVE for Lichens and Bryophytes assumed as worst-case

11A.9.2. For other species potentially emitted from the proposed development, including those species defined in the WID, there are no defined ecological air quality environmental assessment levels and therefore no assessment has been made of these species.

11A.9.3. Deposition impacts are discussed in further below.

NO_x (as NO_2)

11A.9.4. The maximum annual average process contribution at the worst-case receptor (Byram Park) is predicted to be 2% of the CLPVE. Combined with the relatively high baseline concentration, this results in a PEC representing 72% of the CLPVE for NO_2. It is considered that, based on the conservative assumptions made in the assessment, the process contribution is unlikely to result in exceedance of the CLPVE objective.

Sulphur Dioxide

11A.9.5. Even with worst case assumption of emissions continuously at the WID limit values, the annual average SO_2 process contribution at the worst-case habitat receptor is only predicted to be 1.5% of the annual average CLPVE defined for the most sensitive plants (lichens and bryophytes). Combined with the relatively high estimation of baseline concentration, this results in a PEC representing 75% of CLPVE for SO_2. It is considered that, based on the conservative assumptions made in the assessment, the process contribution is unlikely to result in exceedance of the CLPVE objective.

Ammonia

11A.9.6. The worst-case annual average process contribution of ammonia at any habitat site occurs is predicted to be 1% of the CLPVE defined for higher plants or 3% of the CLPVE for sensitive species.

11A.9.7. Whilst it is recognised that the predicted environmental concentrations at the Habitat Receptors represent up to 200% of the CLPVE for more sensitive lichen communities and bryophytes, this is composed almost wholly of the background concentration that was used in the assessment. As detailed in the assessment, the background ammonia concentration of 2.3 µg/m3 was obtained from passive sampling undertaken at Tadcaster, 20km north of the site, by CEH. This site is located in a largely rural area, where levels of ammonia are likely to be higher than in urban areas, due to its use in farming practices. It is therefore believed that the use of the background concentration from Tadcaster will lead to a conservative assessment of ammonia impacts for the Proposed Development.

11A.9.8. Given the conservative nature of the assessment, it is considered that the actual increase in ammonia concentration at the identified sensitive receptors as a result of the process contributions will be less than those indicated above. In addition, given the large reduction in the emissions of nitrogen oxides, which will be achieved by the use of SNCR abatement, and the resulting reduction in environmental impacts from nitrogen deposition, it is considered that the use of SNCR at the Proposed Development represents the use of Best Available Techniques, and will ensure the environmental impacts of the Proposed Development will be controlled and minimised as far as practicable.

Hydrogen Fluoride

11A.9.9. The daily mean PEC of hydrogen fluoride at the worst-case ecological receptor is 0.04 µg/m3 representing less than 1% of the CLPVE. The daily mean PEC has also been compared with the weekly mean CLPVE for HF, and whilst this represents an overestimation of the potential impact, the PEC is only 8% of the weekly objective. Given the worst-case assumptions made in the report, it is therefore considered that emissions of HF are unlikely to result in risk to the CLPVE objectives.

Deposition Impacts

Nutrient Nitrogen

11A.9.10. An assessment of nutrient enrichment has been undertaken by applying deposition velocities to the predicted annual average NO_2 and NH_3 concentrations at the worst affected Statutory Habitat site, determined through dispersion modelling, to calculate nitrogen deposition rates. These deposition rates have then been compared to the critical loads for nitrogen available for the site. The deposition rates have been taken from EA guidance AQTAG06 and have been selected for the most sensitive species at the habitat receptor (grassland/woodland).

11A.9.11. Non-statutory habitat sites have not been assessed as the sensitive species present at these receptors and their associated critical loads for nutrient and acid deposition are not on public records and no critical levels are available.

11A.9.12. A review of the habitats closest to the Proposed Development has identified that the most sensitive habitat type to nitrogen deposition is 'Fens and Marshes –Lowland Valley Mires' present at Fairburn and Newton Ings SSSI. This habitat has a critical load range of 5-10 kg nitrogen per hectare per year (N/ha/yr).

11A.9.13. Wet deposition of nitrogen within the locality (10 km) of combustion emissions is considered to be insignificant, particularly as the NO_x emissions are dominated by emissions of NO, which is relatively insoluble in water; wet deposition typically occurs over longer distances and in particular at upland locations (Ref 1). It has therefore been screened out of this impact assessment.

11A.9.14. The APIS site indicates that the Fairburn and Newton Ings site is already subject to a nitrogen deposition rate of 21.5 kg N/ha/yr, which is 6.5 kg N/yr higher than the highest critical load.

11A.9.15. Relative to the current rate of deposition, plus potential worst-case contribution from FM1, the maximum increase in nitrogen deposition predicted with the Proposed Development represents an increase of <1%.

11A.9.16. Comparing the increase in nitrogen deposition from the Proposed Development with the critical load range shows an increase of <1%. Given the worst-case assumptions made in this assessment, the process contributions are considered unlikely to result in significant impacts at this receptor.

Table 11A.22 Nitrogen Deposition at Identified Habitat Receptors

Receptors	Critical Load[1] (kg N/ha/y)	Background N-Deposition, including FM1 contribution (kg N/ha/yr)	Dry Deposition	
			Predicted N-Deposition (kg N/ha/yr)[2]	Predicted N-deposition/ Critical Load
E1	10-15	21.5	0.1	<1%

Table Notes
1 The most stringent Critical Load has been used
2 Assumes deposition velocities of 0.0015m/s for NO_2 and 0.02m/s for NH_3 for grassland

Acid Deposition

11A.9.17. Increases in acidity from deposition contributions of SO_2 and NO_2 from the process contribution have been considered. In this assessment, the values of nitrogen deposition (kg/N/ha/yr) and sulphur deposition (kg/S/ha/yr) have been determined from long term deposition concentrations (µg/m^2/s) using standard conversion factors (molar equivalents). These deposition rates have been used to derive kiloequivalents/ha/yr (keq/ha/yr), which are the units in which acidity critical loads are described. The conversion has been undertaken using standard conversion units of 1/14 for nitrogen and 1/16 for sulphur. The acidity deposition rates and background deposition rates have been used within the Critical Load Function Tool (APIS) to determine whether the contribution will result in exceedance of the defined critical levels for the most sensitive feature.

11A.9.18. The highest predicted process contribution to acid deposition is at E1 – Fairburn and Newton Ings. The most sensitive feature present at this site is 'Fens and Marshes –Lowland Valley Mires'. The background deposition at this location is currently below the critical levels for sulphur and below the upper critical level defined for nitrogen; the total acid deposition is below the critical level.

11A.9.19. The total process contribution to acid deposition is <1% of the upper critical load and the total PEC, including baseline contribution, is 39% of the upper critical load.

Table 11A.23 Acid Deposition at Identified Habitat Receptors

Receptor	Acidity Critical Loads		Total Background Deposition, incl FM1 contribution (N: S:) (keq /ha/yr)	Process contribution to Acid Deposition	
	(keq N/ha/yr)	(keq S/Ha/yr)		Predicted N-Deposition (keq N/ha/yr) [% of CL]	Predicted S-Deposition (keq S/ha/yr) [% of CL]
E1	0.44-4.29	4.07	1.68(N: 1.40; S: 0.28)	0.007 [<1%]	0.008 [<1%]

Table Notes:
1. Deposition velocities, for NO_2 and NH_3 as before, for SO_2 = 0.012m/s (grassland)
2. Conversion factors for ug/m^2/s to kg S or N /Ha/yr = NO_2 (96.0), SO_2, (157.7), NH_3 (259.7); conversion factors for kg/Ha/yr to keq/Ha/yr = N (14), S(16)

Heavy Metals

11A.9.20. The impacts resulting from deposition of emitted heavy metal species are not anticipated to result in exceedance of the Maximum Deposition Rates, defined in H1. A full assessment of heavy metal deposition impacts will be included in the DCO application, at a later stage of process design.

11A.10. Other Impacts

Dioxins Statement

11A.10.1. Emissions of dioxins from the Proposed Development will be controlled to within the ELVs set out in the WID. At this design stage of the development, it is not possible to fully characterize the process emission parameters and therefore no formal assessment of dioxins impacts has yet been undertaken. However the assessment of dioxins impacts on human health through inhalation exposure and ingestion exposure for releases from the FM1 plant were determined to be insignificant. The Proposed Development is anticipated to be comparable to the FM1 plant in terms of emissions and therefore the impacts from dioxin releases also comparable. In combination, the impacts from both plants are anticipated to be insignificant. Further assessment of the potential impacts from the Proposed Development and cumulative process contributions will be made and presented for the DCO application, at a later stage of process design.

Odour Statement

11A.10.2. Odour generation will be minimised by ensuring that the flow of fuel through the site from receipt to combustion is continuous and by managing fuel stocks so that older fuel is combusted first. Buildings will be kept at a slight negative pressure to stop odour release into the environment, with the air drawn into the plant for use as primary combustion air. The remainder of the process buildings will have suitable air extraction to air treatment equipment. Odour levels around the plant will be monitored to assess the effectiveness of the installed odour control measures. At this design stage there are not anticipated to be any odour releases that are likely to result in significant impacts. A full odour assessment will be prepared for the DCO application at a later stage of process design.

Visible Plumes Statement

11A.10.3. There is the potential for visible plumes to occur from the multi fuel power station main stack as a result of the water content and temperature of the flue gas. The European Waste Incineration Best Available Techniques Reference Document (BREF Note) (Ref. 12), states that plume visibility can be greatly reduced by maintaining stack release temperatures above 140°C.

11A.10.4. Recovery of waste heat from the flue gas, which increases the thermal efficiency of the process, means the flue gas may be emitted below this temperature and therefore there may be potential for visible plume impacts. However at this design stage the heat balance has not been finalised and therefore this potential has not been assessed. The on-going design process will consider the potential for visible plume impacts, and in particular the potential for plume grounding, and the final process design will ensure that visible plume impacts will be minimised.

11A.11. References

Ref 11A-1 The Air Quality Standards Regulations 2010, *No. 1001*, The National Archives

Ref 11A-2 Council of European Communities (2008), *Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe*

Ref 11A-3 Council of European Communities (2004), *Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air*

Ref 11A-4 Environmental Permitting Regulations Horizontal Guidance, 2011, *Environmental Risk Assessment, Annex F – Air Quality*, Environment Agency

Ref 11A-5 Air Quality Management Technical Guidance 2009, *LAQM*, Defra

Guidance on using the European Waste Catalogue (EWC) to code waste

November 2015

Table of contents

1. Introduction

This guidance provides advice on how to use the European Waste Catalogue (EWC)[1] to describe waste. The EWC is a standardised way of describing waste that is used in several reports including quarterly/annual waste data returns to SEPA, waste transfer notes and special waste consignment notes. This guidance will be useful for anyone using the EWC, including operators of waste management sites and activities exempt from the Waste Management Licensing Regulations, waste carriers, and waste producers. Consistent use of the EWC across the waste management sector in Scotland will help improve the quality of data recorded for regulation, policy making and reporting.

2. How to use this document

The guidance is split into seven parts. Sections 1-5 are generic to all users of the guidance document. Section 6 is aimed any anyone who has to complete waste transfer notes and special waste consignment notes. Section 7 is aimed at operators of waste management sites who are required to submit a site data return to SEPA. Operators should also refer to SEPA's guidance on completing the Licensed/Permitted Site Return form[2]; SEPA's waste thesaurus[3] (which contains an alphabetical list of common waste descriptions with suitable EWC codes); and UK guidance on the definition and classification of hazardous waste[4].

Section 1	Introduction
Section 2	Describes how to use the guidance
Section 3	How to contact SEPA
Section 4	Explains what the EWC is
Section 5	Explains how to use the EWC
Section 6	Provides specific guidance for anyone completing a waste transfer note or special waste consignment notes
Section 7	Provides specific guidance for operators of specific waste management sites
Appendix 1	Acronyms and abbreviations
Appendix 2	Glossary
Appendix 3	Full European Waste Catalogue code list

[1] eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2000D0532:20020101:EN:PDF
[2] www.sepa.org.uk/environment/waste/waste-data/guidance-and-forms-for-operators/licensed-and-permitted-sites/
[3] www.sepa.org.uk/media/162682/sepa-waste-thesaurus.pdf
[4] www.sepa.org.uk/media/162771/waste-classification-technical-guidance-wm3.pdf

3. Contacting SEPA

If you need to contact SEPA for further help or advice with using EWC codes, please email waste.data@sepa.org.uk, or call 01786 457700 and asking to speak with a member of the Data Unit.

If you have any suggestions on this guidance, or would like more guidance for a specific waste stream or industry sector, please email us at waste.data@sepa.org.uk

4. The European Waste Catalogue

4.1 What is the EWC?

The EWC is a list of waste types, established by the European Commission Decision 2000/532/EC[1], which categorises wastes based on a combination of what they are, and the process or activity that produces them. It provides a standard framework for the comparison of waste data (statistics) across all member states.

The EWC is divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Individual waste types are assigned a six-digit code: the first two digits specify the chapter, the next two specify the subchapter, and the last two are specific to the waste type.

Hazardous (special) wastes are signified by entries where the six-digit EWC code is marked by an asterisk (*). Hazardous waste entries can also have a non-hazardous 'mirror entry'. These will appear consecutively in the list, but one will be marked with an asterisk (*), normally with reference to 'containing hazardous substances', for example:

17 05 03*	Soil and stones containing hazardous substances
17 05 04	Soil and stones other than those mentioned in 17 05 03

The full list of EWC codes is provided in Appendix 3 of this guidance.

4.2 Why is accurate use of the EWC important?

The use of EWC codes to describe waste is a legal requirement of the Duty of Care[5] for waste which requires the holder of waste to take all reasonable steps to ensure that waste is described in a way that permits its safe handling and management. Transfers of non-hazardous waste must be accompanied by a waste transfer note and transfers of hazardous waste by a special waste consignment note, both of which must include a written description of the waste and appropriate EWC code(s). Correct coding on its own is not sufficient to adequately describe the waste. A clear written description is also necessary to ensure safe onward management of the waste.

Operators of waste management facilities and certain exempt activities are required to submit data returns to SEPA on a quarterly or annual basis. Accurate and consistent reporting on the types of waste produced and managed in Scotland relies almost entirely on the EWC codes reported by these operators. This information is important as it underpins the development of Scottish Government policy, and is used for national and European reporting and to inform decisions on the development of new waste infrastructure. Waste data is also essential to support the Zero Waste Plan[6] and Safeguarding Scotland's Resources programme[7] and to monitor the targets in these plans.

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[5] www.netregs.org.uk/library_of_topics/waste/duty_of_care/what_is_duty_of_care_for_waste.aspx
[6] www.gov.scot/Topics/Environment/waste-and-pollution/Waste-1/wastestrategy
[7] www.gov.scot/Publications/2013/10/6262

EWC codes describe waste consistently and, along with an accurate waste description, they are used whenever waste is reported: waste transfer notes, special waste consignment notes and waste data returns received by SEPA.

The electronic capture of data on transfers of non-hazardous waste is now possible through edoc[8] (Electronic Duty of Care). Data in edoc is used to produce reports for waste producers, waste management companies (which in turn may use the information to report to SEPA) and waste regulators so it is essential that these are based on good quality data using accurate EWC codes and descriptions.

5. General guidance on using the EWC

This section explains the step-by-step procedure that users should follow to describe their waste using the EWC. It also explains the use of EWC codes ending in '99'.

5.1 Classifying waste using the EWC

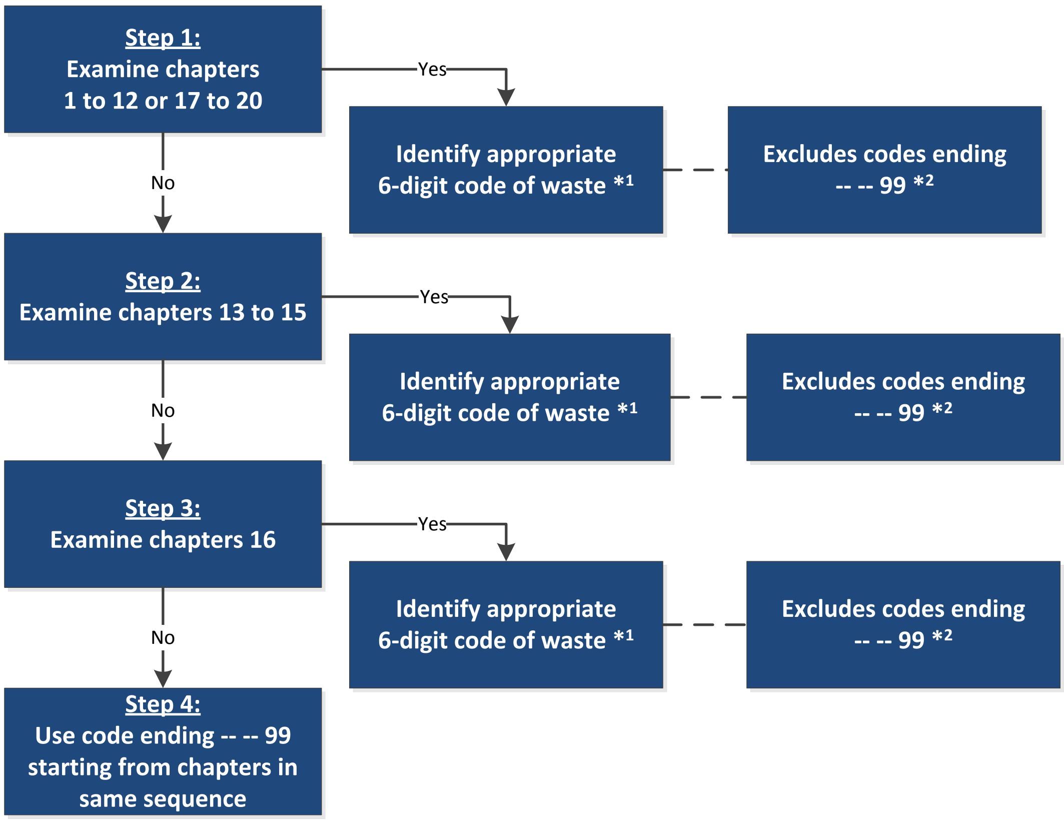
In the first instance, you should use the flowchart in Figure 1 to assign an appropriate code to your waste. In order to do this you will need to know:

- what type of business produced the waste;
- where the waste was generated, i.e. the process or activity that produced it;
- the description of the waste;
- if it is hazardous (special) waste (guidance on how to classify and assess hazardous (special) waste can be found in Technical Guidance WM3[9]).

All waste streams must be described using a full six-digit EWC code

[8] edoconline.co.uk
[9] www.sepa.org.uk/media/162771/waste-classification-technical-guidance-wm3.pdf

Figure 1: How to classify waste using the EWC



Key:

*1 Use the two-digit subchapter code to identify the process or activity that produced the waste. Then use the last two digits to fully describe the waste.

*2. Exclude codes ending -- -- 99 "not otherwise specified".

Use the following steps when choosing a code:

Step 1: Use chapters 01 to 12 and 17 to 20 to identify the chapter that best describes where the waste was produced, or the source generating the waste. You should ignore codes ending in '99' at this stage.

Step 2: If an appropriate code cannot be found in step 1 then use chapters 13, 14 and 15 and identify the chapter that best describes where the waste was produced or the source generating the waste. You should ignore codes ending in '99' at this stage.

Step 3: If these chapters cannot identify an appropriate code, use chapter 16 to identify the code that best describes where the waste was produced, the waste type or the source generating the waste. You should ignore codes ending in '99' at this stage.

Step 4. If no suitable six-digit code has been identified - go back to step 1 and identify the appropriate code ending '-- -- 99' in one of the chapters. **You should only use 99 codes when you cannot classify waste using any other code.**

5.2 Use of EWC codes ending in '99'

The EWC list contains codes ending in "99" which are described as 'not otherwise specified'. These codes must only be used where no other suitable six-digit code can be found. The use of a "99" code is only valid if a more detailed description of the waste is provided to meet the requirements of the duty of care. SEPA may ask for further details and clarification if these codes have been applied in order meet reporting requirements. Please contact us if you need advice on selecting an appropriate EWC code to describe waste.

6. Guidance for completing waste transfer notes and special waste consignment notes

Producers of waste are required to comply with the Duty of Care[5] for waste. Duty of Care requires that waste must be managed correctly by storing it properly, only transferring it to the appropriate persons and ensuring that when it is transferred it is sufficiently well described to enable its safe recovery or disposal without harming the environment. When waste is transferred a waste transfer note or a special waste consignment note is required.

Scottish Government: Duty of Care – A Code of Practice: www.gov.scot/Publications/2012/10/2631

6.1 Waste Transfer Notes

The waste transfer note (WTN) is a document that details the transfer of waste from one party to another and ensures that there is a clear audit trail from when the waste is produced until it is disposed of.

Correct EWC coding on its own is not sufficient to adequately describe the waste. A clear and full written description on the waste transfer note is necessary to ensure safe onward management. For example: it is not sufficient to only use 'fines', SEPA considers a more detailed description alongside the EWC code to be necessary:

- 19 12 09 – Fines from processing naturally occurring rocks and soils
- 19 12 09 – Fines from processing wholly inter bricks, tiles and concrete
- 19 12 12 – Fines from processing municipal recyclate or residual waste
- 19 12 12 – Fines from the processing of mixed C & D waste

Further information on WTNs is available here:
www.netregs.org.uk/library_of_topics/waste/duty_of_care/complete_waste_transfer_notes.aspx

6.2 Special waste consignment notes

Every movement of special waste must be accompanied by paperwork. Producers of special waste are required to complete a special waste consignment note (SWCN). A full meaningful description of the waste must be provided along with one or more EWC codes. Advice on selecting the right EWC code(s) specific for special waste is given in Technical Guidance WM3 (Interpretation of the definition and classification of hazardous waste)[9].

Further information on classifying and consigning hazardous waste is available here:
www.sepa.org.uk/regulations/waste/special-waste/

7. Guidance for specific waste management activities

7.1 Introduction

This section is aimed at operators of licensed and permitted waste management sites who are required to submit a quarterly or annual waste data return to SEPA. It provides guidance on describing wastes after onsite treatment (Section 7.2) and on the common waste types managed by the specific waste management activities (Sections 7.3-7.10). It is designed to be a quick reference guide to help operators identify and use the correct EWC code(s) and so aid consistency in reporting.

This guide can be used to identify the most appropriate six-digit EWC code, but it is NOT a complete list and should not be relied upon as the sole means for coding as this depends on the origin and nature of the waste. You should also refer to the flowchart in Figure 1 and to the full EWC code list in Appendix 2.

All waste streams must be described using a full six-digit EWC code

To help find the correct EWC code, go to the section that best describes your site. It may also be helpful to consult SEPA's guidance[10] for operators as this gives a fuller description of the activities at each type of site.

- Household Waste Recycling Centres and transfer stations
- Composting and anaerobic digestion plant
- Incinerators and co-incinerators
- Landfill sites
- Scrap metal and/or end-of-life vehicle authorised treatment facilities (ELV-ATF)
- Waste electrical and electronic equipment (WEEE) facilities
- Material recovery facilities (MRFs)
- Sewage and septic tank wastes and industrial effluents

[10] www.sepa.org.uk/environment/waste/waste-data/guidance-and-forms-for-operators/licensed-and-permitted-sites

7.2 How to report waste after treatment on-site at a waste management facility

Many wastes are delivered to waste management facilities for treatment and/or onward transfer prior to their final disposal or recovery. Once treated, the wastes should generally be described using Chapter 19 of the EWC. This is because the waste will usually have changed nature or form and so the original EWC code is no longer appropriate to describe it. In general, wastes that have undergone the following activities, or are generated from them, should be described using a Chapter 19 EWC code:

- Incineration/pyrolysis
- Physio/chemical treatment
- Stablisation/solidification
- Vitrification
- Aerobic treatment
- Anaerobic treatment
- The production of landfill leachate
- Wastewater/water treatment
- Shredding of metal
- Oil regeneration
- Mechanical treatment (sorting, crushing)
- Soil and groundwater remediation

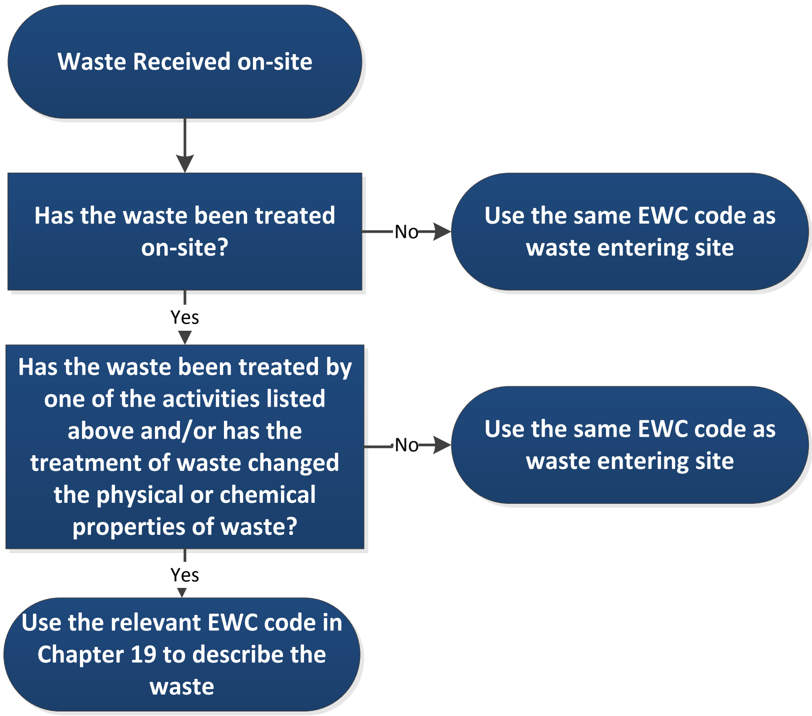
Where a treatment process does not change the physical or chemical properties of waste, then the treated waste should retain the same EWC code and description as when it was originally collected. This is because the waste has not changed nature or form and so the original EWC code is still appropriate to describe it. This applies particularly to minor sorting of mixed wastes, where a few components are removed, but where the amount of sorting is not sufficient to change the overall nature of the waste. For example:

Pre-treatment	**Sorting**	**Post-treatment**
15 01 06 Mixed packaging	Small amount of contamination wastes is removed; composition of remaining waste is mixed packaging	15 01 06 Mixed packaging

If you are unsure whether a treatment changes the nature or form of waste, please contact the Data Unit to discuss

Figure 2 shows a step-by-step guide on how and when to use Chapter 19 codes.

Figure 2: How to classify waste after treatment on-site

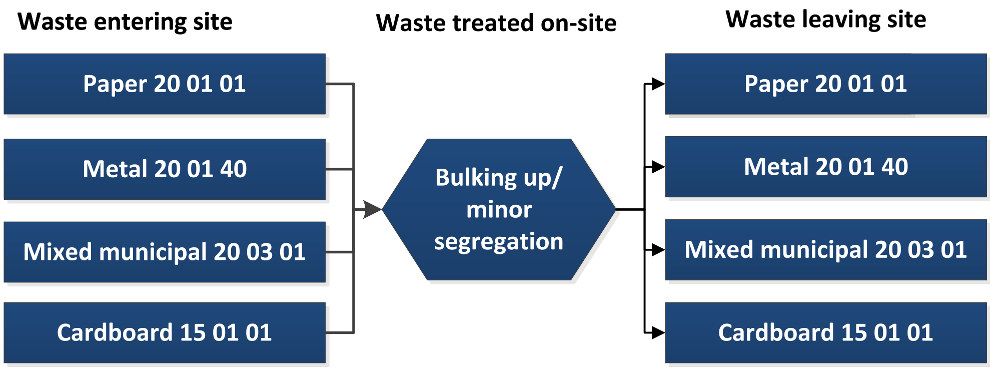


Examples of the use of chapter 19 codes are given below:

1. <u>Waste entering a site where little/no treatment takes place</u>

<u>Example site: transfer station</u>
Situation: Little/no treatment takes place on-site other than bulking up/compaction or minor sorting which does not change the overall nature of the waste.
Solution: waste should be described by the same EWC code on both entering and leaving the site (see Figure 3)

Figure 3: Use of EWC codes where little/no treatment takes place



2. Waste entering a site where treatment takes place

Example sites: incinerator, MRF, MBT plant
Situation: waste is treated on-site such that it changes its nature or form, e.g. by burning, major sorting, or by mechanical or biological treatment
Solution: on leaving the facility the waste should be coded under the appropriate six-digit Chapter 19 code (see Figures 4 and 5).

Figure 4: Use of EWC codes where treatment takes place, e.g. at an incinerator

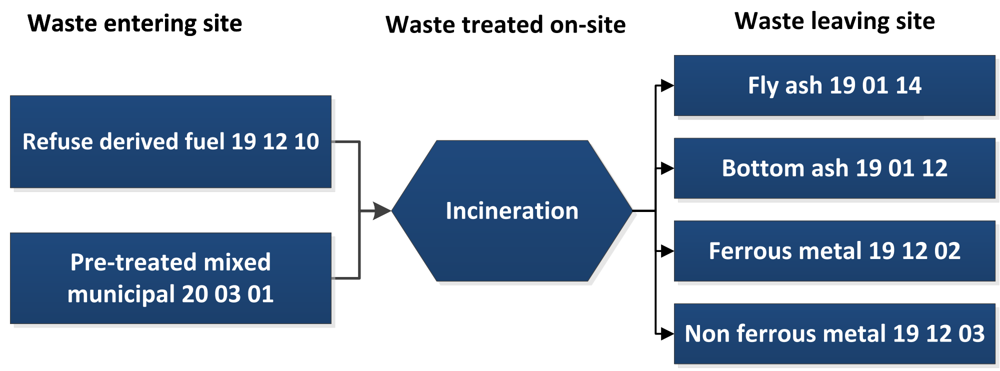
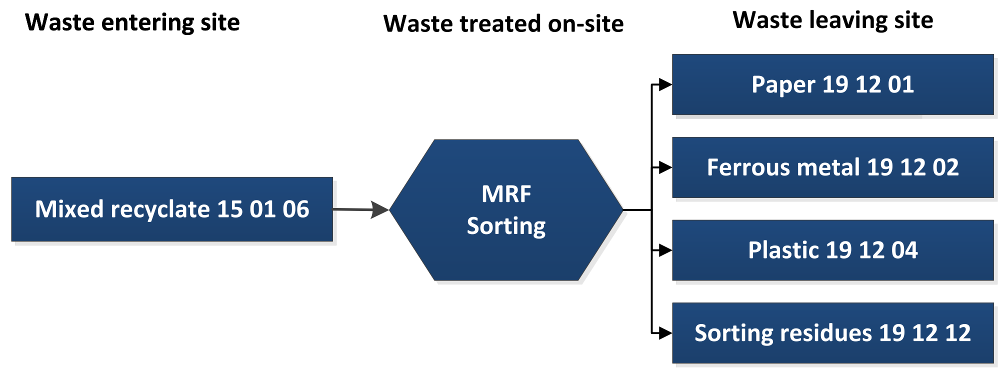


Figure 5: Use of EWC codes where treatment takes place, e.g. at a 'clean' MRF (i.e. sorting dry mixed recyclate, not sorting residual waste)



In Figure 5, the inputs to a 'clean' MRF are mixed dry recyclates coded 15 01 06. The waste is sorted into individual materials by mechanical sorting and the outputs from the 'clean' MRF are paper (19 12 01), ferrous metals (19 12 02), plastics (19 12 04) and sorting residues (19 12 12). As the waste has changed in nature during the sorting process (from mixed to separate materials) all of the wastes leaving the facility are described using a Chapter 19 code.

7.3 Household Waste Recycling Centres and Transfer Stations

Generally wastes arriving at household waste recycling centres (HWRCs)[11] and transfer stations are stored temporarily, bulked up and leave the site unchanged in nature so the EWC codes used to describe waste inputs and outputs will be the same. If other activities are carried out on-site, e.g. composting, depollution of vehicles, major sorting, please consult the relevant parts of Section 7 in this guidance. Further information is also available in Section 4.2 of SEPA's guidance[3] for operators.

In this section the situation at HWRCs is used to illustrate how waste is coded when it is simply bulked up for onward transport. However, the principles apply equally to transfer stations that handle a much wider range of municipal, commercial and industrial wastes including oils, clinical wastes, chemicals and construction wastes.

The waste inputs and outputs to HWRCs are generally coded under Chapter 20, there are some wastes where it is more appropriate to use another code. These are:

- Construction wastes - all wastes that originate from construction activities, such as rubble, asbestos and plasterboard, should be coded under Chapter 17 of the EWC. The exception is soils that come from households which should be coded as 20 02 02.
- Packaging wastes - all packaging waste should be coded under Chapter 15. For example, cardboard packaging is 15 01 01 and not 20 01 01.

Typical wastes handled at HWRCs and transfer stations are listed in Table 1.

Table 1: EWC codes commonly used for inputs to and outputs from HWRCs and transfer stations

Waste type	EWC code†
Asbestos –bonded sheets	17 06 05*
Batteries (hazardous, including lead acid, Ni-Cd and mercury-containing batteries)	20 01 33*
Batteries (non-hazardous)	20 01 34
Bulky waste e.g. furniture	20 03 07
Cardboard packaging	15 01 01
Composite food and drink cartons (e.g.Tetrapak®)	15 01 05
Electrical equipment (e.g. fridges, TVs, kettles)	See Section 7.7 - WEEE
Food waste from household and commercial sources	20 01 08
Gas cylinders (hazardous)	16 05 04*
Gas cylinders (non-hazardous)	16 05 05
Glass bottles/jars (packaging)	15 01 07
Green/garden wastes (plant material from households, parks and garden)	20 02 01
Metal cans and foil (packaging)	15 01 04

[11] Formerly known as civic amenity sites

Waste type	EWC code[†]
Metal scrap from households	20 01 40
Mixed construction and demolition waste	17 09 04
Mixed municipal waste	20 03 01
Mixed packaging/comingled recyclate (e.g. glass bottles, paper, card, metal cans, plastic bottles)	15 01 06
Oil - chlorinated mineral (engine oil)	13 02 04*
Oil - non-chlorinated mineral (engine oil)	13 02 05*
Oil - used cooking oil	20 01 26*
Paper	20 01 01
Paper and cardboard packaging	15 01 01
Plasterboard - gypsum (hazardous)	17 08 01*
Plasterboard - gypsum (non-hazardous)	17 08 02
Plastic bottles (packaging)	15 01 02
Plastics (mixed)	20 01 39
Rags	15 02 xx
Rubble (concrete, bricks, tiles, ceramics)	17 01 07
Soil from households	20 02 02
Textiles - clothing waste	20 01 10
Textiles - other (e.g. carpets, rugs)	20 01 11
Tyres	16 01 03
Wood - from households, parks and gardens	20 01 38
Wooden packaging (e.g. pallets and casings)	15 01 03

* Hazardous (special) wastes
[†] EWC codes marked with xx – use the appropriate last two digits

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.4 Composting and anaerobic digestion plant

Wastes entering windrow or in-vessel composting processes and anaerobic digestion (AD) plants undergo biological treatment which results in waste inputs being coded differently to the outputs. SEPA has produced regulatory guidance documents on composting[12] and AD[13,14], which describe whether the outputs from composting or AD are considered waste or not. You are encouraged to read these documents and Sections 4.3 and 4.4 of SEPA's guidance[8] for operators. Guidance on mechanical biological treatment (MBT) is given in Section 7.9.

Some examples relating to the biological treatment of waste are given below:

- Grass cuttings and garden waste arriving at a composting site should be coded as 20 02 01. When the resulting material leaves the site after the composting process then, if it does not meet the requirements of SEPA's composting position, it should be reported as non-accredited compost 19 05 03 (off-specification compost). If it does meet the requirements, it ceases to be classified as waste and should not be reported.
- Organic waste arriving at an AD plant should be coded according to the type of material it is and its source e.g. food waste from households and commercial businesses (20 01 08) or sewage sludge from the water industry (19 08 05). When the resulting material leaves the site after the AD process then, if it does not meet the requirements of SEPA's position statement on the classification of AD outputs, the resulting liquor should be coded as 19 06 03 or 19 06 05 and the digestate should be coded as 19 06 04 or 19 06 06. Each of these depends on the source of the inputs. Where waste inputs come from a number of sources the liquor and digestate should be coded according to the source with the largest input tonnage. If the outputs do meet the requirements, they cease to be classified as waste and should not be reported.

Table 2a: EWC codes commonly used for inputs to composting and AD processes

Waste type	EWC code†
Food waste from food and drink manufacturers	02 02 xx 02 03 xx 02 04 xx 02 05 xx 02 06 xx 02 07 xx
Food waste from household and commercial sources	20 01 08
Grass cuttings and garden waste from household and commercial sources	20 02 01
Green wastes from forestry	02 01 07
Plant tissue from agriculture, horticulture, aquaculture, hunting and fishing	02 01 03
Sludges from the treatment of urban waste water (sewage)	19 08 05
Wood from construction and demolition sources	17 02 01
Wood from household and commercial sources	20 01 38

† EWC codes marked with xx – use the appropriate last two digits

[12] *Composting Position – September 2004* www.sepa.org.uk/waste/waste_regulation/guidance__position_statements.aspx
[13] *Guidance - Licensing of Anaerobic Digestion Plants* www.sepa.org.uk/waste/waste_regulation/guidance__position_statements.aspx
[14] *Position Statement - Classification of outputs from anaerobic digestion processes* www.sepa.org.uk/waste/waste_regulation/guidance__position_statements.aspx

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 2b: EWC codes commonly used for outputs from composting and AD processes

Waste type	EWC code
Digestate from anaerobic digestion of municipal waste	19 06 04
Digestate from anaerobic digestion of animal and vegetable wastes	19 06 06
Liquor from anaerobic digestion of animal and vegetable wastes	19 06 05
Liquor from anaerobic digestion of municipal waste	19 06 03
Off specification compost (from aerobic treatment)	19 05 03

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.5 Waste incinerators and co-incinerators

Wastes arriving at incinerators and co-incinerators that come directly from a waste collection round or from a transfer station will be coded according to the type of waste and the source. Other wastes however will be pretreated before arrival to make them more suitable for burning or to produce a fuel and these wastes will be coded under Chapter 19. In all cases the outputs from these plants will have an EWC code of 19 01 xx. Examples of inputs and outputs are given below:

- Mixed municipal waste received at an incinerator directly from a collection round or a transfer station will be coded as 20 03 01.
- Refuse derived fuel received at an incinerator will be coded as 19 12 10 and sorting residues and MRF rejects will be coded as 19 12 12.
- Typical outputs from incinerators will be bottom ash (19 01 12), fly ash (19 01 13*) and ferrous metals (19 01 02).
- Typical fuel inputs to co-incinerators are shredded tyres (19 12 04), chipped wood (19 12 07) and secondary liquid fuel (19 02 08*). The waste output from these plants will usually be bottom ash (19 01 12).

Further information on incineration and co-incineration is available in Section 4.5 of SEPA's guidance[2] for operators.

Table 3a: EWC codes commonly used for inputs to incinerators and co-incinerators

Waste type	EWC code[†]
Agricultural wastes e.g. animal tissue, chicken litter	02 01 xx
Clinical wastes (human)	18 01 xx
Clinical wastes (animal)	18 02 xx
Mixed municipal waste	20 03 01
MRF rejects and sorting residues	19 12 12
Refuse derived fuel	19 12 10
Secondary liquid fuel	19 02 08*
Tyres (shredded)	19 12 04
Tyres (whole)	16 01 03
Wood (non-hazardous, chipped)	19 12 07

* Hazardous (special) wastes
† EWC codes marked with xx – use the appropriate last two digits

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 3b: EWC codes commonly used for outputs from incinerators and co-incinerators

Waste type	EWC code
Bottom ash – from incineration (hazardous)	19 01 11*
Bottom ash – from incineration (non-hazardous)	19 01 12
Ferrous metals – from incinerator bottom ash	19 01 02
Fly ash – from incineration (hazardous)	19 01 13*
Fly ash – from incineration (non-hazardous)	19 01 14

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.6 Landfill sites

The following guidance should be used by operators of active landfill sites and those in the restoration phase. It should be read in conjunction with Section 4.6 of SEPA's guidance for operators[2].

The coding of waste managed at landfill sites falls into one of five broad categories:

- **waste landfilled directly on-site –** wastes that are landfilled directly on-site which have not been subject to prior treatment at another waste management facility will be coded using the relevant sector code from which they arose. For example, residual waste coming straight from a household collection to a landfill will be coded using chapter 20 and soil and stones from the construction and demolition sector will be coded as 17 05 04.

- **waste landfilled directly on-site from a waste management site** - wastes that are landfilled directly on-site and have been subject to prior treatment at another waste management facility will generally be coded under Chapter 19. For example, residual waste that has already been treated prior to arrival on-site may be coded as 19 12 12.

- **waste landfilled on-site after treatment on-site –** untreated wastes that enter a site should be coded using the relevant EWC code. If these wastes are subsequently treated on-site before being landfilled then the original EWC code may change to a Chapter 19 code (see Figure 2 on page 11). For example, mixed municipal waste arriving at site will be coded as 20 03 01 and go into the treatment process as 20 03 01. After treatment, the waste being landfilled will be coded as 19 12 12 (residual waste).

- **landfill leachate** - leachate sent off-site should be coded as 19 07 xx, using the appropriate last two codes, depending on whether the leachate is hazardous or non-hazardous.

- **daily cover, restoration, road construction/maintenance and cell lining** - wastes typically used for these purposes are generally inert wastes such as soils and stones (17 05 04 or 20 02 02) and rubble (17 01 07).

Further information on each of these categories is given in Section 4.6 of SEPA's guidance[8] for operators. Guidance on how to report waste types in each of these categories is given in Tables 4a and 4b below.

There are three types of landfill sites: hazardous, non-hazardous and inert, and the EWC codes used to describe waste inputs should be in line with the types of waste permitted at each type of landfill. Only a limited range of waste can be accepted at inert landfill sites and the EWC codes for the most common wastes are indicated in Table 4a by a footnote.

Table 4a: EWC codes commonly used for waste inputs to landfill sites

Waste type	EWC code
Asbestos–bonded sheets	17 06 05*
Bottom ash	10 01 01
Bricks (construction and demolition)†	17 01 02
Concrete (construction and demolition)†	17 01 01
Mineral wastes (after treatment)	19 12 09
Mixed municipal waste	20 03 01
Mixed construction and demolition waste	17 09 04
MRF rejects and sorting residues	19 12 12
Residual waste (after treatment)	19 12 12
Rubble (concrete, bricks, tiles, ceramics)†	17 01 07
Soil and stones (from construction and demolition, hazardous)	17 05 03*
Soil and stones (from construction and demolition, non-hazardous)†	17 05 04
Soil and stones (from household and commercial sources)†	20 02 02
Tiles and ceramics (construction and demolition)†	17 01 03

* Hazardous (special) wastes
† Typical wastes that can be accepted at an inert landfill site

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 4b: EWC codes commonly used for waste outputs from landfill sites

Waste type	EWC code
Landfill leachate (hazardous)	19 07 02*
Landfill leachate (non-hazardous)	19 07 03

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.7 Scrap metal and/or End-of-Life Vehicle Authorised Treatment Facilities (ELV-ATFs)

The coding of waste at scrap metal and/or End-of-Life Vehicle Authorised Treatment Facilities (ELVs-ATFs) falls into one of three broad categories:

- **Sites which collect and temporarily store scrap metals and/or ELVs** before sending the wastes for depollution/fragmentation/shredding elsewhere - as with transfer stations (Section 7.3), the wastes leaving the site are unchanged in nature so the EWC codes used to describe waste inputs and outputs will be the same.

- **ELV-ATF** sites which de-pollute whole vehicles on-site before metal wastes are fragmentised/shredded either on the same site or elsewhere. ELVs containing fluids enter the site/treatment process coded as 16 01 04*. Fluids, vehicle parts and other materials are removed during the initial treatment process and leave the site as separate materials. These products are described using the specific EWC codes provided in sub-chapter 16 01 (e.g. antifreeze 16 01 14*, oil filters 16 01 07*, tyres 16 01 03) and do not follow the normal rules with regards to using Chapter 19 codes for waste that has been treated. The remaining depolluted ELVs leave the site coded 16 01 06 if they are uncrushed and coded as 19 12 02 or 19 12 03 if crushed.

- **Scrap metal sites which fragment/shred ELVs and other metal-containing wastes** before sending the waste for recycling and/or disposal elsewhere. Depolluted ELVs entering the site would be coded as 16 01 06 if uncrushed, and 19 12 02 or 19 12 03 if crushed. Other metal-containing wastes would be coded under an appropriate EWC code for the type of waste. After fragmentisation/shredding the resulting waste is separated into metal wastes (19 10 01, 19 10 02) and a lighter residual fraction (19 10 03*, 19 10 04, 19 10 05*, 19 10 06).

Further information on each of these activities is given in Section 4.7 of SEPA's guidance[2] for operators. Common EWC codes used for waste inputs to and outputs from ELV-ATFs are set out in Tables 5a and 5b below. Table 5c sets out the EWC codes typically used for waste outputs from fragmentiser/shredding operations.

Table 5a: EWC codes commonly used for inputs to ELV-ATF sites

Waste type	EWC code
Vehicles - de-polluted	16 01 06
Vehicles - whole, containing engine oil, brake fluids etc	16 01 04*

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Depending on treatment process, EWC codes commonly used for outputs (Table 5b and 5c) could also be used for inputs. Please also refer to the full EWC code list in Appendix 3

Table 5b: EWC codes commonly used for outputs from ELV-ATF sites

Waste type	EWC code
Antifreeze	16 01 14* 16 01 15
Batteries – lead acid	16 06 01*
Brake fluids	16 01 13*
Brake pads – other	16 01 12
Brake pads - containing asbestos	16 01 11*
Catalytic convertors (hazardous)	16 01 21*
Catalytic convertors (non-hazardous)	16 01 22
Diesel	13 07 01*
Engines (hazardous)	16 01 21*
Engines (non-hazardous)	16 01 22
Glass	16 01 20
Metals - ferrous (from dismantling of ELVs)	16 01 17
Metals – non-ferrous (from dismantling of ELVs)	16 01 18
Oil - biodegradable oil (waste engine oils from ELV-ATFs, garages, service stations etc.)	13 02 07*
Oil - chlorinated mineral (waste engine oils from ELV-ATFs, garages, service stations etc.)	13 02 04*
Oil - mixed engine oils (waste engine oils from ELV-ATFs, garages, service stations etc.)	13 02 08*
Oil - non-chlorinated mineral (waste engine oils from ELV-ATFs, garages, service stations etc.)	13 02 05*
Oil - synthetic (waste engine oils from garages, service stations etc.)	13 02 06*
Oil filters	16 01 07*
Petrol	13 07 02*
Petrol and diesel (mixed)	13 07 03*
Plastic	16 01 19
Tyres	16 01 03
Vehicles - de-polluted	16 01 06
Vehicles - whole, containing engine oil, brake fluids etc	16 01 04*

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Depending on the treatment process, EWC codes commonly used for outputs from fragmentiser/shredder operations (Table 5c) can also be used. Please also refer to the full EWC code list in Appendix 3

Table 5c: EWC codes commonly used for outputs from fragmentiser/shredder operations

Waste type	EWC code
Fragmentiser residues (non-metal, non-hazardous)	19 10 04 19 10 06
Fragmentiser residues (non-metal, hazardous)	19 10 03* 19 10 05*
Metals - ferrous (from waste management sites – after mechanical treatment of wastes)	19 12 02
Metals – non-ferrous (from waste management sites – after mechanical treatment of wastes)	19 12 03
Metals - ferrous (from waste management sites – after shredding of metal-containing wastes)	19 10 01
Metals - non-ferrous (from waste management sites – after shredding of metal-containing wastes)	19 10 02

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.8 Waste electrical and electronic equipment (WEEE)

The use of EWC codes for WEEE-related wastes should reflect the following broad principles:

- WEEE from households, and similar quantities and types of equipment from other sources should generally be coded using the appropriate 20 01 xx code.
- Consignments of WEEE from businesses should generally be coded using the appropriate 16 02 XX code.
- WEEE which contains a hazardous component (e.g. fluorescent tubes containing mercury) should always be classified using a hazardous EWC code.
- Mixed consignments of small WEEE containing any hazardous components should be coded as hazardous, until separation into hazardous and non-hazardous components takes place.
- The output from a site that treat WEEE and separates it into different materials for recycling will generally be coded under Chapter 19. These may be as a result of shredding or other mechanical treatment and sorting. Typical outputs will be ferrous metal (19 10 01 or 19 12 02), non-ferrous metal (19 10 02 or 19 12 03), plastic and rubber (19 12 04), glass (19 12 05) and sorting residues (19 12 11* if hazardous, 19 12 12 if non-hazardous). Cathode ray tubes removed from TVs will be coded 16 02 13*, 16 02 15* or 20 01 21* depending on their origin.
- Sites which bulk up or store WEEE temporarily before sending it for treatment elsewhere - as with transfer stations (Section 7.3), the wastes leaving the site are unchanged in nature so the EWC codes used to describe waste inputs and outputs will be the same.

Further information on WEEE is available in Section 4.8 of SEPA's guidance[2] for operators.

Table 6a: EWC codes commonly used for inputs to WEEE sites from household sources (or similar quantities/types from other sources)

Waste type	EWC code
Batteries (non-hazardous)	20 01 34
Batteries including lead acid, Ni-Cd and mercury-containing batteries (hazardous)	20 01 33*
Cathode ray tubes (hazardous)	20 01 21*
Fluorescent tubes and other mercury-containing waste (hazardous)	20 01 21*
Fridges/freezers containing chlorofluorocarbons HCFCs/CFCs (hazardous)	20 01 23*
Fridges/freezers containing no CFCs (non-hazardous)	20 01 36
General WEEE e.g. CRT-TVs, laptops/LCD/Plasma/LED displays, with hazardous components	20 01 35*
General WEEE e.g. washing machines, microwaves, kettles, without hazardous components	20 01 36
Printer cartridges (hazardous)	08 03 17*
Printer cartridges (non-hazardous)	08 03 18

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 6b: EWC codes commonly used for inputs to WEEE sites from non-household sources

Waste type	EWC code
Batteries alkaline (non-hazardous)	16 06 04
Batteries other (non-hazardous)	16 06 05
Batteries Ni-Cd (hazardous)	16 06 02*
Batteries containing mercury (hazardous)	16 06 03*
Cathode ray tubes (hazardous)	16 02 13* 16 02 15*
Components removed from discarded equipment (hazardous)	16 02 15*
Components removed from discarded equipment (non-hazardous)	16 02 16
Equipment containing free asbestos e.g. older industrial heaters and appliances (hazardous)	16 02 12*
Fluorescent tubes and other mercury-containing waste (hazardous)	20 01 21*
Fridges/freezers containing chlorofluorocarbons HCFCs/CFCs (hazardous)	16 02 11*
General WEEE with hazardous components	16 02 13*
General WEEE without hazardous components	16 02 14
Printer cartridges - hazardous	08 03 17*
Printer cartridges – non-hazardous	08 03 18
Transformers and capacitors containing PCBs	16 02 09*

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 6c: EWC codes commonly used for outputs from WEEE sites

Waste type	EWC code
Glass (after mechanical treatment/sorting of WEEE)	19 12 05
Metals - iron and steel (after shredding of WEEE)	19 10 01
Metals - non-ferrous (after shredding of WEEE)	19 10 02
Metals - ferrous (after mechanical treatment/sorting of WEEE)	19 12 02
Metals - non-ferrous (after mechanical treatment/sorting of WEEE)	19 12 03
Plastic and rubber (after mechanical treatment/sorting of WEEE)	19 12 04
Sorting residues (hazardous)	19 12 11*
Sorting residues (non-hazardous)	19 12 12

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.9 Material recovery facilities (MRFs)

This section relates to sites that sort mixed waste, such as ‘clean’ and ‘dirty’ MRFs, MBT plants and some transfer stations. Typical wastes that are sorted at these sites include residual waste, construction and demolition (C&D) waste, mixed waste in skips, and comingled recyclate. Definitions for ‘clean’ and ‘dirty’ MRFs and MBT plants are given in Appendix 2.

The use of EWC codes for wastes handled at sites that sort mixed waste should reflect the following broad principles:

‘Clean’ MRF

- Mixed waste treated at a ‘clean’ MRF should be coded with the relevant mixed waste code when entering the site and the relevant Chapter 19 code when leaving the site. For example, co-mingled recyclate arriving on-site would be coded as 15 01 06. After sorting, the individual waste streams would typically be coded as: plastic bottles 19 12 04, metal cans 19 12 04, cardboard 19 12 01 and sorting residues 19 12 12 (see Figure 5 on page 12).

- The composition of comingled recyclate may vary from time to time. If the intention is to collect mixed dry recyclates, e.g. to comply with the separate collection requirements of Section 34 and Section 45 of the Environmental Protection Act 1990 as amended by the Waste Scotland Regulations 2012, then the waste should be coded as 15 01 06. For example, the majority of the collected material may be packaging with a small amount of paper, or it may be mostly paper with a small amount of packaging but, provided the intention is to collect mixed dry recyclates, then the waste should be coded as 15 01 06. If, however, the intention is to collect segregated paper and this is contaminated with small amounts of packaging then that should be coded as 20 01 01.

- Packaging waste (e.g. cardboard, bottles, cans, pallets) should always be coded under Chapter 15.

‘Dirty’ MRF (including MBT)

- Mixed waste treated at a ‘dirty’ MRF should be coded with the relevant mixed waste code when entering the site and the relevant Chapter 19 code when leaving the site. For example, residual waste arriving on-site would be coded as 20 03 01. After sorting, the individual waste streams would typically be coded as plastic bottles (19 12 04), metal cans (19 12 04), cardboard (19 12 01) and sorting residues (19 12 12).

- Waste in skips can only be sorted at a properly authorised waste management facility. Skip companies that are licensed for sorting may sort mixed household or C&D waste that arrives at their site in skips. Waste arriving at the site would be coded as mixed household waste (20 03 01) or mixed C&D waste (17 09 04). After sorting the individual waste streams would typically be coded as 19 12 XX depending on the type of material.

- If a trommel is used to separate out materials from mixed wastes, the resulting ‘fines’ that are produced by the trommelling process should be classified accurately to ensure that an appropriate treatment or disposal route is chosen and that the receiving facility is suitably authorised to accept them. Fines are not soil and, as such, should not be coded as 17 05 04 or 20 02 02. Depending on the inputs, there are two EWC codes appropriate for fines:

  - 19 12 09 – minerals (for example sand, stones)
  - 19 12 12 – other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

- Wastes entering an MBT plant should be coded using the EWC codes relating to the industry sector from which the material arises. The most common waste input to MBT plant is mixed municipal waste (20 03 01).

- Waste outputs from an MBT plant should be reported as EWC Chapter 19. Typical outputs from MBT plant include recyclable materials (19 12 xx), sorting residues which should be coded as (19 12 12), and refuse derived fuel (19 12 10).

Further information on each of these activities is given in Section 4.9 and 4.10 of SEPA's guidance[2] for operators.

Table 7a: EWC codes commonly used for inputs to a 'clean' MRF

Waste type	EWC code
Comingled recyclate (e.g. glass bottles, paper, card, metal cans, plastic bottles) – packaging	15 01 06
Glass packaging (mixed glass e.g. clear, brown, green or aggregate)	15 01 07
Metallic packaging (mixed metals e.g. steel, aluminium, scrap metal)	15 01 04
Paper (segregated)	20 01 01
Paper and cardboard packaging	15 01 01
Plastic packaging (mixed plastic bottles e.g. HDPE, PET)	15 01 02

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 7b: EWC codes commonly used for outputs from a 'clean' MRF

Waste type	EWC code
Cardboard (after mechanical treatment/sorting of comingled recyclate)	19 12 01
Composite food/drink cartons eg Tetrapak® (after mechanical treatment/sorting of comingled recyclate)	19 12 12
Glass (after mechanical treatment/sorting of comingled recyclate)	19 12 05
Metals - ferrous (after mechanical treatment/sorting of comingled recyclate)	19 12 02
Metals – non-ferrous (after mechanical treatment/sorting of comingled recyclate)	19 12 03
Paper (after mechanical treatment/sorting of comingled recyclate)	19 12 01
Plastic (after mechanical treatment/sorting of comingled recyclate)	19 12 04
Refuse derived fuel	19 12 10
Sorting residues (hazardous)	19 12 11*
Sorting residues (non-hazardous)	19 12 12
Textiles (after mechanical treatment/sorting of comingled recyclate)	19 12 08

† This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 7c: EWC codes commonly used for inputs to sites to a ‘dirty’ MRF

Waste type	EWC code
Mixed construction and demolition waste	17 09 04
Mixed municipal waste	20 03 01
Rubble (mixture of concrete, bricks, tiles, ceramics)	17 01 07
Soils and stones (from construction) (hazardous)	17 05 03*
Soils and stones (from construction) (non-hazardous)	17 05 04
Soils and stones (from households)	20 02 02
Street cleaning residues	20 03 03

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 7d: EWC codes commonly used for outputs from sites of a ‘dirty’ MRF

Waste type	EWC code
Bricks (after mechanical treatment)	19 12 09
Cardboard (after mechanical treatment)	19 12 01
Concrete (after mechanical treatment)	19 12 09
Fines from processing municipal recyclate or residual waste	19 12 12
Fines from processing naturally occurring rocks and soils	19 12 09
Fines from processing wholly inert bricks, tiles and concrete	19 12 09
Fines from the processing of mixed C&D waste	19 12 12
Glass (after mechanical treatment)	19 12 05
Metals – ferrous (after mechanical treatment)	19 12 02
Metals – non-ferrous (after mechanical treatment)	19 12 03
Plasterboard (after mechanical treatment)	19 12 09
Plastic and rubber (after mechanical treatment)	19 12 04
Refuse derived fuel/solid recovered fuel	19 12 10
Rubble (mixture of concrete, bricks, tiles, ceramics)	19 12 09
Soil and stones (after mechanical treatment)	19 12 09
Sorting residues (hazardous)	19 12 11*
Sorting residues (non-hazardous)	19 12 12

Waste type	EWC code
Wood (after mechanical treatment) (hazardous)	19 12 06*
Wood (after mechanical treatment) (non-hazardous)	19 12 07

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

7.10 Sewage sludge, septic tank sludge and industrial effluents

The use of EWC codes to describe sewage sludge, septic tank wastes, drilling muds, and industrial effluents should reflect the following broad principles:

- Sewage sludge and septic tank sludge, which is transported by vehicle to a Waste Water Treatment Works, is typically coded as 19 08 05. Sometimes this sludge may be subjected to secondary treatment, such as drying, to create a combustible fuel (RDF) at which point the waste would be coded as 19 12 10. Debris, such as sticks, rags and other objects, are removed from sewage sludge by screens during the dewatering process and these screenings should be coded as 19 08 01.
- Industrial effluents (and the sludges that arise from them) should be coded using the EWC codes relating to the industry sector from which the material arises. For example, drilling muds will be coded as 01 05 xx and sludges arising from oil refining will be 05 01 xx.
- Aqueous liquid wastes from unspecified industrial processes are commonly coded 16 10 xx.
- Sludges from oil/water interceptors should be coded as 13 05 03*.
- Outputs from the on-site treatment of wastes should be reported as EWC Chapter 19. For example, sludges from the biological treatment of industrial waste water should be coded at 19 08 11* (hazardous) or 19 08 12 (non-hazardous).

Further information on each of these activities is given in Section 4.11 of SEPA's guidance[8] for operators.

Table 8a: EWC codes commonly used for sewage sludge, septic tank and industrial effluents before treatment

Waste type	EWC code†
Aqueous liquid wastes destined for off-site treatment	16 10 xx
Cesspit/septic tank sludge and chemical toilet waste	20 03 04
Drilling muds	01 05 xx
Interceptor sludges	13 05 03*
Sludges from oil refining	05 01 xx
Sludges from treatment of effluent from processing of meat and fish	02 02 04
Sludges from treatment of urban waste water (sewage) entering secondary treatment	19 08 05

* Hazardous (special) wastes
† EWC codes marked with xx – use the appropriate last two digits

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 3

Table 8b: EWC codes commonly used for sewage sludge, septic tank sludge and industrial effluents after treatment

Waste type	EWC code
De-watered sludge cake	19 08 05
Combustible waste (refuse derived fuel)	19 12 10
Screenings from sewage sludge	19 08 01
Sludges from biological treatment of industrial waste water (hazardous)	19 08 11*
Sludges from biological treatment of industrial waste water (non-hazardous)	19 08 12
Sludges from treatment of urban waste water (sewage)	19 08 05

* Hazardous (special) wastes

Note: This list is intended as a guide only; it is not a complete list and should not be relied upon as the sole means for coding. Please also refer to the full EWC code list in Appendix 2

Appendix 1: Acronyms and abbreviations

AD	Anaerobic digestion
CFCs	Chlorofluorocarbons
CRT-TVs	Cathode ray tubes - televisions
edoc	Electronic duty of care
ELV	End-of-life vehicle
ELV-ATF	End-of-life vehicle authorised treatment facility
EU	European Union
EWC	European Waste Catalogue
HCFCs	Hydrochlorofluorocarbons
HFC	Hydrofluorocarbons
HWRC	Household Waste Recycling Centre
IVC	In-vessel composting
MBT	Mechanical biological treatment
MRF	Materials recovery facility
PPC	Pollution Prevention and Control
RDF	Refuse derived fuel
SEPA	Scottish Environment Protection Agency
SWCN	Special waste consignment notes
WML	Waste Management Licence
WEEE	Waste electrical and electronic equipment
WTN	Waste transfer note

Appendix 2: Glossary

Term	Description
Clean MRF	A facility that accepts recyclable commingled materials that have already been separated at source from municipal solid waste generated by either residential or commercial sources.
Comingled	The collection of two or more materials in a single receptacle for subsequent sorting into separate streams at a waste management site.
Controlled waste	The term controlled waste comes from Section 75(4) of the Environment Protection Act 1990 and is defined as "household, industrial and commercial wastes or any such waste. Further detail on the meaning of household, industrial and commercial waste is provided in the Controlled Waste Regulations 1992.
Dirty MRF	A dirty MRF accepts a mixed solid waste stream and then proceeds to separate out designated recyclable materials through a combination of manual and mechanical sorting. The salvaged recyclate may undergo further processing required to meet technical specifications established by end-markets.
Household waste	Waste generated by households (and not as defined by the Controlled Waste Regulations 1992 which are concerned with charging for collection). Waste from households includes household collection rounds; other household collections such as bulky waste collections; waste deposited by householders at Household Waste Recycling Centres (HWRCs) and recycling points / bring banks.
SIC Codes	SIC is the UK Standard Industrial Classification of Economic Activities (2007). The SIC code is used to classify business establishments and other statistical units by the type of economic activities they are engaged in. You are required to record the appropriate SIC code of the transferor on all controlled waste transfer notes. Relevant codes can be determined from the Office of National Statistics.
Waste Transfer Note (WTN)	A document that details the transfer of waste from one person to another. Every load of waste that is received or transferred to others is covered by a WTN and is evidence of proper transfer of waste including the information that was passed on. WTNs ensure that there is a clear audit trail from when the waste is produced until it is disposed of.
Waste	'Waste' means any substance or object which the holder discards or intends or is required to discard.
Waste producer	Any person whose activities produce waste (waste producer).

Appendix 3: European Waste Catalogue

Chapters of the European Waste Catalogue

1 Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals

2 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing

3 Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard

4 Wastes from the leather, fur and textile industries

5 Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal

6 Wastes from inorganic chemical processes

7 Wastes from organic chemical processes

8 Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks

9 Wastes from the photographic industry

10 Wastes from thermal processes

11 Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro metallurgy

12 Wastes from shaping and physical and mechanical surface treatment of metals and plastics

13 Oil wastes and wastes of liquid fuels (except edible oils, 05 and 12)

14 Waste organic solvents, refrigerants and propellants (except 07 and 08)

15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

16 Wastes not otherwise specified in the list

17 Construction and demolition wastes (including excavated soil from contaminated sites)

18 Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)

19 Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption and water for industrial use

20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

01 WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS

01 01 wastes from mineral excavation
01 01 01 wastes from mineral metalliferous excavation
01 01 02 wastes from mineral non-metalliferous excavation

01 03 wastes from physical and chemical processing of metalliferous minerals
01 03 04* acid-generating tailings from processing of sulphide ore
01 03 05* other tailings containing hazardous substances
01 03 06 tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 07* other wastes containing hazardous substances from physical and chemical processing of metalliferous minerals
01 03 08 dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09 red mud from alumina production other than the wastes mentioned in 01 03 10
01 03 10* red mud from alumina production containing hazardous substances other than the wastes mentioned in 01 03 07
01 03 99 wastes not otherwise specified

01 04 wastes from physical and chemical processing of non-metalliferous minerals
01 04 07* wastes containing hazardous substances from physical and chemical processing of non-metalliferous minerals
01 04 08 waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09 waste sand and clays
01 04 10 dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11 wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12 tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13 wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 04 99 wastes not otherwise specified

01 05 drilling muds and other drilling wastes
01 05 04 freshwater drilling muds and wastes
01 05 05* oil-containing drilling muds and wastes
01 05 06* drilling muds and other drilling wastes containing hazardous substances
01 05 07 barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08 chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 99 wastes not otherwise specified

02 WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING

02 01 wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01 sludges from washing and cleaning
02 01 02 animal-tissue waste
02 01 03 plant-tissue waste
02 01 04 waste plastics (except packaging)
02 01 06 animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07 wastes from forestry
02 01 08* agrochemical waste containing hazardous substances
02 01 09 agrochemical waste other than those mentioned in 02 01 08
02 01 10 waste metal
02 01 99 wastes not otherwise specified

02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 02 99	wastes not otherwise specified
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	wastes not otherwise specified
02 04	**wastes from sugar processing**
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 04 99	wastes not otherwise specified
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 05 99	wastes not otherwise specified
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 06 99	wastes not otherwise specified
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
02 07 99	wastes not otherwise specified

03 WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD

03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork
03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing hazardous substances
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 01 99	wastes not otherwise specified
03 02	**wastes from wood preservation**
03 02 01*	non-halogenated organic wood preservatives

03 02 02* organochlorinated wood preservatives
03 02 03* organometallic wood preservatives
03 02 04* inorganic wood preservatives
03 02 05* other wood preservatives containing hazardous substances
03 02 99 wood preservatives not otherwise specified

03 03 wastes from pulp, paper and cardboard production and processing
03 03 01 waste bark and wood
03 03 02 green liquor sludge (from recovery of cooking liquor)
03 03 05 de-inking sludges from paper recycling
03 03 07 mechanically separated rejects from pulping of waste paper and cardboard
03 03 08 wastes from sorting of paper and cardboard destined for recycling
03 03 09 lime mud waste
03 03 10 fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11 sludges from on-site effluent treatment other than those mentioned in 03 03 10
03 03 99 wastes not otherwise specified

04 WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES

04 01 wastes from the leather and fur industry
04 01 01 fleshings and lime split wastes
04 01 02 liming waste
04 01 03* degreasing wastes containing solvents without a liquid phase
04 01 04 tanning liquor containing chromium
04 01 05 tanning liquor free of chromium
04 01 06 sludges, in particular from on-site effluent treatment containing chromium
04 01 07 sludges, in particular from on-site effluent treatment free of chromium
04 01 08 waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09 wastes from dressing and finishing
04 01 99 wastes not otherwise specified

04 02 wastes from the textile industry
04 02 09 wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10 organic matter from natural products (for example grease, wax)
04 02 14* wastes from finishing containing organic solvents
04 02 15 wastes from finishing other than those mentioned in 04 02 14
04 02 16* dyestuffs and pigments containing hazardous substances
04 02 17 dyestuffs and pigments other than those mentioned in 04 02 16
04 02 19* sludges from on-site effluent treatment containing hazardous substances
04 02 20 sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21 wastes from unprocessed textile fibres
04 02 22 wastes from processed textile fibres
04 02 99 wastes not otherwise specified

05 WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL

05 01 wastes from petroleum refining
05 01 02* desalter sludges
05 01 03* tank bottom sludges
05 01 04* acid alkyl sludges
05 01 05* oil spills
05 01 06* oily sludges from maintenance operations of the plant or equipment
05 01 07* acid tars
05 01 08* other tars
05 01 09* sludges from on-site effluent treatment containing hazardous substances

05 01 10 sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 11* wastes from cleaning of fuels with bases
05 01 12* oil containing acids
05 01 13 boiler feedwater sludges
05 01 14 wastes from cooling columns
05 01 15* spent filter clays
05 01 16 sulphur-containing wastes from petroleum desulphurisation
05 01 17 bitumen
05 01 99 wastes not otherwise specified

05 06 wastes from the pyrolytic treatment of coal
05 06 01* acid tars
05 06 03* other tars
05 06 04 waste from cooling columns
05 06 99 wastes not otherwise specified

05 07 wastes from natural gas purification and transportation
05 07 01* wastes containing mercury
05 07 02 wastes containing sulphur
05 07 99 wastes not otherwise specified

06 WASTES FROM INORGANIC CHEMICAL PROCESSES

06 01 wastes from the manufacture, formulation, supply and use (MFSU) of acids
06 01 01* sulphuric acid and sulphurous acid
06 01 02* hydrochloric acid
06 01 03* hydrofluoric acid
06 01 04* phosphoric and phosphorous acid
06 01 05* nitric acid and nitrous acid
06 01 06* other acids
06 01 99 wastes not otherwise specified

06 02 wastes from the MFSU of bases
06 02 01* calcium hydroxide
06 02 03* ammonium hydroxide
06 02 04* sodium and potassium hydroxide
06 02 05* other bases
06 02 99 wastes not otherwise specified

06 03 wastes from the MFSU of salts and their solutions and metallic oxides
06 03 11* solid salts and solutions containing cyanides
06 03 13* solid salts and solutions containing heavy metals
06 03 14 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 15* metallic oxides containing heavy metals
06 03 16 metallic oxides other than those mentioned in 06 03 15
06 03 99 wastes not otherwise specified

06 04 metal-containing wastes other than those mentioned in 06 03
06 04 03* wastes containing arsenic
06 04 04* wastes containing mercury
06 04 05* wastes containing other heavy metals
06 04 99 wastes not otherwise specified

06 05 sludges from on-site effluent treatment
06 05 02* sludges from on-site effluent treatment containing hazardous substances
06 05 03 sludges from on-site effluent treatment other than those mentioned in 06 05 02

06 06	**wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes**
06 06 02*	wastes containing hazardous sulphides
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
06 06 99	wastes not otherwise specified
06 07	**wastes from the MFSU of halogens and halogen chemical processes**
06 07 01*	wastes containing asbestos from electrolysis
06 07 02*	activated carbon from chlorine production
06 07 03*	barium sulphate sludge containing mercury
06 07 04*	solutions and acids, for example contact acid
06 07 99	wastes not otherwise specified
06 08	**wastes from the MFSU of silicon and silicon derivatives**
06 08 02*	wastes containing hazardous chlorosilanes
06 08 99	wastes not otherwise specified
06 09	**wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes**
06 09 02	phosphorous slag
06 09 03*	calcium-based reaction wastes containing or contaminated with hazardous substances
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 09 99	wastes not otherwise specified
06 10	**wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture**
06 10 02*	wastes containing hazardous substances
06 10 99	wastes not otherwise specified
06 11	**wastes from the manufacture of inorganic pigments and opacificiers**
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 11 99	wastes not otherwise specified
06 13	**wastes from inorganic chemical processes not otherwise specified**
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides
06 13 02*	spent activated carbon (except 06 07 02)
06 13 03	carbon black
06 13 04*	wastes from asbestos processing
06 13 05*	soot
06 13 99	wastes not otherwise specified

07 WASTES FROM ORGANIC CHEMICAL PROCESSES

07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 01*	aqueous washing liquids and mother liquors
07 01 03*	organic halogenated solvents, washing liquids and mother liquors
07 01 04*	other organic solvents, washing liquids and mother liquors
07 01 07*	halogenated still bottoms and reaction residues
07 01 08*	other still bottoms and reaction residues
07 01 09*	halogenated filter cakes and spent absorbents
07 01 10*	other filter cakes and spent absorbents
07 01 11*	sludges from on-site effluent treatment containing hazardous substances
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 01 99	wastes not otherwise specified

07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 01*	aqueous washing liquids and mother liquors
07 02 03*	organic halogenated solvents, washing liquids and mother liquors
07 02 04*	other organic solvents, washing liquids and mother liquors
07 02 07*	halogenated still bottoms and reaction residues
07 02 08*	other still bottoms and reaction residues
07 02 09*	halogenated filter cakes and spent absorbents
07 02 10*	other filter cakes and spent absorbents
07 02 11*	sludges from on-site effluent treatment containing hazardous substances
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 14*	wastes from additives containing hazardous substances
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 16*	wastes containing hazardous silicones
07 02 17	waste containing silicones other than those mentioned in 07 02 16
07 02 99	wastes not otherwise specified
07 03	**wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 01*	aqueous washing liquids and mother liquors
07 03 03*	organic halogenated solvents, washing liquids and mother liquors
07 03 04*	other organic solvents, washing liquids and mother liquors
07 03 07*	halogenated still bottoms and reaction residues
07 03 08*	other still bottoms and reaction residues
07 03 09*	halogenated filter cakes and spent absorbents
07 03 10*	other filter cakes and spent absorbents
07 03 11*	sludges from on-site effluent treatment containing hazardous substances
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 03 99	wastes not otherwise specified
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 01*	aqueous washing liquids and mother liquors
07 04 03*	organic halogenated solvents, washing liquids and mother liquors
07 04 04*	other organic solvents, washing liquids and mother liquors
07 04 07*	halogenated still bottoms and reaction residues
07 04 08*	other still bottoms and reaction residues
07 04 09*	halogenated filter cakes and spent absorbents
07 04 10*	other filter cakes and spent absorbents
07 04 11*	sludges from on-site effluent treatment containing hazardous substances
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 04 13*	solid wastes containing hazardous substances
07 04 99	wastes not otherwise specified
07 05	**wastes from the MFSU of pharmaceuticals**
07 05 01*	aqueous washing liquids and mother liquors
07 05 03*	organic halogenated solvents, washing liquids and mother liquors
07 05 04*	other organic solvents, washing liquids and mother liquors
07 05 07*	halogenated still bottoms and reaction residues
07 05 08*	other still bottoms and reaction residues
07 05 09*	halogenated filter cakes and spent absorbents
07 05 10*	other filter cakes and spent absorbents
07 05 11*	sludges from on-site effluent treatment containing hazardous substances
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 13*	solid wastes containing hazardous substances
07 05 14	solid wastes other than those mentioned in 07 05 13

07 05 99 wastes not otherwise specified

07 06 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics

07 06 01* aqueous washing liquids and mother liquors
07 06 03* organic halogenated solvents, washing liquids and mother liquors
07 06 04* other organic solvents, washing liquids and mother liquors
07 06 07* halogenated still bottoms and reaction residues
07 06 08* other still bottoms and reaction residues
07 06 09* halogenated filter cakes and spent absorbents
07 06 10* other filter cakes and spent absorbents
07 06 11* sludges from on-site effluent treatment containing hazardous substances
07 06 12 sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 06 99 wastes not otherwise specified

07 07 wastes from the MFSU of fine chemicals and chemical products not otherwise specified

07 07 01* aqueous washing liquids and mother liquors
07 07 03* organic halogenated solvents, washing liquids and mother liquors
07 07 04* other organic solvents, washing liquids and mother liquors
07 07 07* halogenated still bottoms and reaction residues
07 07 08* other still bottoms and reaction residues
07 07 09* halogenated filter cakes and spent absorbents
07 07 10* other filter cakes and spent absorbents
07 07 11* sludges from on-site effluent treatment containing hazardous substances
07 07 12 sludges from on-site effluent treatment other than those mentioned in 07 07 11
07 07 99 wastes not otherwise specified

08 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS

08 01 wastes from MFSU and removal of paint and varnish

08 01 11* waste paint and varnish containing organic solvents or other hazardous substances
08 01 12 waste paint and varnish other than those mentioned in 08 01 11
08 01 13* sludges from paint or varnish containing organic solvents or other hazardous substances
08 01 14 sludges from paint or varnish other than those mentioned in 08 01 13
08 01 15* aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances
08 01 16 aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 17* wastes from paint or varnish removal containing organic solvents or other hazardous substances
08 01 18 wastes from paint or varnish removal other than those mentioned in 08 01 17
08 01 19* aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances
08 01 20 aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19
08 01 21* waste paint or varnish remover
08 01 99 wastes not otherwise specified

08 02 wastes from MFSU of other coatings (including ceramic materials)

08 02 01 waste coating powders
08 02 02 aqueous sludges containing ceramic materials
08 02 03 aqueous suspensions containing ceramic materials
08 02 99 wastes not otherwise specified

08 03 wastes from MFSU of printing inks

08 03 07 aqueous sludges containing ink
08 03 08 aqueous liquid waste containing ink
08 03 12* waste ink containing hazardous substances
08 03 13 waste ink other than those mentioned in 08 03 12

08 03 14* ink sludges containing hazardous substances
08 03 15 ink sludges other than those mentioned in 08 03 14
08 03 16* waste etching solutions
08 03 17* waste printing toner containing hazardous substances
08 03 18 waste printing toner other than those mentioned in 08 03 17
08 03 19* disperse oil
08 03 99 wastes not otherwise specified

08 04 wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances
08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09
08 04 11* adhesive and sealant sludges containing organic solvents or other hazardous substances
08 04 12 adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 13* aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances
08 04 14 aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
08 04 15* aqueous liquid waste containing adhesives or sealants containing organic solvents or other hazardous substances
08 04 16 aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
08 04 17* rosin oil
08 04 99 wastes not otherwise specified

08 05 wastes not otherwise specified in 08
08 05 01* waste isocyanates

09 WASTES FROM THE PHOTOGRAPHIC INDUSTRY

09 01 wastes from the photographic industry
09 01 01* water-based developer and activator solutions
09 01 02* water-based offset plate developer solutions
09 01 03* solvent-based developer solutions
09 01 04* fixer solutions
09 01 05* bleach solutions and bleach fixer solutions
09 01 06* wastes containing silver from on-site treatment of photographic wastes
09 01 07 photographic film and paper containing silver or silver compounds
09 01 08 photographic film and paper free of silver or silver compounds
09 01 10 single-use cameras without batteries
09 01 11* single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
09 01 12 single-use cameras containing batteries other than those mentioned in 09 01 11
09 01 13* aqueous liquid waste from on-site reclamation of silver other than those mentioned in 09 01 06
09 01 99 wastes not otherwise specified

10 WASTES FROM THERMAL PROCESSES

10 01 wastes from power stations and other combustion plants (except 19)
10 01 01 bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02 coal fly ash
10 01 03 fly ash from peat and untreated wood
10 01 04* oil fly ash and boiler dust
10 01 05 calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07 calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 09* sulphuric acid
10 01 13* fly ash from emulsified hydrocarbons used as fuel
10 01 14* bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 15 bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 16* fly ash from co-incineration containing hazardous substances

10 01 17 fly ash from co-incineration other than those mentioned in 10 01 16
10 01 18* wastes from gas cleaning containing hazardous substances
10 01 19 wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 20* sludges from on-site effluent treatment containing hazardous substances
10 01 21 sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 22* aqueous sludges from boiler cleansing containing hazardous substances
10 01 23 aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24 sands from fluidised beds
10 01 25 wastes from fuel storage and preparation of coal-fired power plants
10 01 26 wastes from cooling-water treatment
10 01 99 wastes not otherwise specified

10 02 wastes from the iron and steel industry
10 02 01 wastes from the processing of slag
10 02 02 unprocessed slag
10 02 07* solid wastes from gas treatment containing hazardous substances
10 02 08 solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10 mill scales
10 02 11* wastes from cooling-water treatment containing oil
10 02 12 wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 13* sludges and filter cakes from gas treatment containing hazardous substances
10 02 14 sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15 other sludges and filter cakes
10 02 99 wastes not otherwise specified

10 03 wastes from aluminium thermal metallurgy
10 03 02 anode scraps
10 03 04* primary production slags
10 03 05 waste alumina
10 03 08* salt slags from secondary production
10 03 09* black drosses from secondary production
10 03 15* skimmings that are flammable or emit, upon contact with water, flammable gases in hazardous quantities
10 03 16 skimmings other than those mentioned in 10 03 15
10 03 17* tar-containing wastes from anode manufacture
10 03 18 carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 19* flue-gas dust containing hazardous substances
10 03 20 flue-gas dust other than those mentioned in 10 03 19
10 03 21* other particulates and dust (including ball-mill dust) containing hazardous substances
10 03 22 other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 23* solid wastes from gas treatment containing hazardous substances
10 03 24 solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 25* sludges and filter cakes from gas treatment containing hazardous substances
10 03 26 sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 27* wastes from cooling-water treatment containing oil
10 03 28 wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 29* wastes from treatment of salt slags and black drosses containing hazardous substances
10 03 30 wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 03 99 wastes not otherwise specified

10 04 wastes from lead thermal metallurgy
10 04 01* slags from primary and secondary production
10 04 02* dross and skimmings from primary and secondary production
10 04 03* calcium arsenate
10 04 04* flue-gas dust
10 04 05* other particulates and dust
10 04 06* solid wastes from gas treatment

10 04 07* sludges and filter cakes from gas treatment
10 04 09* wastes from cooling-water treatment containing oil
10 04 10 wastes from cooling-water treatment other than those mentioned in 10 04 09
10 04 99 wastes not otherwise specified

10 05 wastes from zinc thermal metallurgy
10 05 01 slags from primary and secondary production
10 05 03* flue-gas dust
10 05 04 other particulates and dust
10 05 05* solid waste from gas treatment
10 05 06* sludges and filter cakes from gas treatment
10 05 08* wastes from cooling-water treatment containing oil
10 05 09 wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 10* dross and skimmings that are flammable or emit, upon contact with water, flammable gases in hazardous quantities
10 05 11 dross and skimmings other than those mentioned in 10 05 10
10 05 99 wastes not otherwise specified

10 06 wastes from copper thermal metallurgy
10 06 01 slags from primary and secondary production
10 06 02 dross and skimmings from primary and secondary production
10 06 03* flue-gas dust
10 06 04 other particulates and dust
10 06 06* solid wastes from gas treatment
10 06 07* sludges and filter cakes from gas treatment
10 06 09* wastes from cooling-water treatment containing oil
10 06 10 wastes from cooling-water treatment other than those mentioned in 10 06 09
10 06 99 wastes not otherwise specified

10 07 wastes from silver, gold and platinum thermal metallurgy
10 07 01 slags from primary and secondary production
10 07 02 dross and skimmings from primary and secondary production
10 07 03 solid wastes from gas treatment
10 07 04 other particulates and dust
10 07 05 sludges and filter cakes from gas treatment
10 07 07* wastes from cooling-water treatment containing oil
10 07 08 wastes from cooling-water treatment other than those mentioned in 10 07 07
10 07 99 wastes not otherwise specified

10 08 wastes from other non-ferrous thermal metallurgy
10 08 04 particulates and dust
10 08 08* salt slag from primary and secondary production
10 08 09 other slags
10 08 10* dross and skimmings that are flammable or emit, upon contact with water, flammable gases in hazardous quantities
10 08 11 dross and skimmings other than those mentioned in 10 08 10
10 08 12* tar-containing wastes from anode manufacture
10 08 13 carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14 anode scrap
10 08 15* flue-gas dust containing hazardous substances
10 08 16 flue-gas dust other than those mentioned in 10 08 15
10 08 17* sludges and filter cakes from flue-gas treatment containing hazardous substances
10 08 18 sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 19* wastes from cooling-water treatment containing oil
10 08 20 wastes from cooling-water treatment other than those mentioned in 10 08 19
10 08 99 wastes not otherwise specified

10 09	**wastes from casting of ferrous pieces**
10 09 03	furnace slag
10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 09*	flue-gas dust containing hazardous substances
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 11*	other particulates containing hazardous substances
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 13*	waste binders containing hazardous substances
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 15*	waste crack-indicating agent containing hazardous substances
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 09 99	wastes not otherwise specified
10 10	**wastes from casting of non-ferrous pieces**
10 10 03	furnace slag
10 10 05*	casting cores and moulds which have not undergone pouring, containing hazardous substances
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 07*	casting cores and moulds which have undergone pouring, containing hazardous substances
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 09*	flue-gas dust containing hazardous substances
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 11*	other particulates containing hazardous substances
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 13*	waste binders containing hazardous substances
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 15*	waste crack-indicating agent containing hazardous substances
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 10 99	wastes not otherwise specified
10 11	**wastes from manufacture of glass and glass products**
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 09*	waste preparation mixture before thermal processing, containing hazardous substances
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 13*	glass-polishing and -grinding sludge containing hazardous substances
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13
10 11 15*	solid wastes from flue-gas treatment containing hazardous substances
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 19*	solid wastes from on-site effluent treatment containing hazardous substances
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 11 99	wastes not otherwise specified
10 12	**wastes from manufacture of ceramic goods, bricks, tiles and construction products**
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust

10 12 05 sludges and filter cakes from gas treatment
10 12 06 discarded moulds
10 12 08 waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 09* solid wastes from gas treatment containing hazardous substances
10 12 10 solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 11* wastes from glazing containing heavy metals
10 12 12 wastes from glazing other than those mentioned in 10 12 11
10 12 13 sludge from on-site effluent treatment
10 12 99 wastes not otherwise specified

10 13 wastes from manufacture of cement, lime and plaster and articles and products made from them

10 13 01 waste preparation mixture before thermal processing
10 13 04 wastes from calcination and hydration of lime
10 13 06 particulates and dust (except 10 13 12 and 10 13 13)
10 13 07 sludges and filter cakes from gas treatment
10 13 09* wastes from asbestos-cement manufacture containing asbestos
10 13 10 wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11 wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 12* solid wastes from gas treatment containing hazardous substances
10 13 13 solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14 waste concrete and concrete sludge
10 13 99 wastes not otherwise specified

10 14 waste from crematoria

10 14 01* waste from gas cleaning containing mercury

11 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO METALLURGY

11 01 wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)

11 01 05* pickling acids
11 01 06* acids not otherwise specified
11 01 07* pickling bases
11 01 08* phosphatizing sludges
11 01 09* sludges and filter cakes containing hazardous substances
11 01 10 sludges and filter cakes other than those mentioned in 11 01 09
11 01 11* aqueous rinsing liquids containing hazardous substances
11 01 12 aqueous rinsing liquids other than those mentioned in 11 01 11
11 01 13* degreasing wastes containing hazardous substances
11 01 14 degreasing wastes other than those mentioned in 11 01 13
11 01 15* eluate and sludges from membrane systems or ion exchange systems containing hazardous substances
11 01 16* saturated or spent ion exchange resins
11 01 98* other wastes containing hazardous substances
11 01 99 wastes not otherwise specified

11 02 wastes from non-ferrous hydrometallurgical processes

11 02 02* sludges from zinc hydrometallurgy (including jarosite, goethite)
11 02 03 wastes from the production of anodes for aqueous electrolytical processes
11 02 05* wastes from copper hydrometallurgical processes containing hazardous substances
11 02 06 wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 02 07* other wastes containing hazardous substances
11 02 99 wastes not otherwise specified

11 03	**sludges and solids from tempering processes**
11 03 01*	wastes containing cyanide
11 03 02*	other wastes
11 05	**wastes from hot galvanising processes**
11 05 01	hard zinc
11 05 02	zinc ash
11 05 03*	solid wastes from gas treatment
11 05 04*	spent flux
11 05 99	wastes not otherwise specified
12	**WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS**
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)
12 01 07*	mineral-based machining oils free of halogens (except emulsions and solutions)
12 01 08*	machining emulsions and solutions containing halogens
12 01 09*	machining emulsions and solutions free of halogens
12 01 10*	synthetic machining oils
12 01 12*	spent waxes and fats
12 01 13	welding wastes
12 01 14*	machining sludges containing hazardous substances
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 16*	waste blasting material containing hazardous substances
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil
12 01 19*	readily biodegradable machining oil
12 01 20*	spent grinding bodies and grinding materials containing hazardous substances
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
12 01 99	wastes not otherwise specified
12 03	**wastes from water and steam degreasing processes (except 11)**
12 03 01*	aqueous washing liquids
12 03 02*	steam degreasing wastes
13	**OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)**
13 01	**waste hydraulic oils**
13 01 01*	hydraulic oils, containing PCBs
13 01 04*	chlorinated emulsions
13 01 05*	non-chlorinated emulsions
13 01 09*	mineral-based chlorinated hydraulic oils
13 01 10*	mineral based non-chlorinated hydraulic oils
13 01 11*	synthetic hydraulic oils
13 01 12*	readily biodegradable hydraulic oils
13 01 13*	other hydraulic oils

13 02	**waste engine, gear and lubricating oils**
13 02 04*	mineral-based chlorinated engine, gear and lubricating oils
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils
13 02 06*	synthetic engine, gear and lubricating oils
13 02 07*	readily biodegradable engine, gear and lubricating oils
13 02 08*	other engine, gear and lubricating oils
13 03	**waste insulating and heat transmission oils**
13 03 01*	insulating or heat transmission oils containing PCBs
13 03 06*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01
13 03 07*	mineral-based non-chlorinated insulating and heat transmission oils
13 03 08*	synthetic insulating and heat transmission oils
13 03 09*	readily biodegradable insulating and heat transmission oils
13 03 10*	other insulating and heat transmission oils
13 04	**bilge oils**
13 04 01*	bilge oils from inland navigation
13 04 02*	bilge oils from jetty sewers
13 04 03*	bilge oils from other navigation
13 05	**oil/water separator contents**
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 06*	oil from oil/water separators
13 05 07*	oily water from oil/water separators
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
13 07	**wastes of liquid fuels**
13 07 01*	fuel oil and diesel
13 07 02*	petrol
13 07 03*	other fuels (including mixtures)
13 08	**oil wastes not otherwise specified**
13 08 01*	desalter sludges or emulsions
13 08 02*	other emulsions
13 08 99*	wastes not otherwise specified

14 WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (except 07 and 08)

14 06	**waste organic solvents, refrigerants and foam/aerosol propellants**
14 06 01*	chlorofluorocarbons, HCFC, HFC
14 06 02*	other halogenated solvents and solvent mixtures
14 06 03*	other solvents and solvent mixtures
14 06 04*	sludges or solid wastes containing halogenated solvents
14 06 05*	sludges or solid wastes containing other solvents

15 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED

15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging

15 01 02 plastic packaging
15 01 03 wooden packaging
15 01 04 metallic packaging
15 01 05 composite packaging
15 01 06 mixed packaging
15 01 07 glass packaging
15 01 09 textile packaging
15 01 10* packaging containing residues of or contaminated by hazardous substances
15 01 11* metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers

15 02 absorbents, filter materials, wiping cloths and protective clothing
15 02 02* absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
15 02 03 absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

16 WASTES NOT OTHERWISE SPECIFIED IN THE LIST

16 01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 03 end-of-life tyres
16 01 04* end-of-life vehicles
16 01 06 end-of-life vehicles, containing neither liquids nor other hazardous components
16 01 07* oil filters
16 01 08* components containing mercury
16 01 09* components containing PCBs
16 01 10* explosive components (for example air bags)
16 01 11* brake pads containing asbestos
16 01 12 brake pads other than those mentioned in 16 01 11
16 01 13* brake fluids
16 01 14* antifreeze fluids containing hazardous substances
16 01 15 antifreeze fluids other than those mentioned in 16 01 14
16 01 16 tanks for liquefied gas
16 01 17 ferrous metal
16 01 18 non-ferrous metal
16 01 19 plastic
16 01 20 glass
16 01 21* hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 01 22 components not otherwise specified
16 01 99 wastes not otherwise specified

16 02 wastes from electrical and electronic equipment
16 02 09* transformers and capacitors containing PCBs
16 02 10* discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
16 02 11* discarded equipment containing chlorofluorocarbons, HCFC, HFC
16 02 12* discarded equipment containing free asbestos
16 02 13* discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
16 02 14 discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 15* hazardous components removed from discarded equipment
16 02 16 components removed from discarded equipment other than those mentioned in 16 02 15

16 03 off-specification batches and unused products
16 03 03* inorganic wastes containing hazardous substances

16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 05*	organic wastes containing hazardous substances
16 03 06	organic wastes other than those mentioned in 16 03 05
16 03 07*	metallic mercury
16 04	**waste explosives**
16 04 01*	waste ammunition
16 04 02*	fireworks wastes
16 04 03*	other waste explosives
16 05	**gases in pressure containers and discarded chemicals**
16 05 04*	gases in pressure containers (including halons) containing hazardous substances
16 05 05	gases in pressure containers other than those mentioned in 16 05 04
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
16 06	**batteries and accumulators**
16 06 01*	lead batteries
16 06 02*	Ni-Cd batteries
16 06 03*	mercury-containing batteries
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
16 06 06*	separately collected electrolyte from batteries and accumulators
16 07	**wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)**
16 07 08*	wastes containing oil
16 07 09*	wastes containing other hazardous substances
16 07 99	wastes not otherwise specified
16 08	**spent catalysts**
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 02*	spent catalysts containing hazardous transition metals or hazardous transition metal compounds
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 08 04	spent fluid catalytic cracking catalysts (except 16 08 07)
16 08 05*	spent catalysts containing phosphoric acid
16 08 06*	spent liquids used as catalysts
16 08 07*	spent catalysts contaminated with hazardous substances
16 09	**oxidising substances**
16 09 01*	permanganates, for example potassium permanganate
16 09 02*	chromates, for example potassium chromate, potassium or sodium dichromate
16 09 03*	peroxides, for example hydrogen peroxide
16 09 04*	oxidising substances, not otherwise specified
16 10	**aqueous liquid wastes destined for off-site treatment**
16 10 01*	aqueous liquid wastes containing hazardous substances
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01
16 10 03*	aqueous concentrates containing hazardous substances
16 10 04	aqueous concentrates other than those mentioned in 16 10 03
16 11	**waste linings and refractories**
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances

16 11 02 carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 03* other linings and refractories from metallurgical processes containing hazardous substances
16 11 04 other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 05* linings and refractories from non-metallurgical processes containing hazardous substances
16 11 06 linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05

17 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)

17 01 concrete, bricks, tiles and ceramics
17 01 01 concrete
17 01 02 bricks
17 01 03 tiles and ceramics
17 01 06* mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06

17 02 wood, glass and plastic
17 02 01 wood
17 02 02 glass
17 02 03 plastic
17 02 04* glass, plastic and wood containing or contaminated with hazardous substances

17 03 bituminous mixtures, coal tar and tarred products
17 03 01* bituminous mixtures containing coal tar
17 03 02 bituminous mixtures other than those mentioned in 17 03 01
17 03 03* coal tar and tarred products

17 04 metals (including their alloys)
17 04 01 copper, bronze, brass
17 04 02 aluminium
17 04 03 lead
17 04 04 zinc
17 04 05 iron and steel
17 04 06 tin
17 04 07 mixed metals
17 04 09* metal waste contaminated with hazardous substances
17 04 10* cables containing oil, coal tar and other hazardous substances
17 04 11 cables other than those mentioned in 17 04 10

17 05 soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03* soil and stones containing hazardous substances
17 05 04 soil and stones other than those mentioned in 17 05 03
17 05 05* dredging spoil containing hazardous substances
17 05 06 dredging spoil other than those mentioned in 17 05 05
17 05 07* track ballast containing hazardous substances
17 05 08 track ballast other than those mentioned in 17 05 07

17 06 insulation materials and asbestos-containing construction materials
17 06 01* insulation materials containing asbestos
17 06 03* other insulation materials consisting of or containing hazardous substances
17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05* construction materials containing asbestos

17 08 gypsum-based construction material
17 08 01* gypsum-based construction materials contaminated with hazardous substances

17 08 02 gypsum-based construction materials other than those mentioned in 17 08 01

17 09 other construction and demolition wastes

17 09 01* construction and demolition wastes containing mercury
17 09 02* construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03* other construction and demolition wastes (including mixed wastes) containing hazardous substances
17 09 04 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

18 WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)

18 01 wastes from natal care, diagnosis, treatment or prevention of disease in humans

18 01 01 sharps (except 18 01 03)
18 01 02 body parts and organs including blood bags and blood preserves (except 18 01 03)
18 01 03* wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 01 04 wastes whose collection and disposal is not subject to special requirements in order to prevent infection(for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 06* chemicals consisting of or containing hazardous substances
18 01 07 chemicals other than those mentioned in 18 01 06
18 01 08* cytotoxic and cytostatic medicines
18 01 09 medicines other than those mentioned in 18 01 08
18 01 10* amalgam waste from dental care

18 02 wastes from research, diagnosis, treatment or prevention of disease involving animals

18 02 01 sharps (except 18 02 02)
18 02 02* wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 02 03 wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 05* chemicals consisting of or containing hazardous substances
18 02 06 chemicals other than those mentioned in 18 02 05
18 02 07* cytotoxic and cytostatic medicines
18 02 08 medicines other than those mentioned in 18 02 07

19 WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE

19 01 wastes from incineration or pyrolysis of waste

19 01 02 ferrous materials removed from bottom ash
19 01 05* filter cake from gas treatment
19 01 06* aqueous liquid wastes from gas treatment and other aqueous liquid wastes
19 01 07* solid wastes from gas treatment
19 01 10* spent activated carbon from flue-gas treatment
19 01 11* bottom ash and slag containing hazardous substances
19 01 12 bottom ash and slag other than those mentioned in 19 01 11
19 01 13* fly ash containing hazardous substances
19 01 14 fly ash other than those mentioned in 19 01 13
19 01 15* boiler dust containing hazardous substances
19 01 16 boiler dust other than those mentioned in 19 01 15
19 01 17* pyrolysis wastes containing hazardous substances
19 01 18 pyrolysis wastes other than those mentioned in 19 01 17

19 01 19 sands from fluidised beds
19 01 99 wastes not otherwise specified

19 02 wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03 premixed wastes composed only of non-hazardous wastes
19 02 04* premixed wastes composed of at least one hazardous waste
19 02 05* sludges from physico/chemical treatment containing hazardous substances
19 02 06 sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 07* oil and concentrates from separation
19 02 08* liquid combustible wastes containing hazardous substances
19 02 09* solid combustible wastes containing hazardous substances
19 02 10 combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 02 11* other wastes containing hazardous substances
19 02 99 wastes not otherwise specified

19 03 stabilised/solidified wastes
19 03 04* wastes marked as hazardous, partly stabilized other than 19 03 08
19 03 05 stabilised wastes other than those mentioned in 19 03 04
19 03 06* wastes marked as hazardous, solidified
19 03 07 solidified wastes other than those mentioned in 19 03 06
19 03 08 partly stabilised mercury

19 04 vitrified waste and wastes from vitrification
19 04 01 vitrified waste
19 04 02* fly ash and other flue-gas treatment wastes
19 04 03* non-vitrified solid phase
19 04 04 aqueous liquid wastes from vitrified waste tempering

19 05 wastes from aerobic treatment of solid wastes
19 05 01 non-composted fraction of municipal and similar wastes
19 05 02 non-composted fraction of animal and vegetable waste
19 05 03 off-specification compost
19 05 99 wastes not otherwise specified

19 06 wastes from anaerobic treatment of waste
19 06 03 liquor from anaerobic treatment of municipal waste
19 06 04 digestate from anaerobic treatment of municipal waste
19 06 05 liquor from anaerobic treatment of animal and vegetable waste
19 06 06 digestate from anaerobic treatment of animal and vegetable waste
19 06 99 wastes not otherwise specified

19 07 landfill leachate
19 07 02* landfill leachate containing hazardous substances
19 07 03 landfill leachate other than those mentioned in 19 07 02

19 08 wastes from waste water treatment plants not otherwise specified
19 08 01 screenings
19 08 02 waste from desanding
19 08 05 sludges from treatment of urban waste water
19 08 06* saturated or spent ion exchange resins
19 08 07* solutions and sludges from regeneration of ion exchangers
19 08 08* membrane system waste containing heavy metals
19 08 09 grease and oil mixture from oil/water separation containing edible oil and fats
19 08 10* grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11* sludges containing hazardous substances from biological treatment of industrial waste water
19 08 12 sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11

19 08 13* sludges containing hazardous substances from other treatment of industrial waste water
19 08 14 sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 08 99 wastes not otherwise specified

19 09 wastes from the preparation of water intended for human consumption or water for industrial use

19 09 01 solid waste from primary filtration and screenings
19 09 02 sludges from water clarification
19 09 03 sludges from decarbonation
19 09 04 spent activated carbon
19 09 05 saturated or spent ion exchange resins
19 09 06 solutions and sludges from regeneration of ion exchangers
19 09 99 wastes not otherwise specified

19 10 wastes from shredding of metal-containing wastes

19 10 01 iron and steel waste
19 10 02 non-ferrous waste
19 10 03* fluff-light fraction and dust containing hazardous substances
19 10 04 fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 05* other fractions containing hazardous substances
19 10 06 other fractions other than those mentioned in 19 10 05

19 11 wastes from oil regeneration

19 11 01* spent filter clays
19 11 02* acid tars
19 11 03* aqueous liquid wastes
19 11 04* wastes from cleaning of fuel with bases
19 11 05* sludges from on-site effluent treatment containing hazardous substances
19 11 06 sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 11 07* wastes from flue-gas cleaning
19 11 99 wastes not otherwise specified

19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

19 12 01 paper and cardboard
19 12 02 ferrous metal
19 12 03 non-ferrous metal
19 12 04 plastic and rubber
19 12 05 glass
19 12 06* wood containing hazardous substances
19 12 07 wood other than that mentioned in 19 12 06
19 12 08 textiles
19 12 09 minerals (for example sand, stones)
19 12 10 combustible waste (refuse derived fuel)
19 12 11* other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

19 13 wastes from soil and groundwater remediation

19 13 01* solid wastes from soil remediation containing hazardous substances
19 13 02 solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03* sludges from soil remediation containing hazardous substances
19 13 04 sludges from soil remediation other than those mentioned in 19 13 03
19 13 05* sludges from groundwater remediation containing hazardous substances
19 13 06 sludges from groundwater remediation other than those mentioned in 19 13 05
19 13 07* aqueous liquid wastes and aqueous concentrates from groundwater remediation containing

	hazardous substances
19 13 08	aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07

20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 13*	solvents
20 01 14*	acids
20 01 15*	alkalines
20 01 17*	photochemicals
20 01 19*	pesticides
20 01 21*	fluorescent tubes and other mercury-containing waste
20 01 23*	discarded equipment containing chlorofluorocarbons
20 01 25	edible oil and fat
20 01 26*	oil and fat other than those mentioned in 20 01 25
20 01 27*	paint, inks, adhesives and resins containing hazardous substances
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 29*	detergents containing hazardous substances
20 01 30	detergents other than those mentioned in 20 01 29
20 01 31*	cytotoxic and cytostatic medicines
20 01 32	medicines other than those mentioned in 20 01 31
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 37*	wood containing hazardous substances
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
20 01 99	other fractions not otherwise specified

20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes

20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste
20 03 99	municipal wastes not otherwise specified

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Compositional and Chemical Analysis of Waste Entering Ferrybridge FM1

Report Produced for (deleted)

Report Produced by (deleted)

February 2018 **Issued for Comment**

Introduction

(anonymous waste company) commissioned (anonymous laboratory) to carry out compositional and chemical analysis to determine the calorific value and the percentage CV from the biomass fraction of the residual waste materials going to the Ferrybridge FM1 EfW facility. This work was carried out in accordance with the Fuel Measurement and Sampling plan approved by OFGEM. Sampling was carried out in February 2018 (details deleted).

Methodology

Sampling

The majority of the feedstock to the facility is residual household waste with smaller percentages made up of HWRC residual and commercial waste.

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A sample of approximately 250kg was taken from each selected bulker and 250kg from each selected RCV, the remaining waste being transferred into the waste pit using a mechanical shovel. The table below shows the details of the vehicles sampled.

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Composition analysis

In order to determine the composition, the waste collected was manually sorted according to material category. Nineteen main categories were used. Compositional analysis of the samples commenced immediately the sample arrived at (deleted)'s test centre with all material being analysed by the end of the day following sampling.

(DELETED) personnel transferred the sample in manageable batches from the bulk sacks onto the sorting table, where the sample was then sorted into the relevant categories. The weight of material reporting to each sub category was manually recorded onto the analysis log sheet. Sorting was carried out on a screen table fitted with 10mm square apertures. Material passing through the screen deck was collected, weighed and entered on the analysis sheet as fines (<10mm). All residual waste was disposed of through licensed facilities following completion of the analysis. The waste was hand sorted into the categories shown in table below.

Using the compositional data derived from the hand sort analysis and the fuel properties determined from laboratory analysis carried out on each of the 7 individual combustible fractions highlighted (*) in table the CV and the percentage CV by biomass was calculated

Chemical analysis – Sample Preparation

Following compositional analysis the 7 combustible fractions highlighted (*) in the table above are saved and prepared for standard suite fuel analysis.

Samples for chemical analysis are prepared and analysed in accordance with UKAS accredited methods. The sample is first shredded in a slow speed shredder to obtain a size less than 60mm. The shredded sample is cone and quartered to extract a representative sub sample for drying. The sub sample is placed onto an oven tray the weight of the empty tray and the weight of the tray including the sample are recorded the tray is then loaded into a calibrated oven. The sample is dried in the oven to determine the overall moisture content. The dried sample then undergoes several size reduction steps to reduce the particle size and this also allows the sample to be reduced in volume. The final stage incudes cryo milling to produce a particle size of less than 0.5mm. The preparation procedures produce a representative sub sample which is suitable for analysis by laboratory instrumentation.

Following sample preparation, laboratory analysis is undertaken on the 7 individual combustible fractions. All tests are carried out in accordance with (deleted)'s UKAS accredited methods based on BS EN standards covering solid recovered fuels.

Results

Table 1 shows the composition in weight percent of the samples taken together with the modelled composition based on input tonnage data from 2017. The three predominant material categories are; putrescibles at 35.22%, total miscellaneous combustible at 15.45% and paper & card at 14.22%.

Table 2 shows the calculated fuel properties determined from laboratory analysis of the combustible material fractions analysed and the modelled composition from the input waste to the EfW plant. The results show the calculated Net CV to be 9.66MJ/kg, moisture content to be 40.39%.and ash at 16.95% on an as received basis.

Table 3 shows the calculated qualifying percentage of energy derived from biomass using the methodology described in OFGEMS guidance. The results show that 49.78% of the energy produced by the waste entering the EfW plant is derived from biomass.

Table 1: Composition in weight percent for February 2018

	Sample area	Modelled EfW Input 2018
	Proportion (%)	100
Category		
Paper/card		14.22
Plastic film		9.65
Dense plastic		8.35
Textiles		2.86
Miscellaneous comb.	Shoes	0.53
	Nappies	6.02
	Wood	0.71
	MDF/chipboard/ composite/laminate	0.61
	Carpet/underlay	0.48
	Furniture	0.20
	WEEE	1.02
	Other misc comb.	5.89
Misc. non-comb		1.34
Glass		3.67
Putrescibles		35.22
Ferrous metal		2.21
Non-ferrous metal		1.44
Batteries		0.07
Herbicides and Pesticides		0.00
Clinical		0.03
Paints, varnish and oils		0.03
Potentially hazardous		0.01
Fines		5.44
Total		100.00

(details of regions deleted)

Table 2 **Waste composition to Ferrybridge FM1**

Sample Reference		Modelled EfW Input waste
Analyte	**Units**	**Results**
Moisture	% Wt	40.39
Ash	% Wt	16.95
Gross CV	MJ/kg	11.34
Net CV	MJ/kg	9.66
Oxygen	% Wt	12.35
Carbon	% Wt	25.72
Hydrogen	% Wt	3.27
Nitrogen	% Wt	0.83
Sulphur	% Wt	0.09
Chlorine	% Wt	0.41

Table 3 **Calculated qualifying percentage of energy derived from biomass**

Primary Category	% by weight	Gross Calorific Value MJ/kg	Weighted CV	% by CV	Biodegradable Content	Qualifying %
Paper and card	14.22	10.73	1.53	13.45	1.0	13.45
Plastic film	9.65	19.46	1.88	16.56	0.0	0.00
Dense plastic	8.35	27.33	2.28	20.12	0.0	0.00
Textiles	2.86	17.21	0.49	4.33	0.5	2.17
Misc. combustible	15.45	14.09	2.18	19.18	0.5	9.59
Misc. non-combustible	1.34	0	0.00	0.00	0.5	0.00
Glass	3.67	0	0.00	0.00	0.0	0.00
Putrescibles	35.22	7.38	2.60	22.92	1.0	22.92
Ferrous Metal	2.21	0	0.00	0.00	0.0	0.00
Non-ferrous metal	1.44	0	0.00	0.00	0.0	0.00
Batteries	0.07	0	0.00	0.00	0.0	0.00
Herbicides & pesticides	0.00	0	0.00	0.00	0.0	0.00
Clinical	0.03	5	0.00	0.02	0.5	0.01
Paint, Varnish and oil	0.03	43	0.01	0.13	0.0	0.00
Hazardous	0.01	0	0.00	0.00	0.0	0.00
Fines	5.44	6.88	0.37	3.30	0.5	1.65
Total	100.00		11.34	100.00		49.78

(deleted)

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INOVA

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NSW Independent Planning Commission

7 May 2018

Subject: Suitable Fuel Types for Eastern Creek Energy from Waste Facility
SSD 6236 - D510/18

Dear Ms Kruk,

I am the Managing Director of Hitachi Zosen Inova Australia Pty Ltd and the company which I represent has been chosen by the applicant The Next Generation Pty Ltd (TNG) as its technology supplier in the event that it was successful in obtaining planning permission to construct an Energy from Waste (EfW) facility at Eastern Creek.

I am fully familiar with the application and the reasons given for its refusal.

HZI was also the supplier of the EfW plant constructed at Ferrybridge in the UK and which had been nominated by TNG as its reference plant in connection with the NSW EfW policy.

I would like to address the opinion expressed by ARUP and forming a reason given for refusal that the fuel types between Ferrybridge Multifuel 1 facility and the proposed Eastern Creek TNG EfW Facility aren't "wholly comparable".

It has been asserted that therefore the TNG proposal is "not deemed compliant with the NSW EfW Policy Statement" (ARUP Eastern Creek EfW RTS Merit Review – Final – March 2018, page 7, dated 9 March 2018).

The relevant paragraph in the NSW EfW Policy Statement is (page 6) states:

- "Energy recovery facilities must use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions."

Hitachi Zosen Inova (HZ) is the leading EfW technology worldwide with more than 600 references worldwide. In particular HZI is the supplier for:

- Ferrybridge Multifuel 1 (in operation since 2015)
- Ferrybridge Multifuel 2 (in construction)
- Eastern Creek TNG EfW Facility (subject to development approval)

The main performance criteria of our plants which are backed by the balance sheets of HZI and its holding company Hitachi Zosen Corporation are:

- Combustion diagram
- Acceptable waste composition ranges
- Acceptable waste types
- Energy efficiency
- Plant availability
- Emission limits

The contract which HZI accepted, signed, and in 2015 successful delivered for Ferrybridge Multi Fuel 1 included the following clauses (extracted from Annex1A Scope of Works):

(start extract)

1.5 Fuel – Waste

The plant shall be designed to accept any or all of the following wastes:

28/03/2012 Ferrybridge Multi Fuel Plant - Annex 1A Page 7

Annex 1A Scope of Works- Original

1. Solid Recovered Fuel (SRF) from municipal solid waste (MSW);
2. Waste wood;
3. Industrial and commercial waste from offices, warehouses, shops and industrial premises and collected by private *contractor*s; and
4. All wastes listed in the Environmental Permit application.

The *Contractor* is assumed to have a good knowledge of this type of waste in the UK and its limitations and difficulties. The *Contractor* shall take all reasonable steps to ensure the plant can operate with this type of waste and no restrictions on the acceptability of waste shall be placed by the *Contractor* other than those expected as Good Industry Practice in the UK for this type of plant.

The wastes which the plant will process will come from various waste pre-treatment facilities and it is therefore anticipated that the NCV of the waste will be an average of 13.5 MJ/kg.

1.5.1 Design Waste for EfW Plant

The waste composition set out below is provided to correspond to Design Point on the Firing Diagram and represents the 'Design Waste' referred to elsewhere in the Contract documentation:

Table 1A.1 – Design Waste Specification	
Ultimate Analysis of Design Waste – As Received	
Carbon	35.6%
Hydrogen	5.2%
Nitrogen	0.6%
Sulphur	0.2%
Chloride	0.5%
Oxygen	25.1%
Ash	12.8%
Water	20.0%
Total	100.0%
Calorific value from ultimate analysis (Steinmueller Formula)	
Gross Calorific Value (as received), MJ/kg	15.0
Net Calorific Value (as received), MJ/kg	13.5

For information only, the Design Waste composition is based on a typical mix of 60% SRF, 30% C&I waste and 10% waste wood, although this does not limit in any way the *Employer's* intentions to process varying quantities of the types of waste. The purpose of the Design Waste is to ensure that there is a defined set of data for the guaranteed thermal performance of the EfW plant at 100% MCR. The *Employer* does not undertake at any time to provide a waste with the characteristics of the Design Waste. Where Design Waste is used within the Contract as the unit of measure of throughput, the intention is that the throughput will be derived from the boiler steam output using the boiler as a calorimeter. The actual throughput of waste at a given steam flow will vary with the NCV of the waste.

FERRYBRIDGE MFE LIMITED

The derivation of NCV on the basis of an ultimate analysis depends on the formula used and, where there is a discrepancy between the ultimate analysis of the Design Waste as stated in the table above and the *Contractor's* calculation of the NCV, the value of the NCV stated in Table 1A.1 – Design Waste Specification shall prevail.

1.5.2 Waste Composition Ranges

Table 1A.2 – Acceptable Waste Ranges

Table 1A.2 – Acceptable Waste Ranges		
% by weight as received (monthly average for mixed fuel as delivered to the boiler)	Minimum	Maximum
Nitrogen	-	1.5%
Sulphur	-	0.7%
Chlorine	-	1.0%
Ash	1%	25%
Moisture	10%	40%
Bulk Density kg/m^3	100	400
% dust (<5mm) in waste wood	-	20%
% dust (<1mm) in SRF		5.0%
Net Calorific Value MJ/kg	As per the firing diagram contained in this Annex	16.5

All waste fuels may contain contamination commensurate with their sourcing, for example tramp metals, trace elements, aluminium foil and occasional large, non-combustible items. The waste ranges in the table above are based upon averaged samples taken over a month, which were blended and analysed. Sampling and measurement shall be performed by the *Employer* in compliance with DD CEN/TS/15359 Solid Recovered Fuels – Specifications and Classes during normal plant operation. Where any parameter in Table 1A.2 leads to a significant impact on the design of the Works, the *Contractor* shall identify this and notify the *Project Manager*.

(end extract)

To note in particular from the above contractual specification is:

- "For information only, the Design Waste composition is based on a typical mix of 60% SRF[1], 30% C&I waste[2] and 10% waste wood, although this does not limit in any way the Employer's intentions to process varying quantities of the types of waste. The purpose of the Design Waste is to ensure that there is a defined set of data for the guaranteed thermal performance of the EfW plant at 100% MCR[3].The Employer does not undertake at any time to provide a waste with the characteristics of the Design Waste."

---

[1] SRF means Solid Recovered Fuel (also known as Refuse Derived Fuel or Processed Engineered Fuel)
[2] C&I waste means Commercial & Industrial waste
[3] MCR means Maximum Continuous (flow) Rate

Above clause reflects the knowledge that waste constantly varies and its characteristics change.

Ferrybridge Multifuel 1 was permitted to use a wide range of waste types (see Schedule 2 of attached Permit Number EPR /SP3239FU) which are even more exhaustive. Those waste types are defined under the European Waste Code (EWC, see attached 2015 SEPA Guidance on using EWC to code waste) as follows (extract from page 2):

- “The EWC is a list of waste types, established by the European Commission Decision 2000/532/EC1, which categorises wastes based on a combination of what they are, and the process or activity that produces them. It provides a standard framework for the comparison of waste data (statistics) across all member states.”

It is important to note that the EWC doesn’t specify chemical waste compositions or ranges for material types.

An example is the EWC code “16 01 19 plastic” which is permitted for Ferrybridge Multi Fuel 1 (page 20 of permit):

16	**Wastes not otherwise specified in the list**
16 01	**End of life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end of life vehicles and vehicles maintenance (except 13, 14, 16 06 and 16 08)**
16 01 03	End-of-life tyres
16 01 19	Plastic

It gives no required composition or further break-down by plastic types or chemical compositions.

As such, it could be at least 51% of any mixture of plastic up to the extreme of 100% of a particular plastic type as well as 100% PVC (Poly Vinyl Chloride), which evidently contains more than one weight percent chlorine.

The reason why the European regulators back the use of such undefined material in EfW plants is that it is well understood within the industry and regulators:

- Waste is by definition variable in composition (chemical, material types, humidity, calorific value)
- EfW plants are therefore permitted for acceptable EWC codes (again, based “on a combination of what they are, and the process or activity that produces them” and not chemical or specific material compositions)
- Design fuels are used inclusive of minimum and maximum limits for chlorine, sulphur, moisture, and calorific values
- Maximum chlorine and sulphur values are used to design efficient and robust flue gas treatment systems which will perform at all times and assure the adherence to the emission limits as well as design points used to determine the required flue gas treatment chemicals and maximum produced flue gas treatment residues for commercial parts of the contract

- (due to the variability of waste at all times) HZI and all its serious competitors have to design robust flue gas treatment systems which can assure the safe operation of the EfW plant at all times.

Since 2015, Ferrybridge Multi Fuel 1 has been in operation and operates safely as demonstrated by the quarterly and annual returns to the regulator. Several quarterly and annual returns have been sourced and attached under Freedom of Information requests (see attached):

- Ferrybridge FM1 Compliance Annual Returns for 2015 and 2016 (2 reports)
- Ferrybridge FM1 Compliance Quarterly Returns for Q1-Q4 2016 and Q1 2017 (5 reports)

Thanks to the proven performance and satisfactory delivery of Ferrybridge Multi Fuel 1, our client SSE did decide to build the same HZI plant of same size and type, which is currently under construction and expected to start operation in 2018.

The air quality assessment included the experience from Ferrybridge Multi Fuel 1 (see page 2 of attached Appendix 11A Air Quality Assessment).

HZI confirms that it guarantees the performance and the emission limits of the proposed TNG Eastern Creek plant with the proposed TNG design waste based on the demonstrated experiences as previously described by Ramboll (compare attached Appendix D Project Definition Brief (PDB)). This confidence is based on HZI's experience with:

- Experience with more than 600 delivered EfW projects
- Ferrybridge Multi Fuel 1
- Other EfW plants and in particular the reference facilities shown in Table 10 of the PDB

We confirm that all those plants have:

- differing waste inputs in terms of industry and pre-treatment;
- each plant has constant variations and if ever the exact design fuel composition is burned, then it will be only momentarily as waste varies constantly over time even if coming from the same source;
- robust combustion and flue gas treatment technology are Best Available Technology as confirmed by each of our permitted, contracted and delivered EfW projects; and
- operate safely under the constantly varying waste characteristics and below the specified emission limits

HZI is satisfied that the NSW EfW Policy Statement requirement is fulfilled and in particular the condition:

- "Energy recovery facilities must use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions

HZI is very concerned about the interpretation by ARUP because due to its narrowly chosen interpretation it will be impossible to ever satisfy a full like for like.

Quite to the contrary, any application which would claim a “wholly comparable” reference plant with the like for like technology, size, and waste should be regarded as highly suspicious due to the very variability of waste over time and origin as well as evolving EfW technology.

We strongly recommend to:

- Disregard the negative assessment of the ARUP report
- Disregard the NSW Health Report which has its conclusions based on the negative assessment of the ARUP report
- Approve the TNG Eastern Creek project

If requested, I would be pleased to provide further evidence or information on above matters.

Kind regards

Hitachi Zosen Inova Australia Pty Ltd

Dr. Marc Stammbach

Managing Director

12 Attachments:

- Ferrybridge Multifuel 1 Permit Number EPR /SP3239FU
- 2015 SEPA Guidance on using EWC to code waste)
- Ferrybridge FM1 Compliance Annual Returns for 2015 and 2016 (2 reports)
- Ferrybridge FM1 Compliance Quarterly Returns for Q1-Q4 2016 and Q1 2017 (6 reports)
- Ferrybridge Multifuel 2 - Appendix 11A Air Quality Assessment
- TNG Appendix D Project Definition Brief (PDB)

Ferrybridge MFE Ltd
EPR/SP3239FU
Annual Report 2015

1.0 Introduction

This document represents the Annual Performance Report for Ferrybridge MFE Ltd (FM1) and has been submitted in compliance with Chapter IV Article 62 of the Industrial Emissions Directive (IED):

'The operator shall supply the competent authority, on request, with data enabling the competent authority to vrify the compliance with the following:- (a) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.'

2.0 Facility Information

Plant Operator	Ferrybridge MFE Ltd
Name of Plant	Ferrybridge MFE Ltd
EPR Permit Number	EPR/SP3239FU
Plant Address	Kirkhaw Lane Knottingley West Yorkshire WF11 8DX
Telephone No	01977 636 700

Ferrybridge MFE Ltd is the first Energy From Waste (efw) plant to be built for and operated by Multifuel Energy Ltd (MEL) a joint venture between SSE Plc and Wheelabrator Technologies Inc.. The plant burns Waste Derived Fuels (WDF) supplied under long term fuel contracts with a range of waste recycling businesses. Much of this is processed from local council waste streams. The energy produced by the combustion of WDF is converted to steam, which is then fed to a steam tubine generator set. The electricity produced is exported to the National Grid. The plant is designed to achieve a high efficiency and achieves benchmark figures for the industry. The steam turbine is designed with interstage steam pass out to enable future installation of CHP should suitable heat off-takers be found in the vicinity of the plant.

The Plant was commissioned by HZI throughout the first half of 2015 and was handed over for commercial operation on 25th July, although constuction activities continued for several months beyond this date.

2.1 Technical Details of the Plant:-

- Maximum permitted waste throughput – 675,000 tonnes per annum
- Storage capacity – at least 10,000 tonnes
- Number of tipping bays – 11
- Number of boilers – 2
- Steam output per boiler – 145.2 t/hr at 430 ^{o}C and 70.0 Bara (turbine inlet)
- Maximum generating capacity – 85 MW (generator terminals)
- Flue gas treatment – exhaust gas recirculation, furnace spray quenching, ammonia injection (SNCR), powder activated carbon, HZI semi-dry lime reactor, bag filters and final discharge to 2 x 100m stacks.

Ferrybridge MFE Ltd
EPR/SP3239FU
Annual Report 2015

Ferrybridge MFE Ltd is regulated by the Environment Agency and has developed management systems to comply with:-

- ISO 14001:2004
- OHAS 18001:2007

and is working towards formal accreditation to the above standards.

2.2 Permitted Waste Types

Ferrybridge is permitted to take a large number of groups of wastes, as defined by their EWC code. "20" codes, which correspond to Municipal Wastes which have not been processed are not accepted at the facility. The below table corresponds to the wastes currently being accepted at the facility, and is by no means exhaustive of the types of wastes which can be accepted.

EWC Code	Description
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

3.0 OPERATIONAL INFORMATION

Total Waste Incinerated	350,959	Tonnes
Electricity Exports	265,945	MWh
Incinerator Bottom Ash Produced	70,205	Tonnes
APC Residues	15,411	Tonnes

3.1 Solid Residue Outputs

The Incinerator Bottom Ash (IBA) is transported by Hargreaves Services PLC to Ballast Phoenix Processing Facility situated in Sheffield. The IBA is reprocessed into a number of different graded aggregates, ferrous and non ferrous metal products, which are then utilised in the construction and metal industry.

Ferrous metals removed during on site processing of IBA are forwarded to Crossley Evans. The metals are separated into individual fractions, and are sent on for utilisation in the metal industry.

The fine particulate matter, known as Air Pollution Control Residue (APCr), is removed from the process by a fabric filter and discharge from the reactor. The APCr is sent to Castle Environmental in Ilkeston, Derbyshire where it is used to neutralise spent acid wastes from other processes before final disposal at non-hazardous landfill.

In line with Ferrybridge MFE Limited's corporate responsibility, Duty of Care audit's have been conducted at these final disposal points.

3.2 Water Discharges from Site

The plant is designed to have zero effluent discharge and only surface rain water is discharged to Fryston Beck. Waste water is designed to be utilised in the plant via the bottom ash expellers. However, during 2015, due to excess quantities of salt contaminated water from the water treatment plant, more waste water has been produced than consumed by the plant. This excess waste water has been disposed of by Enviroclean. The plant will be modified in the Spring planned outage of 2016 to recycle the water treatment plant waste water as plant process water. This will remove the need for off site disposal and reduce the consumption of towns water for process water make up.

3.3 Flue Gases

All gaseous emissions generated during the combustion process pass through an extensive flue gas cleaning process which begins in the boiler itself where good combustion conditions are maintained and ammonia is added to treat oxides of nitrogen. Gases exit the boiler and enter a gas scrubber where hydrated lime is injected to neutralise acid gasses, activated carbon is added to remove metals and dioxins. Finally gases pass through the bag filter house to remove any remaining particulates. The cleaned gasses are then released into the atmosphere through the chimney stacks.

In compliance with the IED and Environmental Permit requirements, the flue gases are continuously monitored using MCERTS accredited equipment. In addition to the continuous monitoring, a periodic extractive sampling campaign is undertaken by an approved service supplier. The organisation used for analysis and monitoring are accredited by the United Kingdom Accreditation Service (UKAS) and the Environment Agency's Monitoring Certification Scheme (MCERTS).

Extractive Testing Results

In addition to the continuous monitoring of stack gases, further testing is conducted periodically on samples removed from the stack over shorter timescales. The results of the testing performed in the week commencing 12/10/2015 are summarised below for both boiler lines.

Substance / Parameter	Emission Limit Value / mg/m^3	Result Line 1 / mg/m^3	Result Line 2 / mg/m^3

Substance / Parameter	Emission Limit Value / mg/m^3	Result Line 1 / mg/m^3	Result Line 2 / mg/m^3
Hydrogen fluoride	2	<0.03	0.03
Cadmium & thallium and their compounds (total)	0.05	0.0008	<0.0006
Mercury and its compounds	0.05	0.001	0.003
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5	0.1	0.02
Dioxins / Furans (I-TEQ)	0.0001	0.000006	
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	0.000001	0.000019

Substance / Parameter	Emission Limit Value / mg/m^3	Result Line 1 / mg/m^3	Result Line 2 / mg/m^3
Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	0.0000001	0.0000001
Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	0.000003	0.000003
Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	0.000006	0.000016
Dioxins / furans (WHO-TEQ Fish)	No limit applies	0.000006	0.000019
Dioxins / furans (WHO-TEQ Birds)	No limit applies	0.000001	0.000029

Annual Emissions

The annual mass emissions of the continuously monitored emissions are summarised below.

Parameter	Annual Total Line 1 / Tonnes	Annual Total Line 2 / Tonnes
NO	182	114
NO_2	2.8	1.0
NO_x	262	206
CO	10.4	5.1
SO_2	8.2	9.9
HCl	10.1	9.3
NH_3	0.5	0.07
TOC	0	0.3

Dust	0.9	0.5

4.0 Use of Rejected Heat

Every practicable opportunity to use the heat rejected at the steam condensers for beneficial local use is investigated. To date no cost effective or practicable options have become available, however the neccessary works are being conducted in 2016 to install pipework to allow heat offtake from the steam turbine. This is in line with a number of potential heat "customers" becoming available both in the short and long term, and discussions are ongoing with Wakefield Metropolitan District Council. The site will continue to identify all possible opportunities for utilisation of waste heat from the plant. All viable developments will be implemented at the earliest opportunity.

5.0 Environmental Controls

The management and staff of FM1 are committed to maintaining the environmental performance of the plant and have undergone extensive training provided by the EPC Contractor – HZI and its sub-contractors. All operational staff have been briefed on the conditions in the Permit. Nevertheless, the following incidents occurred during 2015:-

- On 7th April 2015 HZI caused a breach of the Environmental Permit by operating one boiler on the plant for a period of 12 hrs when the CEMS (continuous emissions monitoring system) was not recording.
- On 4th November 2015 the permitted ½ hr average CO limit of 100mg/m^3 was exceeded when boiler line 1 produced an average of 498mg/m^3 due to a failure of the Induced Draft Fan.
- On 30th November 2015 an unknown quantity of Boiler Ash entered the site surface drains system and some of this subsequently entered Fryston Beck. On discovery, site staff isolated the discharge to Fryston Beck and initiated clean up procedures. Discharge to Fryston Beck was only restarted after the site drains system was clean.

All of these incidents have been investigated and actions implemented to prevent recurrence.

Table 5.1 Environmental Incidents.

Permit Breaches	1 minor
Exceedence of Permitted Limits	1 x 30 minute
Non-permitted Discharges	1 minor
Abnormal Operations	9 hours
Enforcement Notices	None
Complaints	None

Ferrybridge MFE Ltd
EPR/SP3239FU
Annual Report 2016

1.0 Introduction

This document represents the Annual Performance Report for Ferrybridge MFE Ltd (FM1) and has been submitted in compliance with Chapter IV Article 62 of the Industrial Emissions Directive (IED):

'*The operator shall supply the competent authority, on request, with data enabling the competent authority to vrify the compliance with the following:- (a) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.'*

2.0 Facility Information

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The Plant was commissioned by HZI throughout the first half of 2015 and was handed over for commercial operation on 25th July 2015, although constuction activities continued for several months beyond this date. 2016 marked the first full running year for the plant. Due to a failure in the system during Grid Code Compliance Testing on April 26th 2016, the turbine was taken out of service for major repair. The turbine returned to service on 12th October 2016 after final Grid Code Compliance Tests and has performed very well since then. During this period, the plant ran with a suspended R1 status.

2.1 Technical Details of the Plant:-

- Maximum permitted waste throughput – 675,000 tonnes per annum
- Storage capacity – at least 10,000 tonnes
- Number of tipping bays – 11
- Number of boilers – 2

- Steam output per boiler – 145.2 t/hr at 430 °C and 70.0 Bara (turbine inlet)
- Maximum generating capacity – 85 MW gross (generator terminals)
- Flue gas treatment – exhaust gas recirculation, furnace spray quenching, ammonia injection (SNCR), powder activated carbon, HZI semi-dry lime reactor, bag filters and final discharge to 2 x 100m stacks.

Ferrybridge MFE Ltd is regulated by the Environment Agency and has developed management systems to comply with:-

- ISO 14001:2004
- OHAS 18001:2007

and is working towards formal accreditation to the above standards.

2.2 Permitted Waste Types

Ferrybridge is permitted to take a large number of groups of wastes, as defined by their EWC code. "20" codes, which correspond to Municipal Wastes which have not been processed are not accepted at the facility. The below table corresponds to the wastes currently being accepted at the facility, and is by no means exhaustive of the types of wastes which can be accepted.

EWC Code	Description
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

3.0 OPERATIONAL INFORMATION

Total Waste Incinerated	573,035	Tonnes
Electricity Exports	299,218	MWh
Incinerator Bottom Ash Produced	119,760	Tonnes
APC Residues	22,824	Tonnes

3.1 Solid Residue Outputs

The Incinerator Bottom Ash (IBA) is transported by Hargreaves Services PLC to Ballast Phoenix Processing Facility situated in Sheffield. The IBA is reprocessed into a number of different graded aggregates, ferrous and non-ferrous metal products, which are then utilised in the construction and metal industry.

Ferrous metals removed during on site processing of IBA are forwarded to SIMS Metal Management (and also Smith's Metals during 2016). The metals are separated into individual fractions, and are sent on for utilisation in the metal industry.

The fine particulate matter, known as Air Pollution Control Residue (APCr), is removed from the process by a fabric filter and discharge from the reactor. The APCr is sent to Castle Environmental in Ilkeston, Derbyshire where it is used to neutralise spent acid wastes from other processes before final disposal at non-hazardous landfill. FM1 is currently working with Castle Environmental in their development of a treatment process which allows APCr to be used in concrete blocks. Trial loads from FM1 have been sent to the Cardiff Castle Environmental site where they have successfully been used in the block making process. This process is something that both FM1 and Castle Environmental are considering with regards to all APCr from FM1 in the future.

In line with Ferrybridge MFE Limited's corporate responsibility, Duty of Care audits have been conducted at these final disposal points.

3.2 Water Discharges from Site

The plant is designed to have zero effluent discharge and only surface rain water is discharged to Fryston Beck. Waste water is designed to be utilised in the plant via the bottom ash expellers. During 2015 and the first half of 2016, excess quantities of salt contaminated water from the water treatment plant caused more waste water to be produced than consumed by the plant. This excess waste water was being disposed of by Enviroclear at the FCCE facility in Knostrop, Leeds. The plant has now been modified to recycle the water treatment plant waste water as plant process water. This has removed the need for off-site disposal of water and has reduced the consumption of town’s water for process water make up.

3.3 Flue Gases

All gaseous emissions generated during combustion pass through an extensive flue gas cleaning process which begins in the boiler where good combustion conditions are maintained and ammonia is added to control and reduce oxides of nitrogen. Gases exit the boiler and enter a gas scrubber where hydrated lime is injected to neutralise acid gases and activated carbon is added to remove metals and dioxins. Finally gases pass through the bag filter house to remove any remaining particulates. The cleaned gases are then released into the atmosphere through the chimney stacks.

In compliance with the IED and Environmental Permit requirements, the flue gases are continuously monitored using MCERTS accredited equipment. In addition to the continuous monitoring, a periodic extractive sampling campaign is undertaken by an approved service supplier. The organisation used for analysis and monitoring are accredited by the United Kingdom Accreditation Service (UKAS) and the Environment Agency’s Monitoring Certification Scheme (MCERTS).

Extractive Testing Results

In addition to the continuous monitoring of stack gases, further testing is conducted periodically on samples removed from the stack over shorter timescales. The results of the testing performed in the week commencing 11/07/2016 are summarised below for both boiler lines.

Substance / Parameter	Emission Limit Value / mg/m^3	Result Line 1 / mg/m^3	Result Line 2 / mg/m^3
Hydrogen fluoride	2	<0.02	<0.02
Cadmium & thallium and their compounds (total)	0.05	<0.001	0.0006
Mercury and its compounds	0.05	0.002	0.002
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5	0.013	0.04
Dioxins / Furans (I-TEQ)	0.0001	0.000035	0.00004
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	0.00000239	0.00000071

Substance / Parameter	Emission Limit Value / mg/m^3	Result Line 1 / mg/m^3	Result Line 2 / mg/m^3
Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	0.00000012	0.00000004
Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	0.00000389	0.00000322
Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	0.000032	0.00004
Dioxins / furans (WHO-TEQ Fish)	No limit applies	0.000037	0.00004
Dioxins / furans (WHO-TEQ Birds)	No limit applies	0.000076	0.00007

Annual Emissions

The annual mass emissions of the continuously monitored emissions are summarised below.

Parameter	Annual Total Line 1 / Tonnes	Annual Total Line 2 / Tonnes
NO	315	206
NO_2	5.4	2.4
NO_x	433	390
CO	18.4	18.3
SO_2	14.6	20.1
HCl	12.6	8.9
NH_3	0	0.1
TOC	0	0

Dust	4	2.2

4.0 Use of Rejected Heat

Every practicable opportunity to use the heat rejected at the steam condensers for beneficial local use is investigated. The necessary works have been conducted in 2016 to install pipework to allow heat offtake from the steam turbine. This is in line with a number of potential heat "customers" becoming available both in the short and long term, and discussions with Wakefield Metropolitan District Council. The site is currently not able to further explore heat offtake agreements due to being tied to a capacity market contract.

5.0 Environmental Controls

The management and staff of FM1 are committed to maintaining the environmental performance of the plant. All operational staff have been briefed on the conditions in the Permit through extensive training by an external consultant during 2016. Nevertheless, the following incidents occurred during 2016:-

- On 25th January 2016 the permitted ½ hr average CO limit of 100mg/m^3 was exceeded when boiler line 2 produced an average of 123 mg/m^3 due to a feed hopper chute blockage.
- On 13th February 2016 the permitted ½ hr average CO limit of 100mg/m^3 was exceeded when boiler line 1 produced an average of 176 mg/m^3 due to a large item of plastic entering the boiler and having a large oxygen demand.
- On 21st February 2016 the permitted ½ hr average CO limit of 100mg/m^3 was exceeded for 2 consecutive hours causing a breach of the daily limit (50 mg/m3) also, due to ash blockages in the ash extraction system on start up. Clearing of these blockages caused ingress of air to the boiler.
- On 2 separate occasions during w/c 03/07/2016 the CEMS was run for a number of hours with an invalid calibration. This was due to a leak removing calibration gas from the system and therefore the automatic calibration conducted by the system was not valid.

All of these incidents have been investigated and actions implemented to prevent recurrence.

Table 5.1 Environmental Incidents.

Permit Breaches	1 period of CEMS calibration failure
Exceedance of Permitted Limits	4 x 30 minute, 1 x daily
Non-permitted Discharges	None
Abnormal Operations	30 minutes
Enforcement Notices	None
Complaints	4 complaints during the year. 3 odour complaints and 1 light pollution complaint.

	Odour 1 – 15th January from Ferrybridge C Power Station. South side tipping hall door was defective and in the open position for this day. Complaint probably justified. Odour 2 – 4th February from Ferrybridge C Power Station. Operations reminded to ensure south tipping hall door closed inbetween deliveries. Odour 3 – 9th November from Oakhill Caravan Park resident. Inconclusive, as the wind direction was blowing in the opposite direction to Oakhill for some of the times of the logged odours by the resident. Odour log importance has been reinforced to FMFEL Operators. Lighting 1 – 20th June. Lighting on top of silos left switched on. Staff reminded to switch off when access not required.

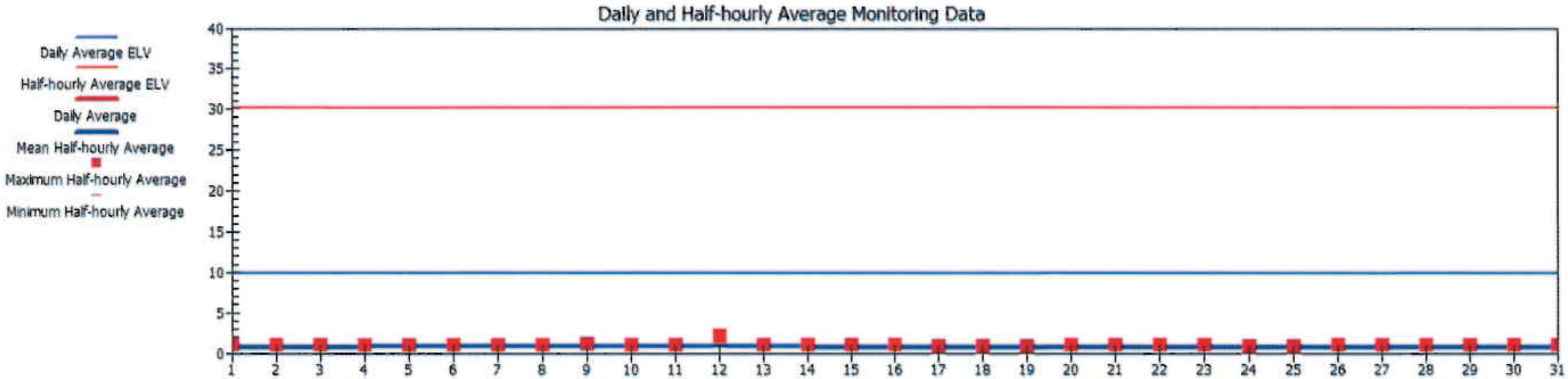
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of January 2016



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Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date.....28/4/16.....

(Authorised to sign as a representative of the Operator)

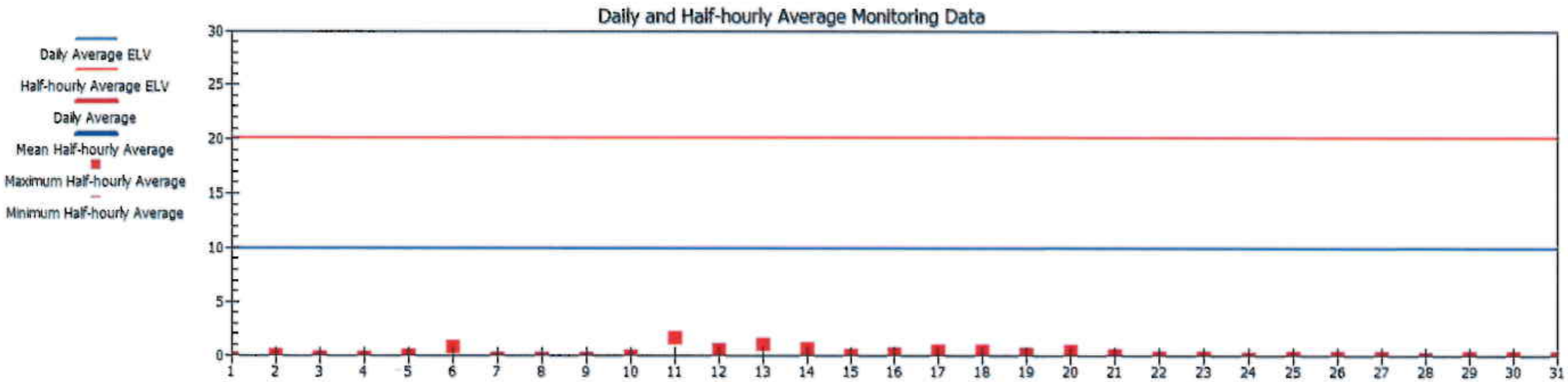
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of January 2016



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Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	2	Maximum Half-hourly average	0	0	0	0	0	1	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...............................

Date.....28/4/16.....

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

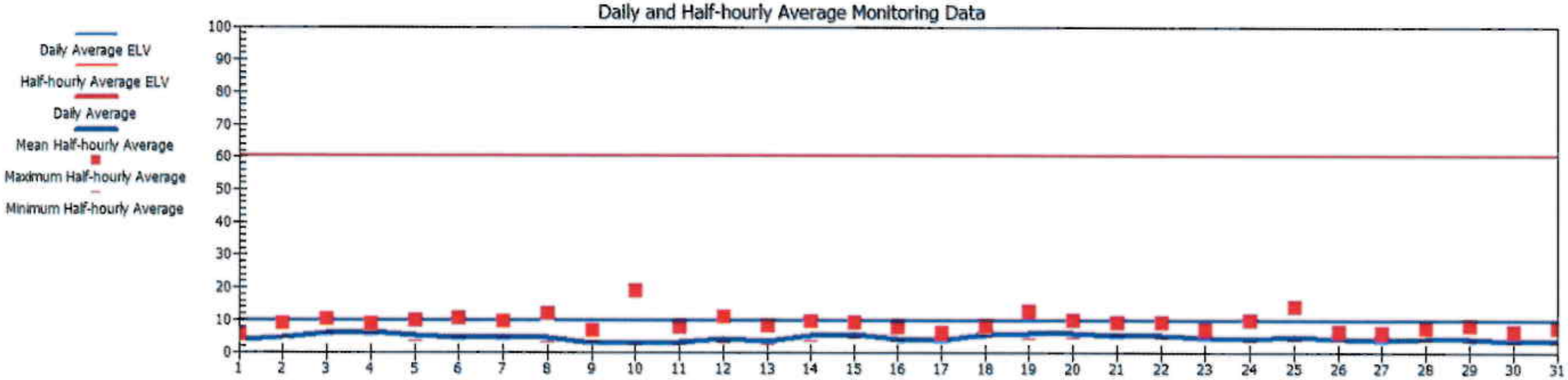
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of January 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	19	Maximum Half-hourly average	5	8	10	8	9	10	9	12	6	19	7	10	8	9	9	7	6	8	13	10	9	9	7	10	14	6	6	7	8	6	7
	Monthly mean	5	Mean Half-hourly average	4	5	6	6	5	5	5	5	3	3	3	4	4	5	6	4	4	6	6	6	5	6	5	4	5	4	4	4	4	4	4
	Monthly minimum	2	Minimum Half-hourly average	4	4	5	5	3	4	4	3	3	2	2	3	2	3	4	3	3	5	4	4	5	4	4	3	4	4	3	4	3	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	6	Daily average	4	5	6	6	5	5	5	5	3	3	3	4	4	5	6	4	4	6	6	6	5	6	5	4	5	4	4	4	4	4	4
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date......28/4/16......

(Authorised to sign as a representative of the Operator)

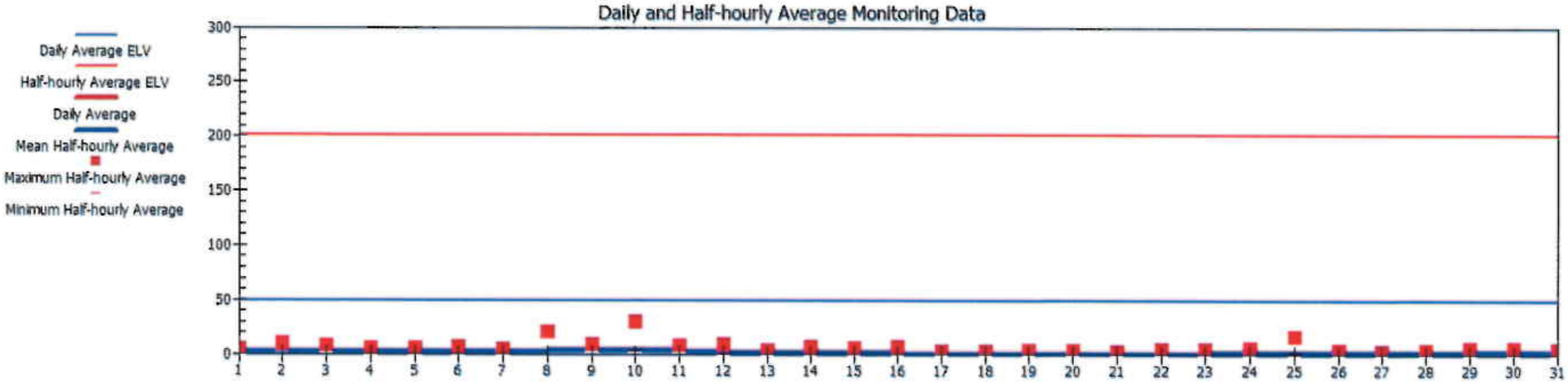
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	29	Maximum Half-hourly average	4	9	7	5	5	5	4	19	8	29	7	8	3	6	5	6	2	2	3	2	2	3	4	5	15	2	2	2	5	5	3
	Monthly mean	2	Mean Half-hourly average	3	3	3	3	3	2	3	3	4	4	3	3	1	2	2	2	1	1	0	0	0	1	2	2	2	2	1	2	3	3	2
	Monthly minimum	0	Minimum Half-hourly average	1	2	2	0	0	0	0	0	3	3	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	4	Daily average	3	3	3	3	3	2	3	3	4	4	3	3	1	2	2	2	1	1	0	0	0	1	2	2	2	2	1	2	3	3	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date......28|4|16..................

(Authorised to sign as a representative of the Operator)

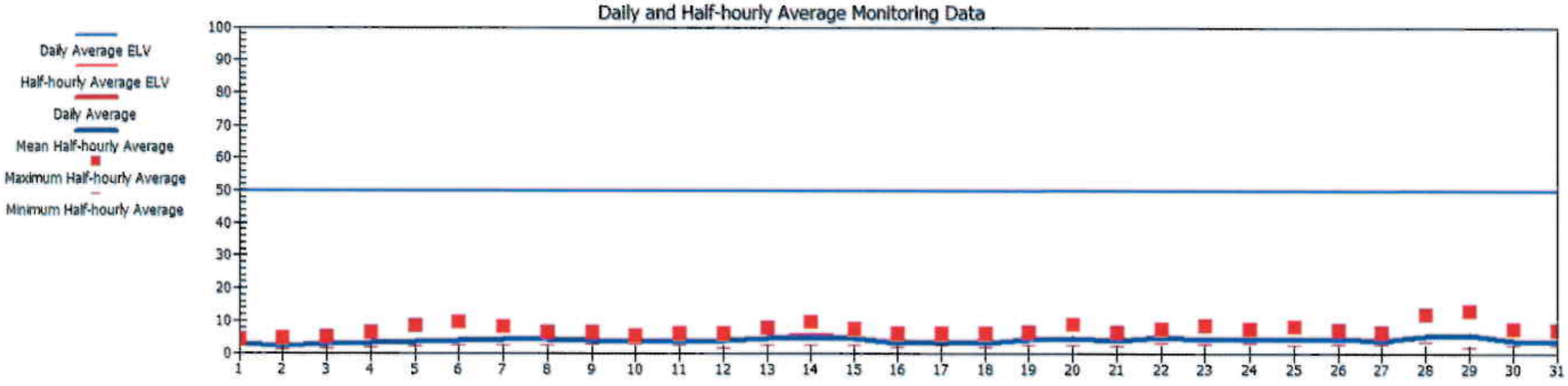
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	13	Maximum Half-hourly average	4	4	5	6	8	9	8	6	6	5	6	6	7	9	7	6	6	6	6	9	6	7	8	7	8	7	6	12	13	7	7
	Monthly mean	4	Mean Half-hourly average	3	2	3	3	4	4	4	4	4	4	4	4	5	5	5	3	4	3	4	5	4	5	4	4	4	5	4	5	6	4	4
	Monthly minimum	1	Minimum Half-hourly average	2	1	1	2	2	2	2	2	3	3	2	1	2	2	2	1	2	2	2	2	2	3	3	3	2	3	3	3	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	6	Daily average	3	2	3	3	4	4	4	4	4	4	4	4	5	5	5	3	4	3	4	5	4	5	4	4	4	5	4	5	6	4	4
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date....28/4/16....................

(Authorised to sign as a representative of the Operator)

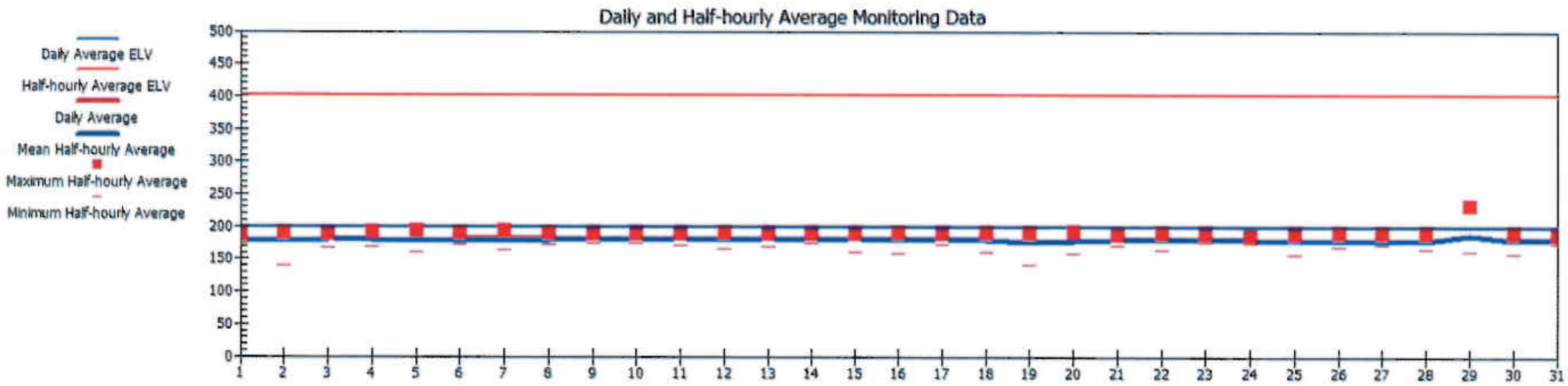
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of January 2016



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Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	230	Maximum Half-hourly average	186	188	188	191	193	188	192	189	187	187	188	189	188	187	187	189	188	189	189	191	186	189	187	185	187	189	189	188	230	189	185
	Monthly mean	180	Mean Half-hourly average	180	178	180	180	179	180	179	180	180	180	180	180	180	180	180	180	180	180	178	178	180	180	180	180	178	179	180	178	188	180	180
	Monthly minimum	138	Minimum Half-hourly average	173	138	166	168	159	171	162	171	174	174	170	166	169	173	160	158	172	159	139	158	169	164	174	174	156	169	171	165	160	157	173
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	188	Daily average	180	178	180	180	179	180	179	180	180	180	180	180	180	180	180	180	180	180	178	178	180	180	180	180	178	179	180	178	188	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date.....28/4/16.....

(Authorised to sign as a representative of the Operator)

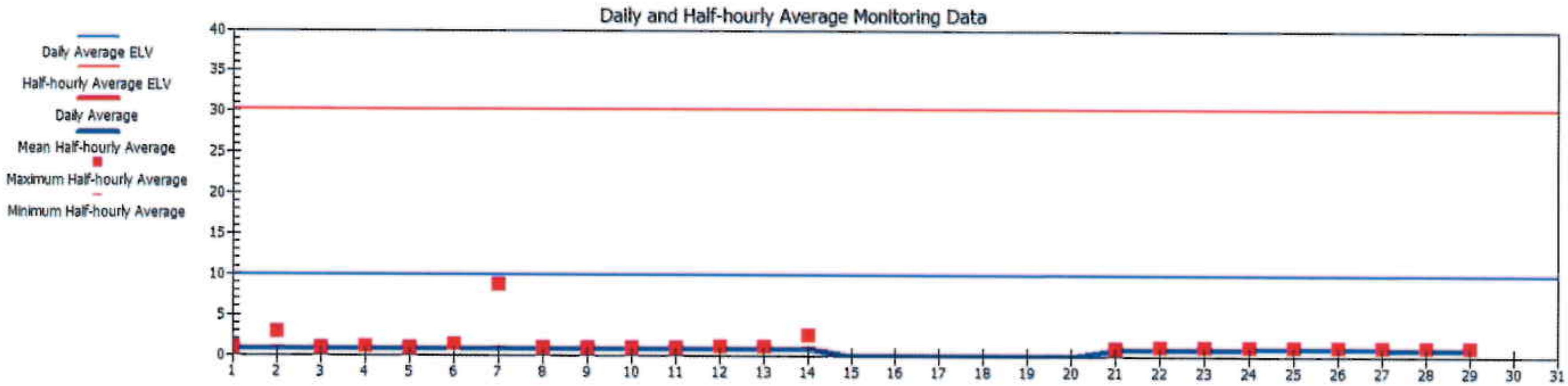
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
	Monthly maximum	9	Maximum Half-hourly average	1	3	1	1	1	1	9	1	1	1	1	1	1	2	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1		
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1		
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed...

Date.....28|4|16.....

(Authorised to sign as a representative of the Operator)

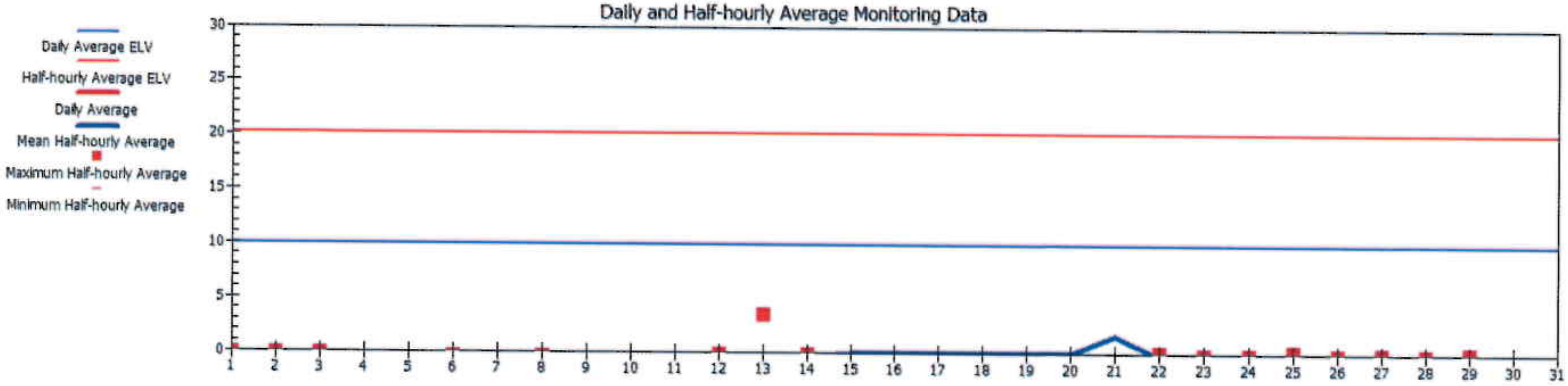
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20		
	Monthly maximum	35	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	3	0	Off	Off	Off	Off	Off	Off	35	0	0	0	0	0	0	0	0		
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	2	0	0	0	0	0	0	0	0		
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	1	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	1	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	2	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	2	0	0	0	0	0	0	0	0		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed.. Date.......28/4/16.......................

(Authorised to sign as a representative of the Operator)

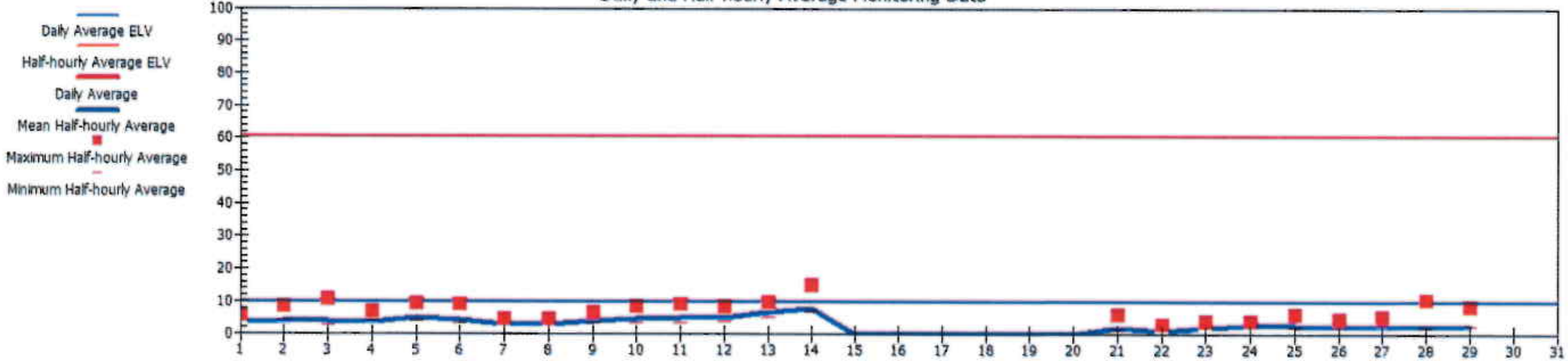
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
	Monthly maximum	14	Maximum Half-hourly average	5	8	10	6	9	9	4	4	6	8	9	8	9	14	Off	Off	Off	Off	Off	Off	5	2	3	3	5	4	5	10	8		
	Monthly mean	4	Mean Half-hourly average	4	4	4	4	5	4	3	3	4	5	5	5	7	8	Off	Off	Off	Off	Off	Off	2	1	2	3	3	2	2	2	2		
	Monthly minimum	1	Minimum Half-hourly average	3	3	2	3	4	3	3	3	3	3	3	3	5	7	Off	Off	Off	Off	Off	Off	1	1	1	2	2	2	2	2	2		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	8	Daily average	4	4	4	4	5	4	3	3	4	5	5	5	7	8	Off	Off	Off	Off	Off	Off	2	1	2	3	3	2	2	2	2		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed.. Date....28/4/16..........................

(Authorised to sign as a representative of the Operator)

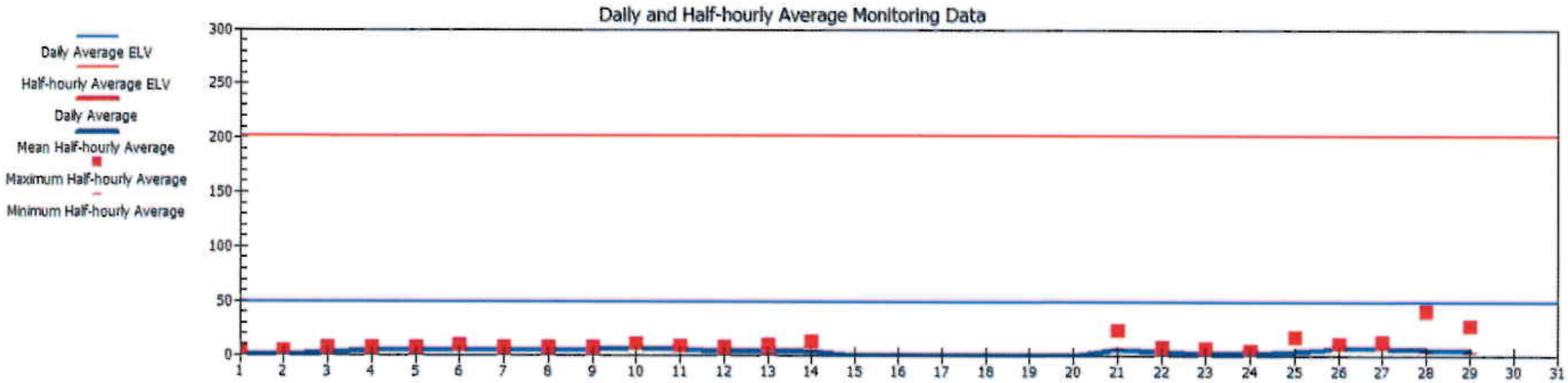
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
	Monthly maximum	39	Maximum Half-hourly average	3	3	5	5	6	8	5	6	6	9	6	6	7	11	Off	Off	Off	Off	Off	Off	22	6	4	3	15	9	11	39	25		
	Monthly mean	4	Mean Half-hourly average	2	0	3	5	5	5	5	5	5	5	5	4	3	4	Off	Off	Off	Off	Off	Off	6	3	2	1	3	6	6	6	5		
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	4	4	4	4	5	5	5	5	0	1	2	Off	Off	Off	Off	Off	Off	4	0	0	0	0	3	4	3	1		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
	Monthly maximum	6	Daily average	2	0	3	5	5	5	5	5	5	5	5	4	3	4	Off	Off	Off	Off	Off	Off	6	3	2	1	3	6	6	6	5		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed.. Date.....28/4/16.....................

(Authorised to sign as a representative of the Operator)

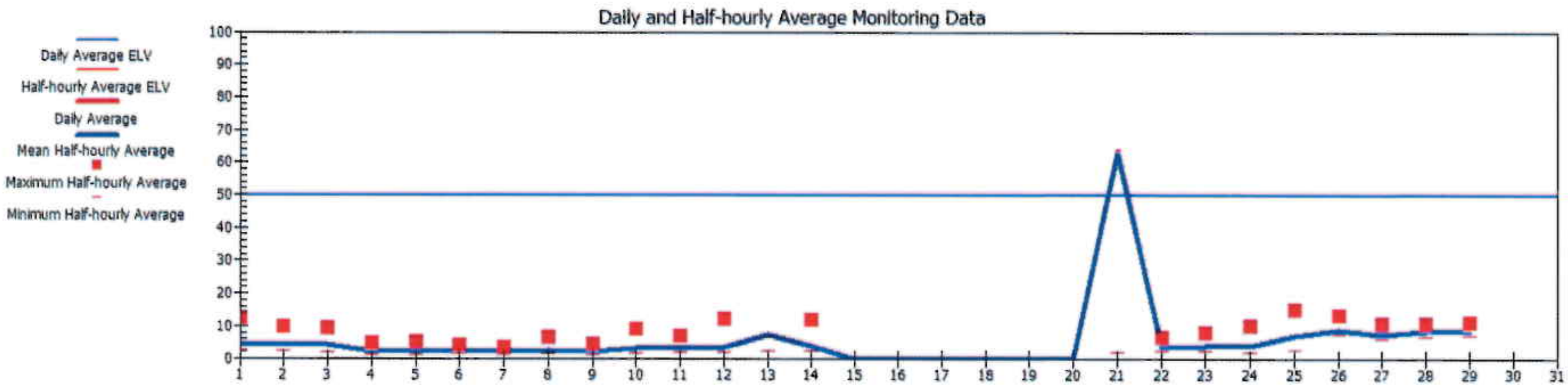
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	Monthly maximum	1348	Maximum Half-hourly average	12	9	9	4	5	4	3	6	4	9	7	12	176	11	Off	Off	Off	Off	Off	Off	1348	6	8	9	15	13	10	10	11		
Half-hourly	Monthly mean	7	Mean Half-hourly average	4	4	4	2	3	2	2	3	2	3	3	4	7	4	Off	Off	Off	Off	Off	Off	63	4	4	4	7	9	8	8	9		
average	Monthly minimum	1	Minimum Half-hourly average	2	2	2	1	1	1	1	1	1	1	1	1	2	2	Off	Off	Off	Off	Off	Off	2	2	2	2	2	7	6	7	7		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	3	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Off	Off	Off	Off	Off	Off	2	0	0	0	0	0	0	0	0		
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
Daily	Monthly maximum	63	Daily average	4	4	4	2	3	2	2	3	2	3	3	4	7	4	Off	Off	Off	Off	Off	Off	63	4	4	4	7	9	8	8	9		
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	1	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N		

Signed.. Date.....28/4/16.............

(Authorised to sign as a representative of the Operator)

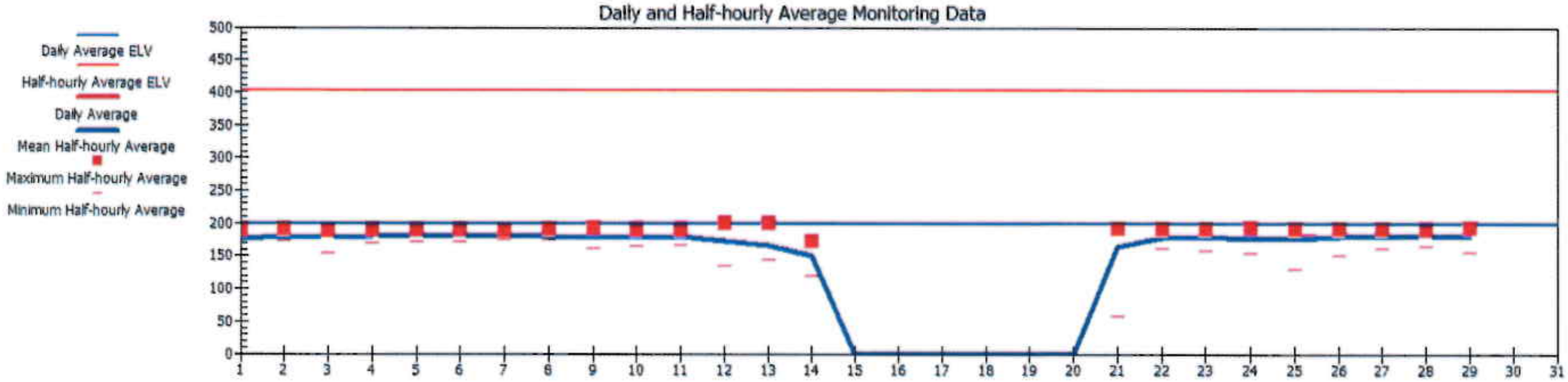
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400		
	Monthly maximum	198	Maximum Half-hourly average	187	190	186	188	187	188	186	189	191	188	187	198	198	170	Off	Off	Off	Off	Off	Off	189	188	189	190	189	188	189	188	190		
	Monthly mean	176	Mean Half-hourly average	177	180	178	180	180	180	180	180	179	179	179	173	166	151	Off	Off	Off	Off	Off	Off	164	179	180	178	178	180	180	180	180		
	Monthly minimum	57	Minimum Half-hourly average	150	172	152	169	170	169	173	173	160	162	166	133	143	118	Off	Off	Off	Off	Off	Off	57	159	156	152	128	149	159	163	154		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
	Monthly maximum	180	Daily average	177	180	178	180	180	180	180	180	179	179	179	173	166	151	Off	Off	Off	Off	Off	Off	164	179	180	178	178	180	180	180	180		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed..........[signature]..........

Date.....28/4/16.....

(Authorised to sign as a representative of the Operator)

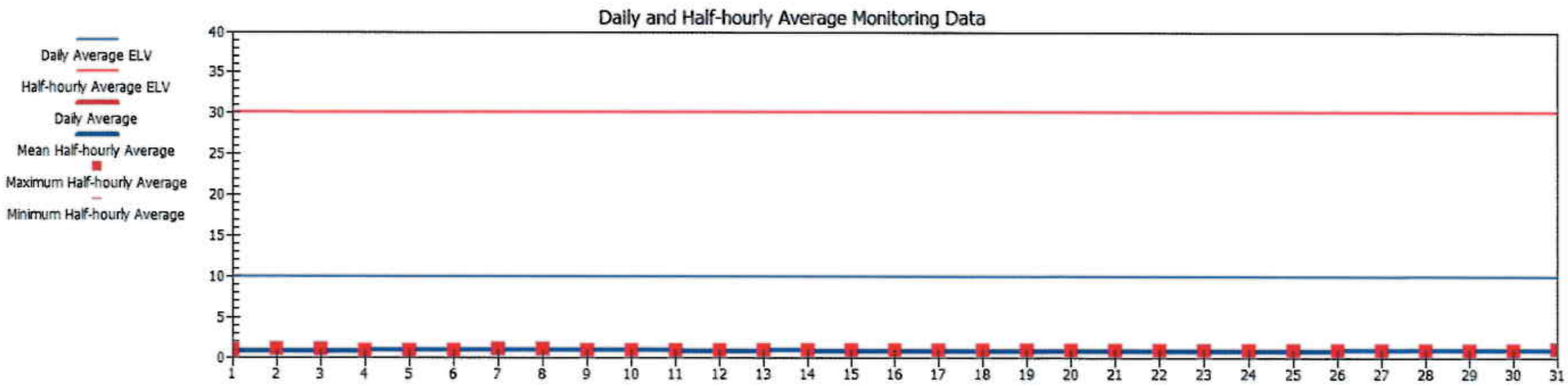
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date.....28/4/16.....................

(Authorised to sign as a representative of the Operator)

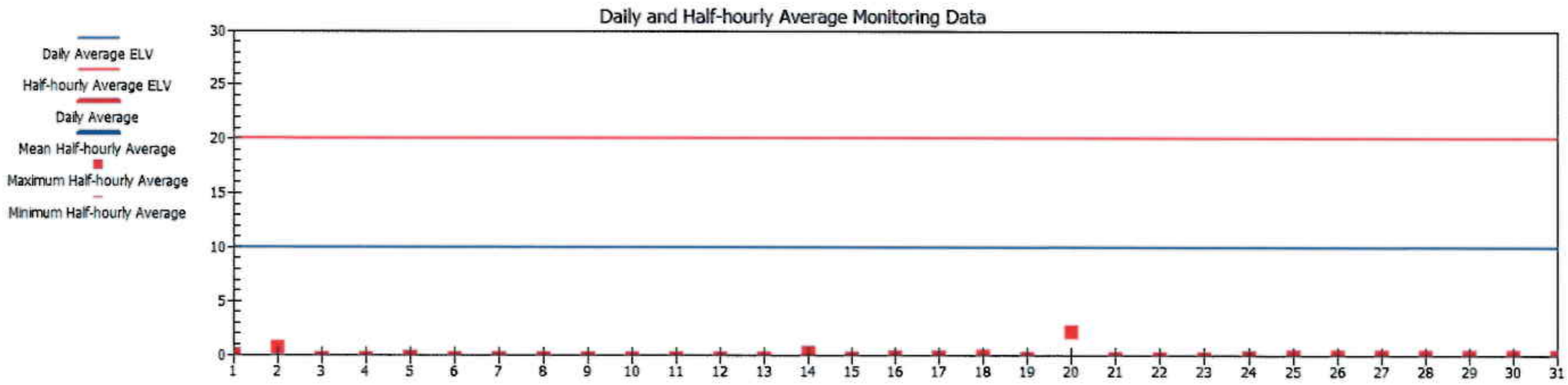
Permit Reference Number : SP3239FU

Installation: Knottingley

Operator : Ferrybridge MFE Limited

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	2	Maximum Half-hourly average	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date......28/4/16......................

(Authorised to sign as a representative of the Operator)

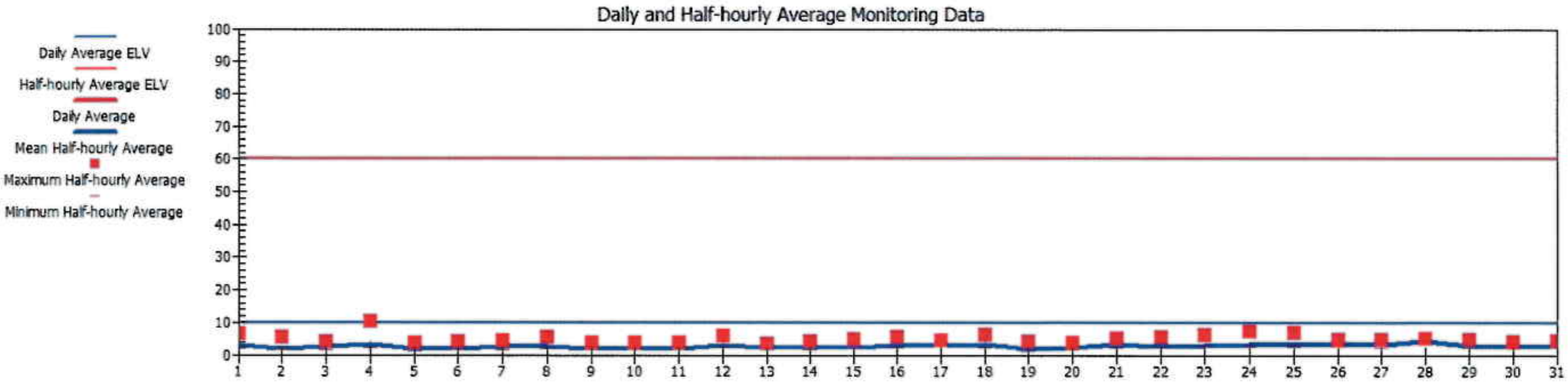
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	10	Maximum Half-hourly average	6	6	4	10	4	4	4	6	4	4	4	6	3	4	5	5	4	6	4	4	5	5	6	7	7	5	5	5	5	4	4
	Monthly mean	3	Mean Half-hourly average	3	2	2	3	2	2	2	2	2	2	2	3	2	2	2	3	3	3	2	2	3	3	3	3	3	3	3	4	3	3	3
	Monthly minimum	1	Minimum Half-hourly average	2	2	2	2	1	1	2	2	1	2	2	2	2	2	2	2	3	2	1	2	2	2	3	3	3	3	2	4	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	4	Daily average	3	2	2	3	2	2	2	2	2	2	2	3	2	2	2	3	3	3	2	2	3	3	3	3	3	3	3	4	3	3	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date.........28/4/16.........................

(Authorised to sign as a representative of the Operator)

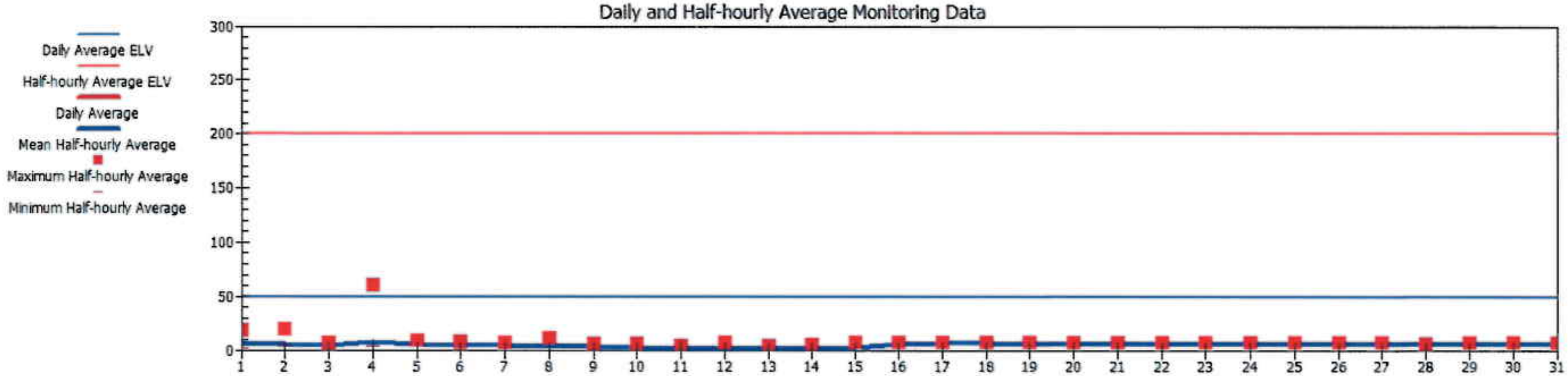
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	60	Maximum Half-hourly average	18	19	7	60	9	7	7	11	6	6	3	7	4	5	6	6	7	7	7	6	6	7	7	7	7	7	6	6	7	7	7
	Monthly mean	5	Mean Half-hourly average	6	6	5	8	5	5	4	4	4	3	1	2	2	1	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Monthly minimum	0	Minimum Half-hourly average	1	3	0	4	3	1	2	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	8	Daily average	6	6	5	8	5	5	4	4	4	3	1	2	2	1	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date 28/4/16

(Authorised to sign as a representative of the Operator)

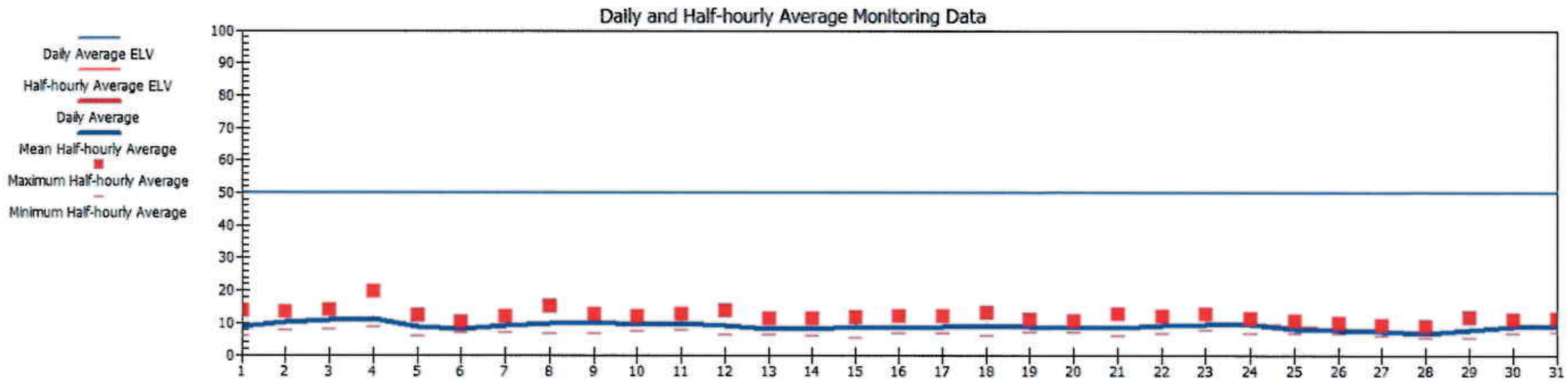
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	20	Maximum Half-hourly average	14	14	14	20	13	10	12	15	13	12	13	14	11	11	12	12	12	13	11	11	13	12	13	11	10	10	9	9	12	11	11
	Monthly mean	9	Mean Half-hourly average	9	10	11	11	9	8	9	10	10	10	10	9	8	8	9	9	9	9	9	8	8	9	10	9	8	8	7	7	8	9	9
	Monthly minimum	5	Minimum Half-hourly average	6	8	8	9	6	7	7	7	7	8	8	7	7	6	5	7	7	6	7	7	6	7	8	7	7	7	6	6	5	7	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	11	Daily average	9	10	11	11	9	8	9	10	10	10	10	9	8	8	9	9	9	9	9	8	8	9	10	9	8	8	7	7	8	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date.............28/4/16.................

(Authorised to sign as a representative of the Operator)

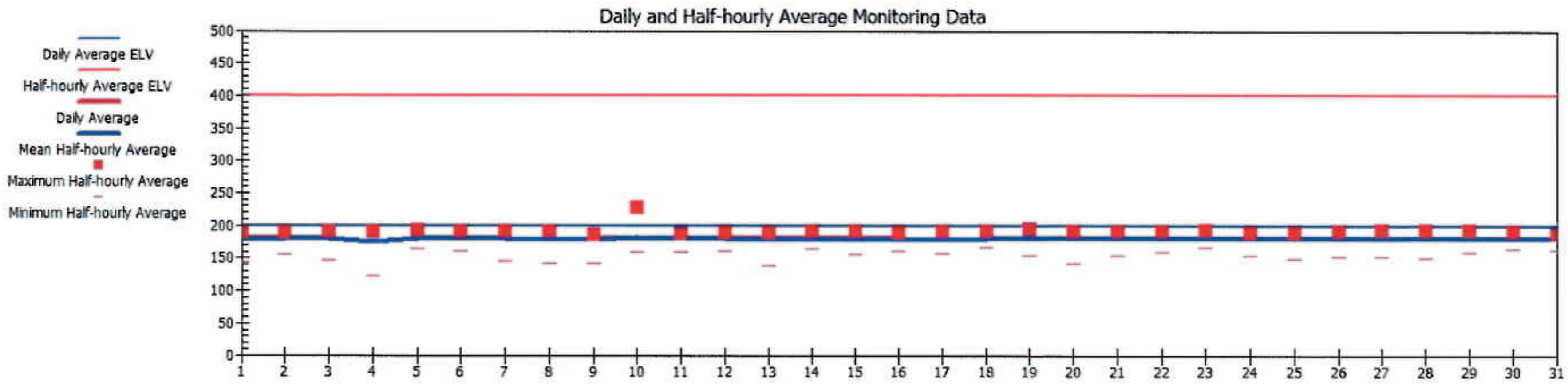
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	228	Maximum Half-hourly average	189	189	190	190	193	191	191	191	185	228	188	189	188	191	190	189	191	190	195	191	191	190	192	190	189	191	192	193	193	190	187
	Monthly mean	180	Mean Half-hourly average	179	179	180	175	179	180	180	179	179	183	180	180	179	180	179	180	179	180	180	180	180	180	180	179	179	180	180	180	180	180	180
	Monthly minimum	122	Minimum Half-hourly average	144	156	147	122	165	161	145	141	143	159	160	162	138	164	155	160	157	167	154	142	155	160	166	155	149	153	152	151	159	165	162
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	183	Daily average	179	179	180	175	179	180	180	179	179	183	180	180	179	180	179	180	179	180	180	180	180	180	180	179	179	180	180	180	180	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..........28/4/16..........................

(Authorised to sign as a representative of the Operator)

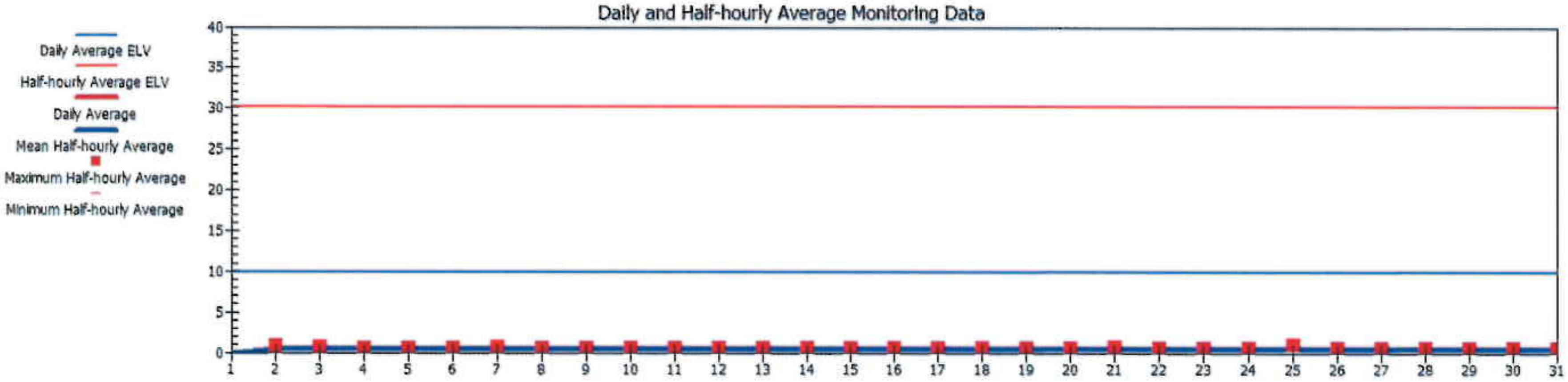
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	1	Maximum Half-hourly average	N/A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly mean	1	Mean Half-hourly average	N/A	1	1	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0	0	0	1	1
	Monthly minimum	0	Minimum Half-hourly average	N/A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	N/A	1	1	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0	0	0	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date......28/4/16..........

(Authorised to sign as a representative of the Operator)

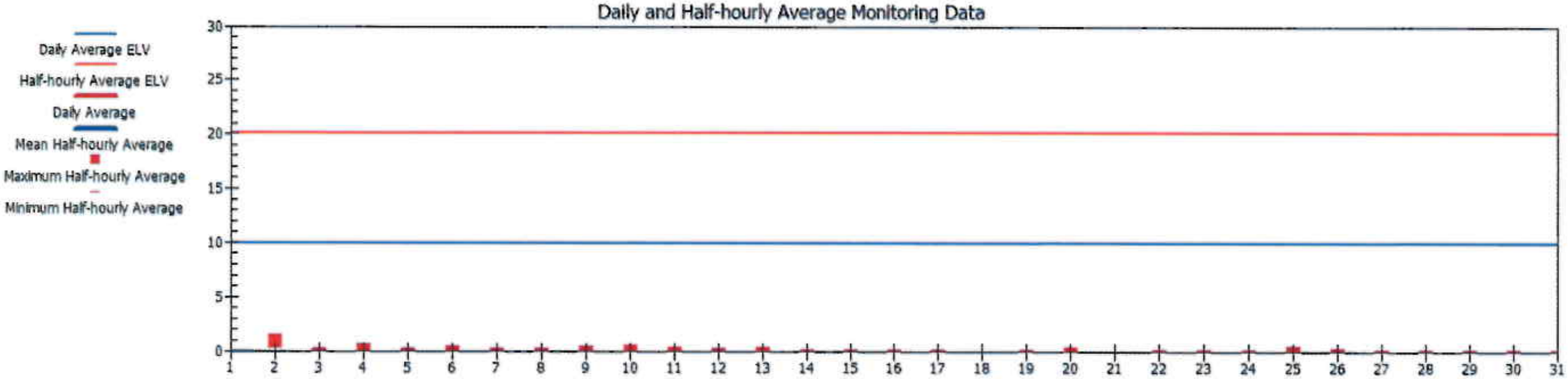
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	N/A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date 28/4/16

(Authorised to sign as a representative of the Operator)

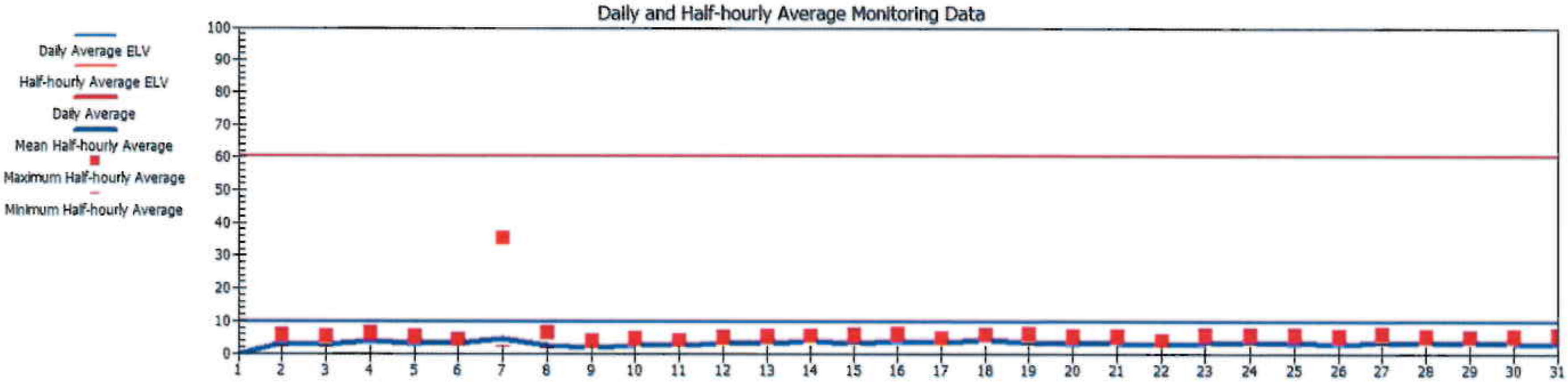
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	35	Maximum Half-hourly average	N/A	5	5	6	5	4	35	6	4	4	4	5	5	5	6	6	4	6	6	5	5	4	5	5	5	5	6	5	5	5	5
	Monthly mean	3	Mean Half-hourly average	N/A	3	3	4	3	3	5	3	2	3	3	3	3	4	3	4	4	4	4	3	3	3	3	3	4	3	3	3	4	3	3
	Monthly minimum	2	Minimum Half-hourly average	N/A	2	2	3	3	3	2	2	2	2	2	3	3	4	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	5	Daily average	N/A	3	3	4	3	3	5	3	2	3	3	3	3	4	3	4	4	4	4	3	3	3	3	3	4	3	3	3	4	3	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date......28/4/16......................

(Authorised to sign as a representative of the Operator)

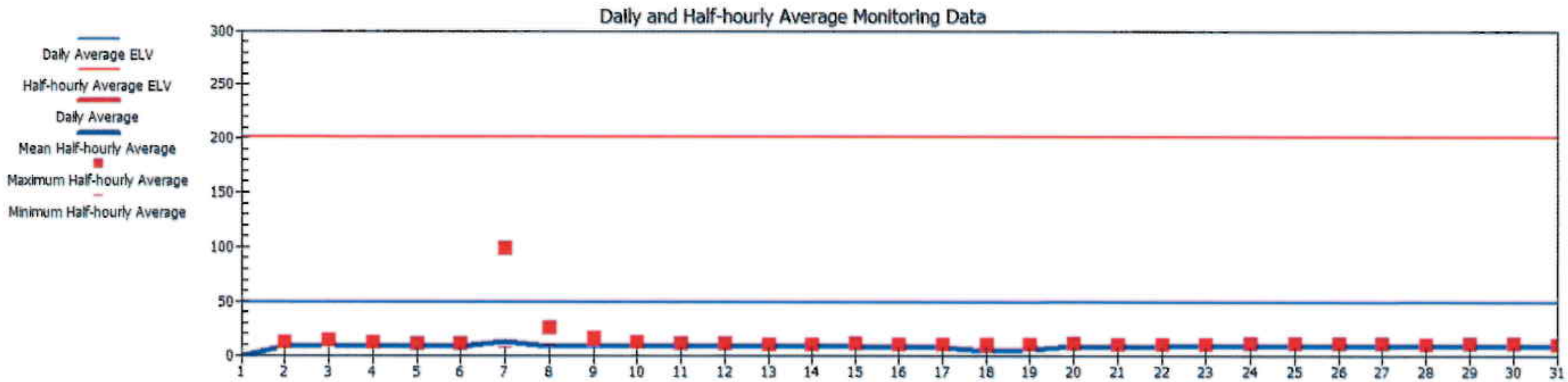
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	97	Maximum Half-hourly average	N/A	11	13	11	10	10	97	24	16	11	10	10	9	9	9	9	9	9	9	10	9	9	9	10	10	10	10	9	9	10	9
	Monthly mean	9	Mean Half-hourly average	N/A	9	9	9	8	9	13	9	9	9	9	9	9	9	8	8	8	5	6	8	8	9	9	9	9	9	9	8	9	9	9
	Monthly minimum	3	Minimum Half-hourly average	N/A	8	8	8	8	8	7	9	9	9	9	8	8	8	8	8	6	3	4	8	8	8	8	8	8	8	8	8	9	8	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	13	Daily average	N/A	9	9	9	8	9	13	9	9	9	9	9	9	9	8	8	8	5	6	8	8	9	9	9	9	9	9	8	9	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date.........28/4/16.........................

(Authorised to sign as a representative of the Operator)

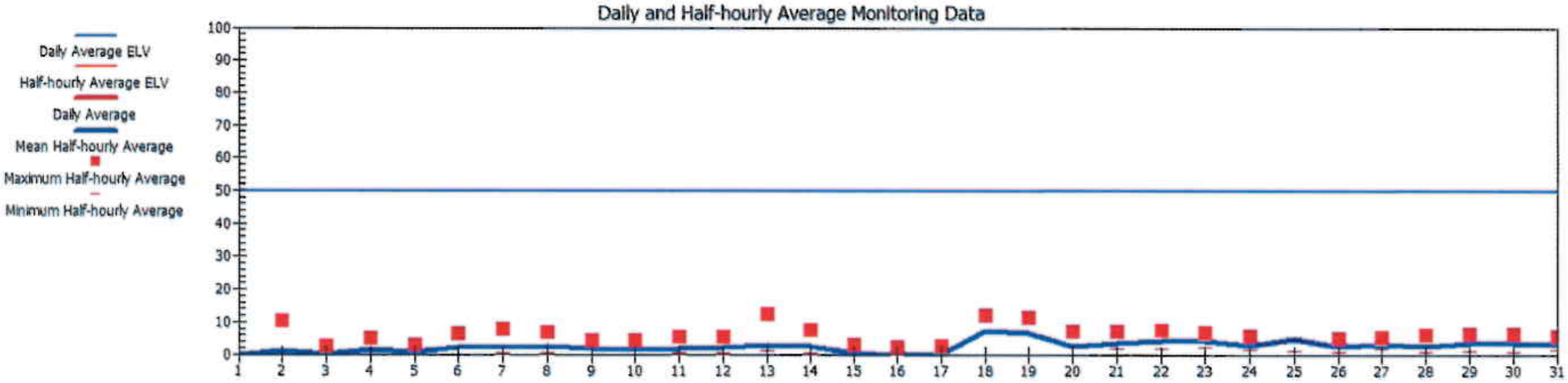
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	123	Maximum Half-hourly average	N/A	10	2	5	3	6	7	6	4	4	5	5	12	7	3	2	2	12	11	7	7	7	7	5	123	5	5	6	6	6	5
	Monthly mean	3	Mean Half-hourly average	N/A	1	0	2	1	2	2	3	2	2	2	2	3	3	1	0	0	7	7	3	4	4	4	3	5	3	3	3	4	4	3
	Monthly minimum	0	Minimum Half-hourly average	N/A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2	2	1	1	0	2	0	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	1	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	N/A	1	0	2	1	2	2	3	2	2	2	2	3	3	1	0	0	7	7	3	4	4	4	3	5	3	3	3	4	4	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date.......28/4/16.......

(Authorised to sign as a representative of the Operator)

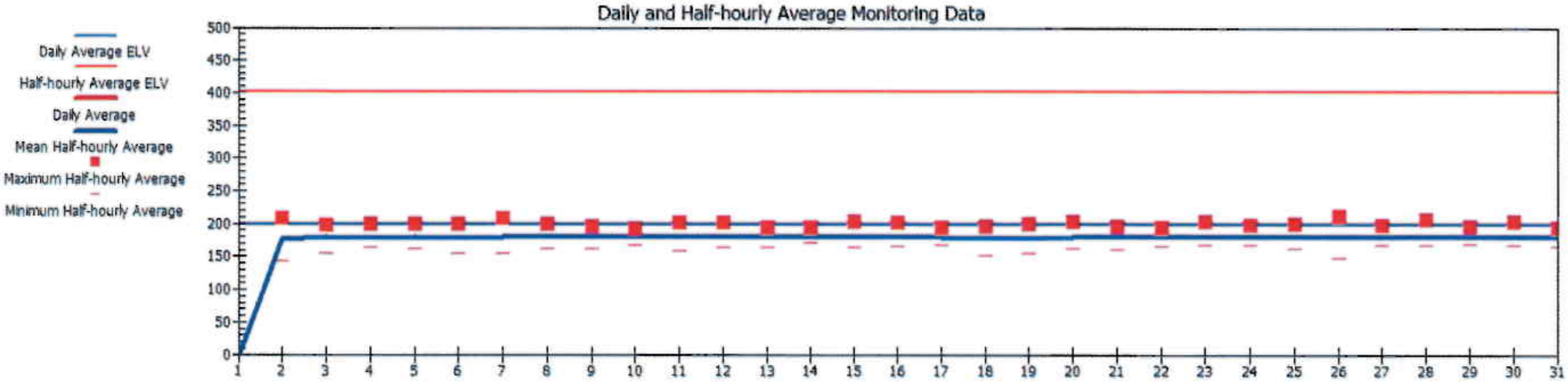
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of January 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	209	Maximum Half-hourly average	N/A	206	196	197	197	198	207	198	195	191	199	199	192	193	201	200	193	194	197	200	195	193	201	195	198	209	196	204	195	201	193
	Monthly mean	180	Mean Half-hourly average	N/A	176	180	179	181	179	181	180	180	180	180	180	180	180	180	180	180	179	179	181	180	180	180	180	180	180	180	180	180	180	180
	Monthly minimum	141	Minimum Half-hourly average	N/A	141	154	163	160	155	154	161	162	166	158	163	162	170	162	164	166	151	154	162	159	164	166	167	161	147	166	167	167	167	165
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	N/A	176	180	179	181	179	181	180	180	180	180	180	180	180	180	180	180	179	179	181	180	180	180	180	180	180	180	180	180	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date......28/4/16......

(Authorised to sign as a representative of the Operator)

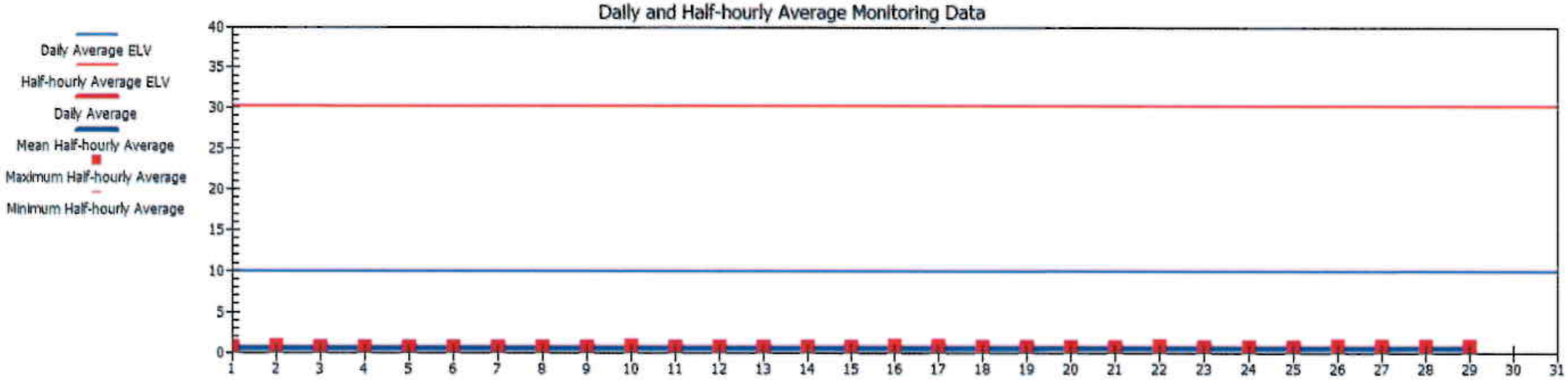
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Monthly mean	1	Mean Half-hourly average	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1		
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	1	Daily average	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed.. Date......28/4/16...........................

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

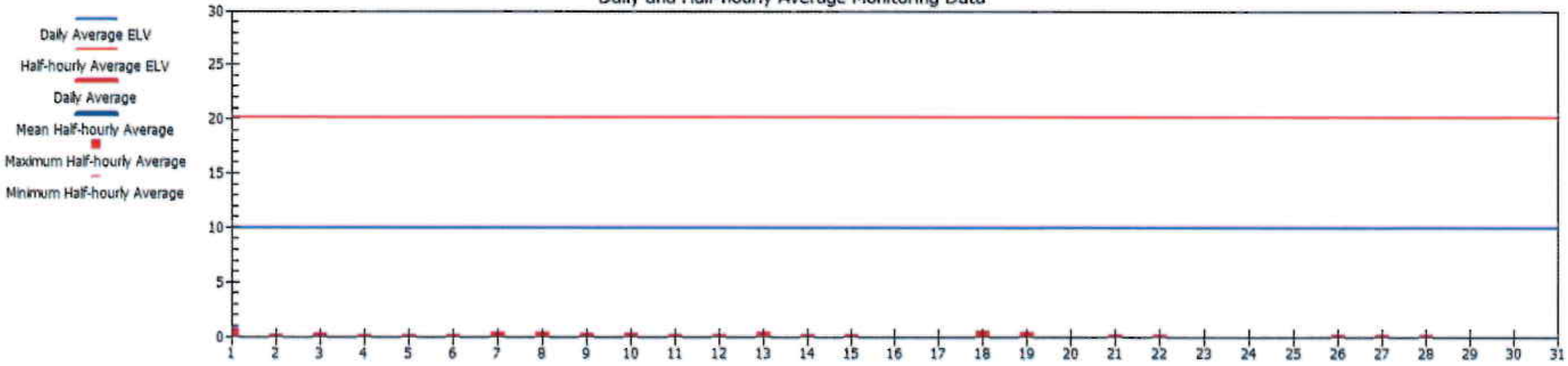
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of February 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20		
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed..

Date......28/4/16......

(Authorised to sign as a representative of the Operator)

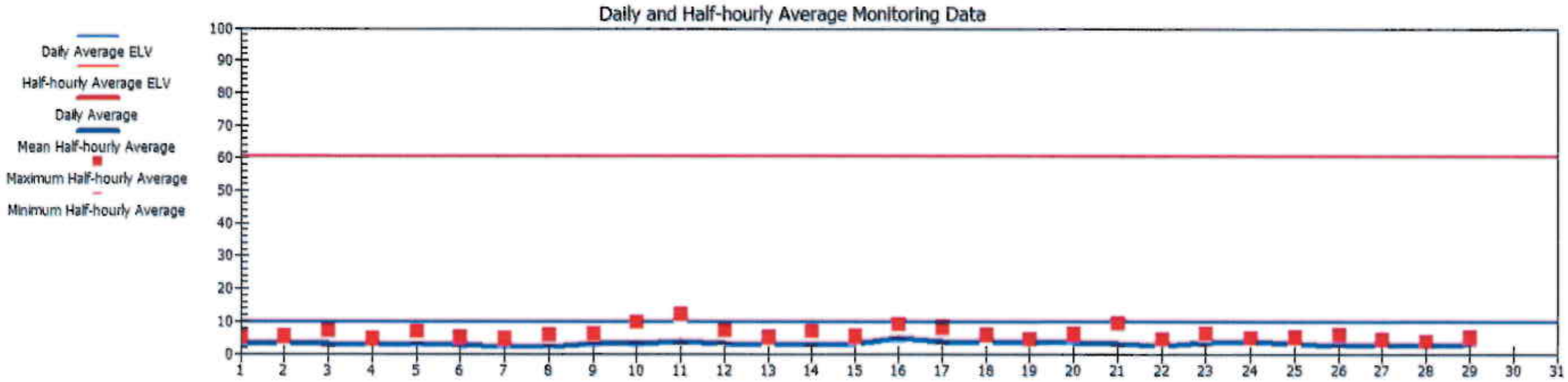
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
	Monthly maximum	12	Maximum Half-hourly average	5	5	7	4	7	5	4	5	6	9	12	7	5	6	5	9	8	5	4	6	9	4	6	4	5	5	4	3	5		
	Monthly mean	3	Mean Half-hourly average	4	3	3	3	3	3	2	2	3	3	4	3	3	3	3	5	4	4	4	4	3	3	4	4	3	3	2	2	3		
	Monthly minimum	2	Minimum Half-hourly average	3	3	2	2	3	2	2	2	3	2	3	3	2	2	3	4	3	3	3	3	2	2	2	3	3	2	2	2	2		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
	Monthly maximum	5	Daily average	4	3	3	3	3	3	2	2	3	3	4	3	3	3	3	5	4	4	4	4	3	3	4	4	3	3	2	2	3		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed.. Date.........28/4/16.........................

(Authorised to sign as a representative of the Operator)

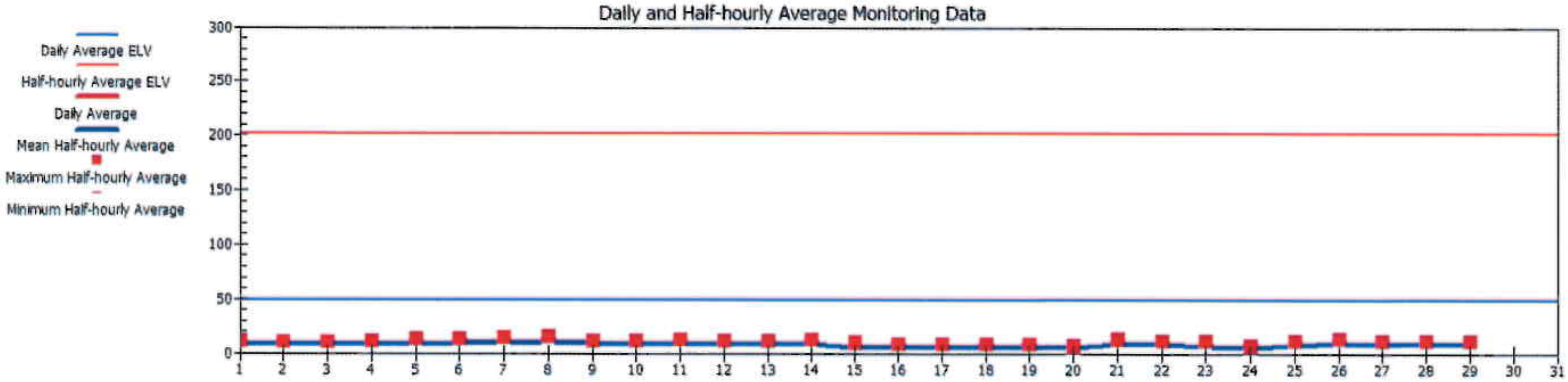
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
	Monthly maximum	14	Maximum Half-hourly average	10	9	9	9	12	12	13	14	10	10	11	10	10	11	9	7	7	7	7	6	12	10	10	6	10	12	10	10	10		
	Monthly mean	8	Mean Half-hourly average	9	9	9	9	9	9	10	10	10	9	9	9	9	9	6	6	6	6	6	6	8	9	7	6	8	9	9	9	9		
	Monthly minimum	3	Minimum Half-hourly average	9	8	8	6	8	9	9	9	9	9	9	9	9	9	3	5	5	4	4	5	5	9	5	5	5	9	9	9	7		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
	Monthly maximum	10	Daily average	9	9	9	9	9	9	10	10	10	9	9	9	9	9	6	6	6	6	6	6	8	9	7	6	8	9	9	9	9		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed..

Date.......28/4/16.................

(Authorised to sign as a representative of the Operator)

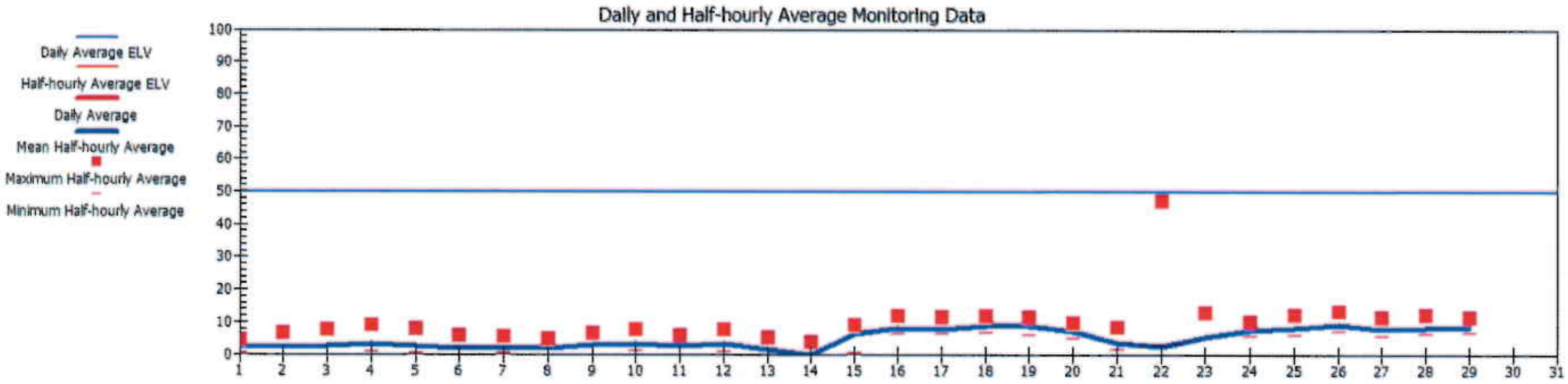
Permit Reference Number : SP3239FU

Installation: Knottingley

Operator : Ferrybridge MFE Limited

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	Monthly maximum	47	Maximum Half-hourly average	4	6	7	8	8	5	5	4	6	7	5	7	5	3	8	11	11	11	11	9	8	47	13	10	12	13	11	12	11		
	Monthly mean	5	Mean Half-hourly average	2	2	3	3	3	2	2	2	3	3	2	3	1	0	6	8	8	9	9	7	4	3	5	8	8	9	8	8	8		
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	6	6	6	6	5	1	0	0	5	6	7	5	6	6		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
	Monthly maximum	9	Daily average	2	2	3	3	3	2	2	2	3	3	2	3	1	0	6	8	8	9	9	7	4	3	5	8	8	9	8	8	8		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed..

(Authorised to sign as a representative of the Operator)

Date.......28/4/16.......

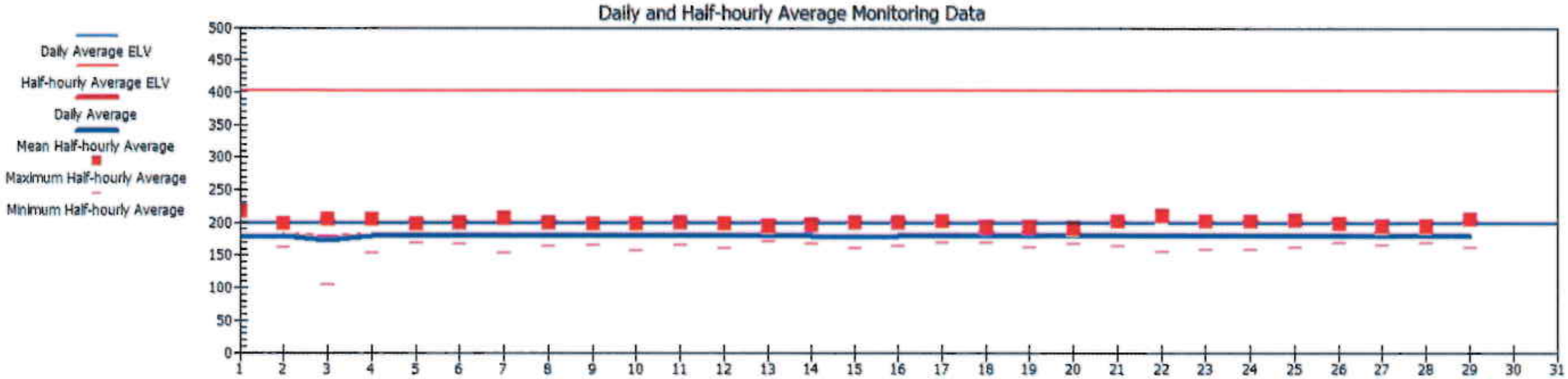
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of February 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400		
	Monthly maximum	215	Maximum Half-hourly average	215	196	204	203	197	197	205	197	196	196	198	196	192	194	198	197	200	191	191	188	200	209	200	199	200	196	192	192	203		
	Monthly mean	180	Mean Half-hourly average	179	180	174	180	180	180	180	180	180	180	180	180	180	180	179	180	180	180	180	180	180	180	180	180	180	180	180	180	180		
	Monthly minimum	104	Minimum Half-hourly average	157	161	104	153	168	167	152	162	164	157	164	160	169	166	159	164	168	168	160	167	162	154	158	157	161	167	164	168	162		
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
	Monthly maximum	180	Daily average	179	180	174	180	180	180	180	180	180	180	180	180	180	180	179	180	180	180	180	180	180	180	180	180	180	180	180	180	180		
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		

Signed..

Date.........28/4/16.........

(Authorised to sign as a representative of the Operator)

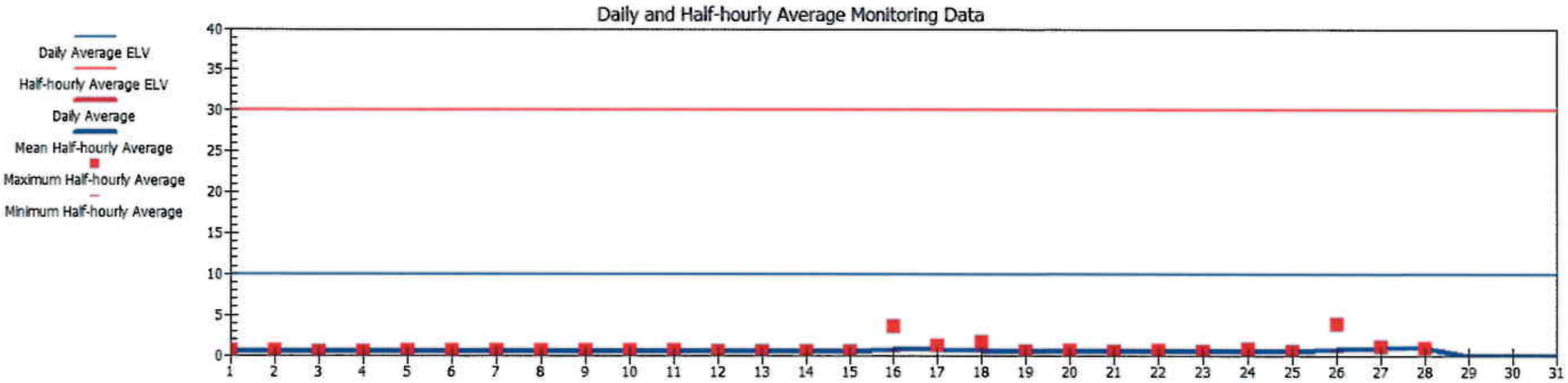
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	4	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	2	1	1	1	1	1	1	1	4	1	1	Off	Off	Off
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off
	Monthly minimum	0	Minimum Half-hourly average	1	1	0	0	1	1	0	1	1	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	1	1	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date......28/4/16..............................

(Authorised to sign as a representative of the Operator)

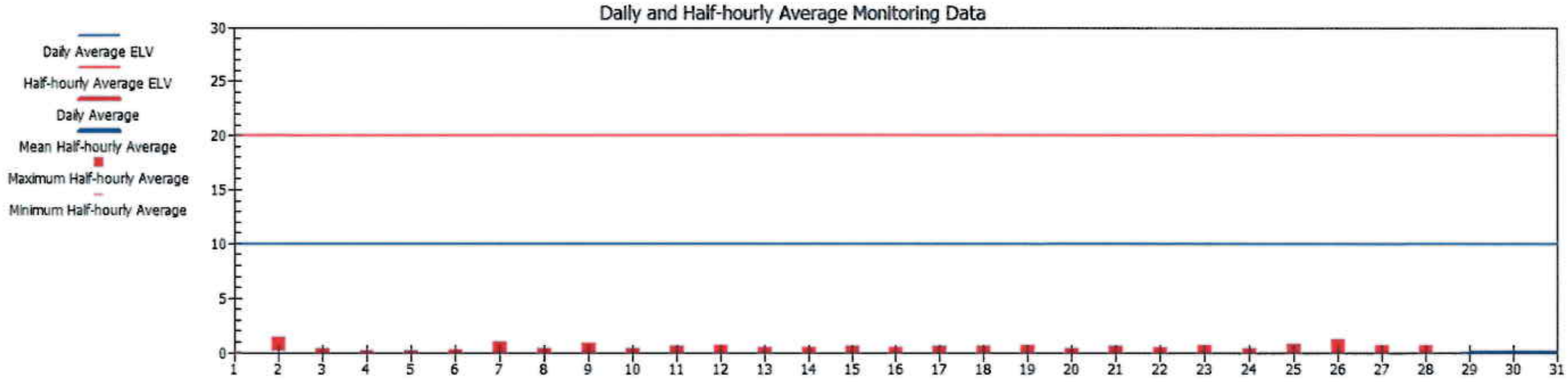
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Off	Off	Off
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..........28/4/16...........................

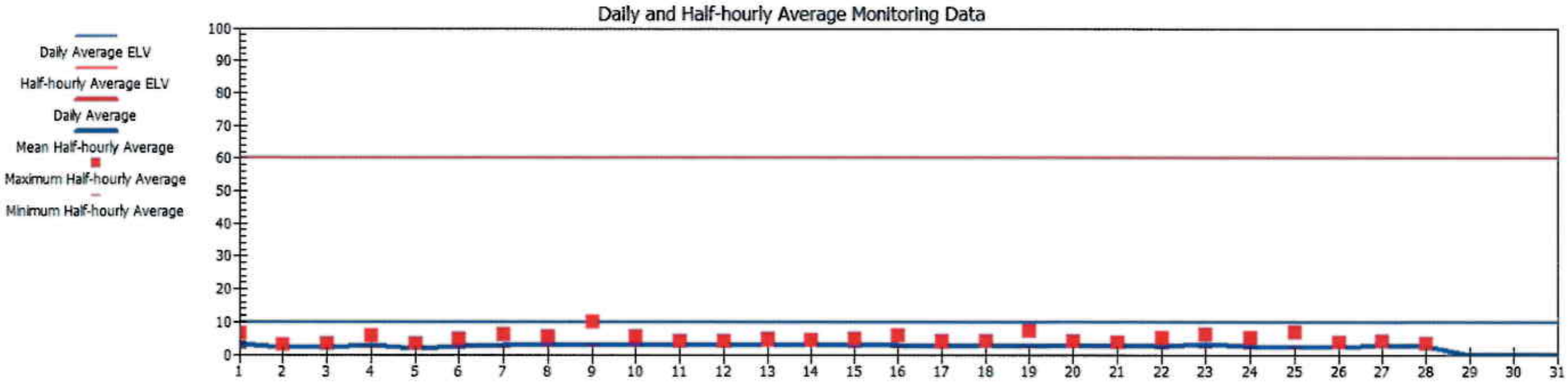
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	10	Maximum Half-hourly average	6	3	3	6	3	5	6	5	10	5	4	4	5	4	5	6	4	4	7	4	4	5	6	5	7	4	4	3	Off	Off	Off
	Monthly mean	3	Mean Half-hourly average	3	2	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	Off	Off	Off
	Monthly minimum	2	Minimum Half-hourly average	3	2	2	2	2	2	2	3	3	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	3	Daily average	3	2	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date......28/4/16......

(Authorised to sign as a representative of the Operator)

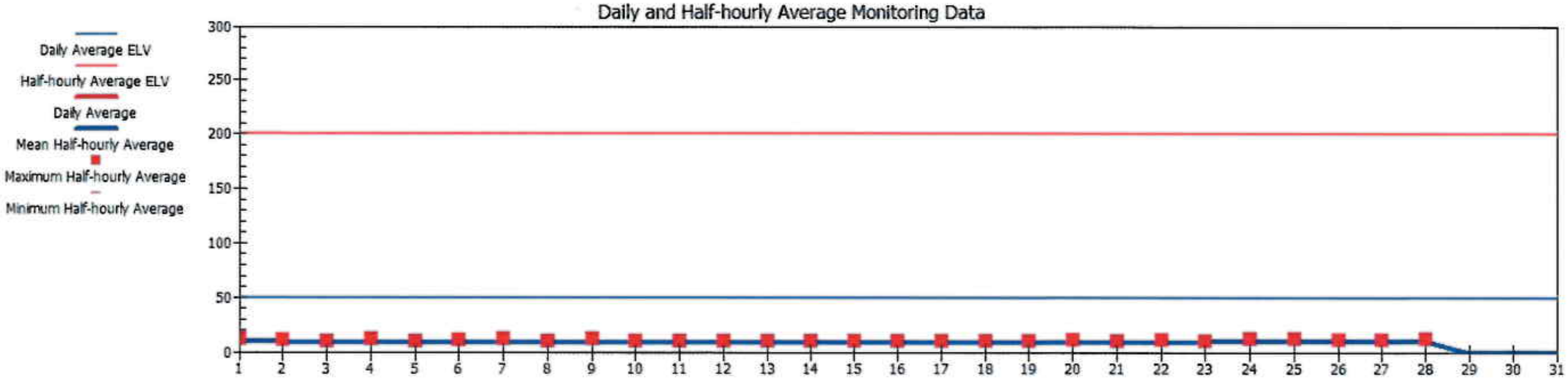
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	13	Maximum Half-hourly average	12	11	10	12	10	11	12	10	12	10	10	10	10	10	10	10	10	9	10	11	10	11	10	12	12	11	11	13	Off	Off	Off
	Monthly mean	9	Mean Half-hourly average	10	10	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	9	9	10	9	9	9	10	10	10	10	10	Off	Off	Off
	Monthly minimum	8	Minimum Half-hourly average	8	9	9	9	9	9	9	9	9	8	8	8	8	8	9	8	8	9	9	9	9	9	9	9	9	9	9	9	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	10	Daily average	10	10	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	9	9	10	9	9	9	10	10	10	10	10	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed........[signature]........ Date........28/4/16........

(Authorised to sign as a representative of the Operator)

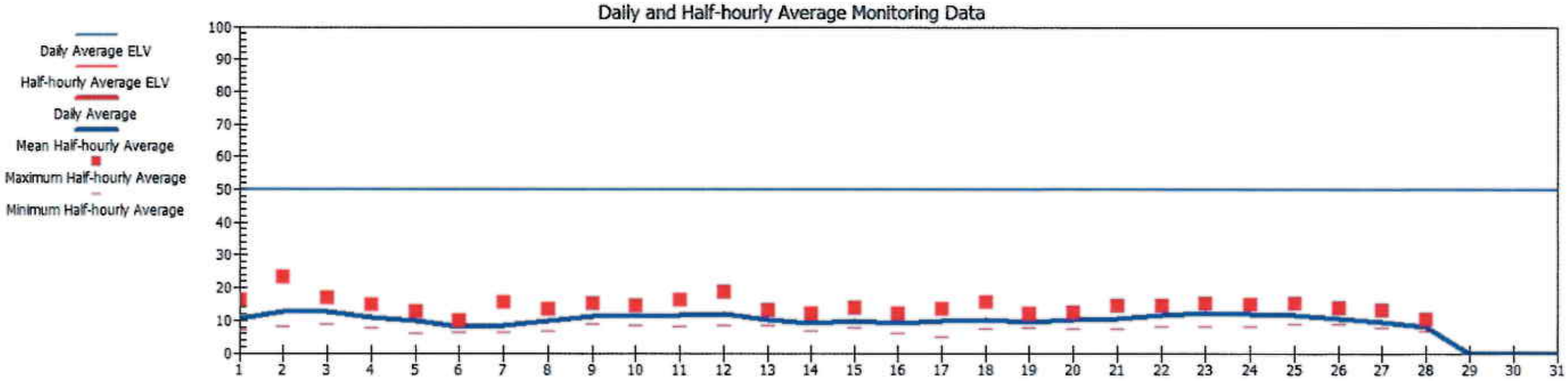
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	23	Maximum Half-hourly average	16	23	17	15	13	10	15	14	15	15	16	19	13	12	14	12	13	16	12	12	15	14	15	15	15	14	13	10	Off	Off	Off
	Monthly mean	11	Mean Half-hourly average	10	13	13	11	10	8	9	10	11	11	12	12	10	9	10	9	10	10	10	10	11	12	12	12	12	11	9	8	Off	Off	Off
	Monthly minimum	5	Minimum Half-hourly average	7	8	9	8	6	6	6	7	9	9	8	8	9	7	8	6	5	8	8	7	8	8	8	8	9	9	8	7	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	13	Daily average	10	13	13	11	10	8	9	10	11	11	12	12	10	9	10	9	10	10	10	10	11	12	12	12	12	11	9	8	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date.......28/4/16..................

(Authorised to sign as a representative of the Operator)

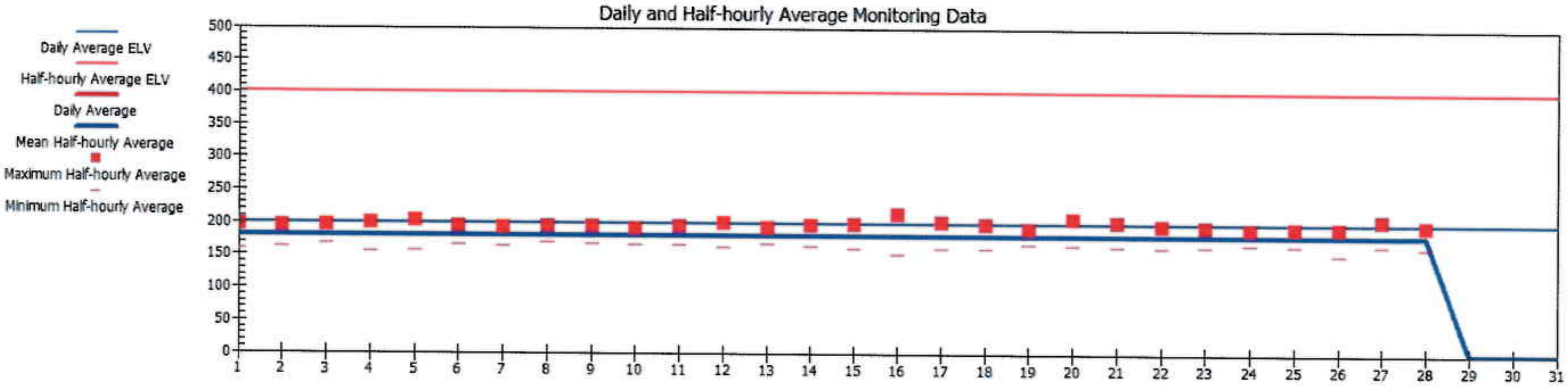
Permit Reference Number : SP3239FU

Installation: Knottingley

Operator : Ferrybridge MFE Limited

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of March 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	213	Maximum Half-hourly average	195	194	195	199	202	194	192	195	194	191	195	199	193	197	198	213	202	197	191	206	202	196	194	191	192	192	204	196	Off	Off	Off
	Monthly mean	180	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	179	Off	Off	Off
	Monthly minimum	152	Minimum Half-hourly average	160	164	168	155	158	166	164	169	167	167	166	164	168	166	162	152	160	160	168	166	165	163	165	167	167	153	167	164	Off	Off	Off
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	180	Daily average	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	179	Off	Off	Off
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date.........28/4/16.........

(Authorised to sign as a representative of the Operator)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Air 7 / 30/11/2012

Reporting of periodically monitored emissions to air for the period from Jan 2016 to March 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	2 mg/m³	Periodic over minimum 1-hour period	<0.04	BS ISO 15713	27/01/2016 10:55-11:55	0.003
A2				<0.04		27/01/2016 12:16-13:16	0.003
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	0.0007	BS EN 14385	27/01/2016 80 mins between 15:29 and 16:54	0.0001
A2				<0.0006		28/01/2016 80 mins between 10:09 and 11:35	0.0001
A1	Mercury and its compounds	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	0.001	BS EN 13211	as Cadmium	0.0002
A2				0.001		as Cadmium	0.0002
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m³	over minimum 30 minute, maximum 8 hour period	0.02	BS EN 14385	as Cadmium	0.003
A2				0.04		as Cadmium	0.006

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Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / Furans (I-TEQ)	0.1 ng/m³	over minimum 6 hour period, maximum 8 hour period	0.005 ng/m³	BS EN 1948 Parts 1, 2 and 3	26/01/2016 360 mins between 11:47 and 17:53	0.001
A2				0.011 ng/m³		26/01/2016 360 mins between 09:04 and 15:10	0.003
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00029 ng/m³	BS EN/TS 1948-4	as above	0.00007
A2				0.000436 ng/m³		as above	0.000099
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00001 ng/m³	BS EN/TS 1948-4	as above	0.000003
A2				0.000023 ng/m³		as above	0.000005
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00087 ng/m³	BS EN/TS 1948-4	as above	0.0002
A2				0.009 ng/m³		as above	0.000385
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.004 ng/m³	BS EN/TS 1948-4	as above	0.001
A2				0.011 ng/m³		as above	0.002

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.005 ng/m³	BS EN/TS 1948-4	as above	0.001
A2				0.011 ng/m³		as above	0.003
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.011 ng/m³	BS EN/TS 1948-4	as above	0.002
A2				0.019 ng/m³		as above	0.004
	Poly-cyclic aromatic hydrocarbons (PAHs)		over minimum 6 hour period, maximum 8 hour period				
A1	Total	No limit applies		*1.6 µg/m³*	BS ISO 11338-1 and BS ISO 1138-2	27/01/2016 360 mins between 09:05 and 15:10 for all components	*0.35*
A2				*1.4 µg/m³*		27/01/2016 360 mins between 08:18 and 14:22 for all components	*0.32*
A1	Anthanthrene	No limit applies		*<0.01*			*0.002*
A2				*<0.01*			*0.002*
A1	Benzo{a}anthracene	No limit applies		*<0.01*			*0.002*
A2				*<0.01*			*0.002*
A1	Benzo[b]fluoranthene	No limit applies		*0.02*			*0.005*

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2				<0.01			0.002
A1	Benzo[k]fluoranthene	No limit applies		<0.01			0.002
A2				<0.01			0.002
A1	Benzo[b]naph(2,1-d}thiophene	No limit applies		<0.01			0.002
A2				<0.01			0.002
A1	Benzo[c]phenanthrene	No limit applies		<0.01			0.002
A2				<0.01			0.002
A1	Benzo[ghi]perylene	No limit applies		0.04			0.010
A2				0.01			0.002
A1	Benzo[a]pyrene	No limit applies		<0.01			0.002
A2				<0.01			0.002
A1	Cholanthrene	No limit applies		<0.01			0.002
A2				<0.01			0.002

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Chrysene	No limit applies		*0.02*			*0.005*
A2				*<0.01*			*0.002*
A1	Cyclopenta(c,d)pyrene	No limit applies		*<0.01*			*0.002*
A2				*<0.01*			*0.002*
A1	Dibenzo[ah]anthracene	No limit applies		*<0.01*			*0.002*
A2				*<0.01*			*0.002*
A1	Dibenzo[a,i]pyrene	No limit applies		*<0.01*			*0.002*
A2				*<0.01*			*0.002*
A1	Fluoranthene	No limit applies		*0.08*			*0.017*
A2				*0.07*			*0.016*
A1	Indo[1,2,3-cd]pyrene	No limit applies		*<0.01*			*0.002*
A2				*0.01*			*0.002*

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Naphthalen	No limt applies		1.29			0.29
A2				1.2			0.32

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum
[2] The date and time of the sample that produced the result is given.
[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .... Date 28/4/16
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Performance 1 / 30/11/2012

Reporting of Waste Disposal and Recovery for the year 2016 (to end Q1)

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residues	D9	6151.50	-
IBA which is classified as hazardous waste	D9	17.72	-
Total hazardous waste		6169.22	-
2) Non-Hazardous Wastes			
IBA	R5	34317.57	34317.57
Other non-hazardous wastes	R4	55.22	55.22
Total non-hazardous waste		34372.79	34372.79
TOTAL WASTE	-	40542.01	34372.79

Operator's comments :

D9 – acid neutralisation followed by non-hazardous landfill, R5 – processed and reused, R4 – metals recovered

Boiler ash was removed directly from the boiler through cleaning and was therefore not included in standard IBA and was disposed of as APCr processing.

Signed .... Date 28/4/16.....
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of Water and Other Raw Material Usage for the year 2016 (to end Q1)

Raw Material	Usage	Unit	Specific Usage	Unit
Mains water	4357	m^3	0.030	m^3/t
Total water usage	33044	m^3	0.226	m^3/t
Ammonia	165	Tonnes	1.129	kg/t
Activated carbon	54	Tonnes	0.370	kg/t
Lime/hydrated lime or sodium bicarbonate	3396	Tonnes	23.24	kg/t

Operator's comments :

Fuel burn = 146108 tonnes

Signed .... Date..28/4//16.......
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of other performance indicators for the period 2016 (to end Q1)

Parameter	Result
Number of periods of abnormal operation	0
Cumulative hours of abnormal operation for this calendar year	0

Operator's comments :

Signed .... Date 28/4/16
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number :Energy 1 / 30/11/2012

Reporting of Energy Usage/Export for the year 2016 (to end Q1)

Energy Source	Energy Usage	Unit	Contained Energy (MWh)
Electricity Produced	150591	MWh	
Electricity Imported		MWh	
Electricity Exported	140409	MWh	
Gas Oil	182	tonnes	
Steam/hot water Exported	0	MWh	

Operator's comments :

Signed .... Date 28/4/16

(authorised to sign as representative of Ferrybridge MFE Limited)

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/01/2016 to 31/01/2015

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	0.88	0.87	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg / Humans	DIOXIN WHO-TEQ ng/kg Birds	DIOXIN WHO-TEQ ng/kg Fish
Bottom Ash	115	11.6	<1	<1	971	164	4184	1117	142	6.93	37.2	131	3928	12.1	12.4	23.4	13.4
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	632	212	0.8	5.0	1535	48.1	580	323	39.7	46.3	6.1	70.2	11450	637	651	1581	751
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed .... Date 28/4/16
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/02/2016 to 29/02/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	1.05	0.79	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg Humans	DIOXIN WHO-TEQ ng/kg Birds	DIOXIN WHO-TEQ ng/kg Fish
Bottom Ash	81.3	15.6	<1	<1	968	176	3362	1276	205	7.35	30.0	148	4026	9.34	9.69	20.0	10.7
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	494	202	<1	4.68	2330	57.7	698	268	50.7	33.0	11.0	87.8	11900	697	706	1765	816
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed .... Date 28/4/16 ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/03/2016 to 31/03/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	1.10	0.69	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans	Birds	Fish
Bottom Ash	82.9	14.5	<1	<1	738	132	2926	1173	178	5.48	36.3	172	3335	3.74	3.89	8.50	4.52
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	458	210	<1	4.07	2390	54.2	702	249	45.8	27.0	10.1	67.9	111200	450	456	1084	524
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed .... Date 28/4/16

(authorised to sign as representative of Ferrybridge MFE Limited)

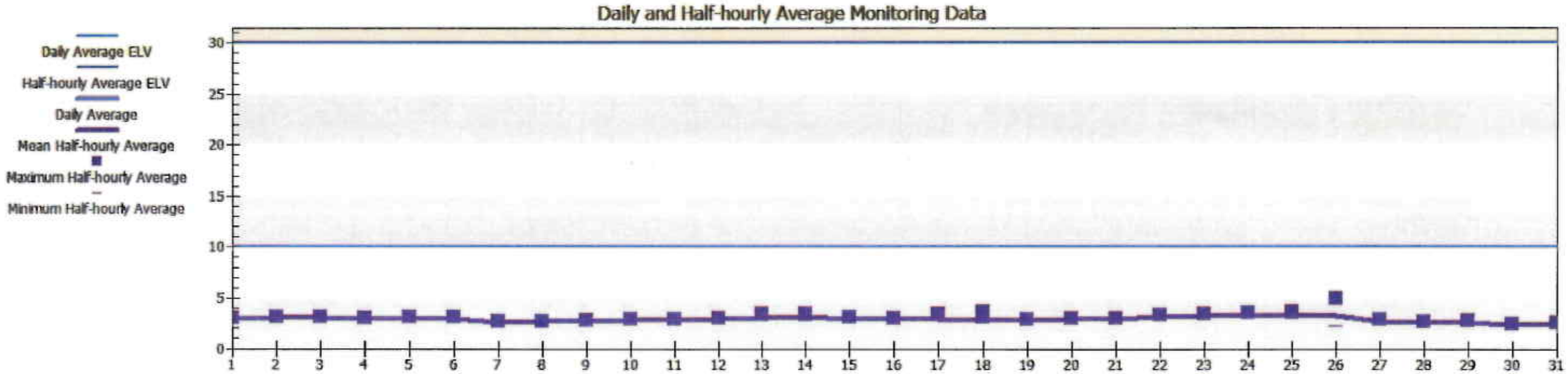
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	5	Maximum Half-hourly average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	4	4	5	3	3	3	3	3
Half-hourly	Monthly mean	3	Mean Half-hourly average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2
average	Monthly minimum	2	Minimum Half-hourly average	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	3	Daily average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

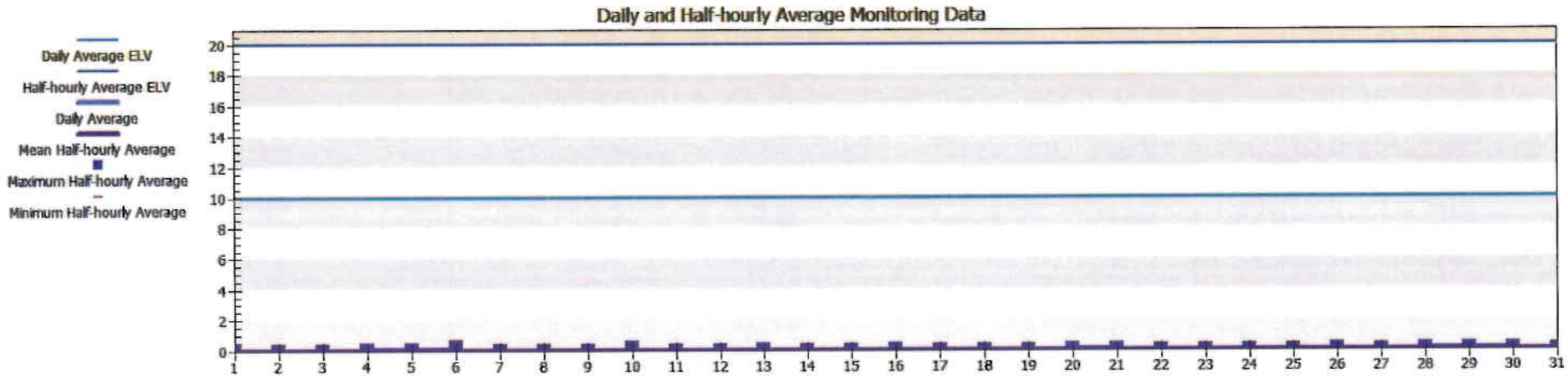
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

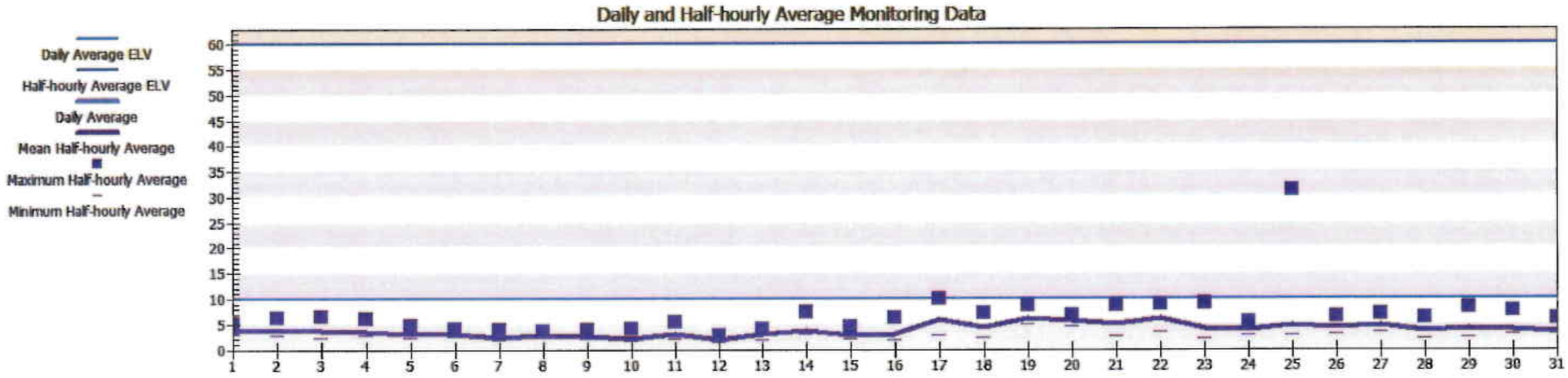
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Half-hourly average	Monthly maximum	31	Maximum Half-hourly average	5	6	6	6	5	4	4	4	4	4	5	3	4	7	4	6	10	7	9	7	9	9	9	5	31	6	7	6	8	8	6
	Monthly mean	4	Mean Half-hourly average	4	4	4	3	3	3	2	3	3	2	3	2	3	4	3	3	6	4	6	6	5	6	4	4	5	4	5	4	4	4	3
	Monthly minimum	1	Minimum Half-hourly average	3	3	2	3	2	2	2	2	2	2	2	1	2	3	2	2	3	2	5	4	3	3	2	3	3	3	3	2	2	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	6	Daily average	4	4	4	3	3	3	2	3	3	2	3	2	3	4	3	3	6	4	6	6	5	6	4	4	5	4	5	4	4	4	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

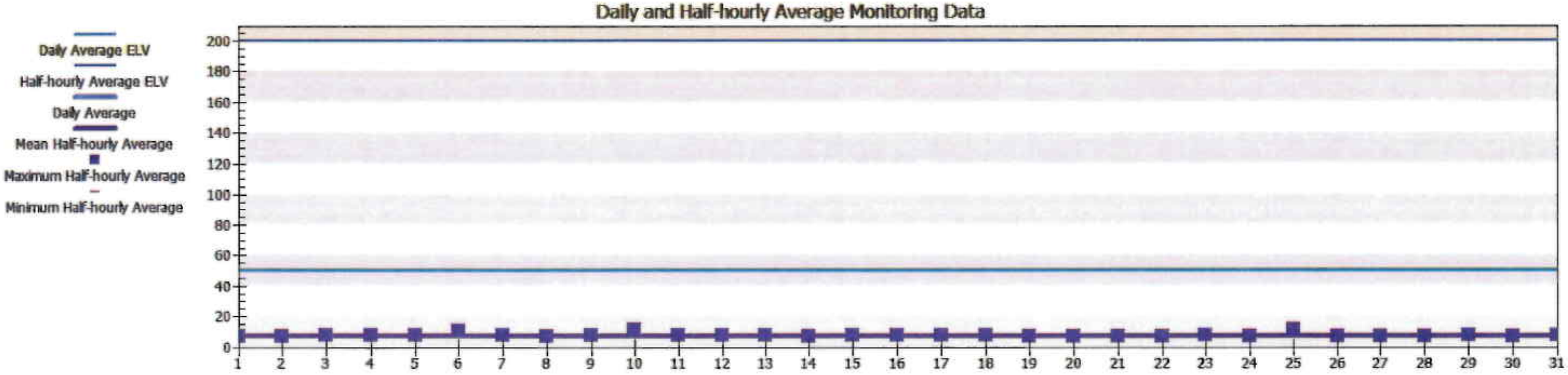
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	12	Maximum Half-hourly average	7	7	8	7	7	11	7	7	7	11	7	7	8	7	7	7	7	8	7	7	7	7	7	7	12	7	7	7	8	7	7
	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Monthly minimum	6	Minimum Half-hourly average	7	7	7	7	7	7	7	7	6	7	6	6	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	7	7	7	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

- 4 MAY 2017

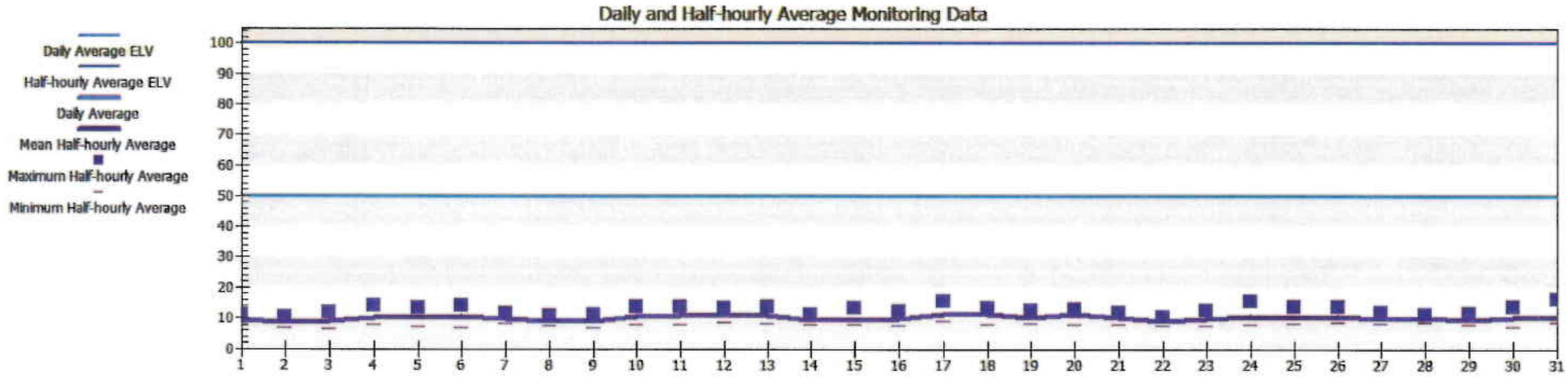
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	16	Maximum Half-hourly average	11	10	12	14	13	14	12	11	11	14	14	13	14	11	13	12	16	13	13	13	12	11	13	16	14	14	12	11	12	14	16
Half-hourly	Monthly mean	10	Mean Half-hourly average	9	9	9	10	10	10	10	9	9	10	11	11	11	9	9	10	11	11	10	11	10	9	10	10	10	10	10	10	9	10	11
average	Monthly minimum	6	Minimum Half-hourly average	8	7	6	8	7	7	8	7	7	8	8	8	8	8	8	7	9	8	8	8	8	8	8	8	8	9	8	9	8	7	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	11	Daily average	9	9	9	10	10	10	10	9	9	10	11	11	11	9	9	10	11	11	10	11	10	9	10	10	10	10	10	10	9	10	11
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

Permit Reference Number : SP3239FU

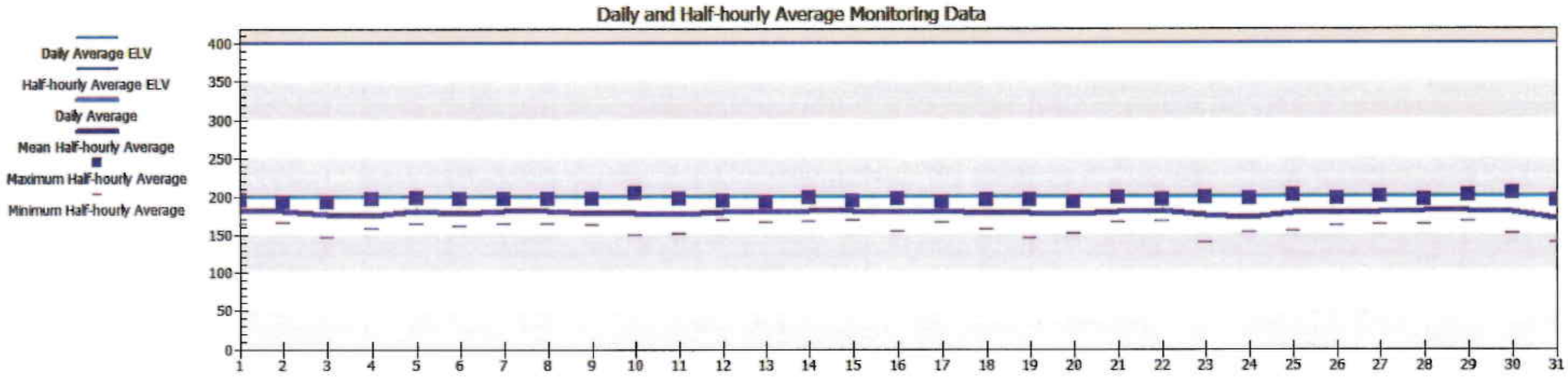
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of January 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	205	Maximum Half-hourly average	196	193	192	197	198	197	197	197	197	205	196	194	192	198	194	197	192	195	196	193	198	196	198	197	201	197	200	195	201	204	194
	Monthly mean	178	Mean Half-hourly average	180	181	176	175	181	179	181	180	178	178	176	180	179	181	180	179	180	178	178	176	180	181	174	172	178	177	179	180	180	179	171
	Monthly minimum	139	Minimum Half-hourly average	165	167	147	159	165	162	165	165	163	151	152	170	166	168	170	154	166	157	146	151	167	167	140	153	155	162	163	164	168	151	139
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	180	181	176	175	181	179	181	180	178	178	176	180	179	181	180	179	180	178	178	176	180	181	174	172	178	177	179	180	180	179	171
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

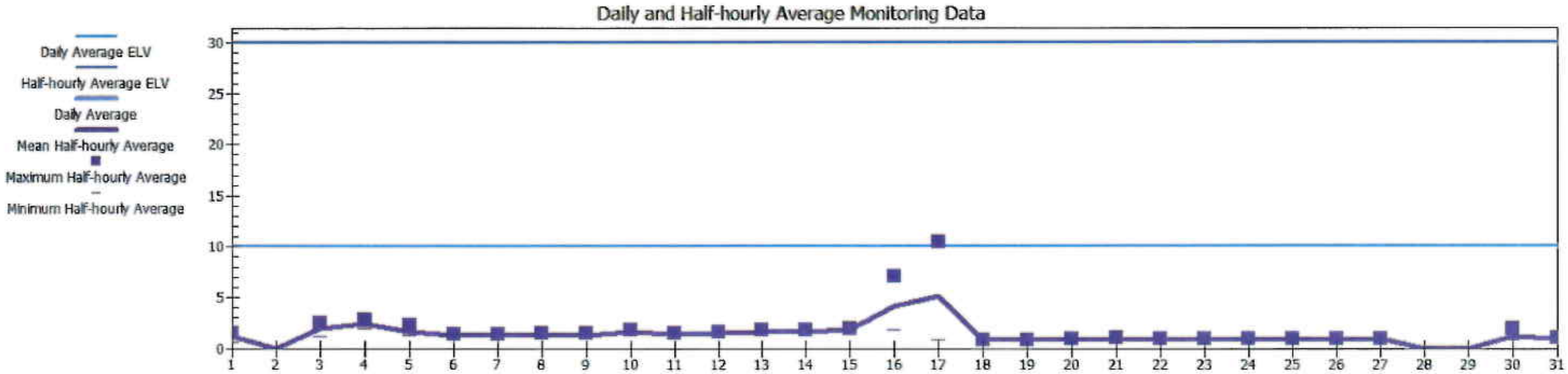
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	10	Maximum Half-hourly average	2	Off	2	3	2	1	1	2	1	2	1	2	2	2	2	7	10	1	1	1	1	1	1	1	1	1	1	Off	Off	2	1
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	Off	2	2	2	1	1	1	1	2	1	1	2	2	2	4	5	1	1	1	1	1	1	1	1	1	1	Off	Off	1	1
average	Monthly minimum	1	Minimum Half-hourly average	1	Off	1	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	Off	Off	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	5	Daily average	1	Off	2	2	2	1	1	1	1	2	1	1	2	2	2	4	5	1	1	1	1	1	1	1	1	1	1	Off	Off	1	1
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

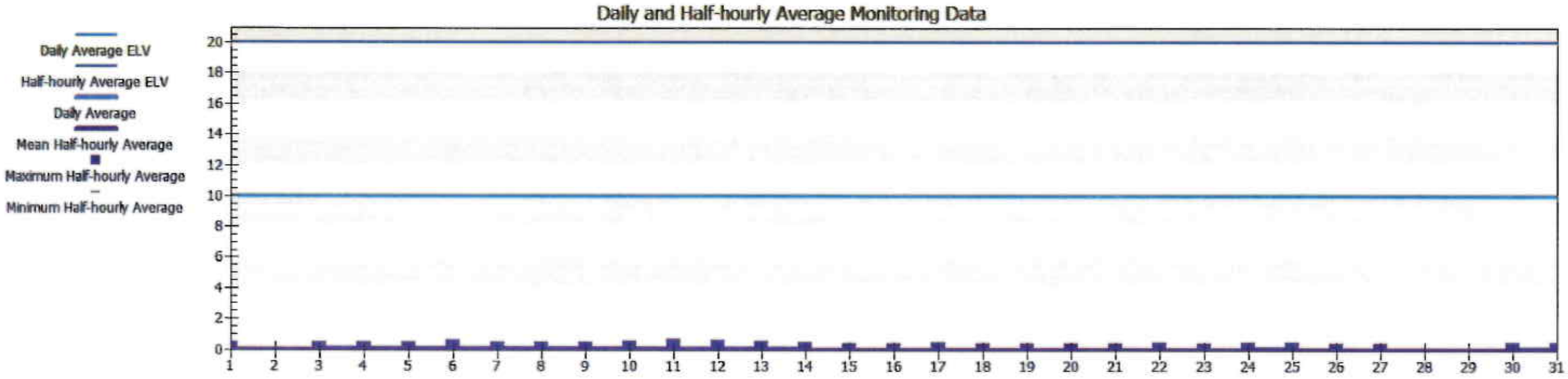
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
average	Monthly minimum	0	Minimum Half-hourly average	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	0	Daily average	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date...

(Authorised to sign as a representative of the Operator)

- 4 MAY 2017

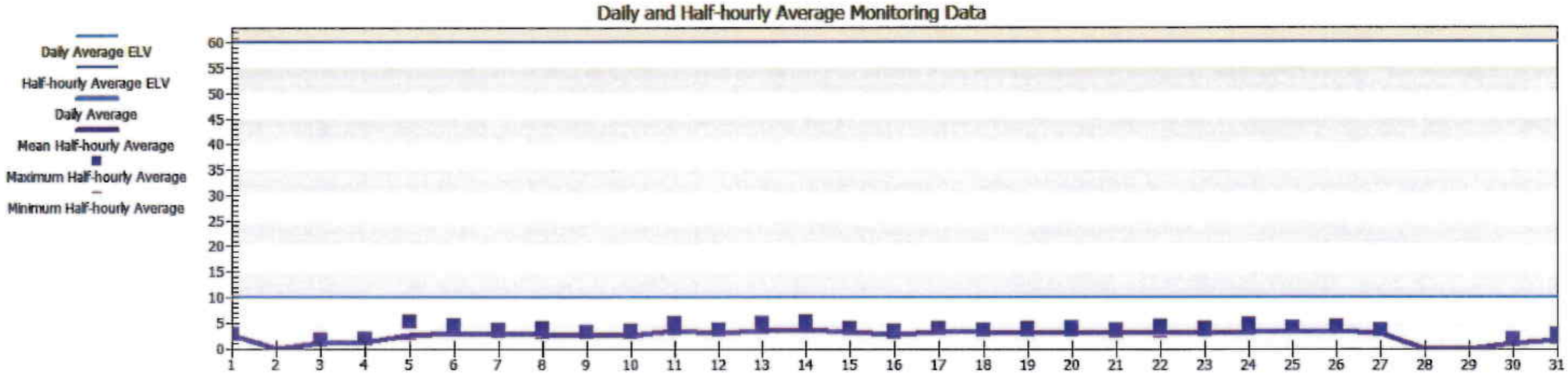
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	5	Maximum Half-hourly average	3	Off	2	2	5	4	4	4	3	3	5	4	5	5	4	3	4	4	4	4	4	4	4	5	4	4	4	Off	Off	2	3
	Monthly mean	3	Mean Half-hourly average	3	Off	1	1	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	Off	Off	1	2
	Monthly minimum	1	Minimum Half-hourly average	2	Off	1	1	2	3	2	2	2	2	3	3	3	3	3	2	3	3	3	3	2	2	2	3	3	3	3	Off	Off	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	4	Daily average	3	Off	1	1	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	Off	Off	1	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

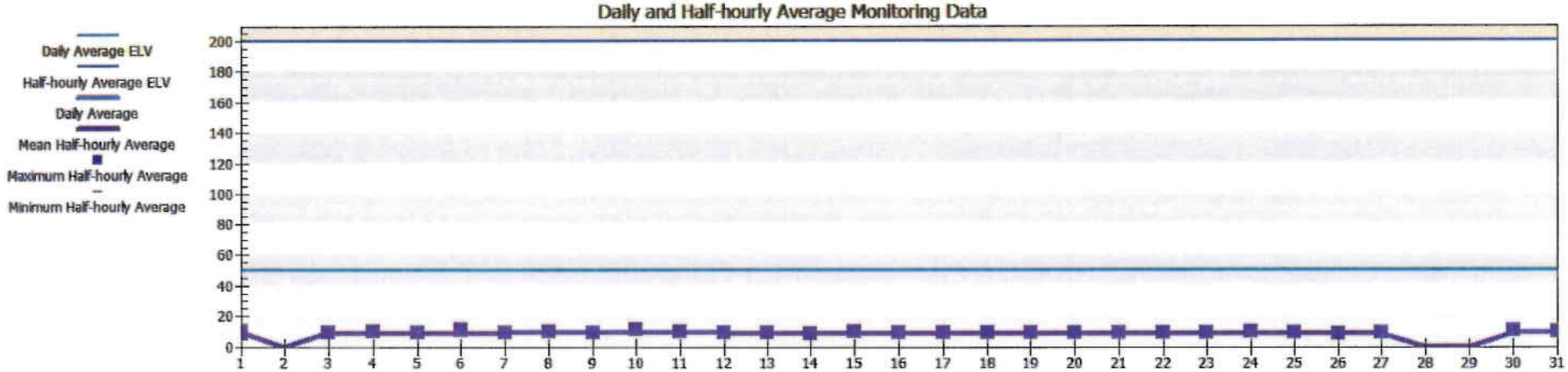
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	11	Maximum Half-hourly average	9	Off	9	10	9	11	9	10	9	11	10	9	9	9	10	9	9	9	9	9	9	9	9	10	9	9	9	Off	Off	11	10
	Monthly mean	9	Mean Half-hourly average	9	Off	9	9	8	8	9	9	9	9	9	9	9	8	9	9	9	8	8	8	8	9	8	9	9	8	8	Off	Off	9	9
	Monthly minimum	6	Minimum Half-hourly average	8	Off	8	7	7	7	8	8	9	8	8	8	8	8	8	6	8	7	7	7	8	8	7	8	8	8	8	Off	Off	8	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	9	Daily average	9	Off	9	9	8	8	9	9	9	9	9	9	9	8	9	9	9	8	8	8	8	9	8	9	9	8	8	Off	Off	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

- 4 MAY 2017

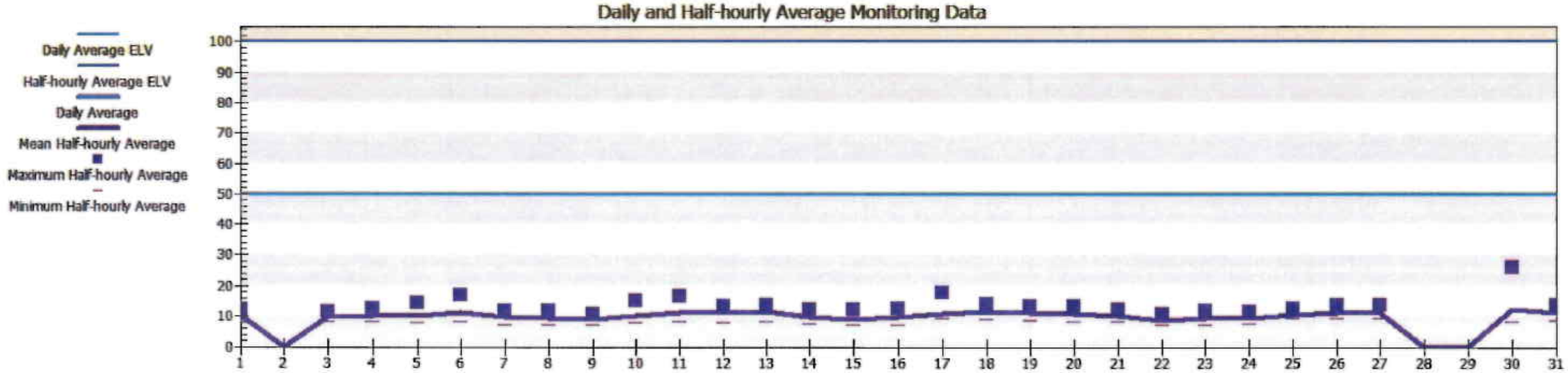
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	26	Maximum Half-hourly average	12	Off	11	12	14	17	12	12	11	15	17	13	14	12	12	13	18	14	13	13	12	11	12	12	13	14	14	Off	Off	26	14
Half-hourly	Monthly mean	10	Mean Half-hourly average	10	Off	10	10	10	11	10	9	9	10	11	11	11	10	9	10	11	12	11	11	10	9	9	9	11	11	11	Off	Off	12	11
average	Monthly minimum	7	Minimum Half-hourly average	8	Off	8	8	8	8	7	7	7	8	8	8	8	8	7	7	9	9	9	8	8	7	7	7	9	9	9	Off	Off	8	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	12	Daily average	10	Off	10	10	10	11	10	9	9	10	11	11	11	10	9	10	11	12	11	11	10	9	9	9	11	11	11	Off	Off	12	11
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

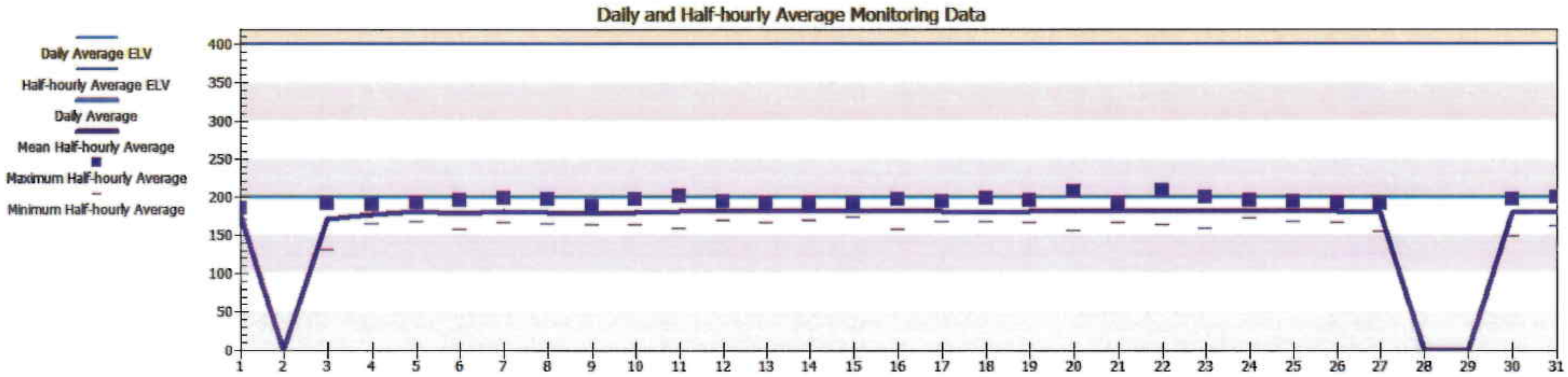
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of January 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	209	Maximum Half-hourly average	185	Off	191	189	193	196	198	196	187	197	201	193	193	193	191	197	193	198	195	206	192	209	200	195	193	193	192	Off	Off	196	199
Half-hourly	Monthly mean	179	Mean Half-hourly average	176	Off	171	176	180	178	180	180	178	179	180	180	180	180	181	180	180	180	180	181	180	180	180	181	180	180	179	Off	Off	179	179
average	Monthly minimum	131	Minimum Half-hourly average	163	Off	131	164	167	158	166	164	164	163	159	170	167	170	174	157	167	168	166	156	166	163	158	171	167	165	155	Off	Off	149	162
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0
			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Daily	Monthly maximum	181	Daily average	176	Off	171	176	180	178	180	180	178	179	180	180	180	180	181	180	180	180	180	181	180	180	180	181	180	180	179	Off	Off	179	179
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

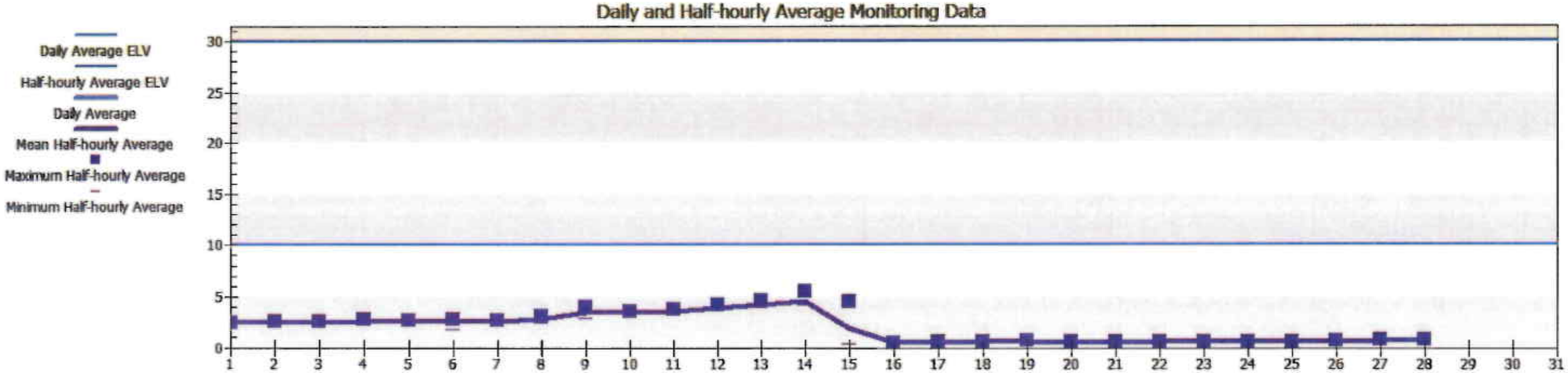
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30			
	Monthly maximum	5	Maximum Half-hourly average	2	3	3	3	3	3	3	3	4	4	4	4	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1			
Half-hourly	Monthly mean	2	Mean Half-hourly average	2	2	3	3	3	3	3	3	3	3	4	4	4	5	2	0	1	1	1	1	1	1	1	1	1	1	1	1			
average	Monthly minimum	0	Minimum Half-hourly average	2	2	2	2	3	2	2	3	3	3	3	4	4	4	0	0	0	1	1	0	0	0	1	0	1	1	1	1			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
Daily	Monthly maximum	5	Daily average	2	2	3	3	3	3	3	3	3	3	4	4	4	5	2	0	1	1	1	1	1	1	1	1	1	1	1	1			
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

Permit Reference Number : SP3239FU

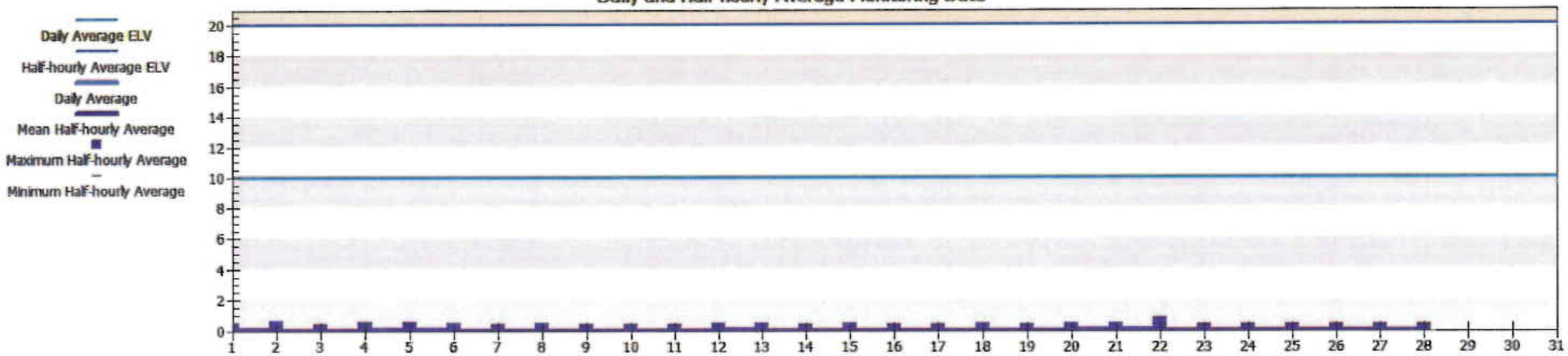
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of February 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

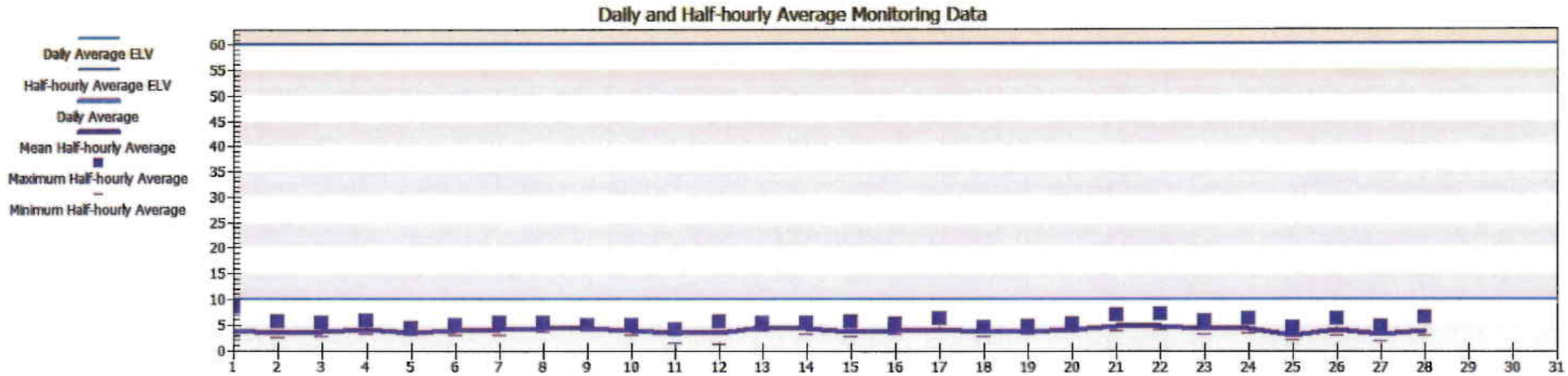
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60			
	Monthly maximum	8	Maximum Half-hourly average	8	6	5	6	4	5	5	5	5	5	4	6	5	5	6	5	6	4	5	5	7	7	6	6	4	6	5	7			
	Monthly mean	4	Mean Half-hourly average	4	3	4	4	3	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	5	5	4	4	3	4	3	4			
	Monthly minimum	1	Minimum Half-hourly average	3	3	3	3	3	3	3	4	4	3	1	1	4	3	3	3	4	3	3	4	4	4	3	3	2	3	2	3			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
	Monthly maximum	5	Daily average	4	3	4	4	3	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	5	5	4	4	3	4	3	4			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..................

(Authorised to sign as a representative of the Operator)

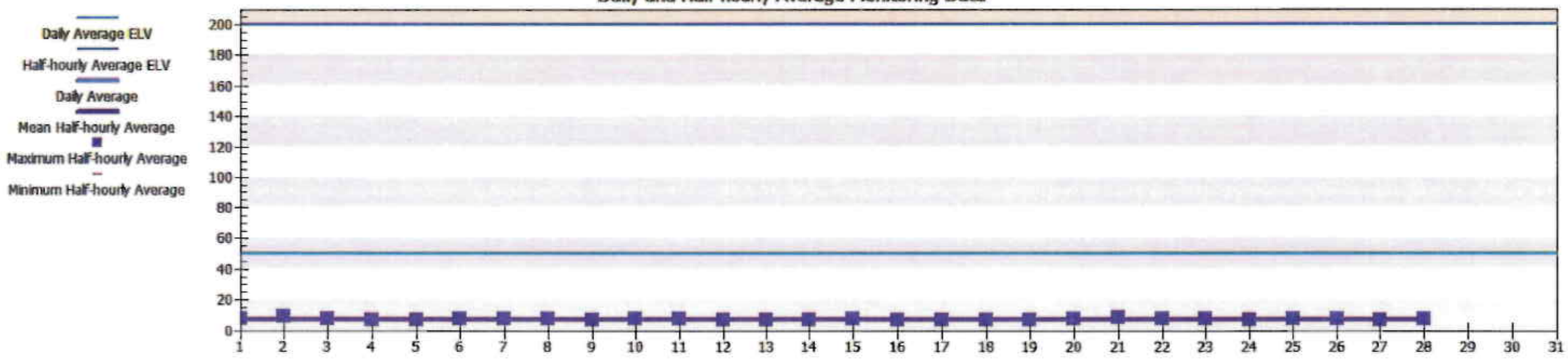
Date..................

- 4 MAY 2017

Permit Reference Number : SP3239FU
Operator : Ferrybridge MFE Limited

Installation: Knottingley
Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200			
	Monthly maximum	9	Maximum Half-hourly average	8	9	8	7	7	7	7	7	7	7	7	7	7	7	8	7	7	7	7	7	9	7	8	7	8	8	7	8			
	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7			
	Monthly minimum	6	Minimum Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50			
	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

Permit Reference Number : SP3239FU

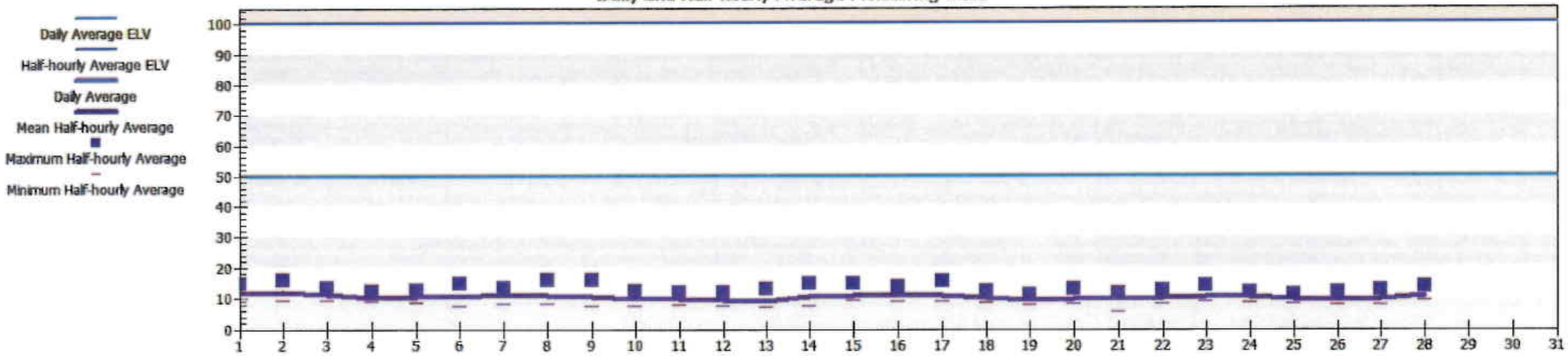
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of February 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
	Monthly maximum	16	Maximum Half-hourly average	15	16	13	12	13	15	13	16	16	12	12	12	13	15	15	14	15	12	11	13	12	13	14	12	11	12	12	14			
	Monthly mean	10	Mean Half-hourly average	12	12	11	10	10	10	11	11	11	10	10	9	9	10	11	11	11	10	9	10	10	10	11	10	10	9	10	11			
	Monthly minimum	6	Minimum Half-hourly average	9	9	9	9	9	7	8	8	8	8	8	8	7	8	9	9	9	8	8	8	6	8	9	9	8	8	8	9			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50			
	Monthly maximum	12	Daily average	12	12	11	10	10	10	11	11	11	10	10	9	9	10	11	11	11	10	9	10	10	10	11	10	10	9	10	11			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

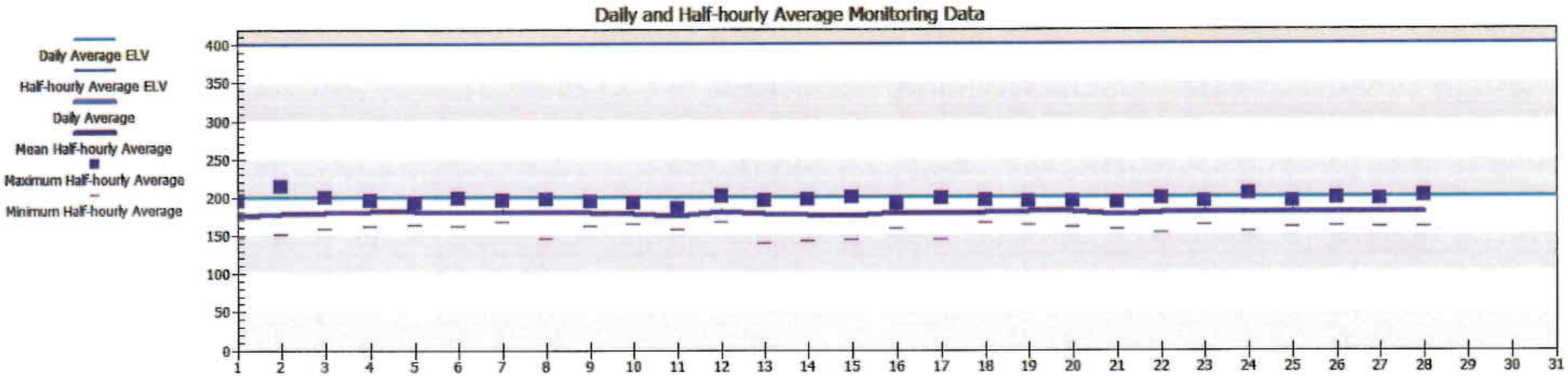
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400			
	Monthly maximum	214	Maximum Half-hourly average	196	214	200	195	192	198	196	196	194	192	185	201	195	196	200	192	199	195	193	194	192	199	194	205	194	198	196	202			
	Monthly mean	179	Mean Half-hourly average	175	178	180	180	180	179	180	179	179	178	175	181	178	176	175	180	178	180	180	181	177	180	180	179	180	180	179	180			
	Monthly minimum	139	Minimum Half-hourly average	147	151	159	162	164	162	167	146	161	165	158	168	139	143	145	159	145	166	163	160	157	152	163	154	161	162	160	161			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200			
	Monthly maximum	181	Daily average	175	178	180	180	180	179	180	179	179	178	175	181	178	176	175	180	178	180	180	181	177	180	180	179	180	180	179	180			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

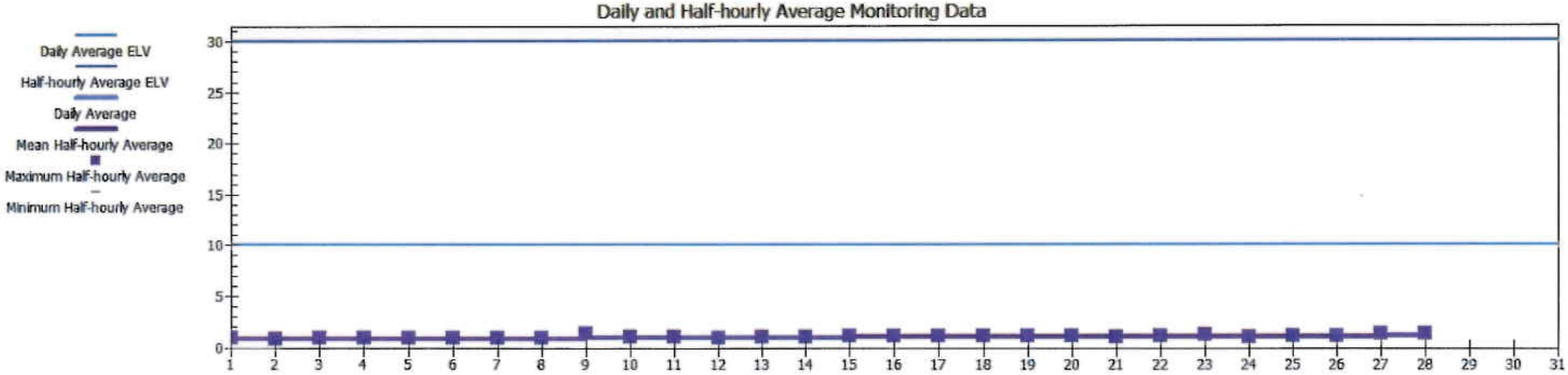
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30			
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed...

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

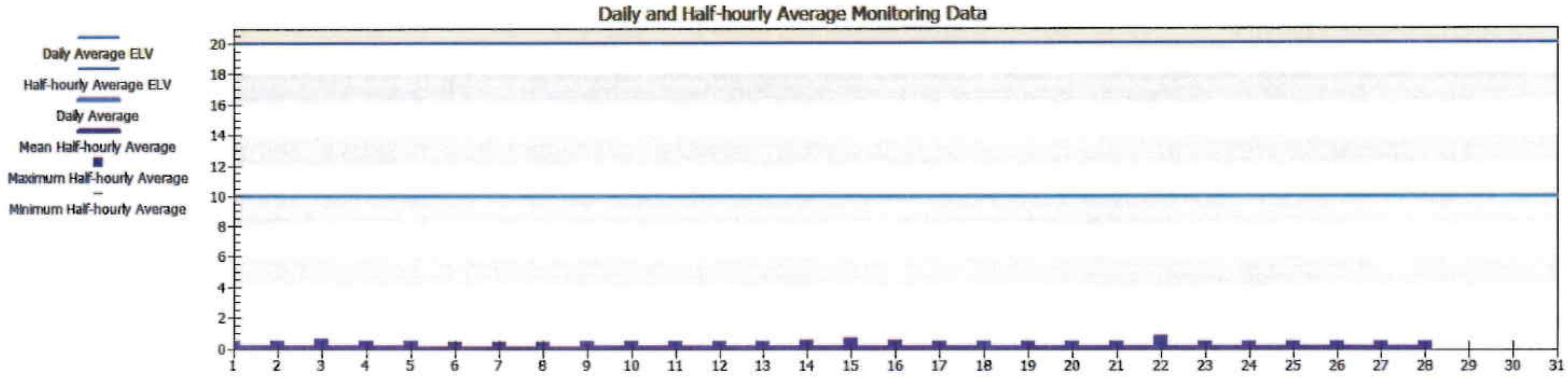
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

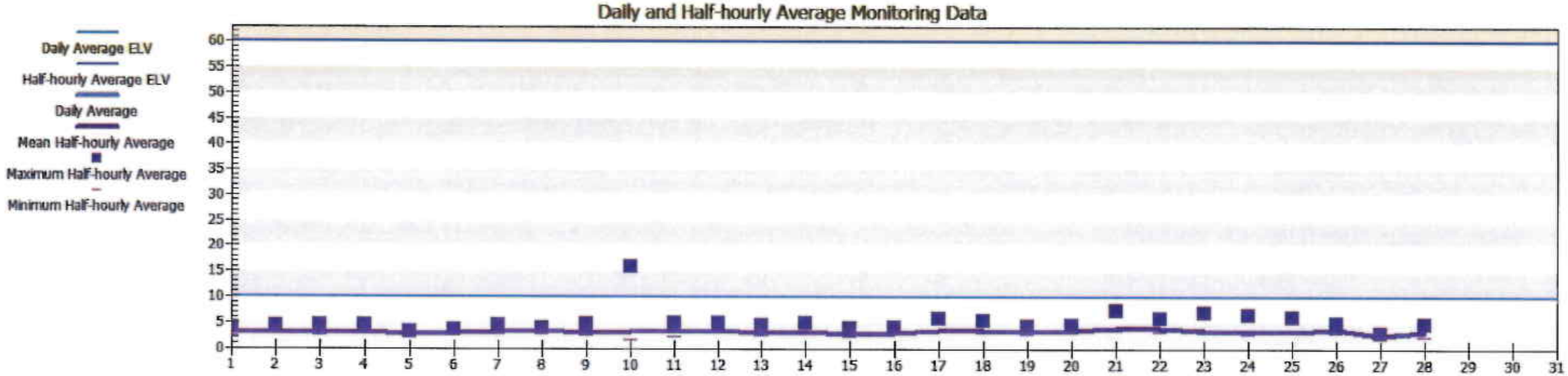
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60			
	Monthly maximum	16	Maximum Half-hourly average	4	4	4	4	3	4	5	4	5	16	5	5	4	5	4	4	6	5	4	4	7	6	7	6	6	5	3	5			
	Monthly mean	3	Mean Half-hourly average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	4	2	3			
	Monthly minimum	2	Minimum Half-hourly average	2	3	3	3	2	3	3	3	2	2	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
	Monthly maximum	4	Daily average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	4	2	3			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

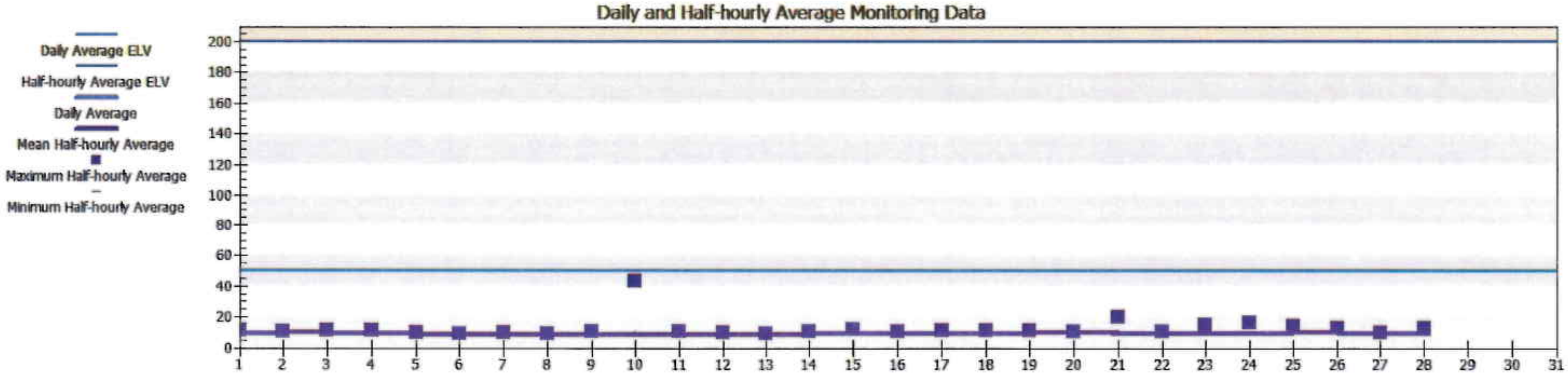
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200			
	Monthly maximum	44	Maximum Half-hourly average	11	10	11	11	10	9	10	9	11	44	11	10	9	11	12	10	11	11	12	11	20	11	15	17	14	13	10	13			
	Monthly mean	9	Mean Half-hourly average	9	10	10	9	9	9	9	8	8	9	9	9	9	9	9	9	9	9	10	10	10	9	9	9	10	10	9	10			
	Monthly minimum	8	Minimum Half-hourly average	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	8	9	9	9	9			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50			
	Monthly maximum	10	Daily average	9	10	10	9	9	9	9	8	8	9	9	9	9	9	9	9	9	9	10	10	10	9	9	9	10	10	9	10			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

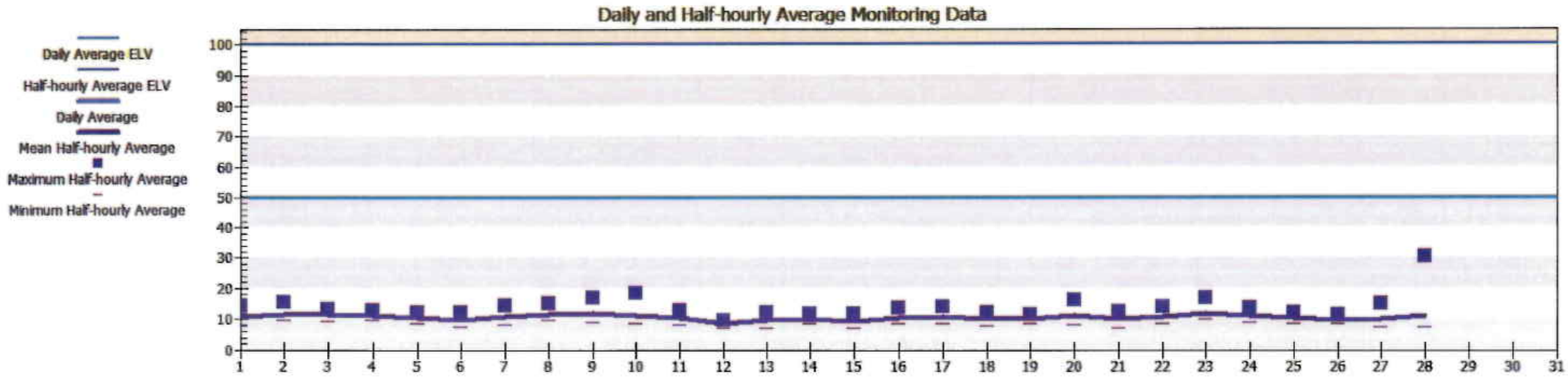
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
	Monthly maximum	30	Maximum Half-hourly average	14	16	13	13	12	12	14	15	17	18	13	10	12	12	12	14	14	12	12	16	13	14	17	14	12	11	15	30			
Half-hourly	Monthly mean	11	Mean Half-hourly average	11	12	11	11	11	10	11	11	12	11	10	9	10	10	9	11	11	10	10	11	10	11	12	11	10	10	10	11			
average	Monthly minimum	7	Minimum Half-hourly average	8	10	9	10	9	8	8	10	9	9	8	7	7	8	7	9	9	8	9	8	7	9	10	9	9	9	8	8			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50			
Daily	Monthly maximum	12	Daily average	11	12	11	11	11	10	11	11	12	11	10	9	10	10	9	11	11	10	10	11	10	11	12	11	10	10	10	11			
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

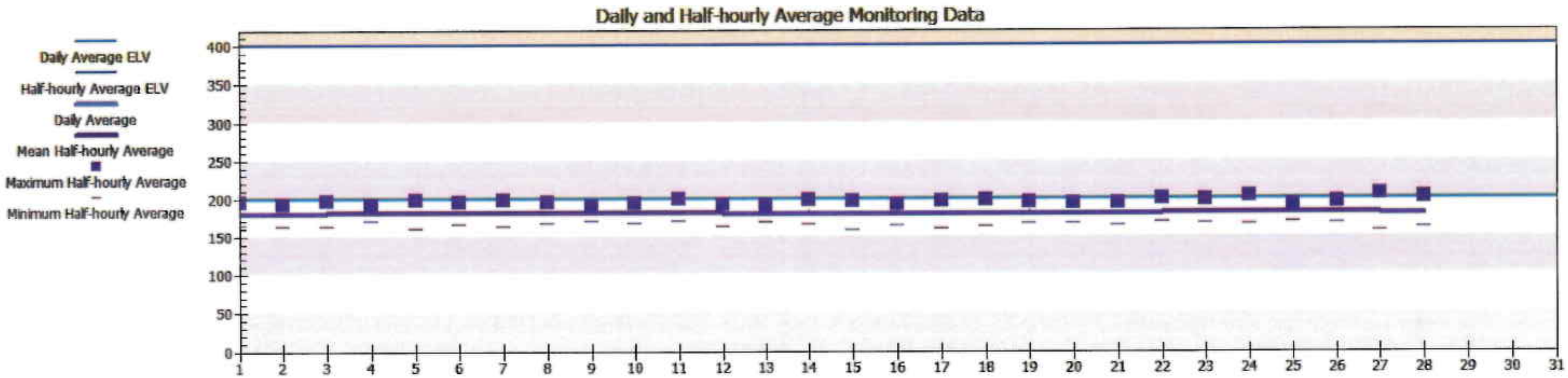
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of February 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400			
	Monthly maximum	205	Maximum Half-hourly average	195	193	196	191	199	195	198	196	189	194	200	192	191	198	197	192	197	199	196	194	195	200	199	203	190	196	205	201			
	Monthly mean	180	Mean Half-hourly average	180	180	181	180	180	180	180	180	180	180	180	181	180	180	179	180	180	180	180	180	180	181	180	180	180	181	180	179			
	Monthly minimum	158	Minimum Half-hourly average	164	163	163	170	160	166	163	167	170	168	171	163	170	166	158	164	161	164	168	168	165	168	167	166	169	168	158	162			
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200			
	Monthly maximum	181	Daily average	180	180	181	180	180	180	180	180	180	180	180	181	180	180	179	180	180	180	180	180	180	181	180	180	180	181	180	179			
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			

Signed..

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

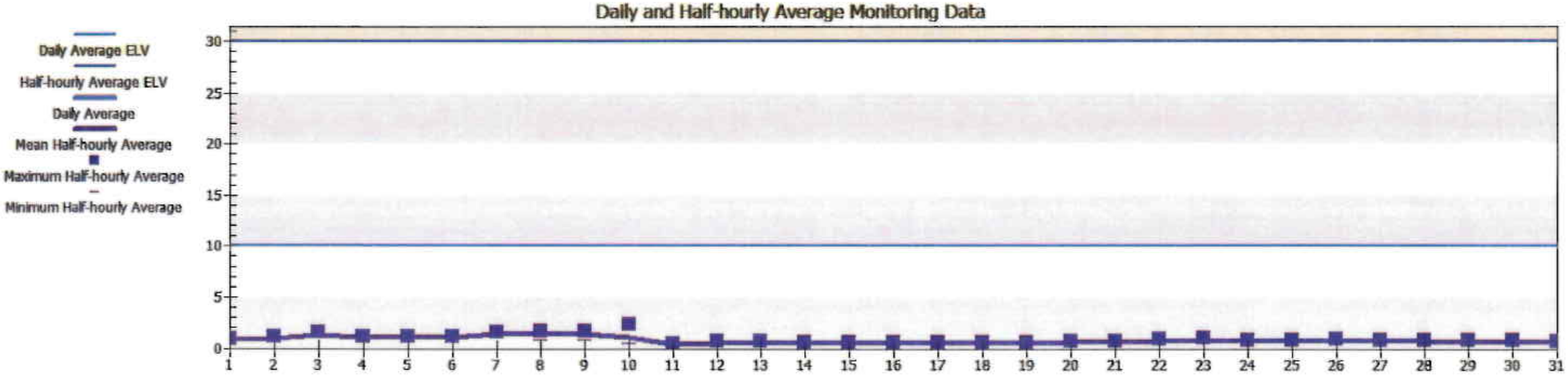
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	1	1	2	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
average	Monthly minimum	0	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

Permit Reference Number : SP3239FU

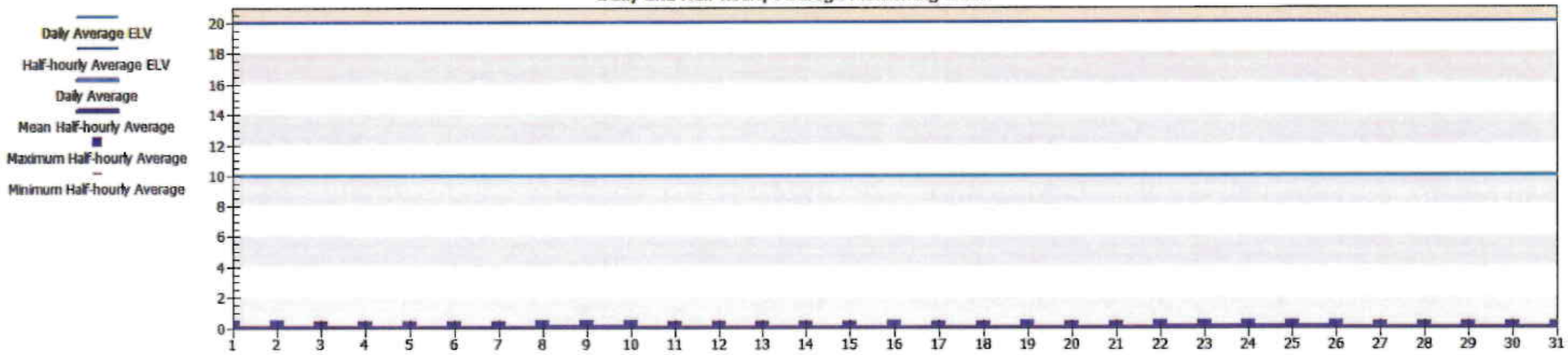
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of March 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

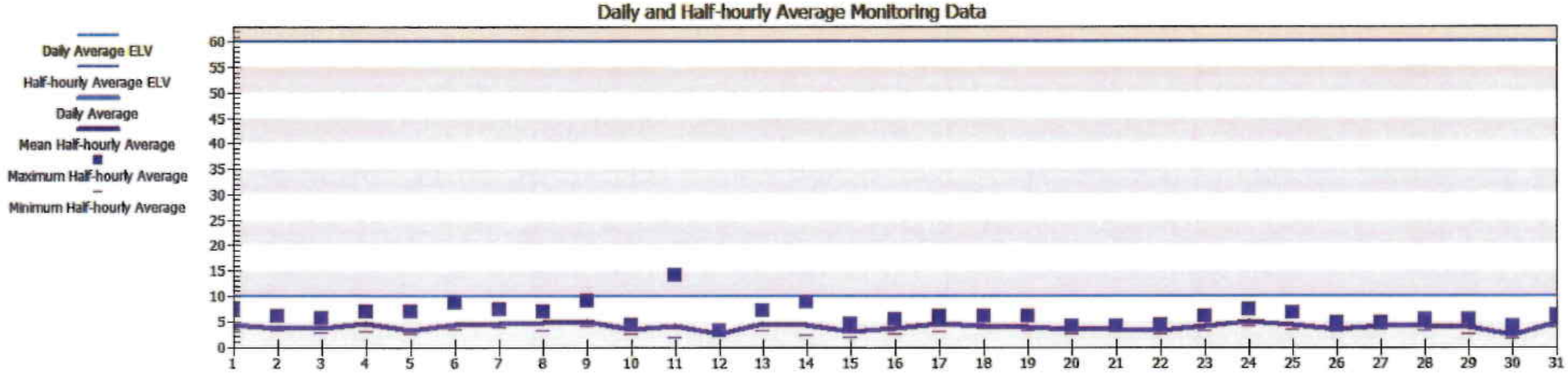
Date..

- 4 MAY 2017

Permit Reference Number : SP3239FU   Operator : Ferrybridge MFE Limited

Installation: Knottingley   Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	14	Maximum Half-hourly average	7	6	6	7	7	9	7	7	9	4	14	3	7	9	5	5	6	6	6	4	4	4	6	7	7	5	5	5	5	4	6
	Monthly mean	4	Mean Half-hourly average	4	4	4	4	3	4	4	5	5	3	4	2	4	4	3	4	4	4	4	3	3	3	4	5	4	3	4	4	4	2	5
	Monthly minimum	2	Minimum Half-hourly average	3	3	3	3	2	3	4	3	4	2	2	2	3	2	2	2	3	4	3	3	3	2	3	4	3	3	3	3	3	2	4
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	5	Daily average	4	4	4	4	3	4	4	5	5	3	4	2	4	4	3	4	4	4	4	3	3	3	4	5	4	3	4	4	4	2	5
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..   Date..

(Authorised to sign as a representative of the Operator)   - 4 MAY 2017

Permit Reference Number : SP3239FU

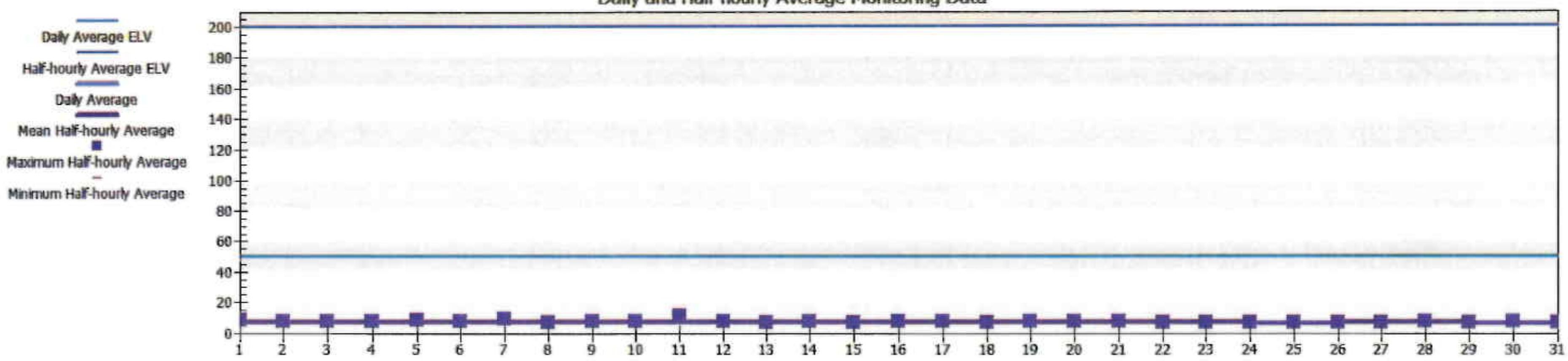
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of March 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	11	Maximum Half-hourly average	8	7	7	8	8	8	9	7	8	7	11	7	7	7	7	8	8	7	8	7	8	7	7	7	7	7	7	8	7	8	7
Half-hourly	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	6
average	Monthly minimum	6	Minimum Half-hourly average	7	7	7	7	6	7	7	7	7	7	7	7	6	6	6	7	6	6	7	7	7	6	6	6	6	6	6	6	6	6	6
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	6
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

- 4 MAY 2017

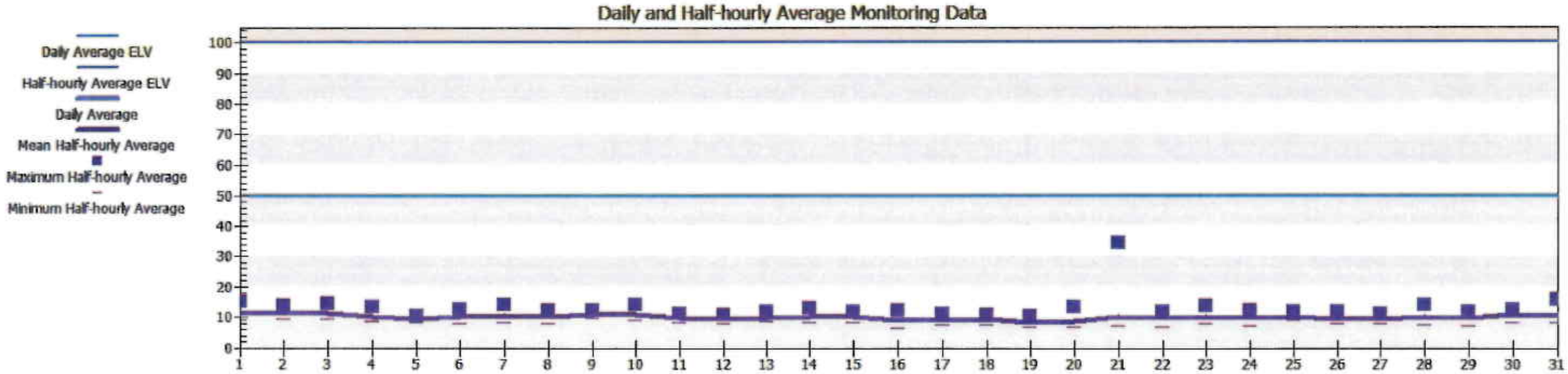
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	35	Maximum Half-hourly average	15	14	14	13	11	13	14	12	12	14	11	11	12	13	12	12	11	11	10	13	35	12	14	12	12	12	11	14	12	13	16
Half-hourly	Monthly mean	10	Mean Half-hourly average	12	11	11	10	9	10	10	10	11	11	10	9	10	10	10	9	9	9	8	9	10	10	10	10	10	9	9	10	10	11	11
average	Monthly minimum	6	Minimum Half-hourly average	9	9	9	9	8	8	8	8	10	9	8	8	8	8	8	6	7	7	7	7	7	7	8	7	9	8	8	8	7	8	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	12	Daily average	12	11	11	10	9	10	10	10	11	11	10	9	10	10	10	9	9	9	8	9	10	10	10	10	10	9	9	10	10	11	11
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

Permit Reference Number : SP3239FU

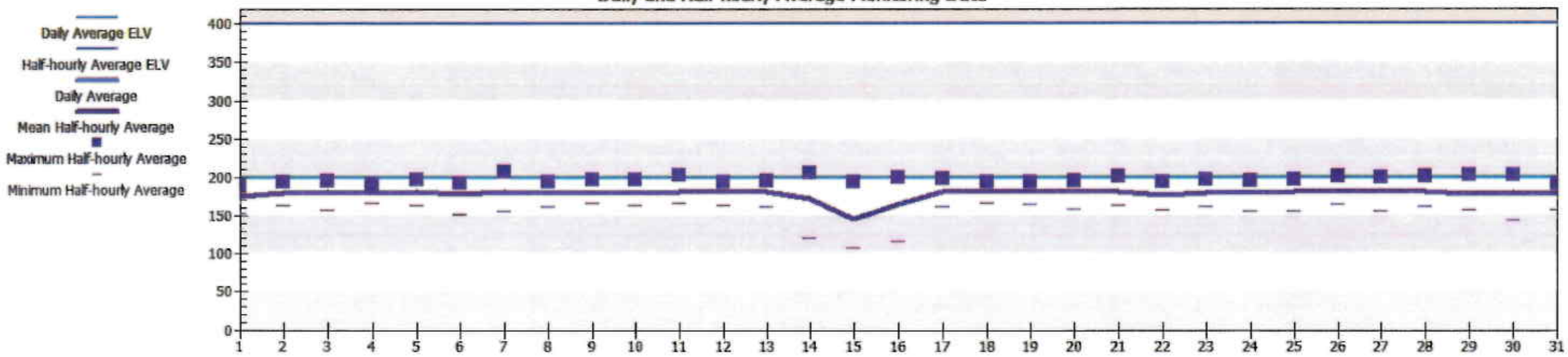
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of March 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	207	Maximum Half-hourly average	190	194	196	192	197	192	207	194	197	197	203	194	196	206	194	199	198	193	194	196	201	194	196	195	197	201	200	201	203	202	191
	Monthly mean	178	Mean Half-hourly average	175	179	180	180	180	178	181	179	179	179	180	180	180	172	145	165	180	180	180	180	180	177	180	179	180	181	180	180	178	179	177
	Monthly minimum	107	Minimum Half-hourly average	152	163	158	166	164	152	156	162	166	163	166	164	162	120	107	116	162	166	164	158	164	157	161	156	156	165	155	162	157	144	158
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	175	179	180	180	180	178	181	179	179	179	180	180	180	172	145	165	180	180	180	180	180	177	180	179	180	181	180	180	178	179	177
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.. - 4 MAY 2017

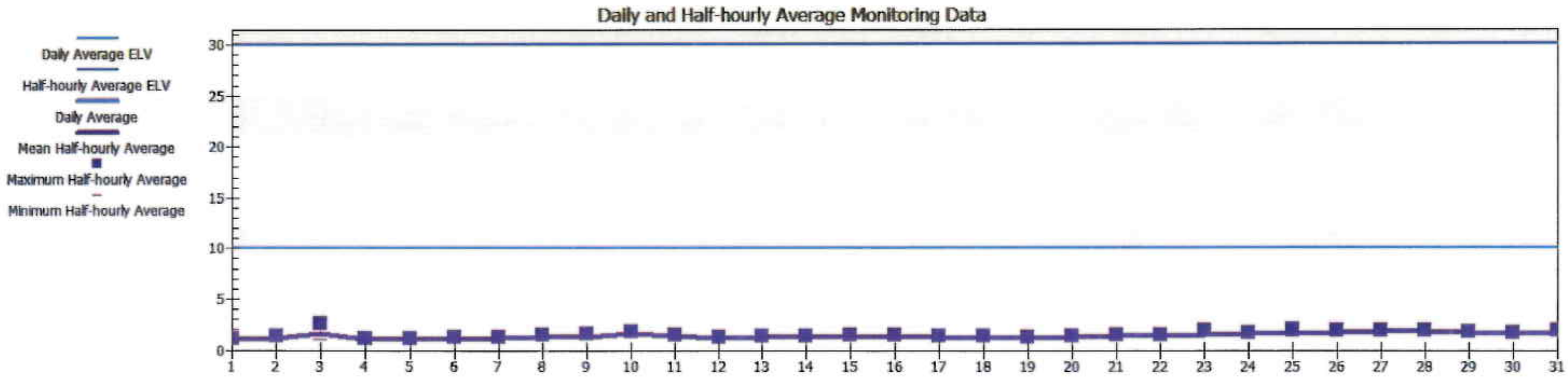
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	3	Maximum Half-hourly average	1	1	3	1	1	1	1	2	2	2	2	1	1	1	1	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
average	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	2	Daily average	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

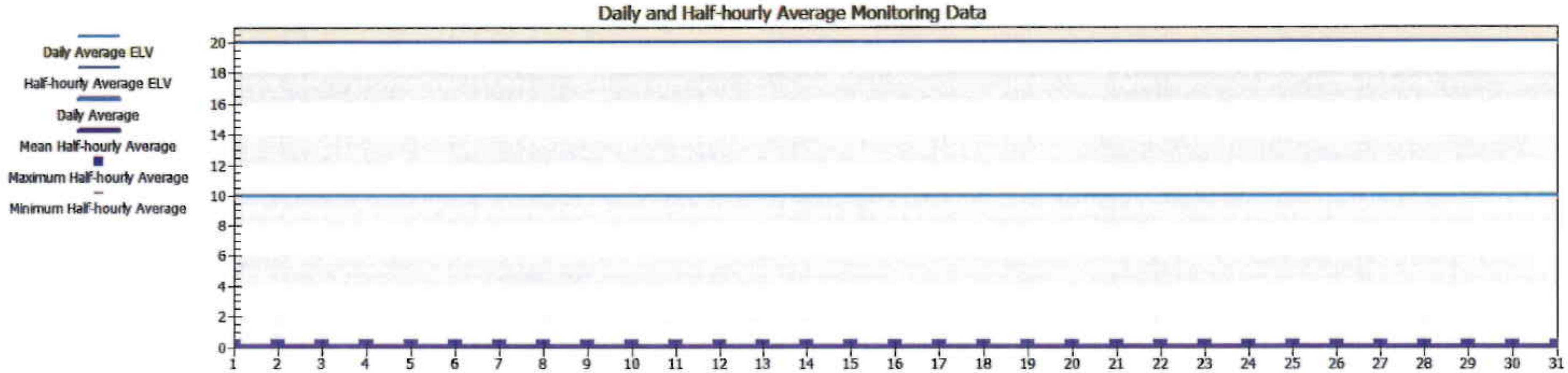
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

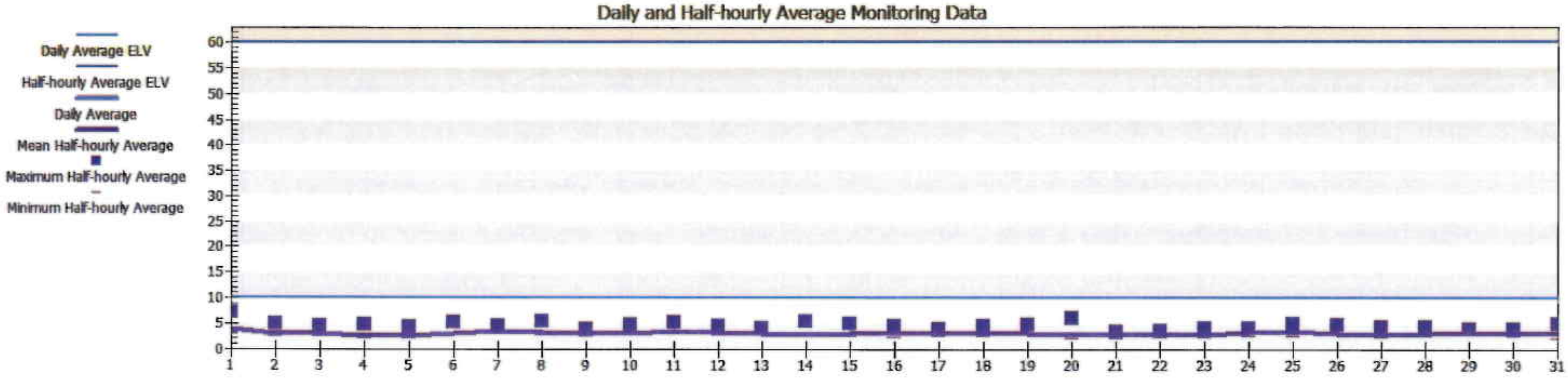
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	7	Maximum Half-hourly average	7	5	5	5	4	5	4	5	4	5	5	5	4	5	5	5	4	4	5	6	3	4	4	4	5	5	4	4	4	4	5
Half-hourly	Monthly mean	3	Mean Half-hourly average	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
average	Monthly minimum	2	Minimum Half-hourly average	3	2	3	2	2	3	3	3	3	3	3	3	3	3	3	2	2	2	3	2	2	2	2	2	3	3	2	3	3	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	4	Daily average	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

- 4 MAY 2017

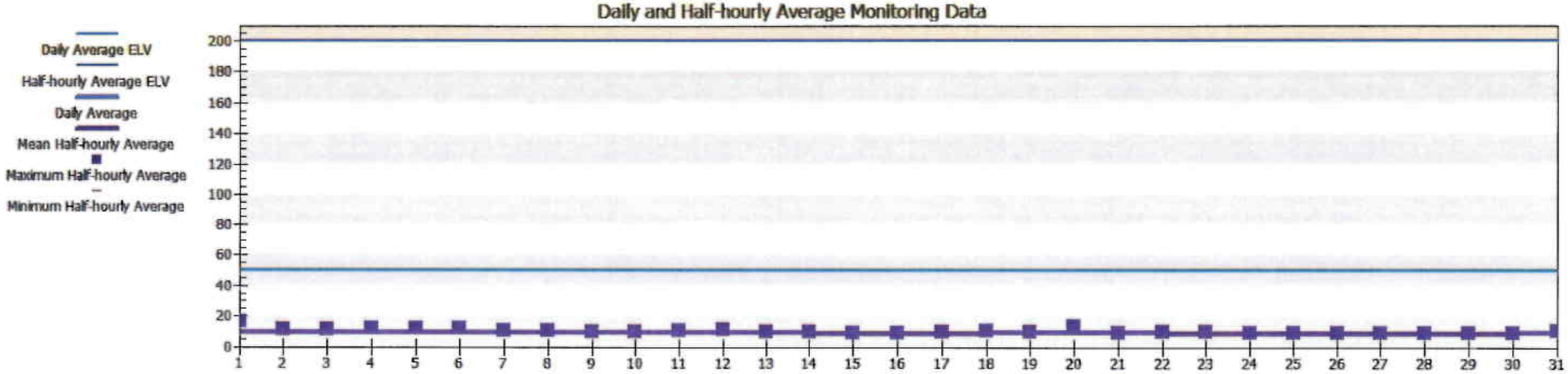
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	16	Maximum Half-hourly average	16	11	11	12	12	12	11	10	10	10	11	11	10	10	9	9	10	11	10	13	9	10	10	9	9	9	9	9	9	9	11
Half-hourly	Monthly mean	9	Mean Half-hourly average	10	9	9	10	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	8	8	9	9	9	9	9	9	9
average	Monthly minimum	7	Minimum Half-hourly average	9	9	9	9	9	9	8	9	8	8	8	8	8	8	7	8	8	8	8	8	9	8	7	7	8	8	8	7	8	8	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	10	Daily average	10	9	9	10	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	8	8	9	9	9	9	9	9	9
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

Permit Reference Number : SP3239FU

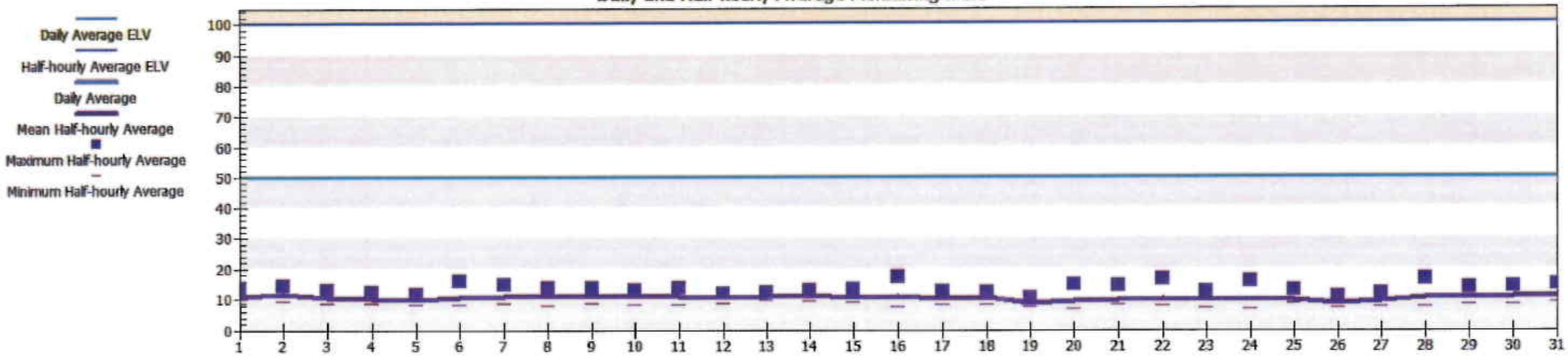
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of March 2017

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	17	Maximum Half-hourly average	14	14	13	12	12	16	15	14	14	13	14	12	12	13	13	17	12	12	11	15	15	16	13	16	13	11	12	16	14	14	15
	Monthly mean	10	Mean Half-hourly average	11	11	10	10	10	10	11	11	11	11	11	11	11	11	11	11	10	10	9	9	10	10	10	10	10	9	9	10	10	11	11
	Monthly minimum	7	Minimum Half-hourly average	8	9	8	9	8	8	9	8	9	8	8	8	10	9	9	8	8	8	7	7	8	8	7	7	9	7	8	8	8	8	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	11	Daily average	11	11	10	10	10	10	11	11	11	11	11	11	11	11	11	11	10	10	9	9	10	10	10	10	10	9	9	10	10	11	11
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

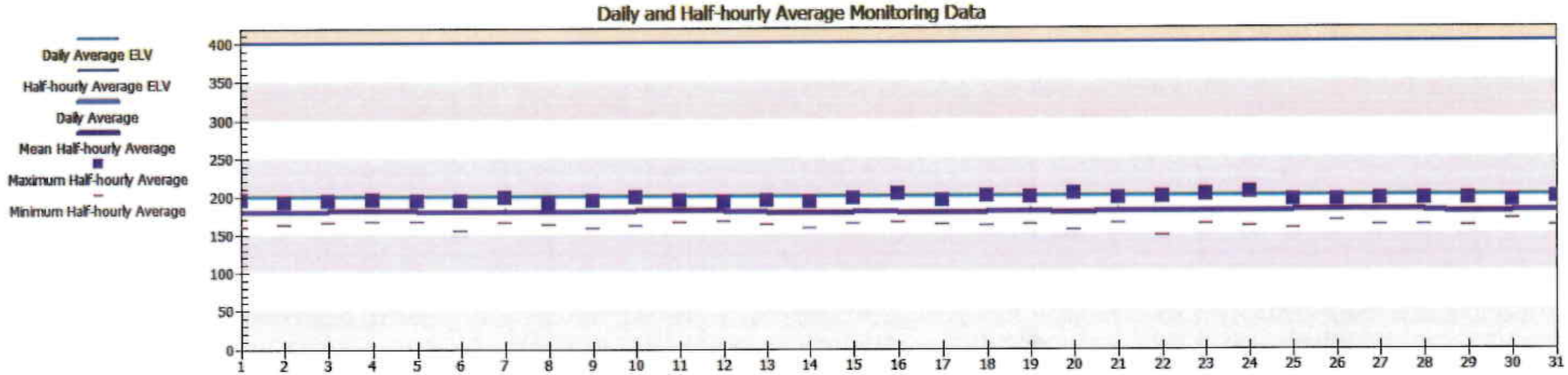
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of March 2017



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	203	Maximum Half-hourly average	196	193	193	195	194	193	198	191	195	198	194	192	194	193	197	203	193	199	199	202	197	198	202	203	195	193	195	195	196	192	196
	Monthly mean	180	Mean Half-hourly average	179	180	180	181	180	179	180	179	179	180	180	180	180	178	179	179	178	179	180	177	180	179	179	179	180	180	180	180	179	179	179
	Monthly minimum	148	Minimum Half-hourly average	161	163	165	168	167	156	166	163	159	162	166	168	164	159	164	166	164	162	163	156	165	148	163	161	158	168	161	161	160	170	160
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	179	180	180	181	180	179	180	179	179	180	180	180	180	178	179	179	178	179	180	177	180	179	179	179	180	180	180	180	179	179	179
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

- 4 MAY 2017

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Air 7 / 30/11/2012

Reporting of periodically monitored emissions to air for the period from Jan 2017 to Mar 2017

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	2 mg/m³	Periodic over minimum 1-hour period	0.08	BS ISO 15713	12/01/2017 10:27-11:27	0.01
A2				0.10		12/01/2017 12:40-13:40	0.01
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	<0.0005	BS EN 14385	13/01/2017 96 mins between 09:37 and 11.15	0.0001
A2				0.004		13/01/2017 96 mins between 09:34 and 11.25	0.001
A1	Mercury and its compounds	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	0.002	BS EN 13211	as Cadmium	0.0002
A2				0.002		as Cadmium	0.0003
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m³	over minimum 30 minute, maximum 8 hour period	0.02	BS EN 14385	as Cadmium	0.004
A2				0.06		as Cadmium	0.01

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / Furans (I-TEQ)	0.1 ng/m³	over minimum 6 hour period, maximum 8 hour period	0.0070 ng/m³	BS EN 1948 Parts 1, 2 and 3	11/01/2017 360 mins between 09:43 and 15:46	0.0016
A2				0.0075 ng/m³		11/01/2017 360 mins between 09:25 and 15:28	0.0017
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.000808 ng/m³	BS EN/TS 1948-4	as above	0.000183
A2				0.000737 ng/m³		as above	0.000169
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.000043 ng/m³	BS EN/TS 1948-4	as above	0.000010
A2				0.000031 ng/m³		as above	0.000007
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.003750 ng/m³	BS EN/TS 1948-4	as above	0.000849
A2				0.001674 ng/m³		as above	0.000383
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.0065 ng/m³	BS EN/TS 1948-4	as above	0.0015
A2				0.0067 ng/m³		as above	0.0015

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.0073 ng/m^3	BS EN/TS 1948-4	as above	0.0017
A2				0.0073 ng/m^3		as above	0.0017
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.0162 ng/m^3	BS EN/TS 1948-4	as above	0.0037
A2				0.0147 ng/m^3		as above	0.034
	Poly-cyclic aromatic hydrocarbons (PAHs)		over minimum 6 hour period, maximum 8 hour period				
A1	Total	No limit applies		*0.54 $\mu g/m^3$*	BS ISO 11338-1 and BS ISO 1138-2	12/01/2017 360 mins between 09:38 and 15:41 for all components	*0.123*
A2				*0.30 $\mu g/m^3$*		12/01/2017 360 mins between 09:26 and 15:29 for all components	*0.069*
A1	Anthanthrene	No limit applies		*<0.01*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo{a}anthracene	No limit applies		*<0.01*			*0.003*
A2				*<0.01*			*0.002*

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Benzo[b]fluoranthene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Benzo[k]fluoranthene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Benzo[b]naph(2,1-d}thiophene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Benzo[c]phenanthrene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Benzo[ghi]perylene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Benzo[a]pyrene	No limit applies		<0.01			0.003
A2				<0.01			0.002

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Cholanthrene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Chrysene	No limit applies		0.01			0.003
A2				<0.01			0.002
A1	Cyclopenta(c,d)pyrene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Dibenzo[ah]anthracene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Dibenzo[a,i]pyrene	No limit applies		<0.01			0.003
A2				<0.01			0.002
A1	Fluoranthene	No limit applies		0.11			0.025
A2				0.04			0.009

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Indo[1,2,3-cd]pyrene	No limit applies		*<0.01*			*0.003*
A2				*<0.01*			*0.002*
A1	Naphthalene	No limt applies		*0.27*			*0.060*
A2				*0.11*			*0.026*

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum
[2] The date and time of the sample that produced the result is given.
[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .... Date 28/4/17
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU | Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility | Form Number : Performance 1 / 30/11/2012

Reporting of Waste Disposal and Recovery for the year 2017 (to end Q1)

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residues	D9	6,481.96	
Total hazardous waste		6,481.96	
2) Non-Hazardous Wastes			
IBA	R5	32,094.3	32,094.3
Metals	R4	99.9	99.9
Process Water	D8	99.62	
Total non-hazardous waste		32,293.82	
TOTAL WASTE		38,775.78	

Operator's comments :

New line added to non hazardous waste section, to include 'Process Water'.

D9 – acid neutralisation followed by non-hazardous landfill, D8 - Biological Treatment not specified, R5 – processed and reused, R4 – metals recovered

Boiler ash was removed directly from the boiler through cleaning and was therefore not included in standard IBA and was disposed of as APCr processing.

Signed .... Date 28/4/17
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of Water and Other Raw Material Usage for the year 2017 (to end Q1)

Raw Material	Usage	Unit	Specific Usage	Unit
Mains water	22,626	m^3	0.137	m^3/t
Total water usage	33,871	m^3	0.205	m^3/t
Ammonia	43	Tonnes	0.261	kg/t
Activated carbon	47	Tonnes	0.285	kg/t
Lime/hydrated lime or sodium bicarbonate	2,784	Tonnes	16.884	kg/t

Operator's comments :

Fuel burn for the year (to end Q1) = 164,887 tonnes

Signed .... Date 28/4/17
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of other performance indicators for the period 2017 (to end Q1)

Parameter	Result
Number of periods of abnormal operation	1 period - 30 mins
Cumulative hours of abnormal operation for this calendar year	30 mins

Operator's comments :

22/02/17 – Loss of CEMs due to low H2 gas bottle pressure causing loss of flame in analysers. Failure of N2 calibration gas. All combustion parameters on both lines were normal before and after this event and all other CEMS readings remained stable and within limits.

Signed .... Date 28/4/17
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number :Energy 1 / 30/11/2012

Reporting of Energy Usage/Export for the year 2017 (to end Q1)

Energy Source	Energy Usage	Unit	Contained Energy (MWh)
Electricity Produced	167,141	MWh	
Electricity Imported	13,454	MWh	
Electricity Exported	153,688	MWh	
Gas Oil	114	tonnes	
Steam/hot water Exported	0	MWh	

Operator's comments :

Signed .... Date 28/4/17
(authorised to sign as representative of Ferrybridge MFE Limited)

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/01/2017 to 31/03/2017

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^w/_w$	
Bottom Ash	1.53	0.51	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans /	Birds	Fish
Bottom Ash	105	9.11	0.08	0.42	681	132	3011	1270	143	11.4	47.2	117	3088	11.2	11.4	21.7	12.2
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	805	207	.8	4.9	1721	69.4	725	310	50.9	41.6	10.0	74.5	10180	519	525	1289	603
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Date 28/4/17

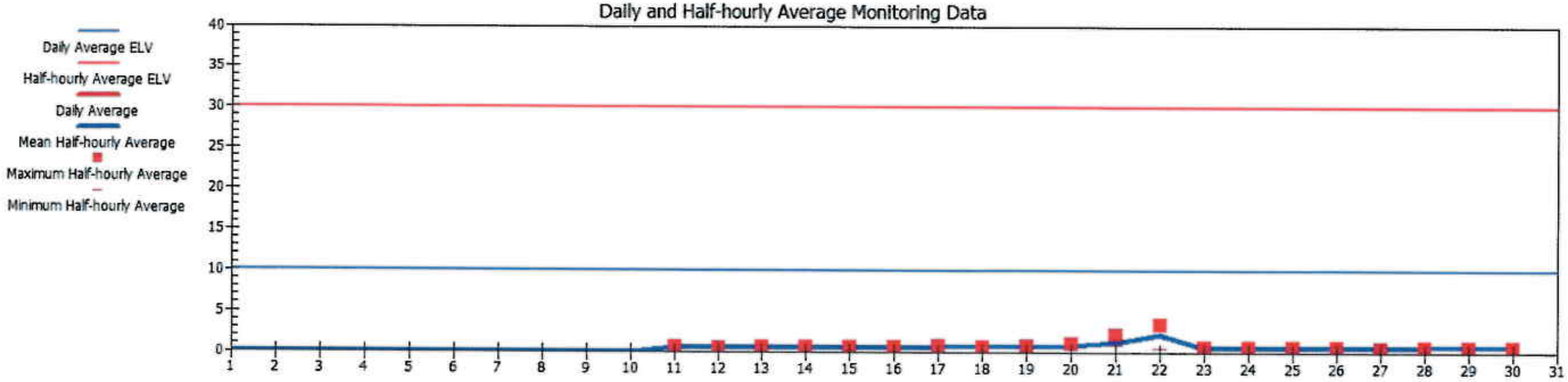
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of April 2016



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Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	3	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	2	3	1	1	1	1	0	1	1	1	
	Monthly mean	1	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	2	Daily average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date...27/7/16...................................

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

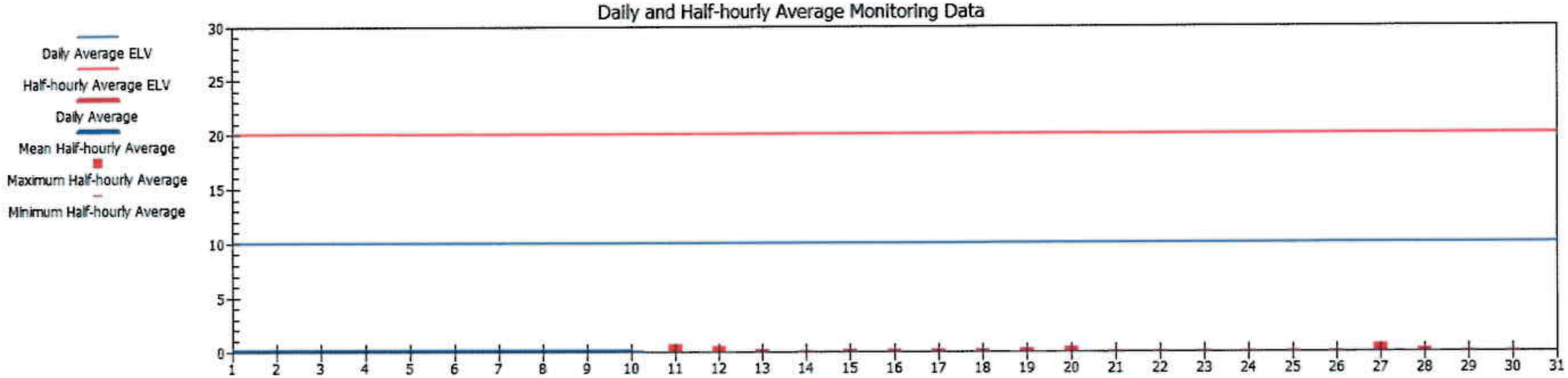
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of April 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	0	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Monthly mean	0	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	0	Daily average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

Date.......2/7/16...................

(Authorised to sign as a representative of the Operator)

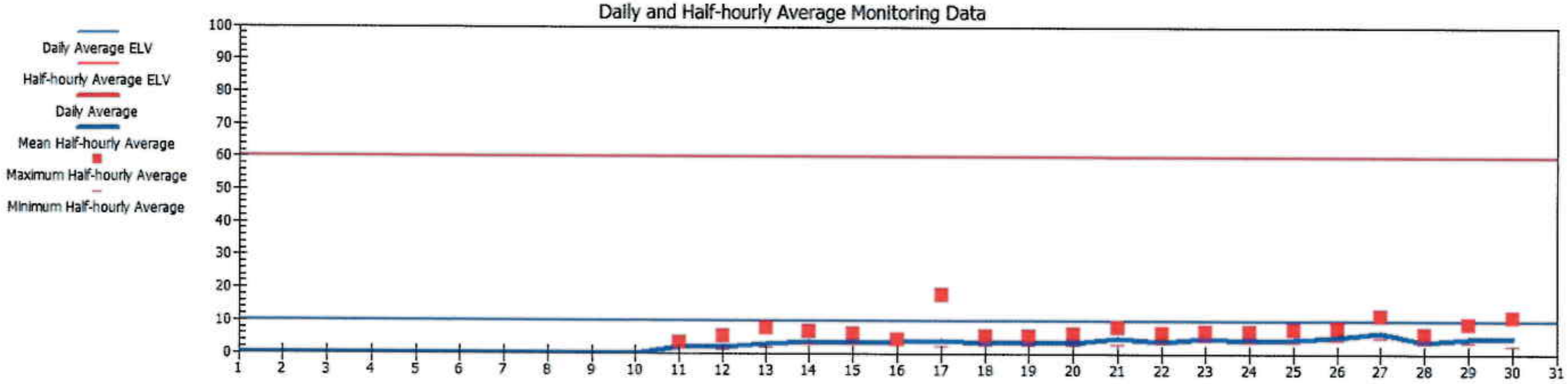
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	18	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	3	5	8	7	6	4	18	6	5	6	8	7	7	7	8	8	12	6	9	11	
Half-hourly	Monthly mean	4	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	3	4	3	4	4	3	4	3	5	4	5	4	4	5	7	4	5	5	
average	Monthly minimum	1	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	1	1	2	3	3	3	2	3	3	3	3	3	4	4	4	4	5	3	4	2	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	7	Daily average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	3	4	3	4	4	3	4	3	5	4	5	4	4	5	7	4	5	5	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date......27 JUL 2016......

(Authorised to sign as a representative of the Operator)

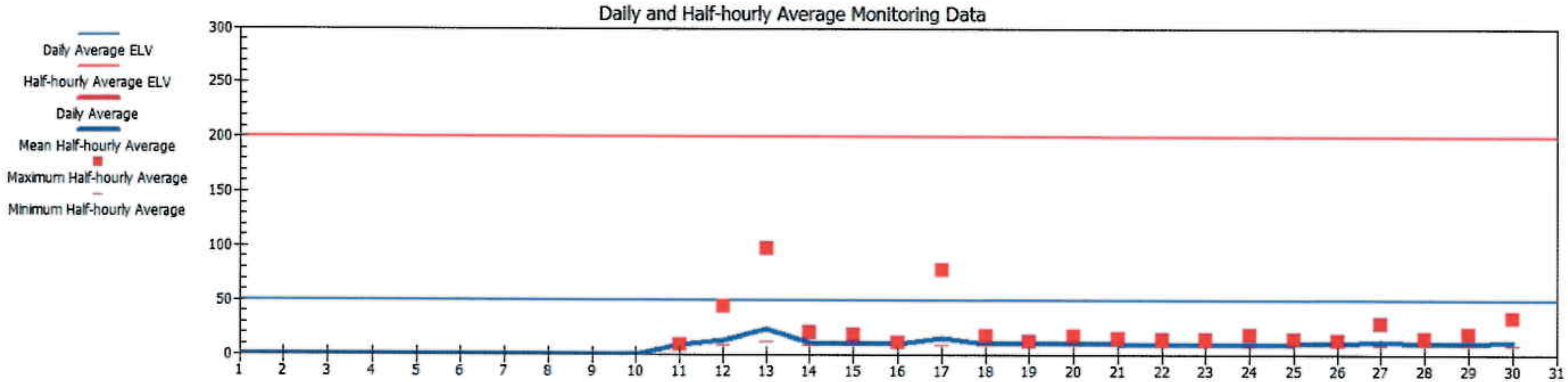
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	97	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	9	44	97	21	18	11	78	17	12	17	15	14	14	18	14	13	28	15	20	34	
	Monthly mean	11	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	9	13	23	11	10	10	15	10	9	10	10	9	9	9	10	10	12	9	10	12	
	Monthly minimum	8	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	8	9	12	9	9	9	9	9	9	9	9	8	8	9	9	9	8	9	9	9	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
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	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date......27 JUL 2016..................

(Authorised to sign as a representative of the Operator)

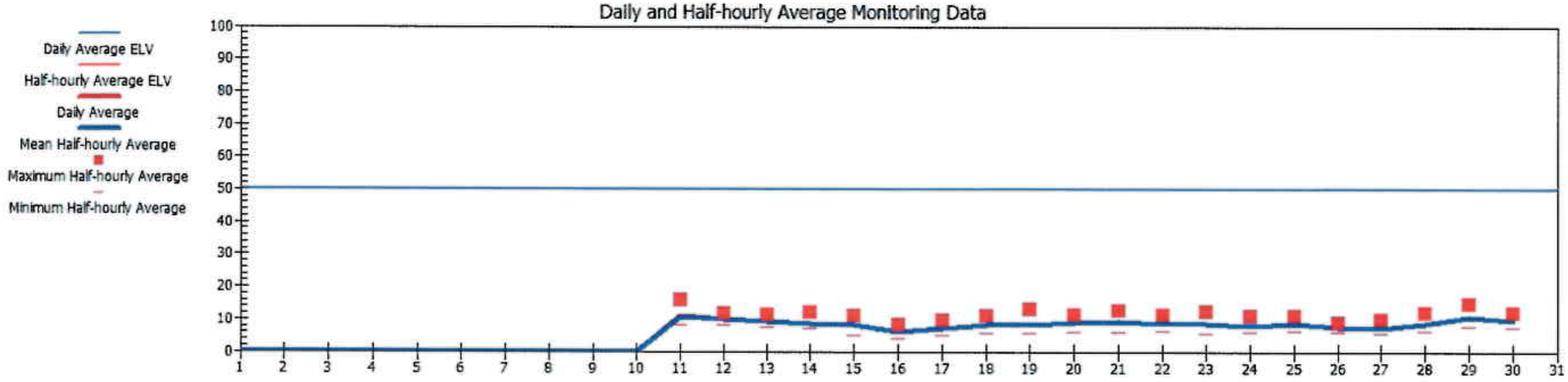
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	16	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	16	12	11	12	11	8	10	11	13	11	13	11	12	11	11	9	10	12	15	12	
	Monthly mean	9	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	11	10	9	9	8	6	7	8	8	9	9	9	8	8	8	8	7	9	11	10	
	Monthly minimum	4	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	8	8	7	7	5	4	5	6	6	6	6	7	6	6	6	6	6	6	8	8	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	11	Daily average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	11	10	9	9	8	6	7	8	8	9	9	9	8	8	8	8	7	9	11	10	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date.......27 JUL 2016.......

(Authorised to sign as a representative of the Operator)

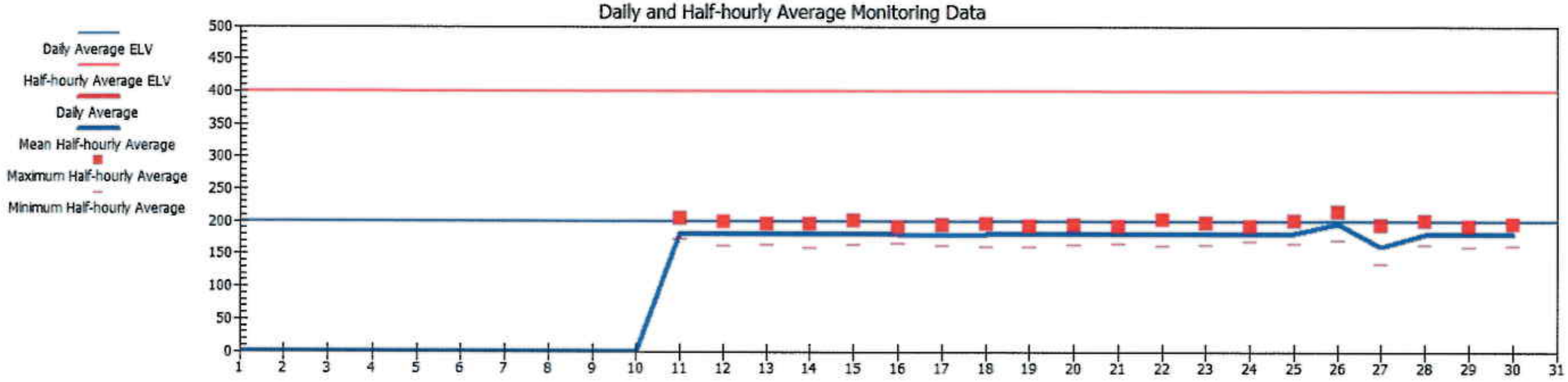
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	214	Maximum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	204	200	196	197	202	191	194	195	193	195	192	202	198	192	202	214	194	202	193	195	
Half-hourly	Monthly mean	180	Mean Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	183	180	180	180	180	180	179	180	180	180	180	180	180	180	181	195	161	181	180	180	
average	Monthly minimum	135	Minimum Half-hourly average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	174	162	165	159	165	167	163	161	161	165	166	164	164	170	166	172	135	164	162	163	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Daily	Monthly maximum	195	Daily average	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	183	180	180	180	180	180	179	180	180	180	180	180	180	180	181	195	161	181	180	180	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date......... 27 JUL 2016

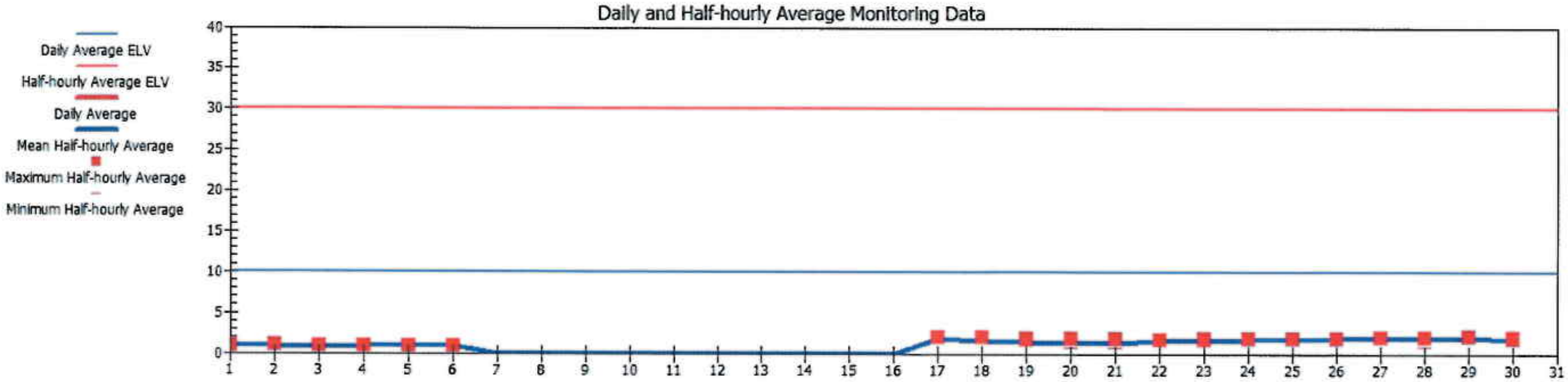
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	2	Maximum Half-hourly average	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	1	1	1	2	2	2	2	2	2	2	2	2	
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	1	1	1	1	1	1	1	1	2	2	1	2	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	2	Daily average	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	1	1	1	2	2	2	2	2	2	2	2	2	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date.........27 JUL 2016.........

Permit Reference Number : SP3239FU

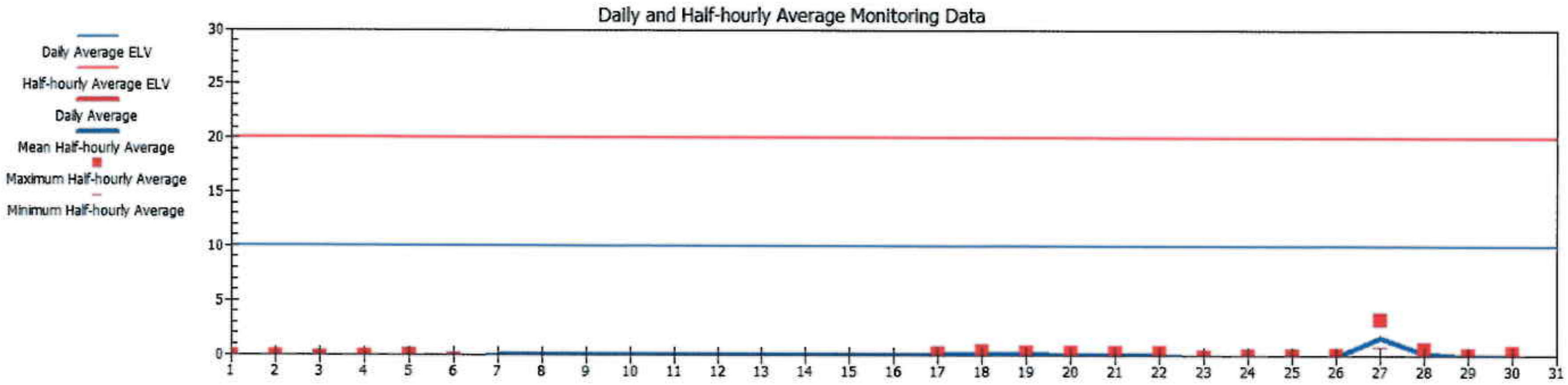
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of April 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	3	Maximum Half-hourly average	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	3	1	0	0	
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	2	Daily average	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date.....27 JUL 2016..................

(Authorised to sign as a representative of the Operator)

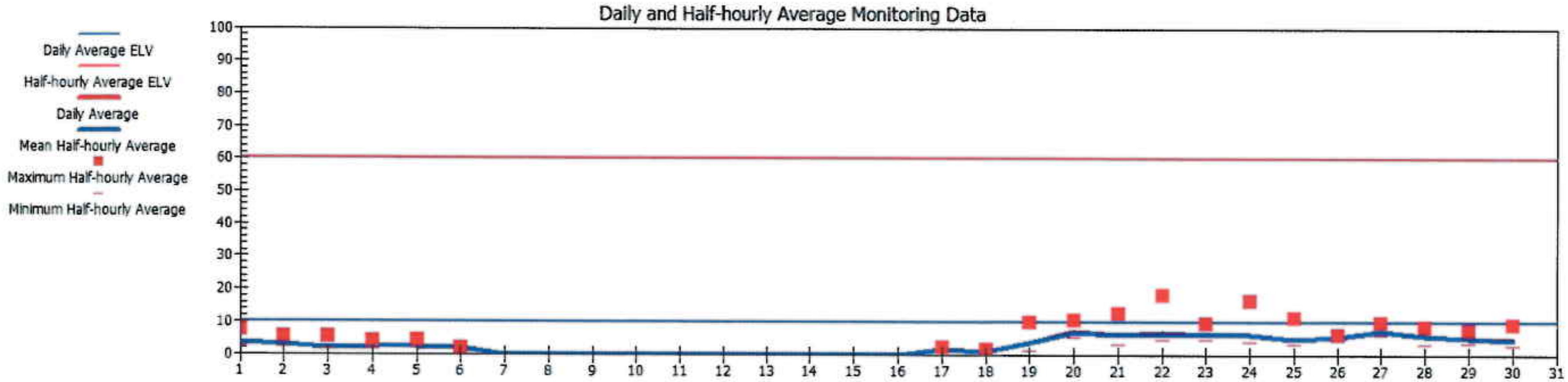
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	18	Maximum Half-hourly average	7	5	5	4	4	2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	2	10	11	13	18	10	17	11	6	10	9	7	9	
	Monthly mean	4	Mean Half-hourly average	4	3	2	2	2	2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	1	4	7	6	7	6	6	5	5	7	6	5	5	
	Monthly minimum	1	Minimum Half-hourly average	3	2	1	2	2	2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	1	1	1	5	3	5	5	4	3	5	6	3	4	3	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	7	Daily average	4	3	2	2	2	2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	2	1	4	7	6	7	6	6	5	5	7	6	5	5	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..........27 JUL 2016..........

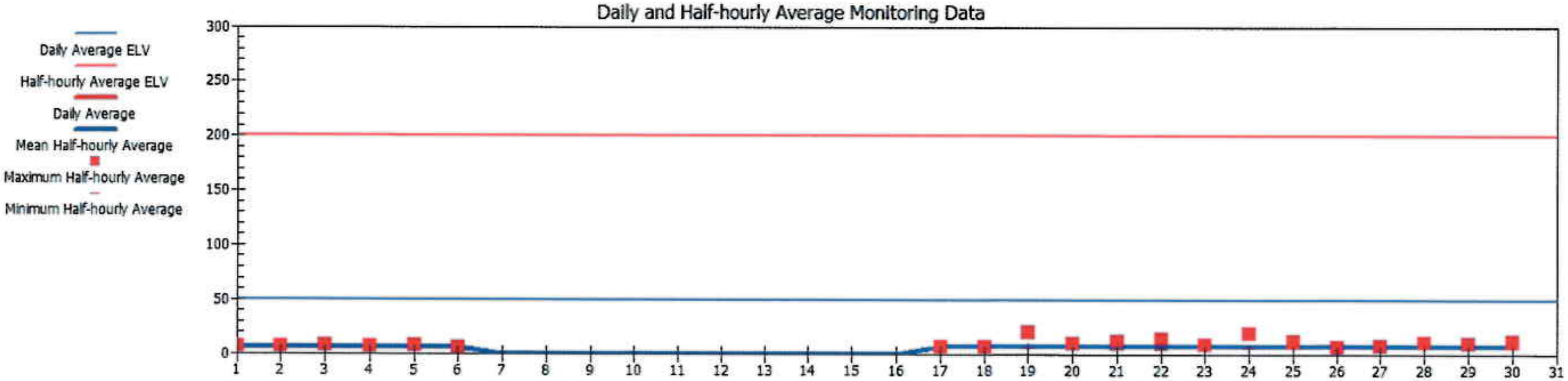
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	21	Maximum Half-hourly average	7	7	8	7	7	6	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	7	7	21	10	12	14	9	20	12	7	8	11	10	12	
Half-hourly	Monthly mean	7	Mean Half-hourly average	6	6	6	6	6	6	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	7	6	7	7	7	7	7	7	7	6	7	8	7	7	
average	Monthly minimum	5	Minimum Half-hourly average	5	6	5	5	5	6	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	7	5	6	5	5	5	5	5	5	6	7	6	7	6	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Daily	Monthly maximum	8	Daily average	6	6	6	6	6	6	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	7	6	7	7	7	7	7	7	7	6	7	8	7	7	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..........27 JUL 2016..........

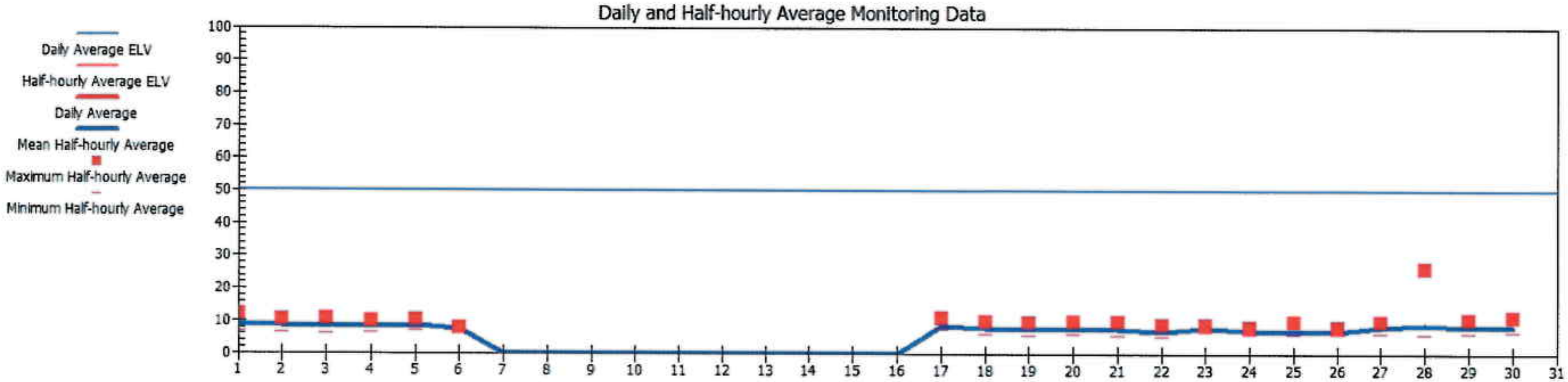
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	26	Maximum Half-hourly average	12	10	11	10	10	8	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	11	10	10	10	10	9	9	8	10	8	10	26	11	11	
Half-hourly	Monthly mean	8	Mean Half-hourly average	9	9	8	8	9	8	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	9	8	7	8	8	7	8	7	7	7	8	9	8	8	
average	Monthly minimum	6	Minimum Half-hourly average	7	7	6	6	7	7	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	7	6	6	6	6	6	7	6	6	6	7	6	6	7	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Daily	Monthly maximum	9	Daily average	9	9	8	8	9	8	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	9	8	7	8	8	7	8	7	7	7	8	9	8	8	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date........27 JUL 2016.........

(Authorised to sign as a representative of the Operator)

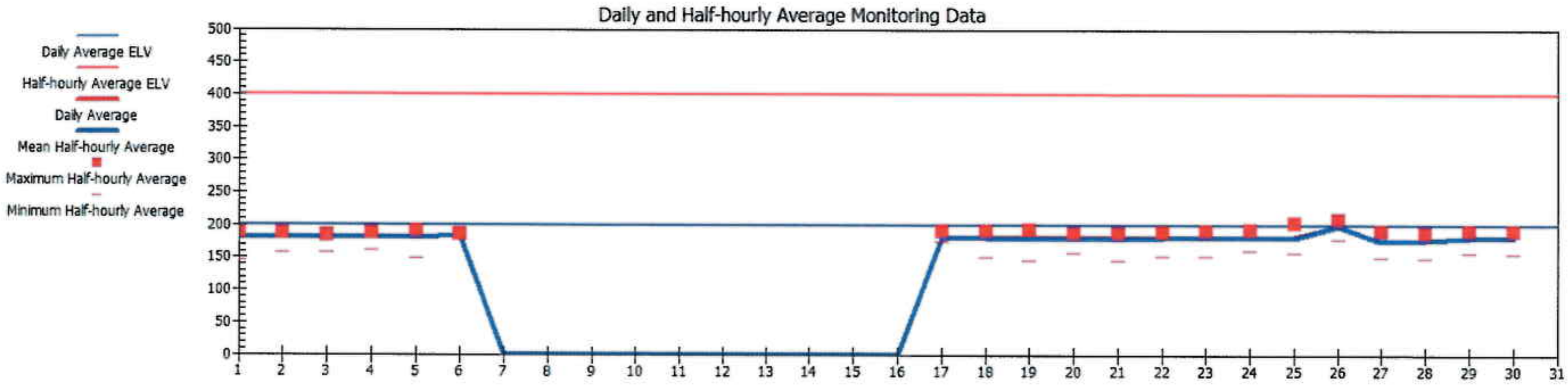
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of April 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	208	Maximum Half-hourly average	189	187	184	188	191	185	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	190	190	193	187	188	190	190	193	203	208	190	187	190	191	
	Monthly mean	181	Mean Half-hourly average	180	180	180	180	179	184	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	181	180	179	180	179	180	180	180	181	198	175	177	180	180	
	Monthly minimum	145	Minimum Half-hourly average	145	158	158	161	148	184	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	176	151	145	157	146	152	153	160	157	179	151	149	157	156	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	198	Daily average	180	180	180	180	179	184	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	181	180	179	180	179	180	180	180	181	198	175	177	180	180	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date........ 27 JUL 2016 ....

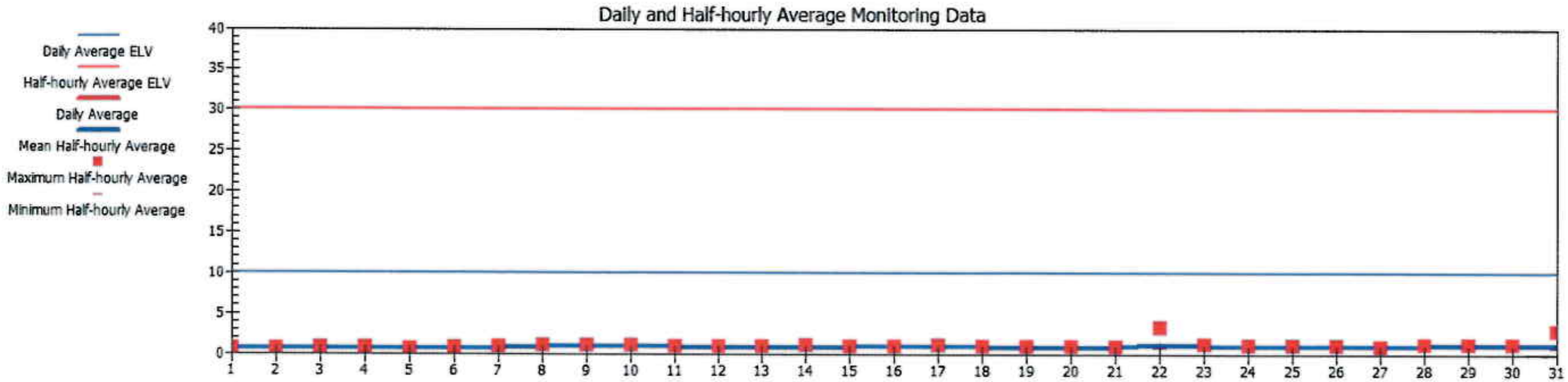
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	3	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	3
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
average	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date.....27 JUL 2016.....................

(Authorised to sign as a representative of the Operator)

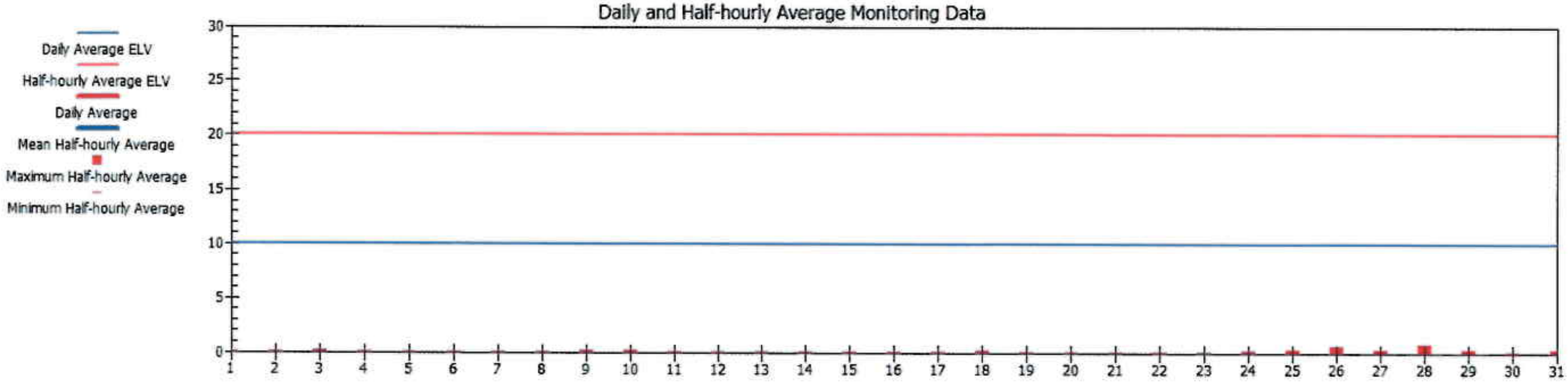
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.......27 JUL 2016..........

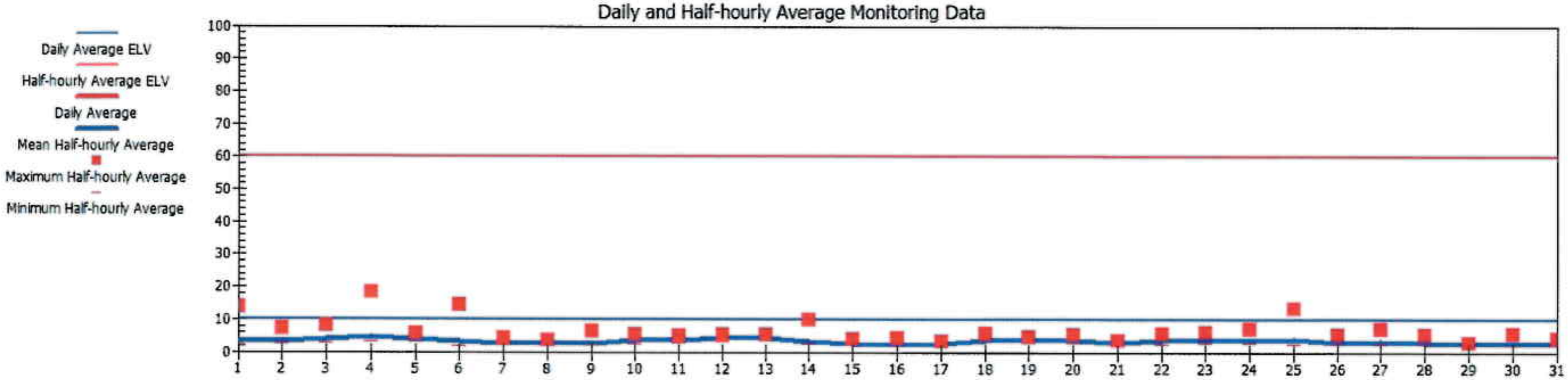
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	18	Maximum Half-hourly average	14	7	8	18	6	14	4	4	6	5	5	6	5	10	4	4	3	6	5	5	4	6	6	7	13	5	7	6	3	6	4
Half-hourly	Monthly mean	3	Mean Half-hourly average	4	3	4	5	4	3	3	3	3	4	4	4	4	3	3	2	3	4	4	4	3	4	4	4	4	3	3	3	3	3	3
average	Monthly minimum	2	Minimum Half-hourly average	2	3	3	3	3	2	2	2	2	3	3	3	4	3	2	2	2	3	3	3	3	3	3	3	2	3	3	2	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	5	Daily average	4	3	4	5	4	3	3	3	3	4	4	4	4	3	3	2	3	4	4	4	3	4	4	4	4	3	3	3	3	3	3
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date......27 JUL 2016..........

Permit Reference Number : SP3239FU

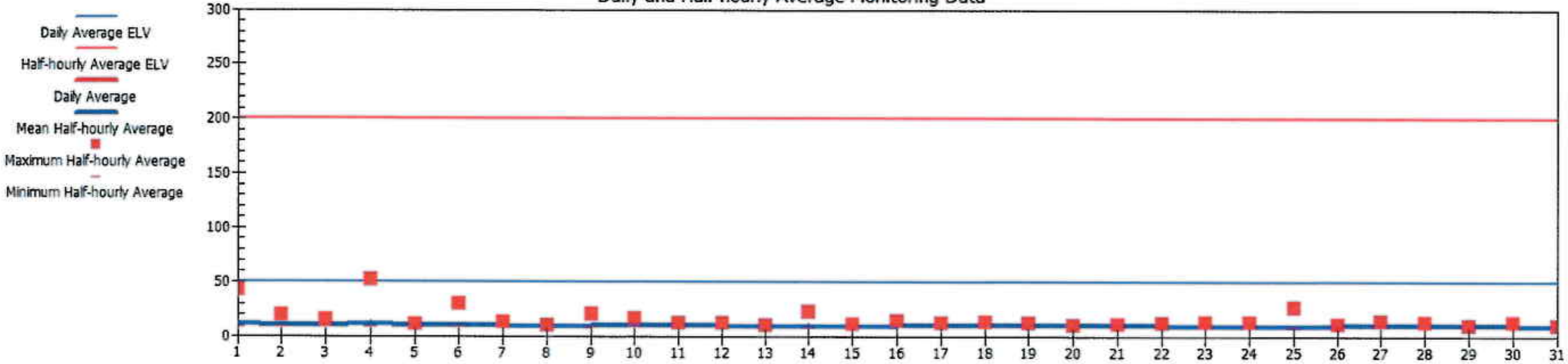
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of May 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	52	Maximum Half-hourly average	43	19	16	52	11	30	13	10	20	17	12	12	10	22	11	15	12	13	12	10	11	12	13	13	26	11	14	13	10	13	10
	Monthly mean	10	Mean Half-hourly average	12	10	9	12	9	10	10	9	10	10	10	10	9	10	9	9	10	10	10	10	10	10	9	9	9	10	10	9	9	10	9
	Monthly minimum	8	Minimum Half-hourly average	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	8	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	12	Daily average	12	10	9	12	9	10	10	9	10	10	10	10	9	10	9	9	10	10	10	10	10	10	9	9	9	10	10	9	9	10	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.........27 JUL 2016.........

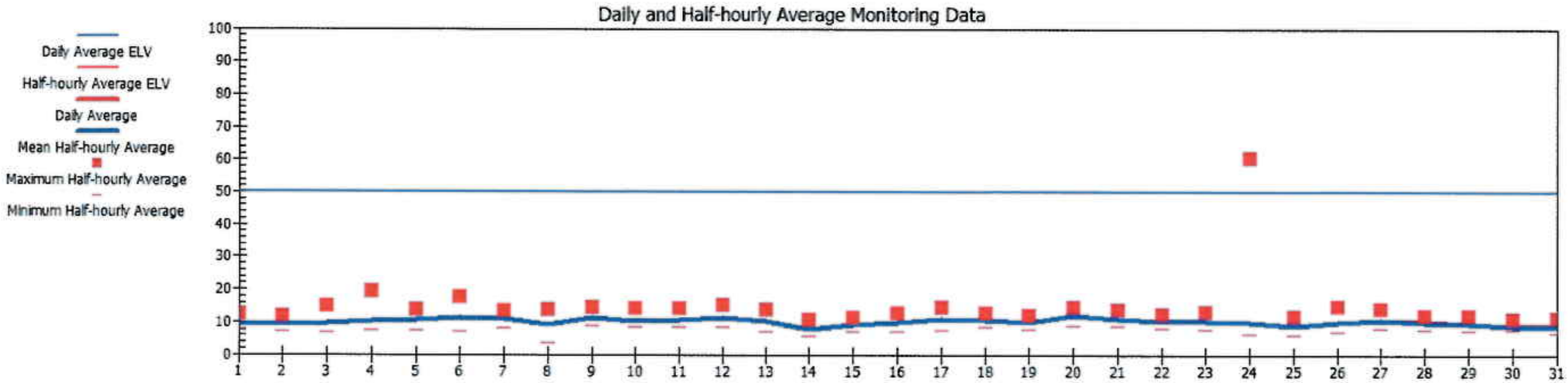
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	61	Maximum Half-hourly average	12	12	15	19	14	17	14	14	14	14	14	15	14	11	11	13	14	13	12	15	14	12	13	61	12	15	14	12	12	11	11
	Monthly mean	10	Mean Half-hourly average	9	9	10	10	11	11	11	9	11	10	11	11	10	8	9	10	11	11	10	12	11	10	10	10	9	10	11	10	10	9	9
	Monthly minimum	4	Minimum Half-hourly average	8	7	7	8	8	7	8	4	9	9	8	9	7	6	7	7	7	8	8	9	9	8	8	6	6	7	8	8	7	8	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	12	Daily average	9	9	10	10	11	11	11	9	11	10	11	11	10	8	9	10	11	11	10	12	11	10	10	10	9	10	11	10	10	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

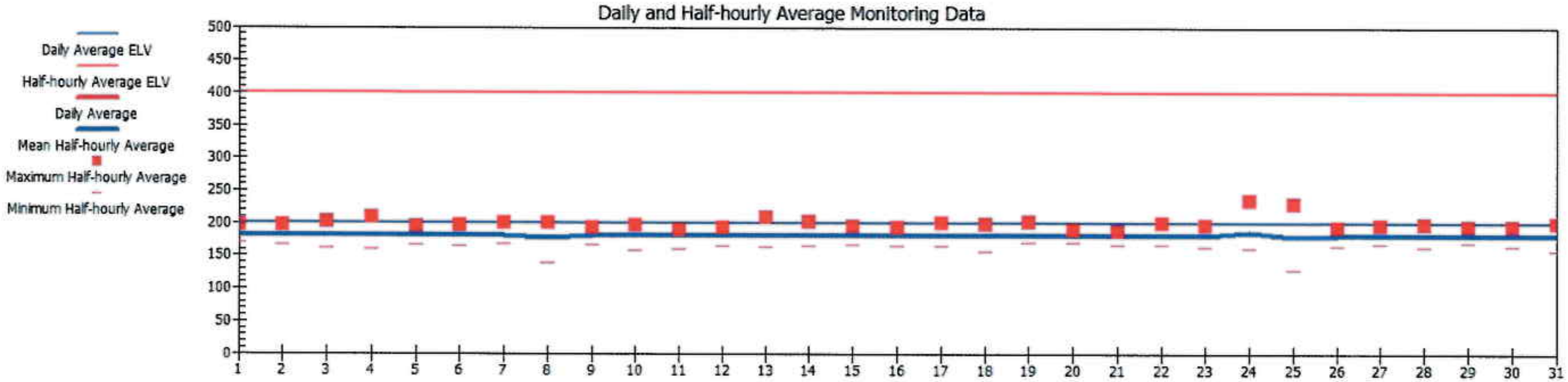
Signed.. Date.......27 JUL 2016..........

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU Operator : Ferrybridge MFE Limited

Installation: Knottingley Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	235	Maximum Half-hourly average	195	197	202	208	194	195	199	200	192	196	189	193	208	202	195	193	200	198	201	189	187	200	196	235	230	192	197	199	194	194	199
	Monthly mean	180	Mean Half-hourly average	180	180	180	180	180	180	180	176	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	186	179	180	180	180	180	180	180
	Monthly minimum	128	Minimum Half-hourly average	169	167	161	159	166	165	167	139	166	158	159	165	163	165	166	165	164	156	170	171	166	166	163	161	128	164	168	163	170	164	158
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	186	Daily average	180	180	180	180	180	180	180	176	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	186	179	180	180	180	180	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date.........27 JUL 2016.........

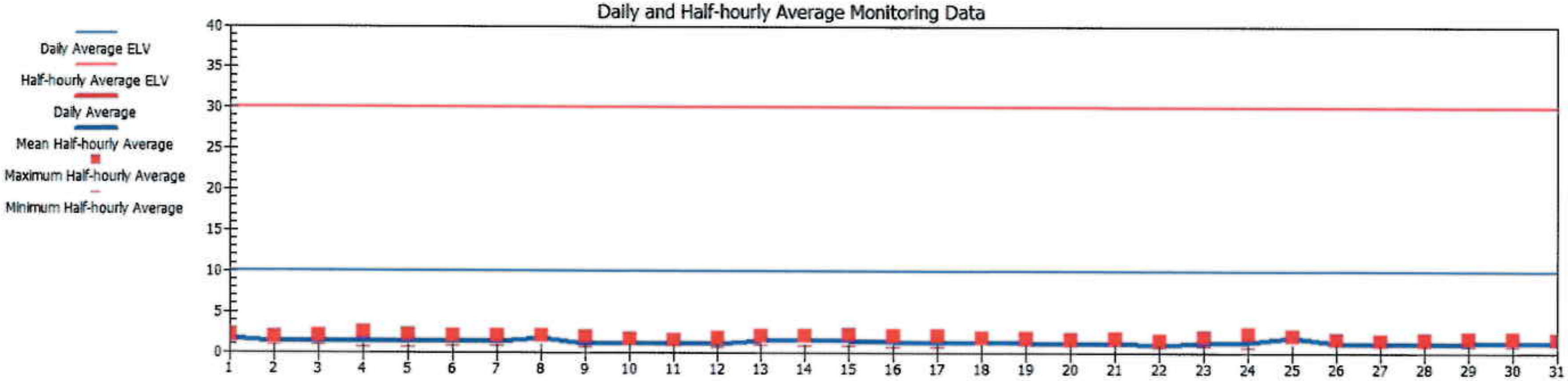
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	1	2	2	2	2
	Monthly mean	1	Mean Half-hourly average	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	2	Daily average	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date......27 JUL 2016..............

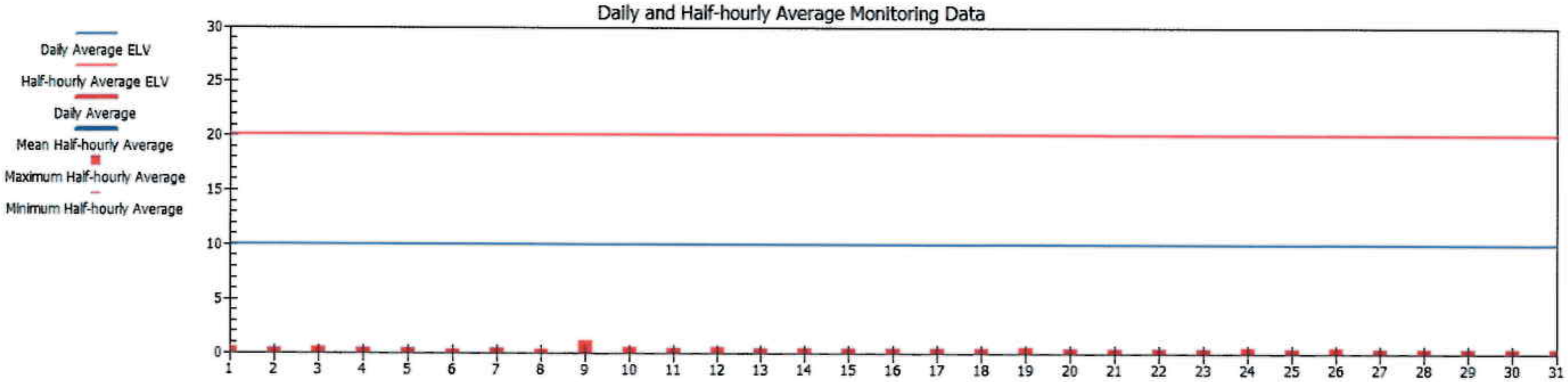
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date....27 JUL 2016..................

(Authorised to sign as a representative of the Operator)

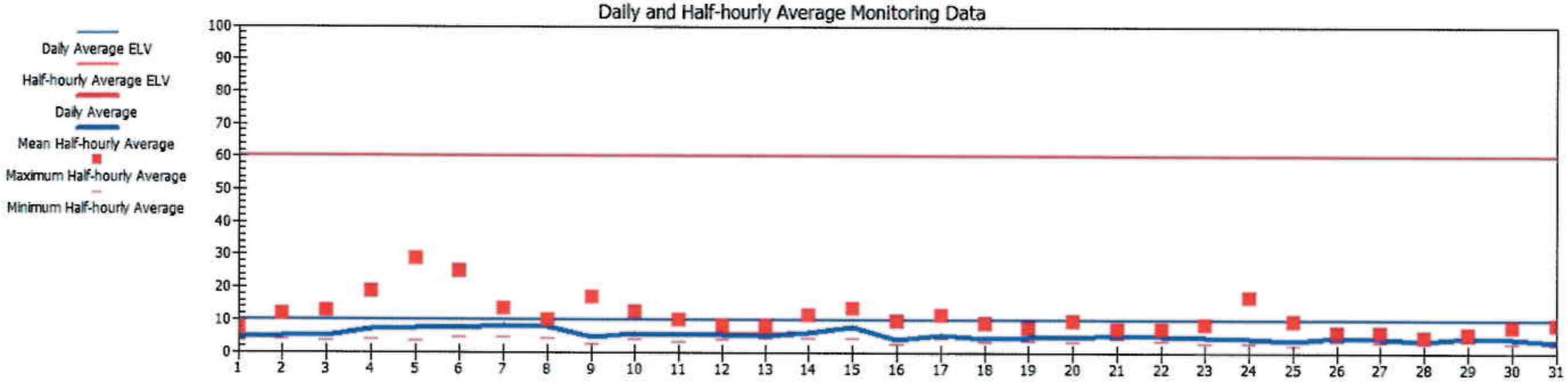
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	29	Maximum Half-hourly average	7	12	13	19	29	25	13	10	17	12	10	8	8	11	14	10	11	9	8	10	7	7	8	17	9	6	6	5	6	8	9
	Monthly mean	5	Mean Half-hourly average	5	5	5	7	7	8	8	8	5	6	5	5	5	6	8	4	5	4	5	5	5	5	5	5	4	5	4	4	5	4	3
	Monthly minimum	2	Minimum Half-hourly average	4	4	4	4	4	5	5	4	3	4	3	4	4	4	4	3	4	3	4	3	4	4	3	3	2	4	3	3	4	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	8	Daily average	5	5	5	7	7	8	8	8	5	6	5	5	5	6	8	4	5	4	5	5	5	5	5	5	4	5	4	4	5	4	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date....27 JUL 2016.........

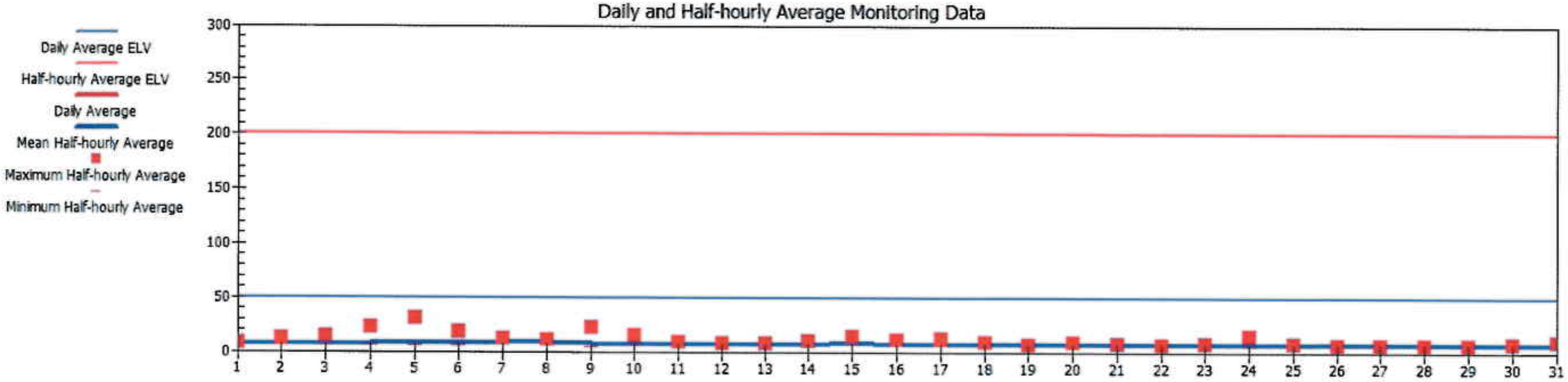
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	30	Maximum Half-hourly average	8	13	14	22	30	19	12	11	23	16	9	7	8	10	14	11	12	9	7	8	8	7	8	15	8	7	7	7	7	8	9
	Monthly mean	7	Mean Half-hourly average	7	7	7	8	8	8	9	9	7	7	7	7	7	7	9	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Monthly minimum	5	Minimum Half-hourly average	6	6	6	6	6	6	7	7	5	6	6	6	6	6	7	6	6	5	6	6	5	6	7	5	5	6	6	6	5	5	5
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	9	Daily average	7	7	7	8	8	8	9	9	7	7	7	7	7	7	9	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date....27 JUL 2016..............

(Authorised to sign as a representative of the Operator)

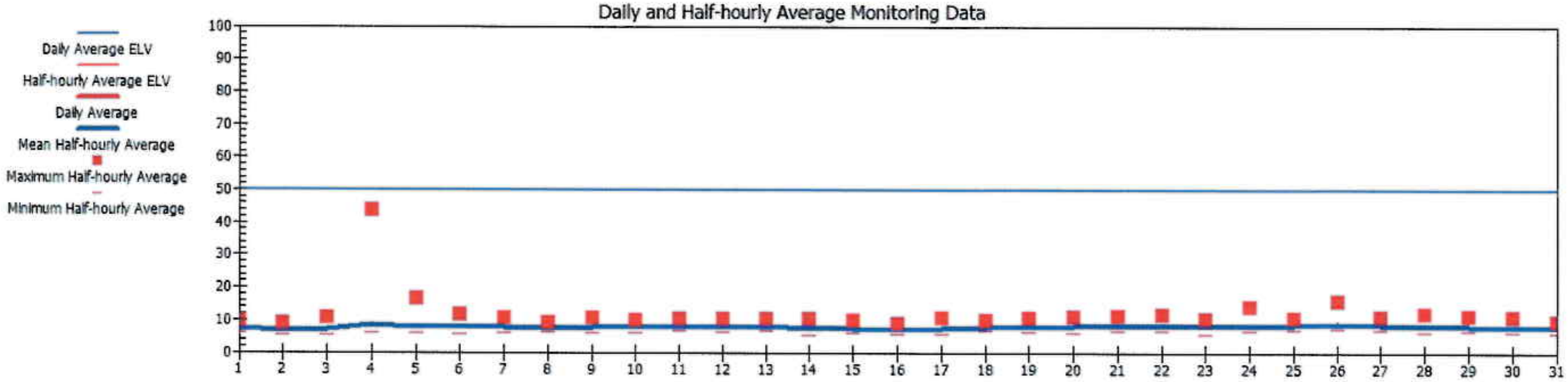
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	44	Maximum Half-hourly average	10	9	11	44	17	12	11	9	11	10	10	10	10	10	10	9	11	10	11	11	11	12	10	14	11	16	11	12	11	11	10
Half-hourly	Monthly mean	8	Mean Half-hourly average	7	7	7	9	8	8	8	7	8	8	8	8	8	7	8	7	7	8	8	8	9	8	8	8	8	9	9	8	8	8	8
average	Monthly minimum	6	Minimum Half-hourly average	6	6	6	6	6	6	6	6	6	6	7	6	7	6	6	6	6	7	6	6	7	7	6	7	7	7	7	6	7	7	6
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	9	Daily average	7	7	7	9	8	8	8	7	8	8	8	8	8	7	8	7	7	8	8	8	9	8	8	8	8	9	9	8	8	8	8
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.......27 JUL 2016.......

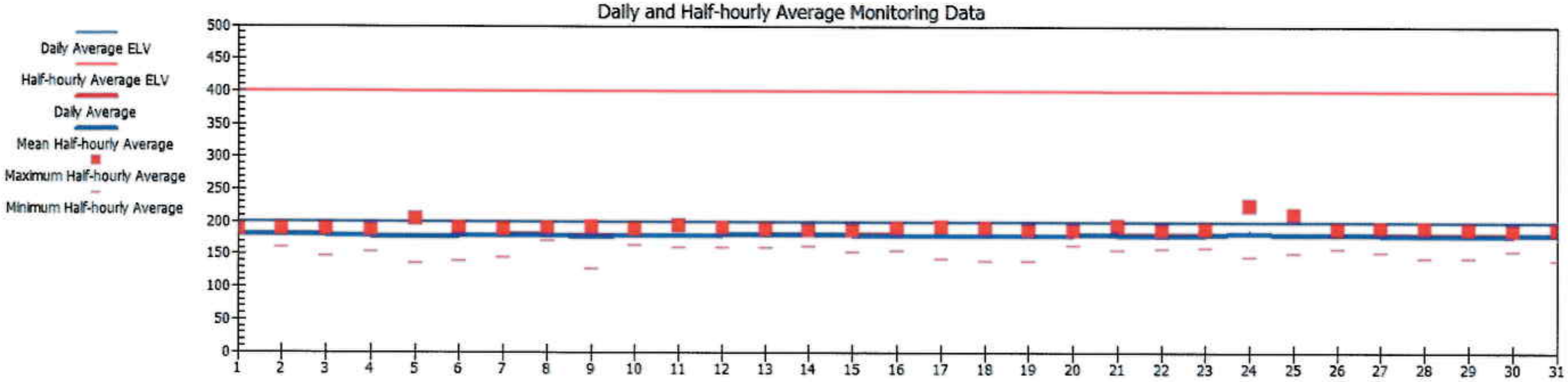
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of May 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	226	Maximum Half-hourly average	188	190	190	187	205	191	189	190	192	188	193	190	189	187	188	191	192	191	188	187	194	187	188	226	211	189	190	190	189	188	188
	Monthly mean	179	Mean Half-hourly average	180	180	180	179	177	179	179	181	177	180	179	180	180	180	180	179	179	179	179	180	180	179	180	184	180	179	180	179	179	180	179
	Monthly minimum	128	Minimum Half-hourly average	149	161	147	154	137	139	145	172	128	164	162	161	161	163	155	156	144	141	141	164	157	160	161	148	152	160	153	145	146	156	141
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	184	Daily average	180	180	180	179	177	179	179	181	177	180	179	180	180	180	180	179	179	179	179	180	180	179	180	184	180	179	180	179	179	180	179
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date......27 JUL 2016..................

(Authorised to sign as a representative of the Operator)

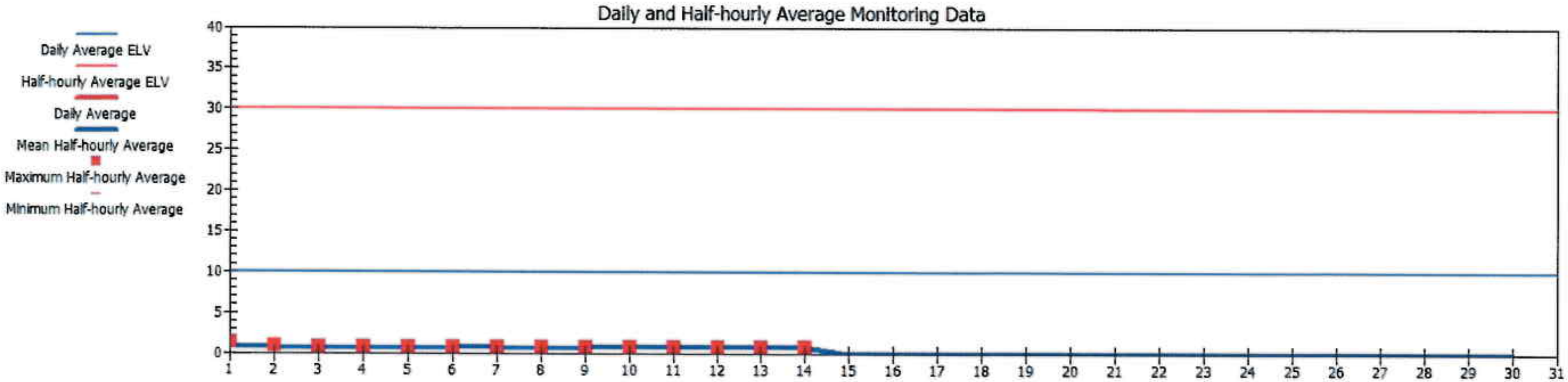
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..................................

Date.......27 JUL 2016.......

(Authorised to sign as a representative of the Operator)

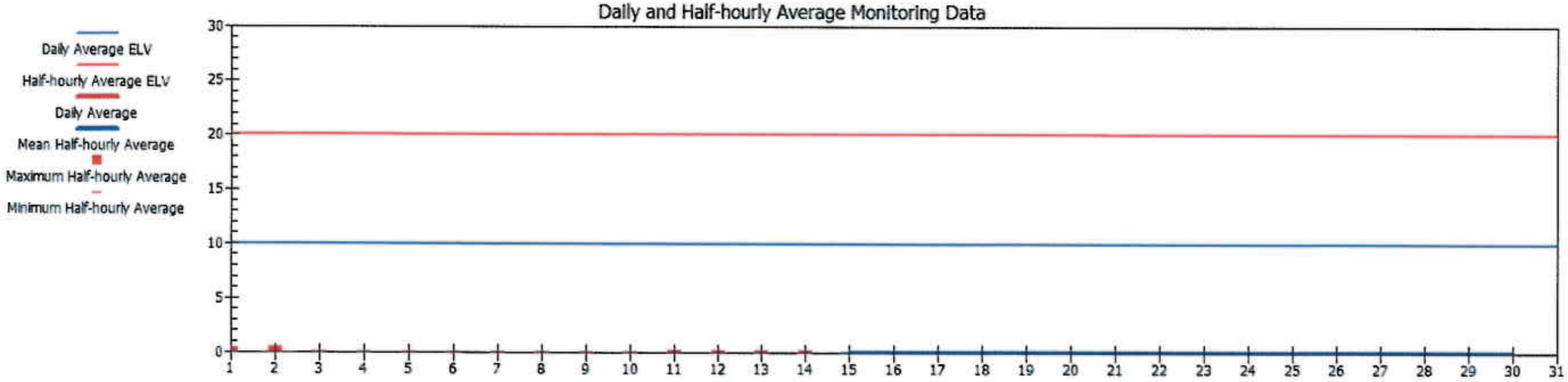
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date.........27 JUL 2016.........

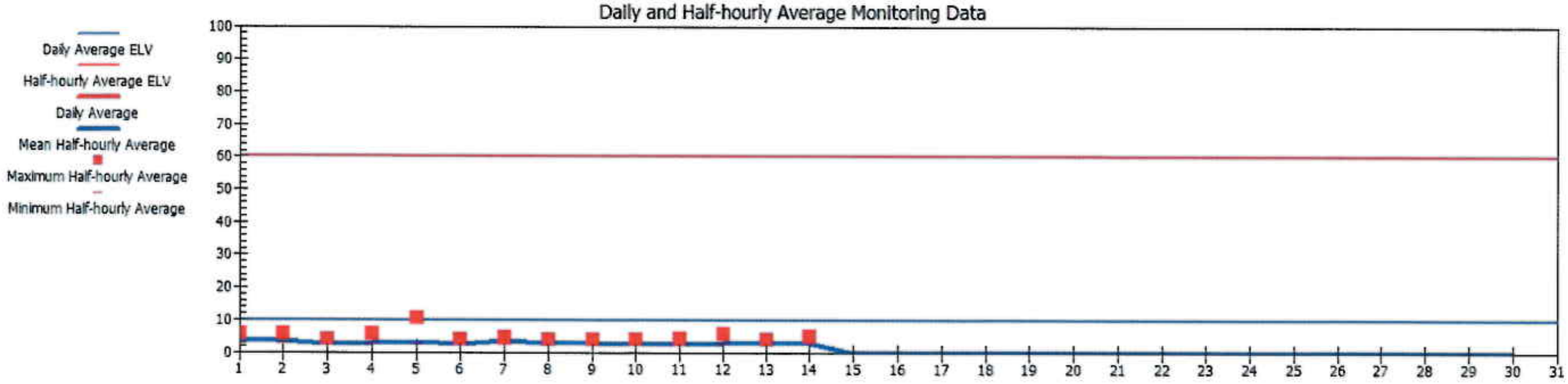
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	11	Maximum Half-hourly average	6	6	4	6	11	4	5	4	4	4	5	6	4	5	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly mean	3	Mean Half-hourly average	4	4	3	3	3	3	4	3	3	3	3	3	3	3	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly minimum	2	Minimum Half-hourly average	3	3	2	3	2	2	3	3	2	2	2	3	3	3	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	4	Daily average	4	4	3	3	3	3	4	3	3	3	3	3	3	3	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date........ 27 JUL 2016 ....

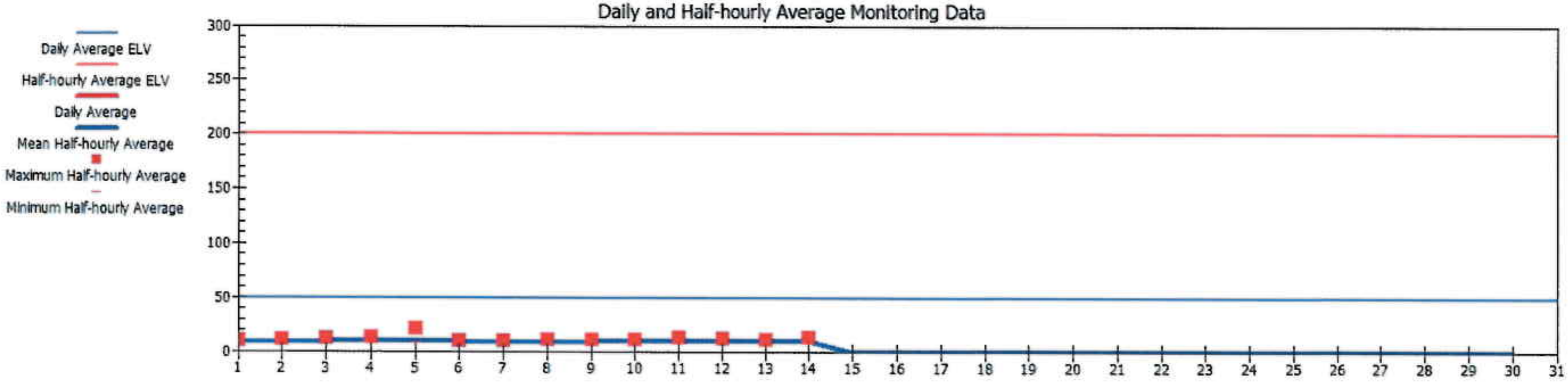
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	21	Maximum Half-hourly average	10	11	12	13	21	10	10	11	11	11	13	12	11	13	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly mean	10	Mean Half-hourly average	9	9	10	10	10	10	9	9	10	10	10	10	10	10	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly minimum	9	Minimum Half-hourly average	9	9	9	9	9	9	9	9	9	9	9	9	9	9	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	10	Daily average	9	9	10	10	10	10	9	9	10	10	10	10	10	10	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date......27 JUL 2016..............

(Authorised to sign as a representative of the Operator)

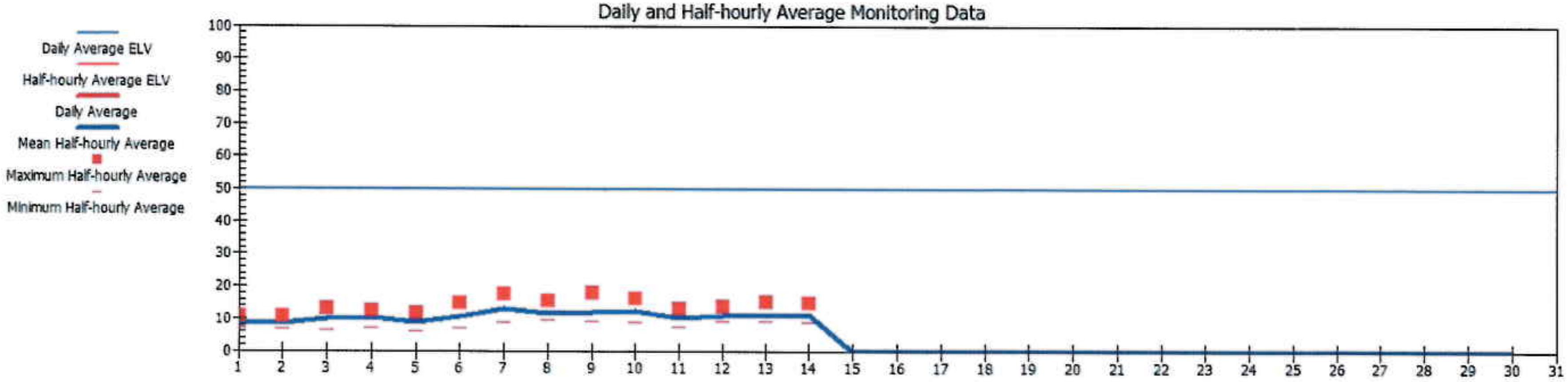
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	18	Maximum Half-hourly average	11	11	13	12	12	15	18	16	18	16	13	14	15	15	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly mean	11	Mean Half-hourly average	9	8	10	10	9	11	13	12	12	12	10	11	11	11	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Monthly minimum	6	Minimum Half-hourly average	7	7	7	7	6	7	9	10	9	9	7	9	9	9	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	13	Daily average	9	8	10	10	9	11	13	12	12	12	10	11	11	11	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date.........27 JUL 2016.........

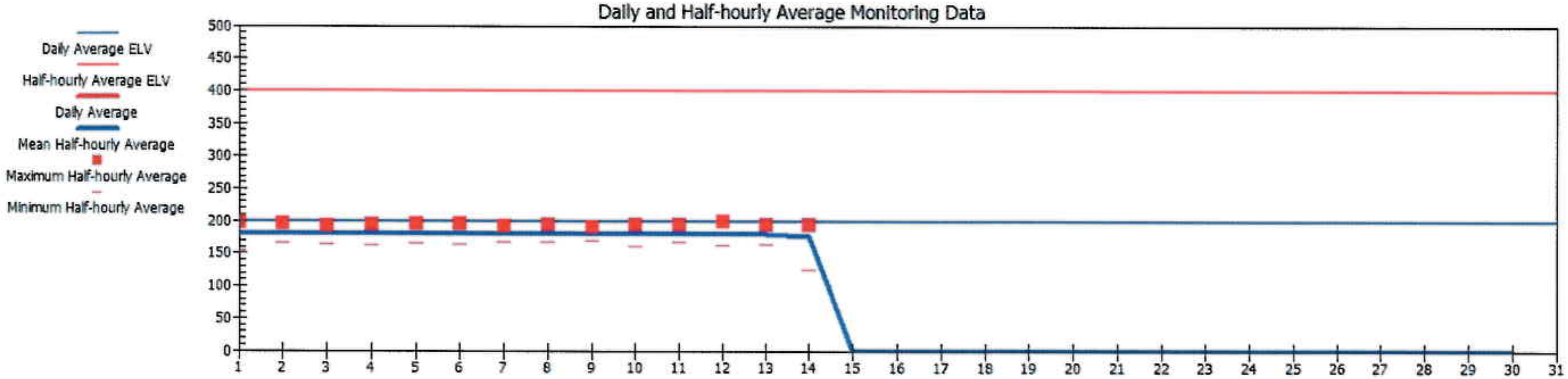
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	199	Maximum Half-hourly average	198	196	193	194	196	196	193	194	192	194	194	199	195	195	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
Half-hourly	Monthly mean	180	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	180	180	180	180	177	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
average	Monthly minimum	125	Minimum Half-hourly average	154	166	164	163	166	164	168	167	170	162	168	164	165	125	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Daily	Monthly maximum	180	Daily average	180	180	180	180	180	180	180	180	180	180	180	180	180	177	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date......27 JUL 2016..............

(Authorised to sign as a representative of the Operator)

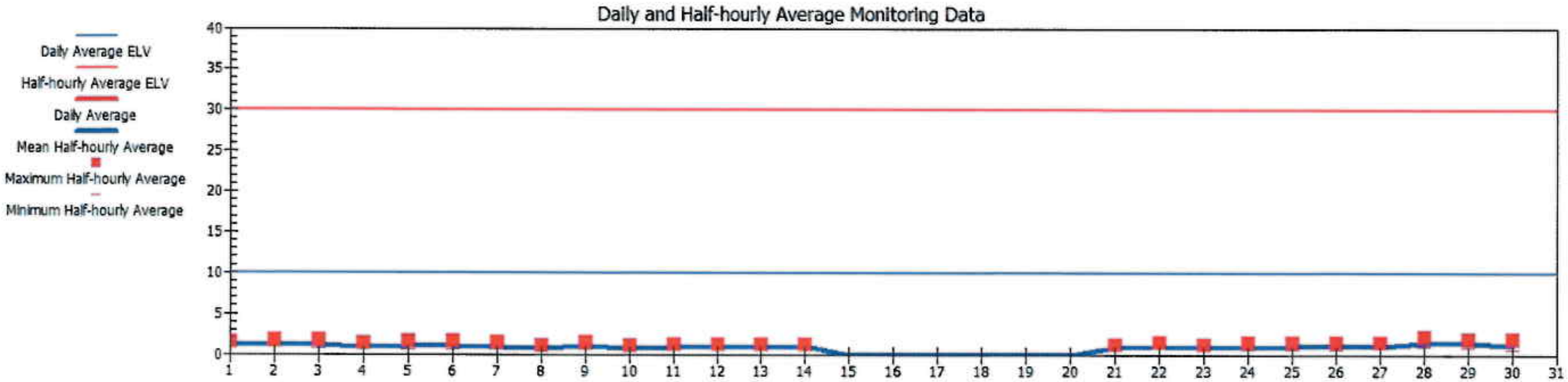
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	2	Maximum Half-hourly average	1	2	2	1	2	2	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	2	2	2	
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	Off	1	1	1	1	1	1	1	1	1	1	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

Date......27 JUL 2016......

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

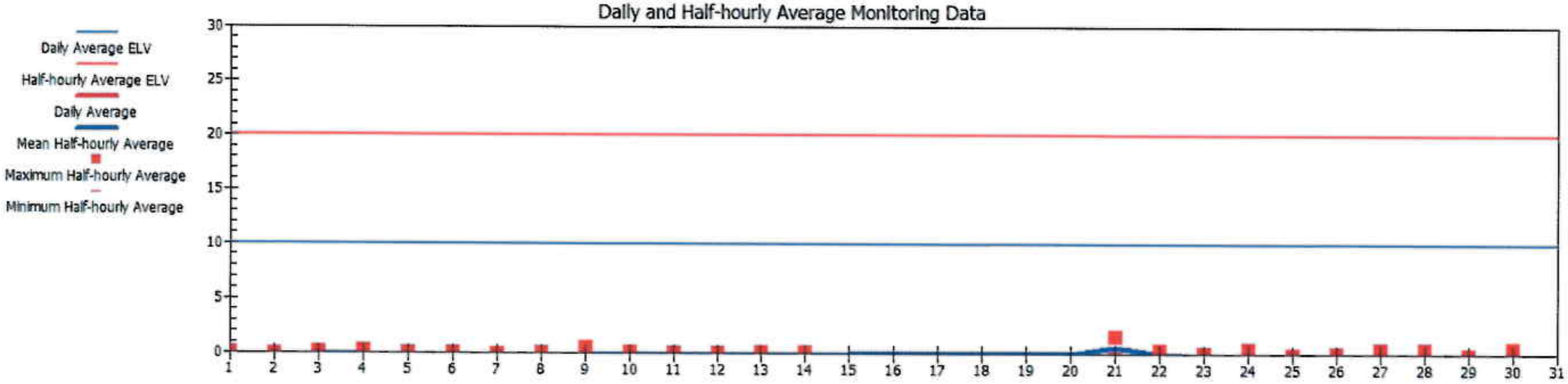
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of June 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	2	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	2	0	0	0	0	0	0	0	0	0	
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	1	0	0	0	0	0	0	0	0	0	
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	1	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	1	0	0	0	0	0	0	0	0	0	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

Date........27 JUL 2016..............

(Authorised to sign as a representative of the Operator)

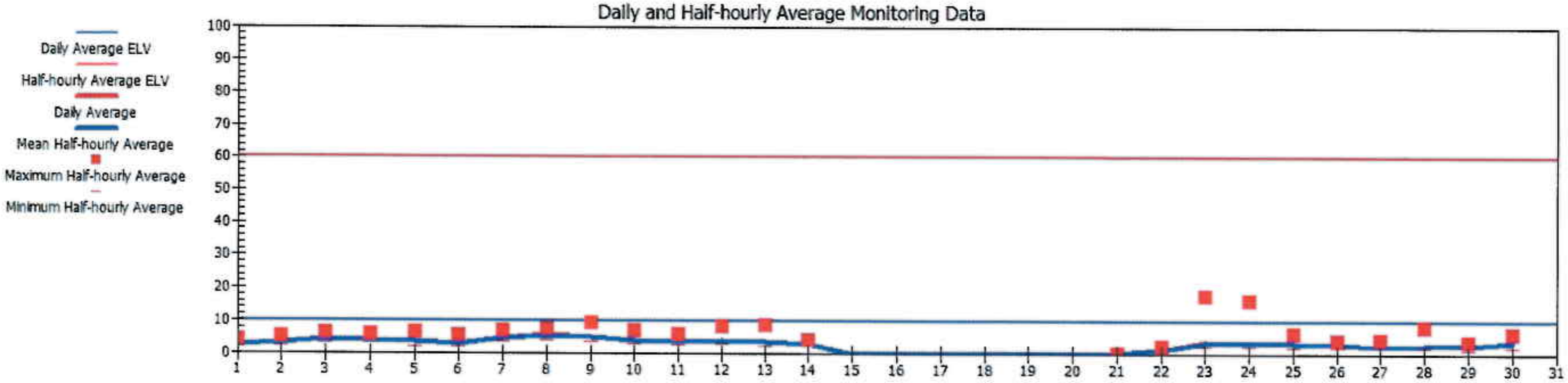
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	17	Maximum Half-hourly average	4	5	6	6	6	5	7	7	9	7	6	8	8	4	Off	Off	Off	Off	Off	Off	0	2	17	16	6	4	4	8	4	6	
	Monthly mean	3	Mean Half-hourly average	3	3	4	4	4	3	5	6	5	4	4	4	4	3	Off	Off	Off	Off	Off	Off	0	1	3	3	3	3	2	3	3	4	
	Monthly minimum	0	Minimum Half-hourly average	2	2	3	3	2	2	4	4	4	3	3	3	2	3	Off	Off	Off	Off	Off	Off	0	0	2	2	2	2	2	2	1	2	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	6	Daily average	3	3	4	4	4	3	5	6	5	4	4	4	4	3	Off	Off	Off	Off	Off	Off	0	1	3	3	3	3	2	3	3	4	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

Date.......27 JUL 2016.......

(Authorised to sign as a representative of the Operator)

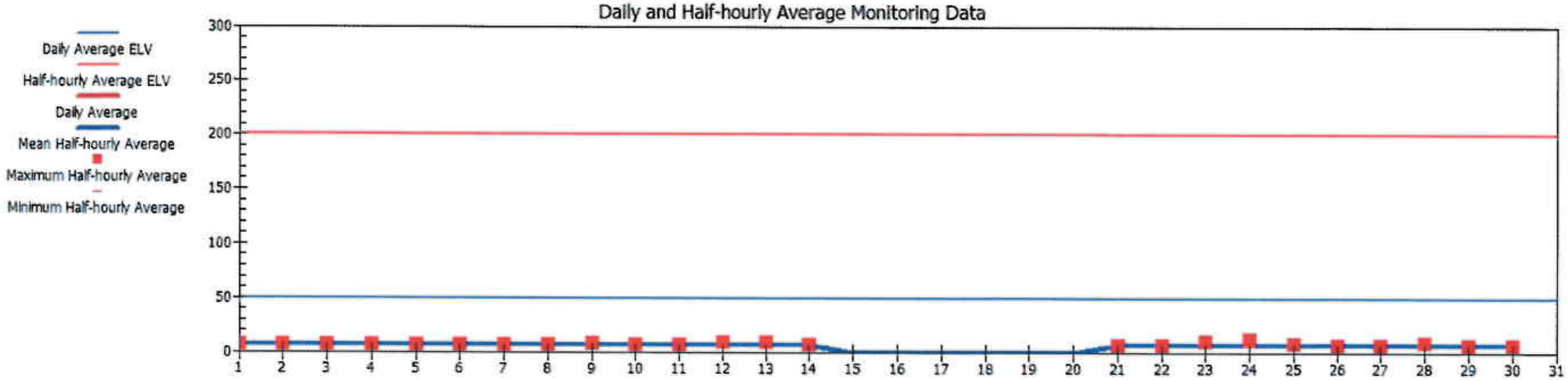
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	12	Maximum Half-hourly average	7	7	7	7	7	7	7	7	8	7	7	9	9	7	Off	Off	Off	Off	Off	Off	7	7	10	12	8	7	7	8	7	7	
	Monthly mean	7	Mean Half-hourly average	7	7	7	6	7	7	7	7	7	7	7	7	7	7	Off	Off	Off	Off	Off	Off	7	7	7	7	7	7	7	7	7	7	
	Monthly minimum	5	Minimum Half-hourly average	5	5	5	5	5	5	5	5	5	5	5	5	6	7	Off	Off	Off	Off	Off	Off	6	6	5	6	5	6	5	6	5	6	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	7	Daily average	7	7	7	6	7	7	7	7	7	7	7	7	7	7	Off	Off	Off	Off	Off	Off	7	7	7	7	7	7	7	7	7	7	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date......27 JUL 2016..........

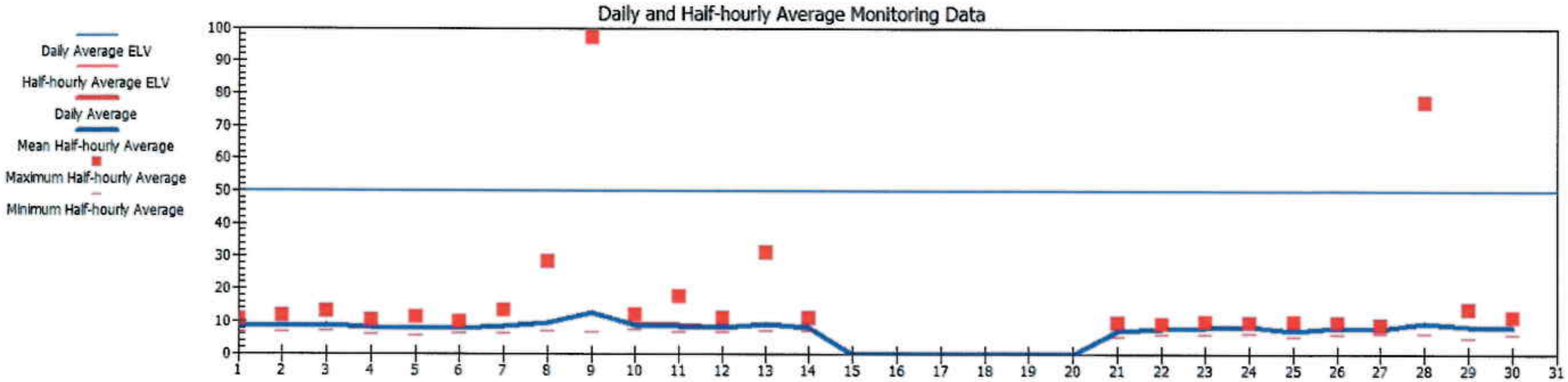
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	97	Maximum Half-hourly average	11	12	13	10	11	10	14	28	97	12	18	11	31	11	Off	Off	Off	Off	Off	Off	10	9	10	10	10	10	9	77	14	11	
	Monthly mean	9	Mean Half-hourly average	9	9	9	8	8	8	9	10	13	9	9	8	9	8	Off	Off	Off	Off	Off	Off	7	8	8	8	7	8	8	10	8	8	
	Monthly minimum	5	Minimum Half-hourly average	7	7	7	6	6	6	7	7	7	7	7	7	7	7	Off	Off	Off	Off	Off	Off	5	6	6	6	5	6	7	7	5	6	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	13	Daily average	9	9	9	8	8	8	9	10	13	9	9	8	9	8	Off	Off	Off	Off	Off	Off	7	8	8	8	7	8	8	10	8	8	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

Date.........27 JUL 2016.........

(Authorised to sign as a representative of the Operator)

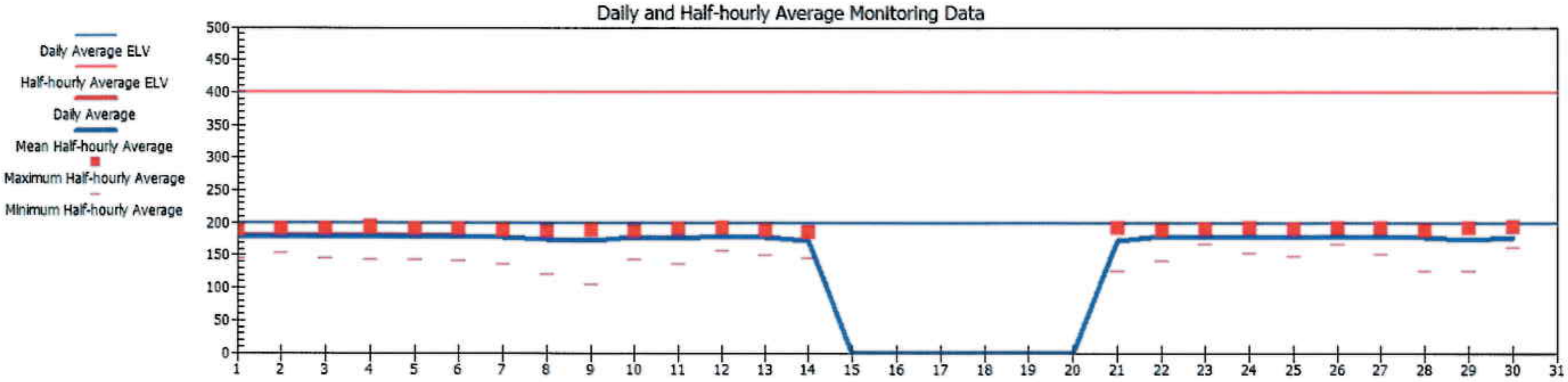
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of June 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	194	Maximum Half-hourly average	189	190	190	193	191	190	189	187	189	188	191	193	190	186	Off	Off	Off	Off	Off	Off	192	188	190	192	191	193	193	189	192	194	
	Monthly mean	178	Mean Half-hourly average	179	179	179	179	179	179	179	174	173	179	176	180	179	173	Off	Off	Off	Off	Off	Off	174	180	179	180	179	180	179	178	175	179	
	Monthly minimum	105	Minimum Half-hourly average	146	154	146	143	144	143	136	121	105	145	137	158	150	146	Off	Off	Off	Off	Off	Off	126	143	168	155	150	168	153	126	127	163	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	180	Daily average	179	179	179	179	179	179	179	174	173	179	176	180	179	173	Off	Off	Off	Off	Off	Off	174	180	179	180	179	180	179	178	175	179	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date 27 JUL 2016

Permit Number : EPR/SP3239FU
Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility
Form Number : Air 7 / 30/11/2012

Reporting of periodically monitored emissions to air for the period from Jan 2016 to March 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	2 mg/m³	Periodic over minimum 1-hour period	<0.03	BS ISO 15713	22/04/2016 08:26-09:26	0.002
A2				<0.03		12/04/2016 06:24-07:24	0.003
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	<0.0007	BS EN 14385	22/04/2016 80 mins between 08:00 and 09:25	0.0001
A2				0.001		12/04/2016 80 mins between 06:22 and 07:50	0.0002
A1	Mercury and its compounds	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	0.001	BS EN 13211	as Cadmium	0.0001
A2				0.0004		as Cadmium	0.0001
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m³	over minimum 30 minute, maximum 8 hour period	0.006	BS EN 14385	as Cadmium	0.001
A2				0.05		as Cadmium	0.01

27 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / Furans (I-TEQ)	0.1 ng/m³	over minimum 6 hour period, maximum 8 hour period	0.019 ng/m³	BS EN 1948 Parts 1, 2 and 3	21/04/2016 360 mins between 11:45 and 17:55	0.004
A2				0.036 ng/m³		12/04/2016 360 mins between 10:44 and 17:12	0.008
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00302 ng/m³	BS EN/TS 1948-4	as above	0.00069
A2				0.012 ng/m³		as above	0.0027
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00015 ng/m³	BS EN/TS 1948-4	as above	0.00003
A2				0.001 ng/m³		as above	0.0001
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00615 ng/m³	BS EN/TS 1948-4	as above	0.00139
A2				0.026 ng/m³		as above	0.0059
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.018 ng/m³	BS EN/TS 1948-4	as above	0.004
A2				0.033 ng/m³		as above	0.007

27 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.020 ng/m³	BS EN/TS 1948-4	as above	0.004
A2				0.036 ng/m³		as above	0.008
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.035 ng/m³	BS EN/TS 1948-4	as above	0.008
A2				0.075 ng/m³		as above	0.017
	Poly-cyclic aromatic hydrocarbons (PAHs)						
A1	Total	No limit applies	over minimum 6 hour period, maximum 8 hour period	*0.476 µg/m³*	BS ISO 11338-1 and BS ISO 1138-2	21/04/2016 360 mins between 11:42 and 17:55 for all components	*0.108*
A2				*3.0 µg/m³*		12/04/2016 360 mins between 11:02 and 17:14 for all components	*0.69*
A1	Anthanthrene	No limit applies		*<0.013*			*0.003*
A2				*<0.02*			*0.005*
A1	Benzo(a)anthracene	No limit applies		*0.026*			*0.006*
A2				*0.04*			*0.01*
A1	Benzo[b]fluoranthene	No limit applies		*0.013*			*0.003*

27 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2				0.04			0.01
A1	Benzo[k]fluoranthene	No limit applies		<0.013			0.003
A2				<0.02			0.005
A1	Benzo[b]naph(2,1-d)thiophene	No limit applies		<0.013			0.003
A2				<0.02			0.005
A1	Benzo[c]phenanthrene	No limit applies		<0.013			0.003
A2				<0.02			0.005
A1	Benzo[ghi]perylene	No limit applies		<0.013			0.003
A2				<0.02			0.005
A1	Benzo[a]pyrene	No limit applies		<0.013			0.003
A2				0.02			0.005
A1	Cholanthrene	No limit applies		<0.013			0.003
A2				<0.02			0.005

27 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Chrysene	No limit applies		*<0.013*			*0.003*
A2				*<0.02*			*0.005*
A1	Cyclopenta(c,d)pyrene	No limit applies		*<0.013*			*0.003*
A2				*<0.02*			*0.005*
A1	Dibenzo[ah]anthracene	No limit applies		*<0.013*			*0.003*
A2				*<0.02*			*0.005*
A1	Dibenzo[a,i]pyrene	No limit applies		*<0.013*			*0.003*
A2				*<0.02*			*0.005*
A1	Fluoranthene	No limit applies		*0.066*			*0.015*
A2				*0.21*			*0.05*
A1	Indo[1,2,3-cd]pyrene	No limit applies		*<0.01*			*0.003*
A2				*<0.02*			*0.005*

27 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Naphthalen	No limt applies		*0.212*			*0.048*
A2				*2.5*			*0.57*

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .... Date...27 JUL 2016

(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Performance 1 / 30/11/2012

Reporting of Waste Disposal and Recovery for the year 2016 (to end Q2)

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residues	D9	4630.34	-
IBA which is classified as hazardous waste	D9	292.84	-
Total hazardous waste		4923.18	-
2) Non-Hazardous Wastes			
IBA	R5	25296.98	25296.98
Other non-hazardous wastes	R4	41.06	41.06
Total non-hazardous waste		25338.04	25338.04
TOTAL WASTE	-	30261.22	25338.04

Operator's comments :

D9 – acid neutralisation followed by non-hazardous landfill, R5 – processed and reused, R4 – metals recovered

Boiler ash was removed directly from the boiler through cleaning and was therefore not included in standard IBA and was disposed of as APCr processing.

Signed .... Date....27 JUL 2016
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of Water and Other Raw Material Usage for the year 2016 (to end Q2)

Raw Material	Usage	Unit	Specific Usage	Unit
Mains water	10953	m^3	0.099	m^3/t
Total water usage	60988	m^3	0.238	m^3/t
Ammonia	283	Tonnes	1.103	kg/t
Activated carbon	99	Tonnes	0.897	kg/t
Lime/hydrated lime or sodium bicarbonate	4819	Tonnes	18.786	kg/t

Operator's comments :

Fuel burn = 256516 tonnes

Signed .... Date 27 JUL 2016
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of other performance indicators for the period 2016 (to end Q2)

Parameter	Result
Number of periods of abnormal operation	0
Cumulative hours of abnormal operation for this calendar year	0

Operator's comments :

Signed .... Date........27 JUL 2016
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number :Energy 1 / 30/11/2012

Reporting of Energy Usage/Export for the year 2016 (to end Q2)

Energy Source	Energy Usage	Unit	Contained Energy (MWh)
Electricity Produced	176362	MWh	
Electricity Imported	9185	MWh	
Electricity Exported	163856	MWh	
Gas Oil	674	tonnes	
Steam/hot water Exported	0	MWh	

Operator's comments :

Signed .... Date 27 JUL 2016

(authorised to sign as representative of Ferrybridge MFE Limited)

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/04/2016 to 30/04/2015

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	0.94	0.71	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans /	Birds	Fish
Bottom Ash	81	7.65	0.89	0.89	447	154	2498	985	135	6.64	38.7	143	2833	4.76	4.76	4.28	4.45
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	645	267	1.0	3.65	2680	49.9	734	246	40.1	32.3	8.78	67.7	13100	773	773	1609	876
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed ....
(authorised to sign as representative of Ferrybridge MFE Limited)

Date 27 JUL 2016

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/05/2016 to 31/05/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	0.68	0.70	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg Humans	DIOXIN WHO-TEQ ng/kg Birds	DIOXIN WHO-TEQ ng/kg Fish
Bottom Ash	103	13.8	0.88	0.88	1166	160	2845	1058	133	6.18	42.0	112	3474	10.5	10.5	18.8	11.0
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	741	300		8	2637	68	879	242	57	43	10	61	12190				
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed ....
(authorised to sign as representative of Ferrybridge MFE Limited)

Date...27 JUL 2016

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/06/2016 to 30/06/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) w/w	
Bottom Ash	1.03	0.52	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans	Birds	Fish
Bottom Ash	96.1	22.8	0.87	0.87	1661	132	2557	775	210	6.78	56.4	71.0	3190	12.1	24.4	42.5	26.3
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	696	252	1.00	4.65	2400	46.1	781	214	25.9	28.7	7.06	24.2	11200	2843	5882	8083	5630
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Date...27 JUL 2016

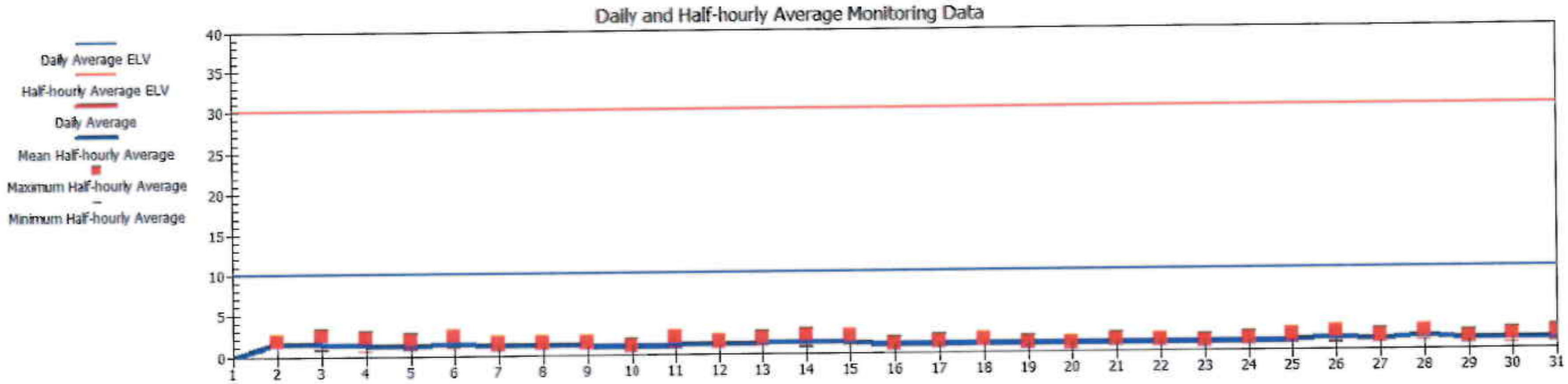
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	Off	2	2	2	2	2	1	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2
	Monthly mean	1	Mean Half-hourly average	Off	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	Off	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	2	Daily average	Off	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.......[signature].......

(Authorised to sign as a representative of the Operator)

Date........28 JUL 2016

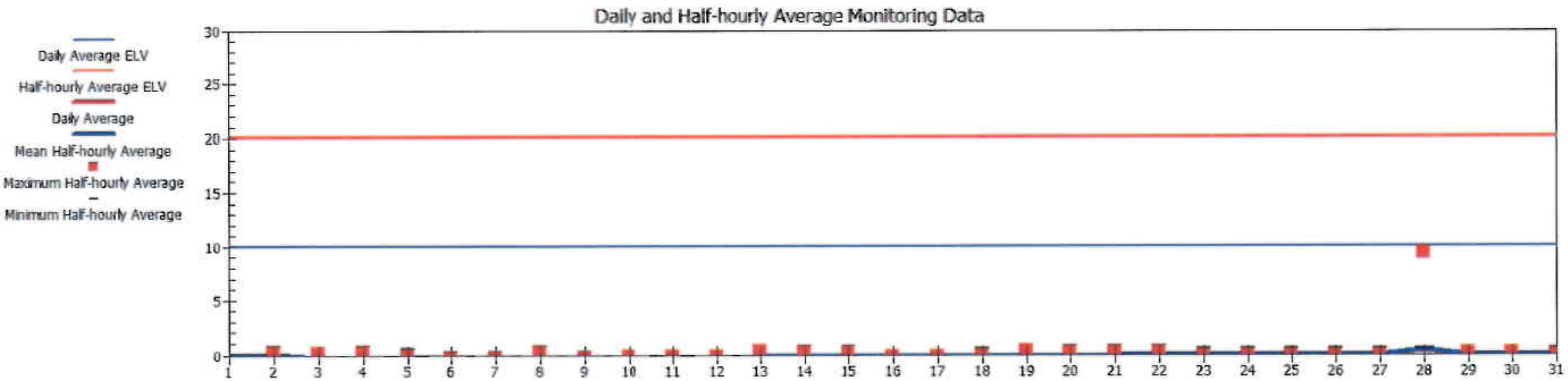
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	9	Maximum Half-hourly average	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0
	Monthly mean	0	Mean Half-hourly average	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.. 28 JUL 2016

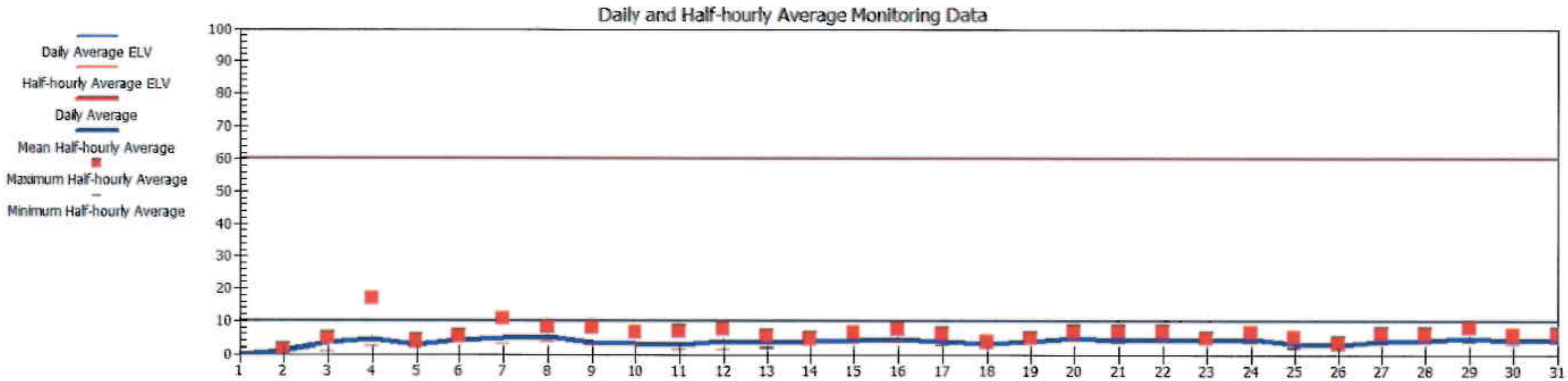
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	17	Maximum Half-hourly average	Off	1	5	17	4	5	11	8	8	7	7	7	6	5	7	7	6	4	5	7	7	7	5	6	5	3	6	6	8	6	6
	Monthly mean	4	Mean Half-hourly average	Off	1	3	4	3	4	5	5	3	3	3	4	3	4	4	4	3	3	4	5	4	4	4	4	3	3	4	4	5	4	4
	Monthly minimum	1	Minimum Half-hourly average	Off	1	1	2	2	3	3	4	3	3	1	2	2	3	3	4	3	2	3	4	3	4	3	3	2	2	3	3	4	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	5	Daily average	Off	1	3	4	3	4	5	5	3	3	3	4	3	4	4	4	3	3	4	5	4	4	4	4	3	3	4	4	5	4	4
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date......28 JUL 2016......

(Authorised to sign as a representative of the Operator)

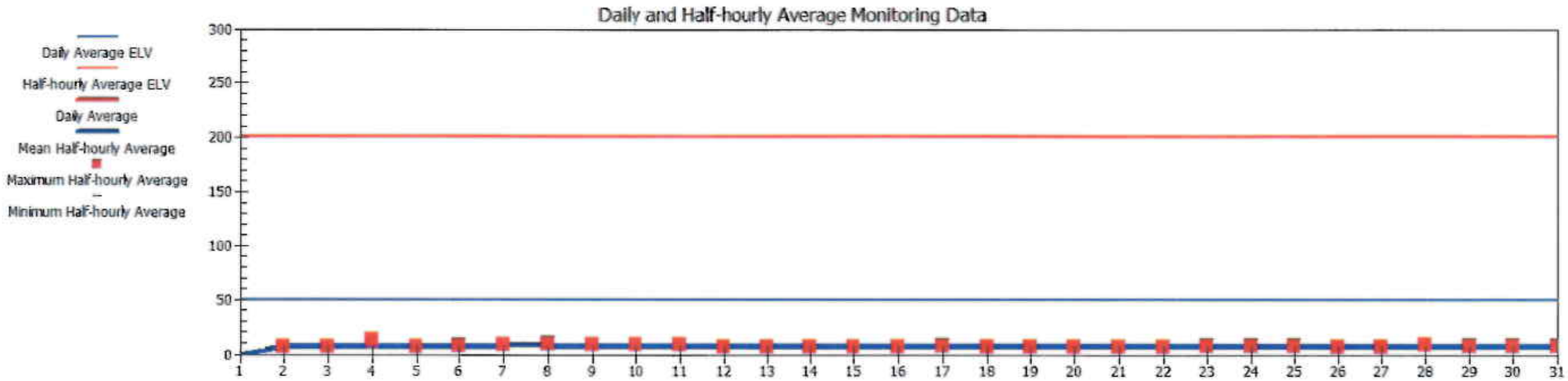
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	13	Maximum Half-hourly average	Off	7	7	13	7	8	9	9	9	9	8	7	7	7	7	7	8	7	7	7	7	7	8	8	7	7	7	9	7	7	7
	Monthly mean	7	Mean Half-hourly average	Off	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Monthly minimum	3	Minimum Half-hourly average	Off	7	6	5	6	6	6	7	6	7	7	6	5	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3	6
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	Off	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.......28 JUL 2016.......

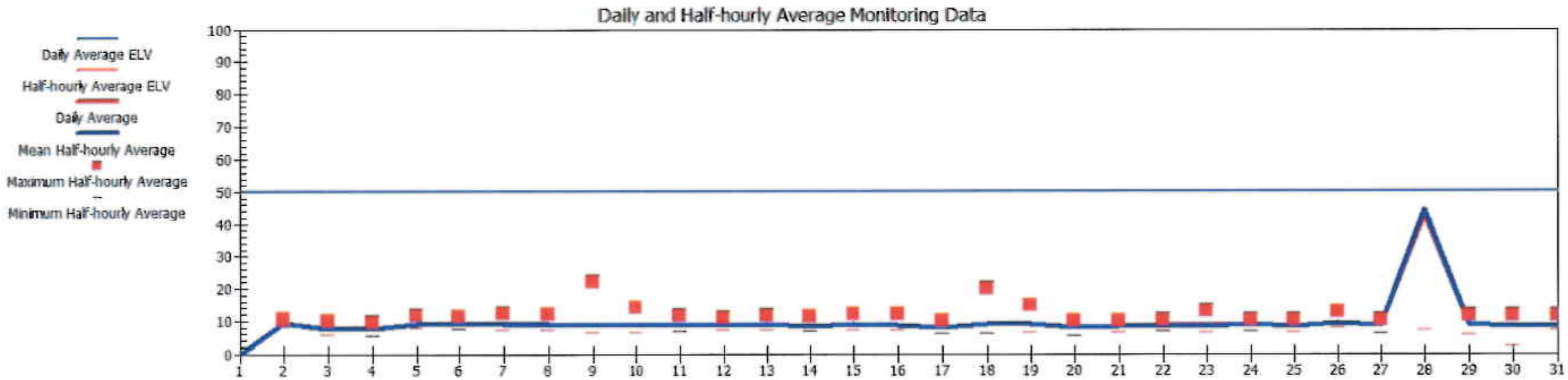
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	896	Maximum Half-hourly average	Off	11	10	10	12	11	12	12	22	14	12	11	12	11	12	12	10	20	15	10	10	10	13	10	10	13	10	896	12	12	12
	Monthly mean	10	Mean Half-hourly average	Off	9	8	7	9	9	9	9	9	8	8	8	9	8	9	9	8	9	9	8	8	8	8	9	8	9	9	44	9	8	9
	Monthly minimum	2	Minimum Half-hourly average	Off	8	6	6	8	7	7	7	6	6	7	7	7	7	7	7	6	6	6	6	7	7	7	7	7	8	6	7	6	2	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	2	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	44	Daily average	Off	9	8	7	9	9	9	9	9	8	8	8	9	8	9	9	8	9	9	8	8	8	8	9	8	9	9	44	9	8	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

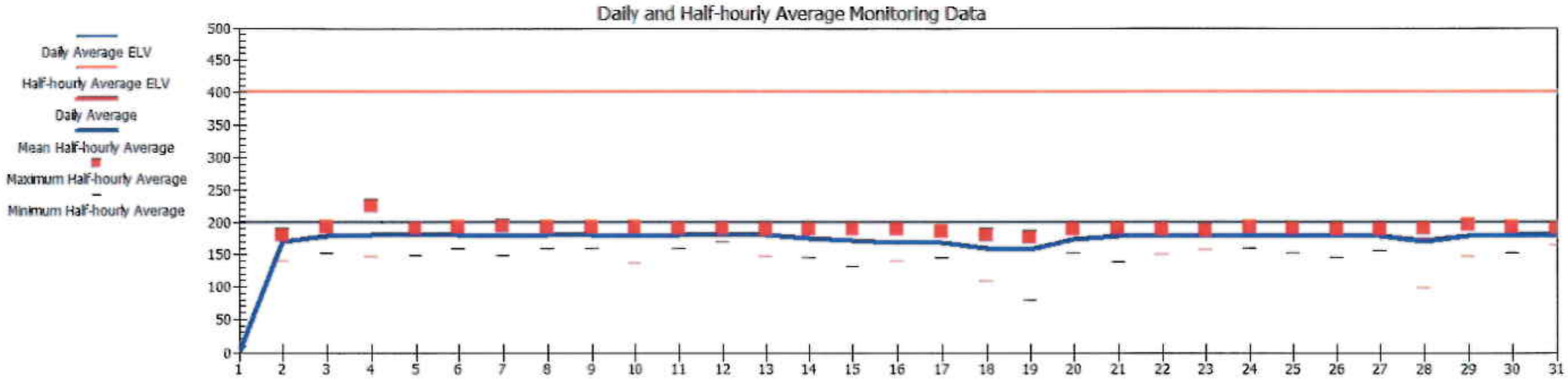
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	225	Maximum Half-hourly average	Off	181	193	225	191	193	195	192	193	192	191	190	189	190	189	190	185	181	178	189	191	189	187	192	192	190	188	190	195	192	190
	Monthly mean	176	Mean Half-hourly average	Off	169	179	180	180	180	179	180	179	179	180	180	180	175	172	168	168	159	157	174	178	180	179	179	179	179	179	170	179	179	180
	Monthly minimum	79	Minimum Half-hourly average	Off	141	152	148	149	159	150	159	160	137	160	170	147	145	132	140	146	108	79	152	139	151	158	159	152	145	156	98	147	153	165
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	180	Daily average	Off	169	179	180	180	180	179	180	179	179	180	180	180	175	172	168	168	159	157	174	178	180	179	179	179	179	179	170	179	179	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date.......28 JUL 2016.......

Permit Reference Number : SP3239FU

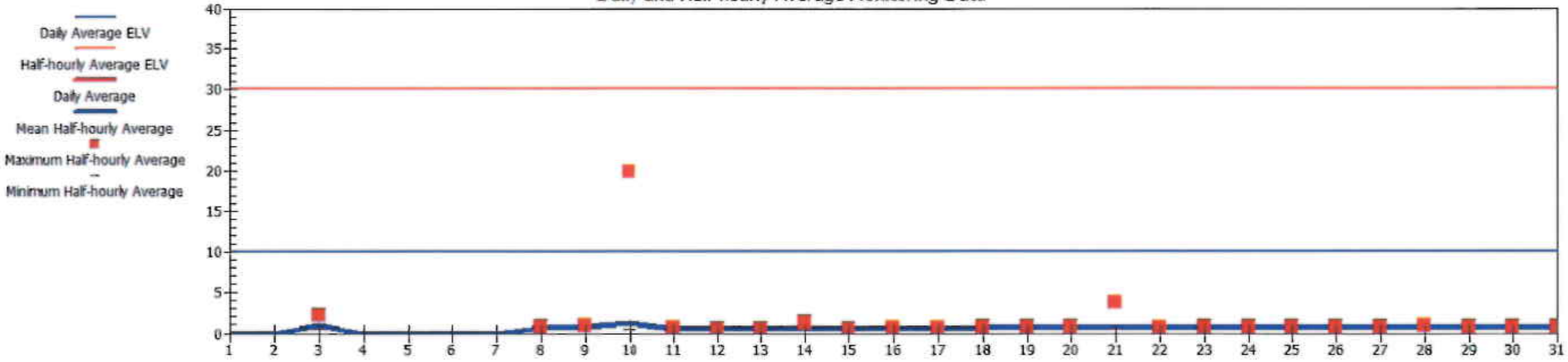
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of July 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	20	Maximum Half-hourly average	Off	Off	2	Off	Off	Off	Off	1	1	20	1	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1
	Monthly mean	1	Mean Half-hourly average	Off	Off	1	Off	Off	Off	Off	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	0	Off	Off	Off	Off	0	1	0	0	0	0	0	1	1	1	1	0	0	0	1	1	1	1	0	0	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	Off	Off	1	Off	Off	Off	Off	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date.......28 JUL 2016.........

(Authorised to sign as a representative of the Operator)

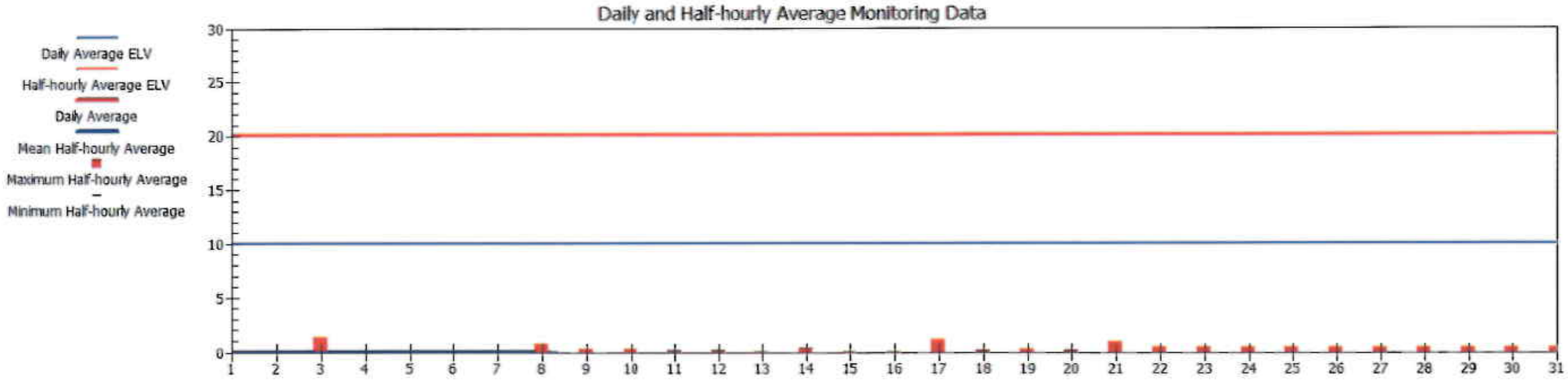
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	Off	Off	1	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

28 JUL 2016

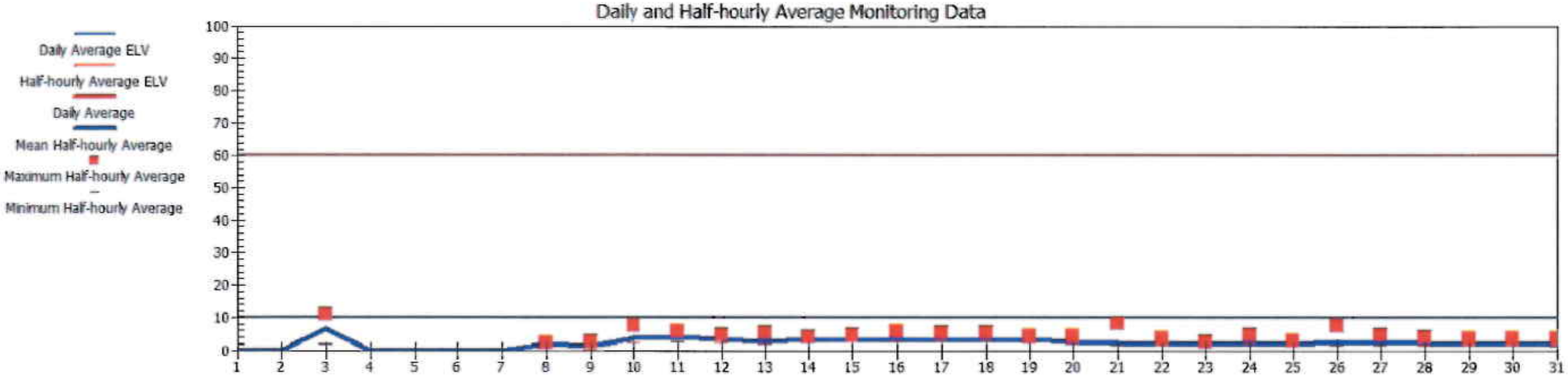
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	11	Maximum Half-hourly average	Off	Off	11	Off	Off	Off	Off	2	3	7	6	5	5	4	5	6	5	5	4	4	8	4	2	5	3	7	5	4	4	3	4
	Monthly mean	3	Mean Half-hourly average	Off	Off	6	Off	Off	Off	Off	2	1	4	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	3	2	2	2	2	2
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	2	Off	Off	Off	Off	2	0	2	3	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	2	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	6	Daily average	Off	Off	6	Off	Off	Off	Off	2	1	4	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	3	2	2	2	2	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

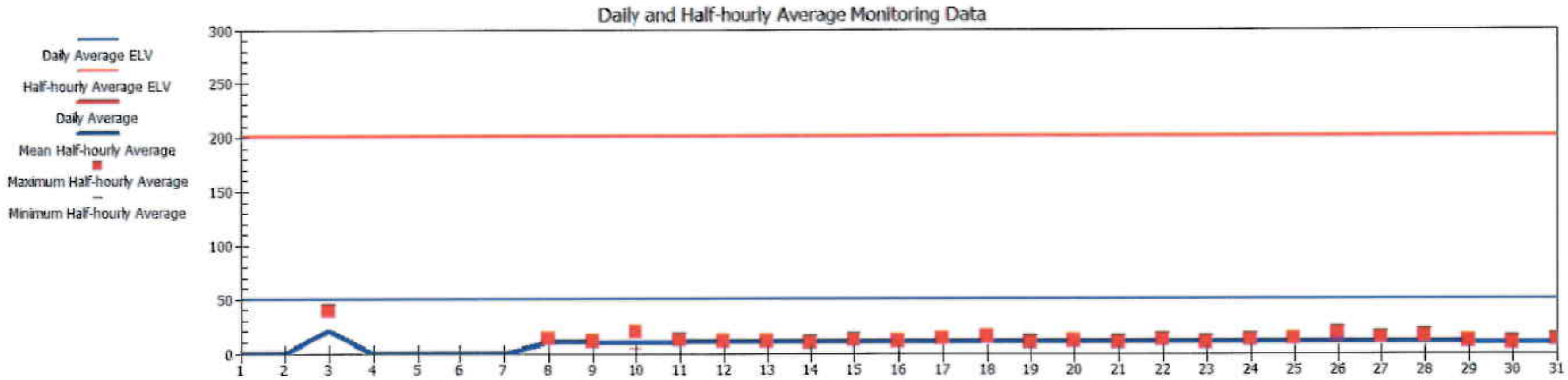
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	39	Maximum Half-hourly average	Off	Off	39	Off	Off	Off	Off	13	11	19	12	11	11	10	12	11	13	15	10	11	10	12	10	13	13	18	14	16	11	10	12
	Monthly mean	10	Mean Half-hourly average	Off	Off	20	Off	Off	Off	Off	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	10
	Monthly minimum	0	Minimum Half-hourly average	Off	Off	0	Off	Off	Off	Off	9	9	4	10	10	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	4	10
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	20	Daily average	Off	Off	20	Off	Off	Off	Off	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	10
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

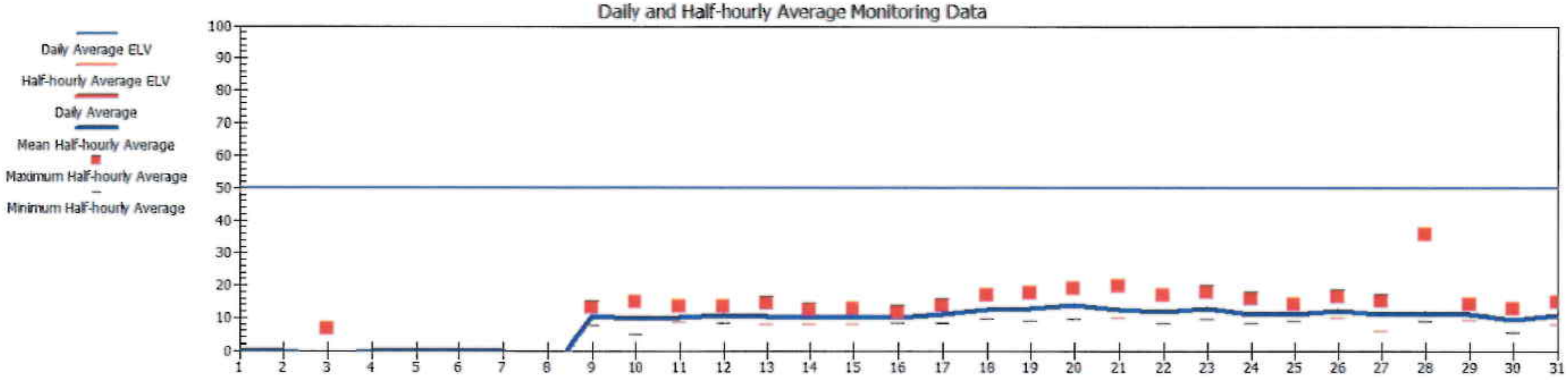
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	36	Maximum Half-hourly average	Off	Off	6	Off	Off	Off	Off	0	13	15	13	14	15	12	13	12	14	17	17	19	20	17	18	16	14	16	15	36	14	13	15
Half-hourly	Monthly mean	10	Mean Half-hourly average	Off	Off	0	Off	Off	Off	Off	0	10	10	10	10	10	10	10	10	11	12	13	14	12	12	13	11	11	12	11	11	11	9	11
average	Monthly minimum	0	Minimum Half-hourly average	Off	Off	0	Off	Off	Off	Off	0	8	5	8	8	8	8	8	8	8	10	9	10	10	8	10	8	9	10	6	9	9	6	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	14	Daily average	Off	Off	0	Off	Off	Off	Off	0	10	10	10	10	10	10	10	10	11	12	13	14	12	12	13	11	11	12	11	11	11	9	11
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

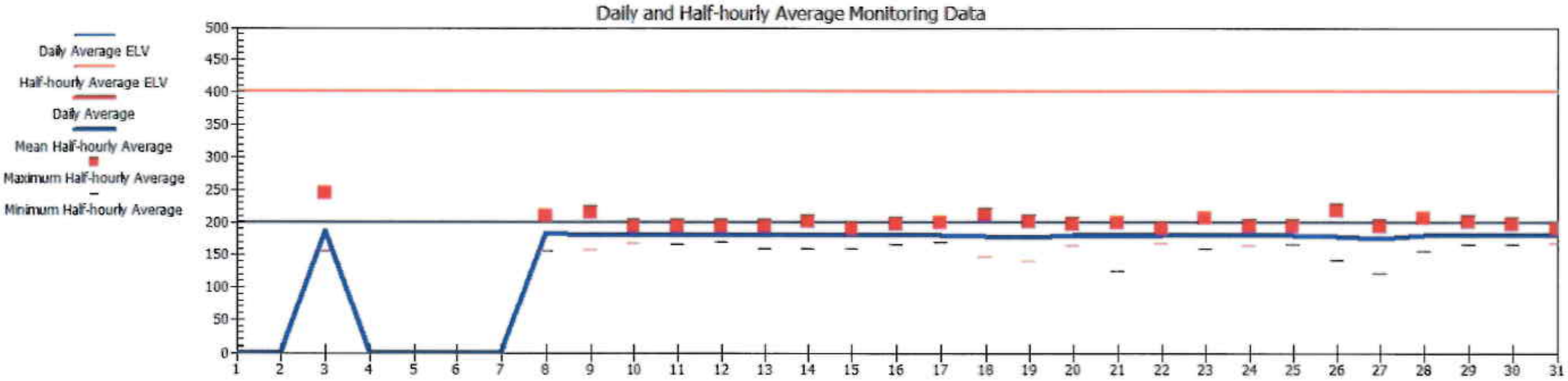
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of July 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	245	Maximum Half-hourly average	Off	Off	245	Off	Off	Off	Off	210	215	195	195	194	194	201	192	197	199	212	201	198	199	190	207	194	195	218	195	206	200	198	191
	Monthly mean	180	Mean Half-hourly average	Off	Off	187	Off	Off	Off	Off	183	180	180	180	180	180	180	180	180	180	178	177	180	179	180	180	180	180	179	175	181	180	180	180
	Monthly minimum	121	Minimum Half-hourly average	Off	Off	155	Off	Off	Off	Off	156	158	169	167	171	160	159	159	166	169	147	140	165	124	169	159	165	167	142	121	155	166	166	169
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	Off	Off	0	Off	Off	Off	Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	187	Daily average	Off	Off	187	Off	Off	Off	Off	183	180	180	180	180	180	180	180	180	180	178	177	180	179	180	180	180	180	179	175	181	180	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

28 JUL 2016

Permit Reference Number : SP3239FU

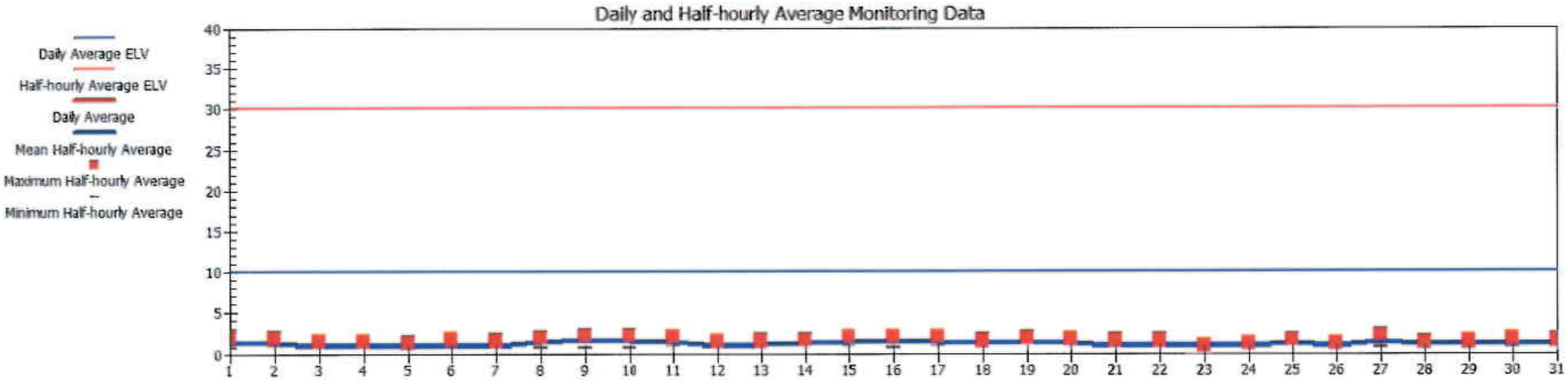
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of August 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	2	2	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	1	2	1	2	1	1	2	2
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
average	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	2	Daily average	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date...

(Authorised to sign as a representative of the Operator)

28 JUL 2016

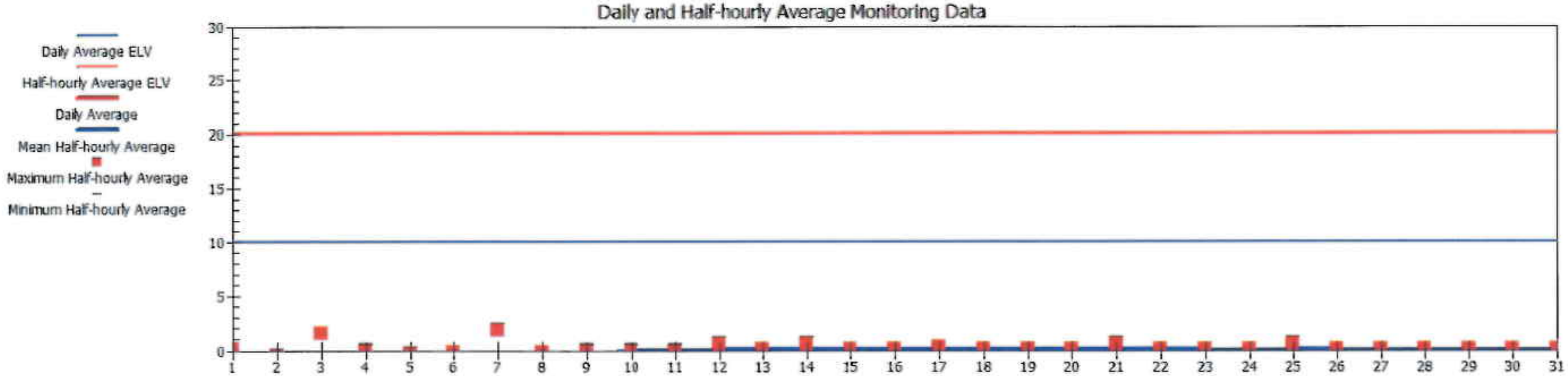
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	2	Maximum Half-hourly average	0	0	2	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

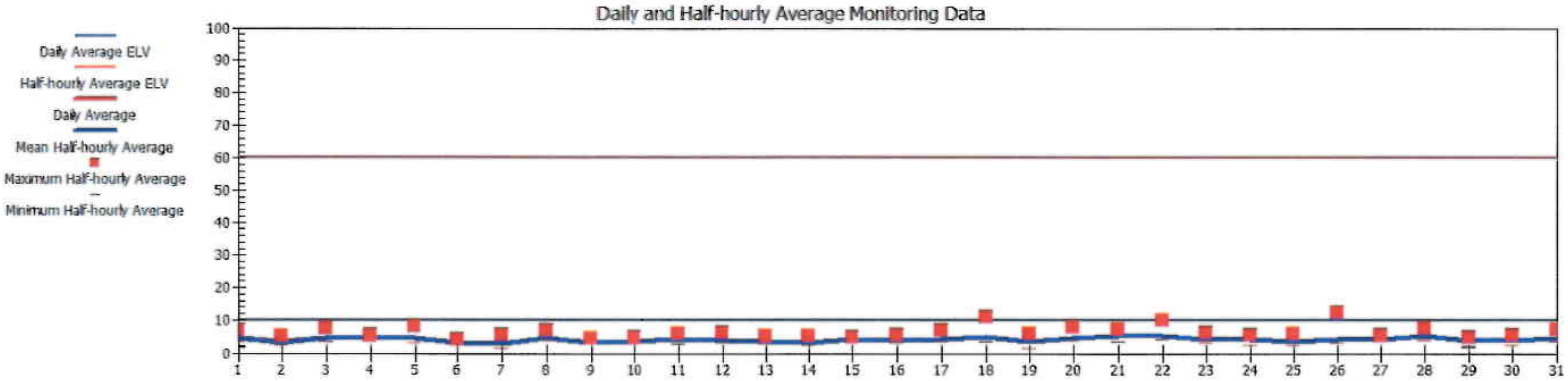
(Authorised to sign as a representative of the Operator)

28 JUL 2016

Permit Reference Number : SP3239FU	Operator : Ferrybridge MFE Limited

Installation: Knottingley	Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	12	Maximum Half-hourly average	7	5	8	5	8	4	5	7	4	5	6	6	5	5	5	5	7	11	6	8	7	10	6	6	6	12	5	7	5	5	7
Half-hourly	Monthly mean	4	Mean Half-hourly average	4	3	4	4	4	3	3	4	3	3	4	4	3	3	4	4	4	5	3	4	5	5	4	4	3	4	4	5	4	4	4
average	Monthly minimum	1	Minimum Half-hourly average	3	2	3	3	3	2	1	4	2	3	3	3	3	2	3	3	3	3	2	4	3	4	3	2	2	3	3	4	2	2	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	5	Daily average	4	3	4	4	4	3	3	4	3	3	4	4	3	3	4	4	4	5	3	4	5	5	4	4	3	4	4	5	4	4	4
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...	Date...

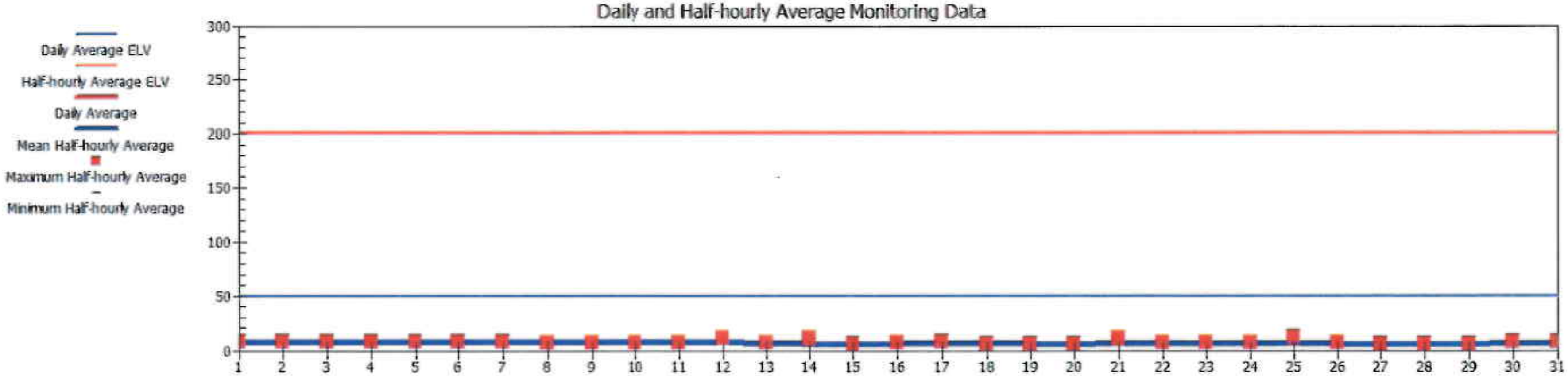
(Authorised to sign as a representative of the Operator)

28 JUL 2016

Permit Reference Number : SP3239FU   Operator : Ferrybridge MFE Limited

Installation: Knottingley   Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	12	Maximum Half-hourly average	7	8	8	8	8	7	7	7	7	7	7	11	7	11	6	7	8	6	6	6	11	6	6	6	12	6	6	6	6	7	7
	Monthly mean	6	Mean Half-hourly average	7	7	6	7	7	7	7	7	7	7	7	7	6	5	5	6	6	5	5	5	7	5	6	6	6	5	5	5	5	7	6
	Monthly minimum	0	Minimum Half-hourly average	4	6	3	7	7	6	5	5	6	6	5	6	4	4	4	4	4	4	3	3	5	3	4	4	4	3	3	4	0	2	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	7	7	6	7	7	7	7	7	7	7	7	7	6	5	5	6	6	5	5	5	7	5	6	6	6	5	5	5	5	7	6
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

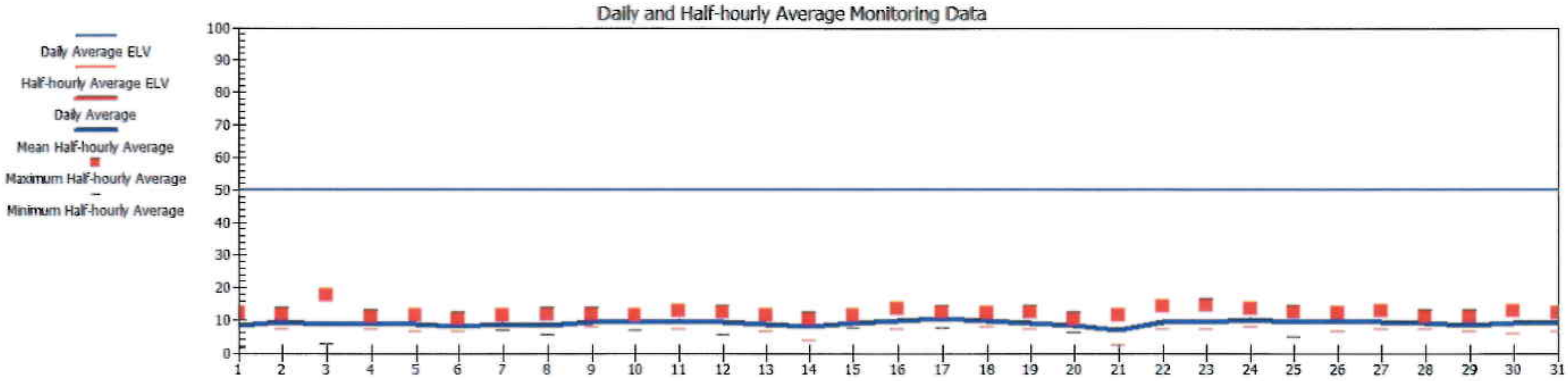
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	18	Maximum Half-hourly average	12	12	18	11	11	10	11	12	12	11	13	12	11	10	11	13	12	12	12	10	11	14	15	14	12	12	13	11	11	13	12
	Monthly mean	9	Mean Half-hourly average	8	9	8	9	9	8	9	8	9	9	10	9	8	8	9	10	10	10	9	8	7	9	9	10	9	9	9	9	8	9	9
	Monthly minimum	2	Minimum Half-hourly average	2	7	3	7	7	6	7	6	8	7	7	5	7	4	7	7	7	8	7	6	2	7	7	8	5	6	7	7	7	6	6
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	10	Daily average	8	9	8	9	9	8	9	8	9	9	10	9	8	8	9	10	10	10	9	8	7	9	9	10	9	9	9	9	8	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

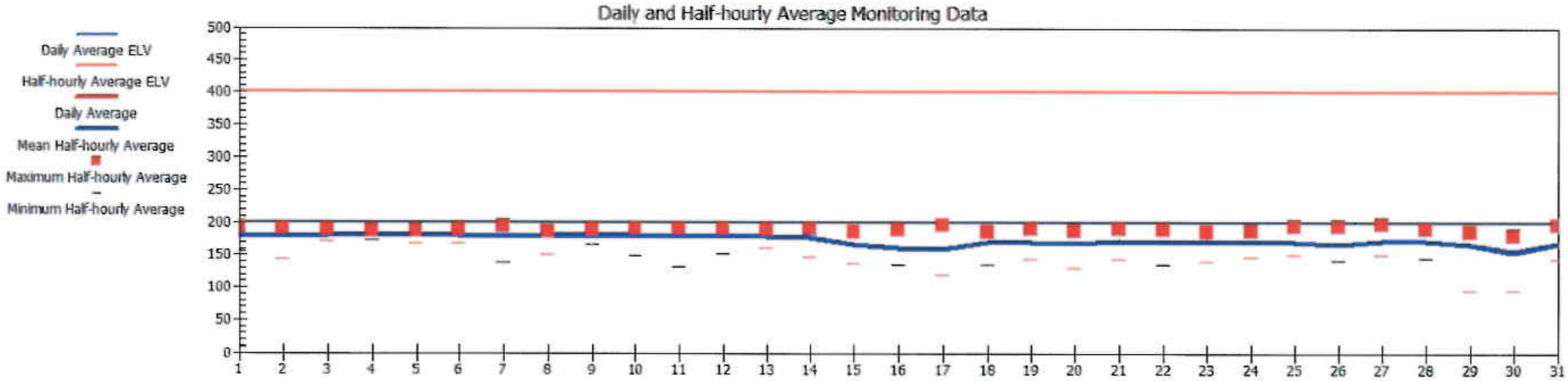
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	197	Maximum Half-hourly average	192	191	190	187	188	190	194	186	189	191	190	190	189	190	186	189	197	186	191	187	191	188	186	188	194	194	197	191	185	181	196
	Monthly mean	173	Mean Half-hourly average	179	179	180	180	180	180	179	179	180	179	178	178	179	177	167	160	160	170	170	169	172	170	172	169	170	166	172	171	166	155	167
	Monthly minimum	95	Minimum Half-hourly average	155	143	171	173	168	168	139	151	166	148	131	153	161	147	136	135	119	135	145	129	144	135	141	147	150	141	150	145	95	95	143
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	180	Daily average	179	179	180	180	180	180	179	179	180	179	178	178	179	177	167	160	160	170	170	169	172	170	172	169	170	166	172	171	166	155	167
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

Permit Reference Number : SP3239FU

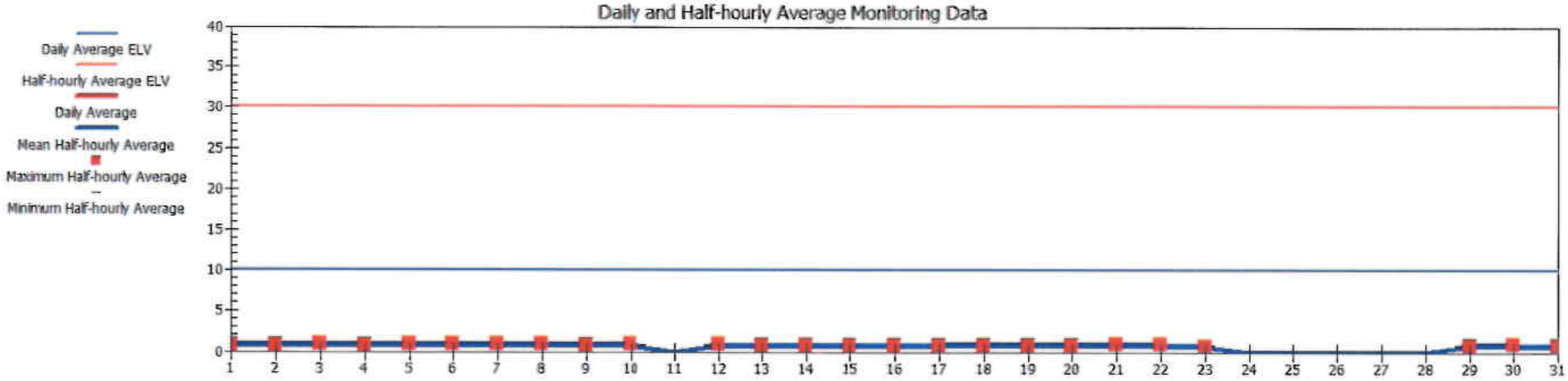
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of August 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	Off	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	1	1	1
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	Off	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	Off	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	Off	1	1	1	1	1	1	1	1	1	1	1	1	Off	Off	Off	Off	Off	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

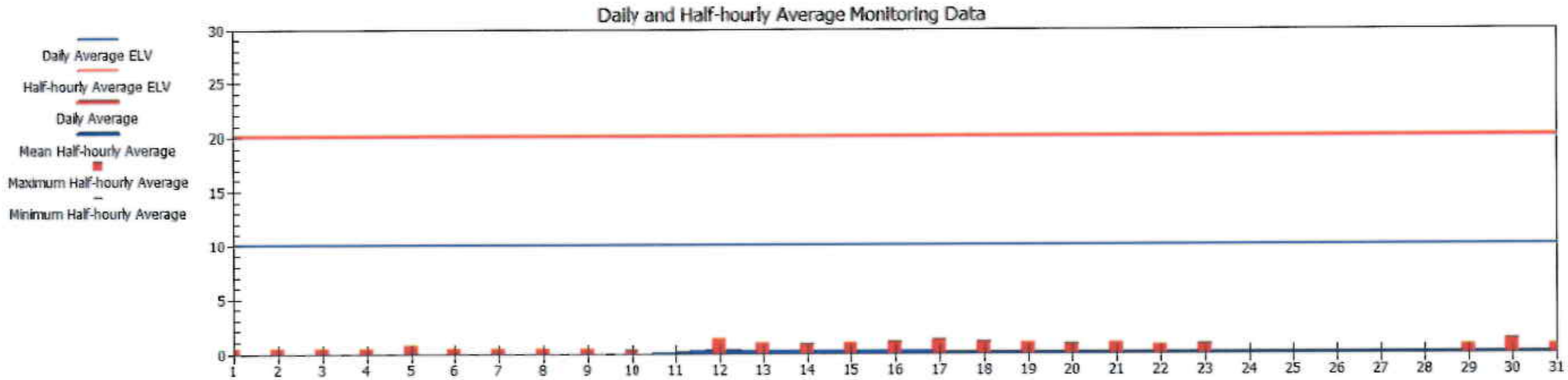
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	Off	1	0	0	0	0	1	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	1	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

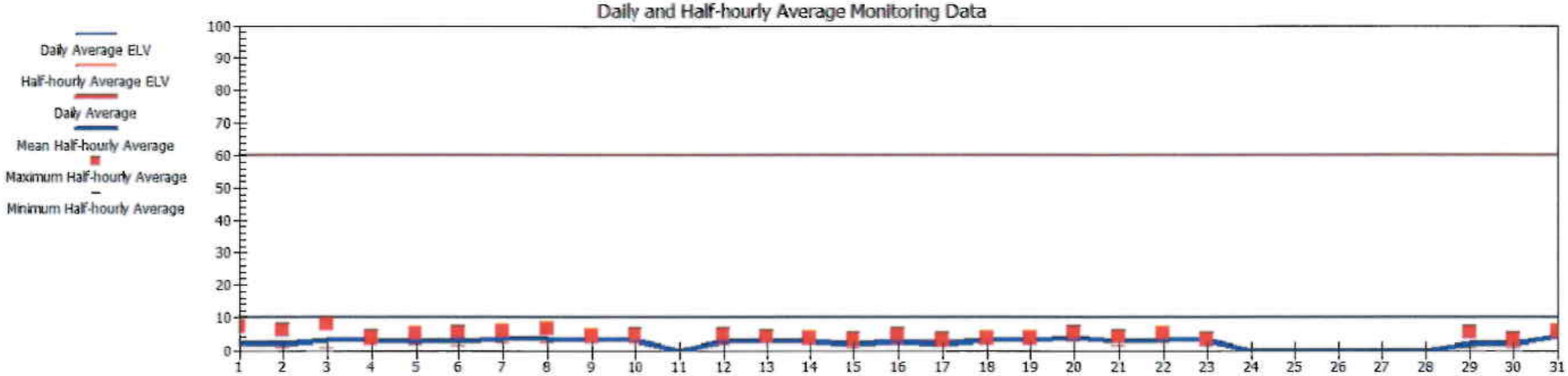
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	8	Maximum Half-hourly average	7	6	8	4	5	5	6	6	4	5	Off	5	4	4	3	5	3	4	4	5	4	5	3	Off	Off	Off	Off	Off	6	3	6
	Monthly mean	3	Mean Half-hourly average	2	2	3	3	3	3	3	3	3	3	Off	3	3	2	2	3	2	3	3	4	3	3	3	Off	Off	Off	Off	Off	2	2	4
	Monthly minimum	1	Minimum Half-hourly average	2	1	1	2	2	2	2	2	2	2	Off	2	2	2	1	2	1	2	2	3	2	2	2	Off	Off	Off	Off	Off	1	1	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	4	Daily average	2	2	3	3	3	3	3	3	3	3	Off	3	3	2	2	3	2	3	3	4	3	3	3	Off	Off	Off	Off	Off	2	2	4
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date...

(Authorised to sign as a representative of the Operator)

28 JUL 2016

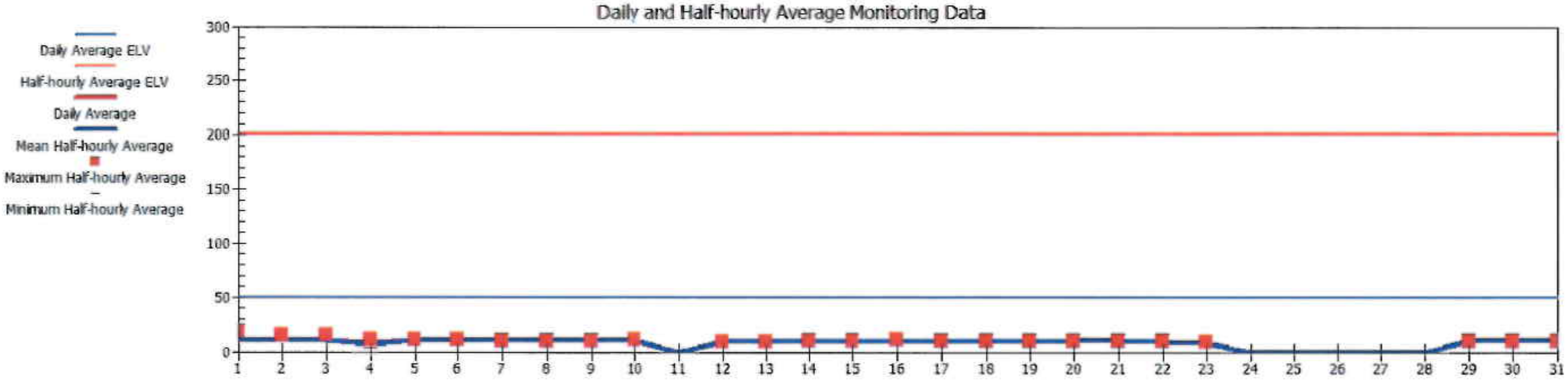
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	18	Maximum Half-hourly average	18	15	15	11	11	11	10	10	10	11	Off	9	9	9	10	11	10	10	10	10	10	10	8	Off	Off	Off	Off	Off	10	10	10
	Monthly mean	9	Mean Half-hourly average	10	10	10	7	10	10	10	10	10	10	Off	9	9	9	9	9	9	9	9	10	9	9	8	Off	Off	Off	Off	Off	10	9	10
	Monthly minimum	4	Minimum Half-hourly average	9	9	10	4	9	9	9	9	9	9	Off	8	9	9	9	9	9	9	9	9	9	7	7	Off	Off	Off	Off	Off	8	5	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	10	Daily average	10	10	10	7	10	10	10	10	10	10	Off	9	9	9	9	9	9	9	9	10	9	9	8	Off	Off	Off	Off	Off	10	9	10
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

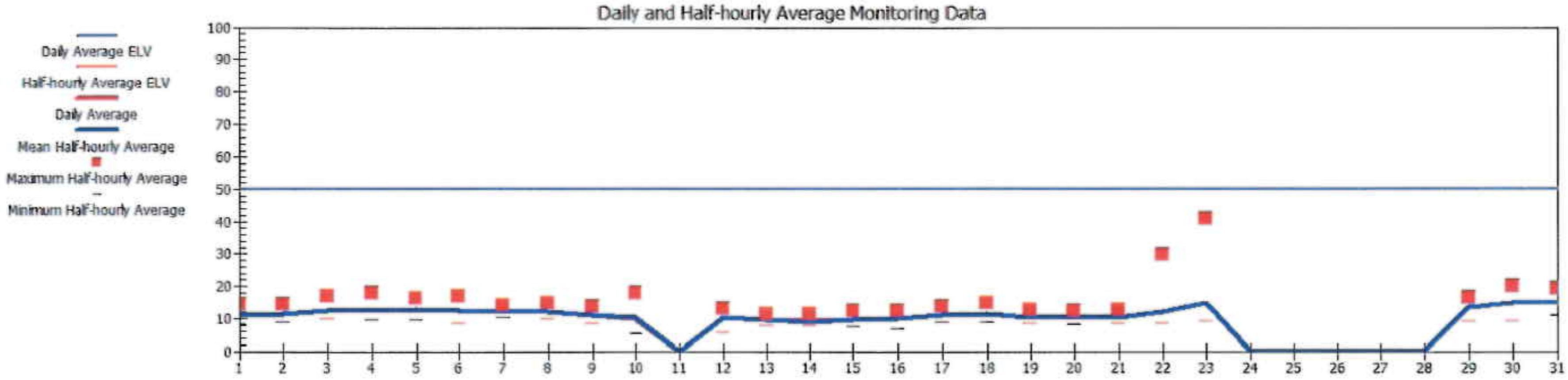
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	41	Maximum Half-hourly average	15	14	17	18	16	17	14	15	14	18	Off	13	11	11	12	12	14	15	13	12	13	30	41	Off	Off	Off	Off	Off	17	20	19
Half-hourly	Monthly mean	12	Mean Half-hourly average	11	11	12	12	13	13	12	12	11	10	Off	10	9	9	10	10	11	11	10	10	10	12	15	Off	Off	Off	Off	Off	13	15	15
average	Monthly minimum	5	Minimum Half-hourly average	8	9	10	10	10	9	10	10	8	5	Off	6	8	8	8	7	9	9	9	8	9	8	9	Off	Off	Off	Off	Off	9	9	11
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily	Monthly maximum	15	Daily average	11	11	12	12	13	13	12	12	11	10	Off	10	9	9	10	10	11	11	10	10	10	12	15	Off	Off	Off	Off	Off	13	15	15
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

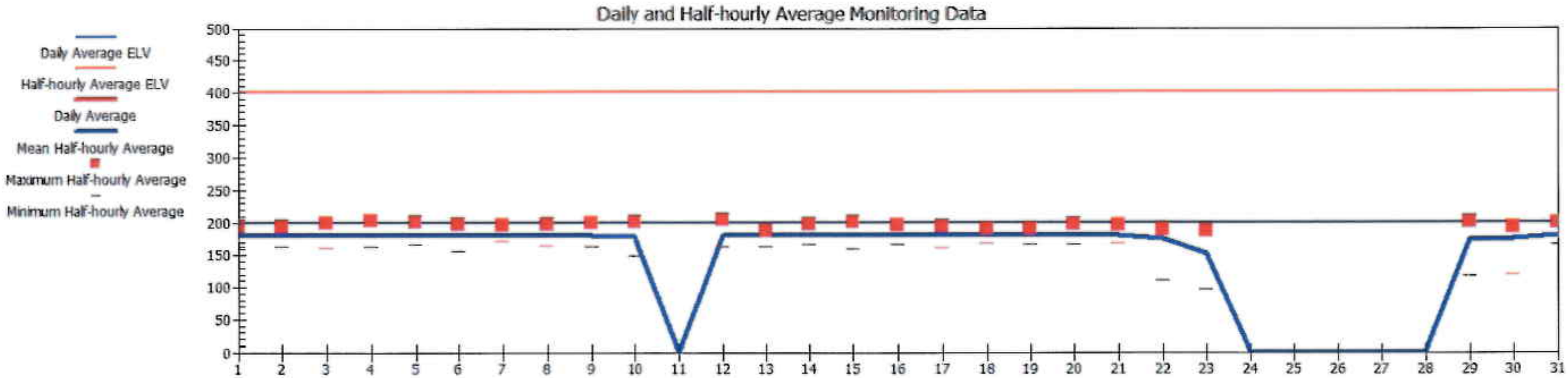
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of August 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	205	Maximum Half-hourly average	195	195	200	203	202	198	196	197	199	201	Off	205	188	197	201	196	194	191	191	197	196	189	187	Off	Off	Off	Off	Off	202	193	199
	Monthly mean	178	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	178	Off	181	180	180	180	180	180	180	180	180	180	175	152	Off	Off	Off	Off	Off	174	175	180
	Monthly minimum	97	Minimum Half-hourly average	163	163	161	163	166	156	171	165	162	150	Off	162	164	167	159	166	162	168	166	167	167	111	97	Off	Off	Off	Off	Off	118	120	166
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	Off	Off	Off	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	180	180	180	180	180	180	180	180	180	178	Off	181	180	180	180	180	180	180	180	180	180	175	152	Off	Off	Off	Off	Off	174	175	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

2 8 JUL 20..

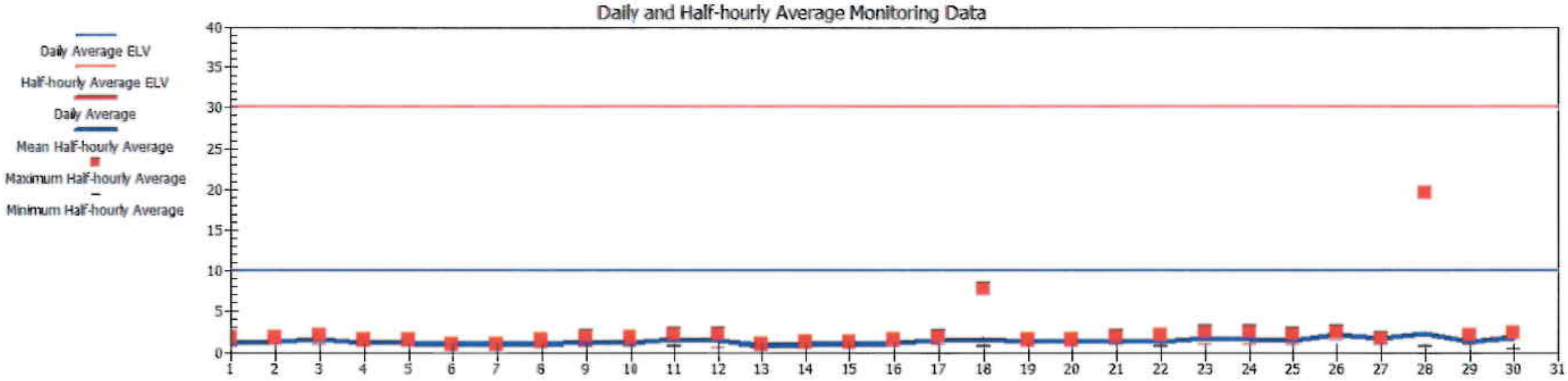
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	20	Maximum Half-hourly average	2	2	2	1	1	1	1	1	2	2	2	2	1	1	1	1	2	8	1	1	2	2	2	2	2	2	2	20	2	2	
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	1	2	2	2	1	2	
average	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	2	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	1	2	2	2	1	2	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

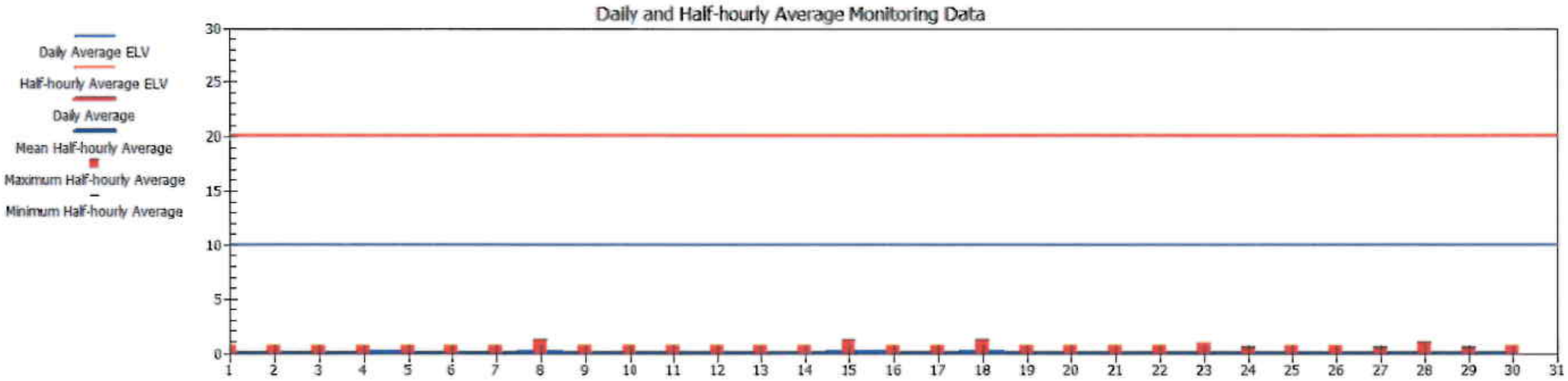
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	1	Maximum Half-hourly average	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

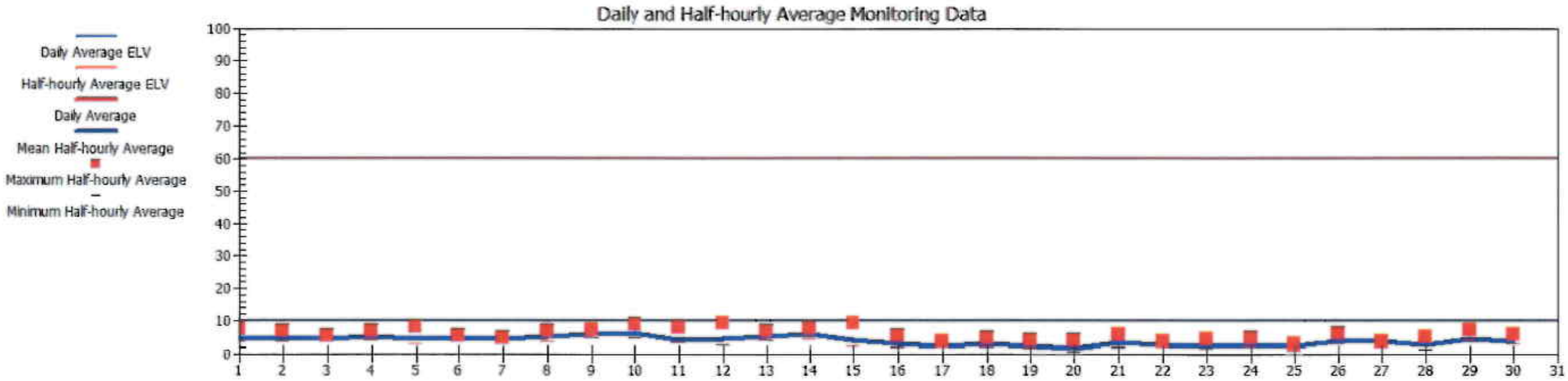
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	9	Maximum Half-hourly average	7	7	5	7	8	6	5	7	7	9	8	9	7	7	9	5	4	5	4	4	6	4	4	5	3	6	4	5	7	6	
	Monthly mean	4	Mean Half-hourly average	5	4	4	5	4	5	4	5	6	6	4	4	5	6	4	3	2	3	2	2	3	3	2	2	2	4	4	3	4	4	
	Monthly minimum	1	Minimum Half-hourly average	4	4	4	4	3	4	3	3	5	5	3	3	4	5	2	2	2	2	2	1	2	2	2	2	1	3	4	1	4	3	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	6	Daily average	5	4	4	5	4	5	4	5	6	6	4	4	5	6	4	3	2	3	2	2	3	3	2	2	2	4	4	3	4	4	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date..

2 9 JUL 2016

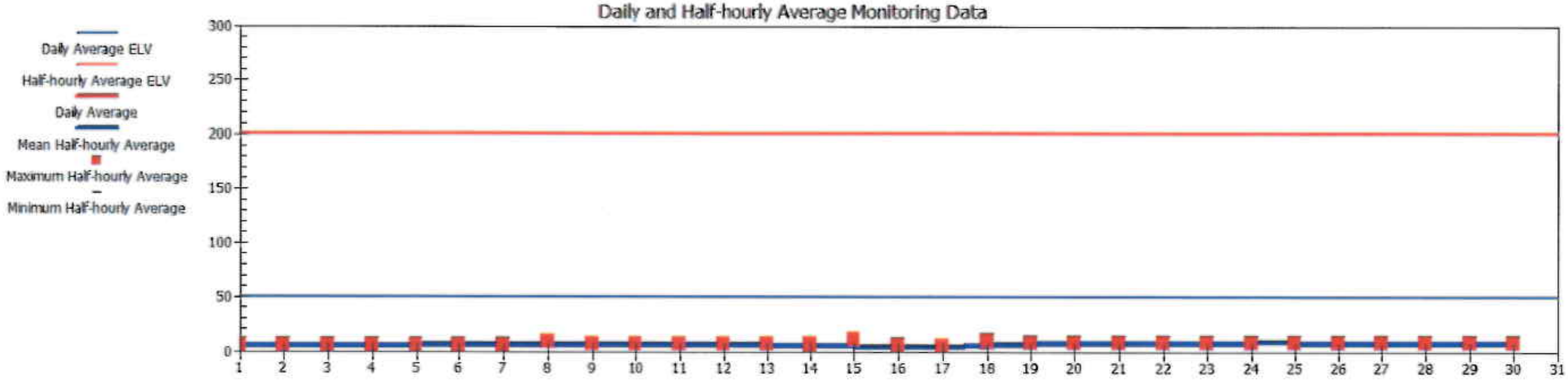
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	11	Maximum Half-hourly average	5	6	6	6	6	6	6	9	7	6	6	7	7	6	11	6	5	9	7	8	7	7	7	8	8	7	8	8	7	7	
	Monthly mean	6	Mean Half-hourly average	4	5	5	5	5	6	5	6	6	6	6	6	6	5	4	4	3	6	7	7	7	7	7	7	7	7	7	7	7	7	
	Monthly minimum	0	Minimum Half-hourly average	3	4	3	3	4	4	3	4	5	5	3	3	5	1	0	0	0	2	6	7	7	7	6	7	7	7	7	6	7	7	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	7	Daily average	4	5	5	5	5	6	5	6	6	6	6	6	6	5	4	4	3	6	7	7	7	7	7	7	7	7	7	7	7	7	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date.........28 JUL 2016...........

28 ... 2016

Permit Reference Number : SP3239FU

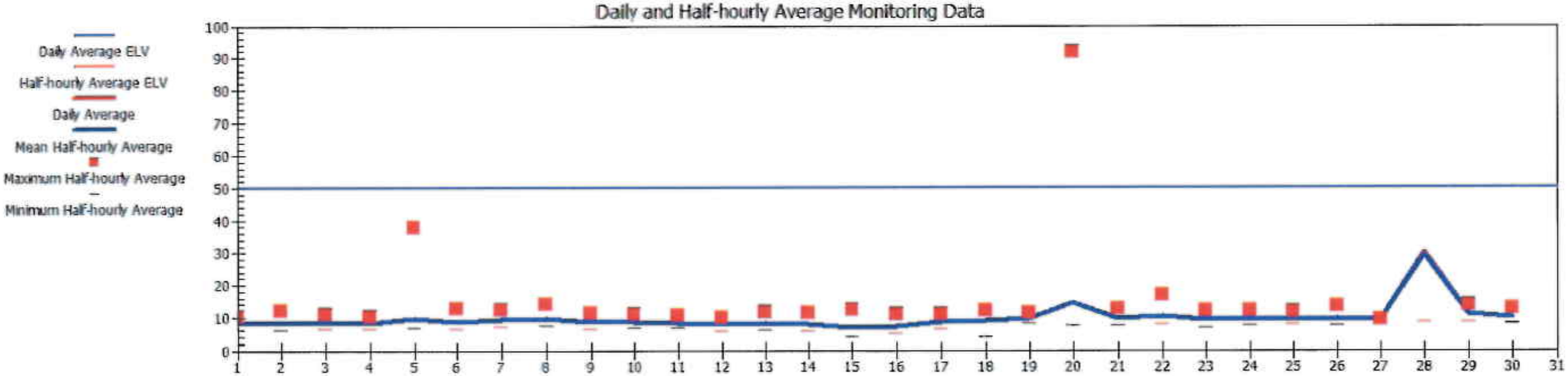
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of September 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	596	Maximum Half-hourly average	10	12	11	10	38	13	12	14	11	11	11	10	12	11	13	11	11	12	11	92	13	17	12	12	12	13	9	596	14	13	
	Monthly mean	10	Mean Half-hourly average	9	8	8	8	10	9	9	9	9	8	8	8	8	8	7	7	8	9	10	14	10	10	9	9	9	10	9	29	11	10	
	Monthly minimum	4	Minimum Half-hourly average	6	6	6	6	7	6	7	7	7	7	7	6	6	6	4	5	6	4	8	7	7	8	7	8	8	7	9	9	9	8	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	1	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	29	Daily average	9	8	8	8	10	9	9	9	9	8	8	8	8	8	7	7	8	9	10	14	10	10	9	9	9	10	9	29	11	10	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

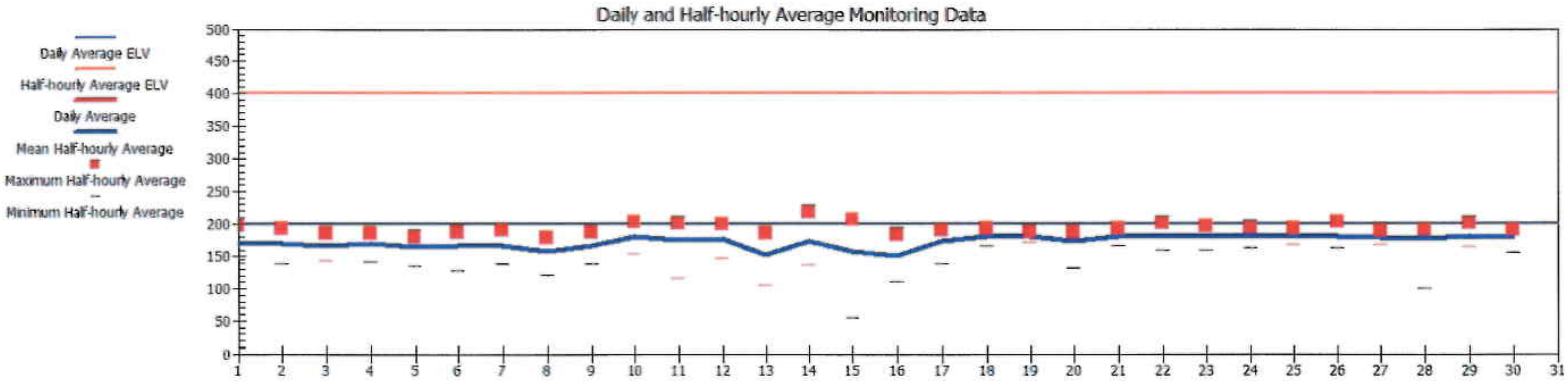
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	218	Maximum Half-hourly average	197	193	185	185	181	187	190	179	187	202	201	200	186	218	207	184	191	193	187	188	192	202	196	195	193	202	189	190	201	191	
	Monthly mean	172	Mean Half-hourly average	169	170	167	170	165	166	166	157	166	180	176	176	152	173	158	150	173	180	180	174	180	180	180	180	180	180	178	176	180	179	
	Monthly minimum	55	Minimum Half-hourly average	146	139	144	141	135	128	139	120	139	155	116	147	105	137	55	110	139	166	172	131	166	160	159	163	168	164	167	100	164	156	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	180	Daily average	169	170	167	170	165	166	166	157	166	180	176	176	152	173	158	150	173	180	180	174	180	180	180	180	180	180	178	176	180	179	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL [illegible]

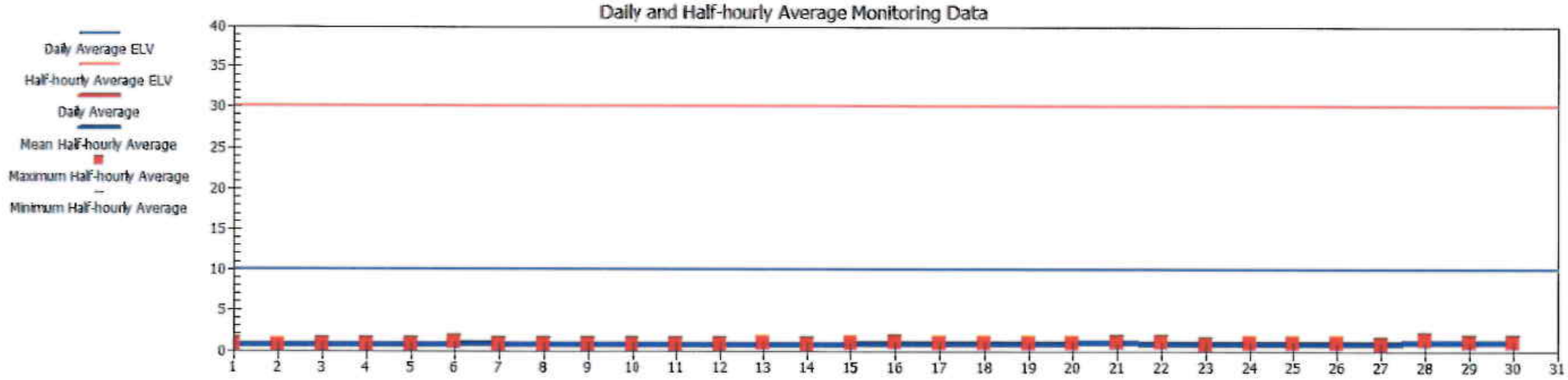
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	1	Maximum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	1	Daily average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

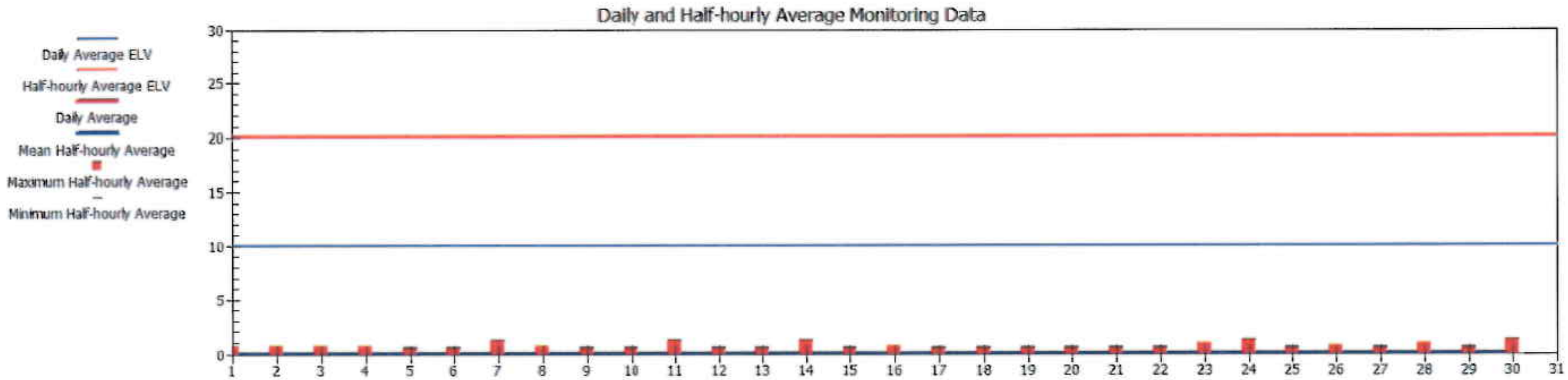
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	1	Maximum Half-hourly average	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016

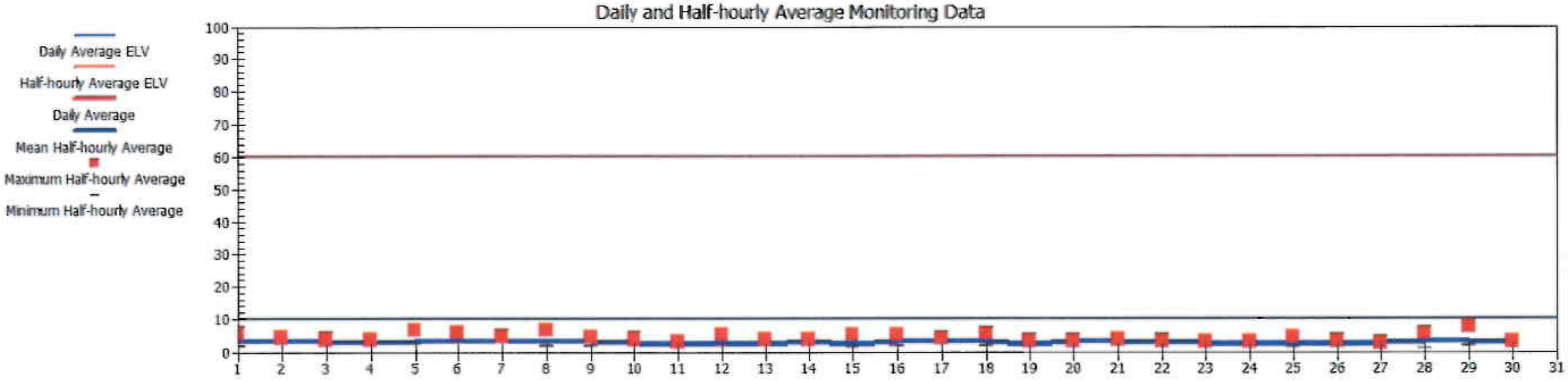
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	8	Maximum Half-hourly average	5	4	4	4	6	6	5	7	4	4	3	5	4	4	5	5	4	5	3	3	4	3	3	3	4	3	3	5	8	3	
Half-hourly	Monthly mean	3	Mean Half-hourly average	3	3	3	3	3	3	3	3	3	3	2	3	2	3	2	3	3	3	2	3	3	3	3	2	2	2	3	3	3	2	
average	Monthly minimum	1	Minimum Half-hourly average	3	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	2	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	3	Daily average	3	3	3	3	3	3	3	3	3	3	2	3	2	3	2	3	3	3	2	3	3	3	3	2	2	2	3	3	3	2	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

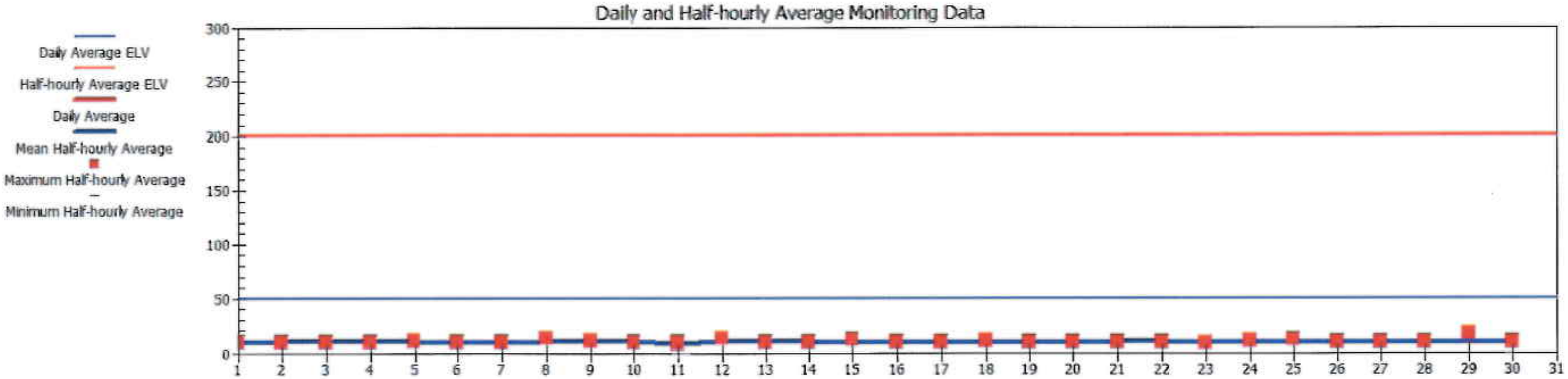
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	17	Maximum Half-hourly average	10	10	10	10	11	10	10	13	11	10	10	13	10	10	12	10	10	11	10	10	10	10	9	11	12	10	10	10	17	10	
	Monthly mean	9	Mean Half-hourly average	9	9	9	10	10	9	9	10	10	10	8	10	10	10	9	10	9	9	9	9	10	10	9	9	10	9	10	9	10	9	
	Monthly minimum	2	Minimum Half-hourly average	9	9	9	10	9	9	5	9	9	9	2	8	7	9	8	9	8	9	9	9	9	9	8	8	9	8	9	9	9	7	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	10	Daily average	9	9	9	10	10	9	9	10	10	10	8	10	10	10	9	10	9	9	9	9	10	10	9	9	10	9	10	9	10	9	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date...

28 JUL 2016.

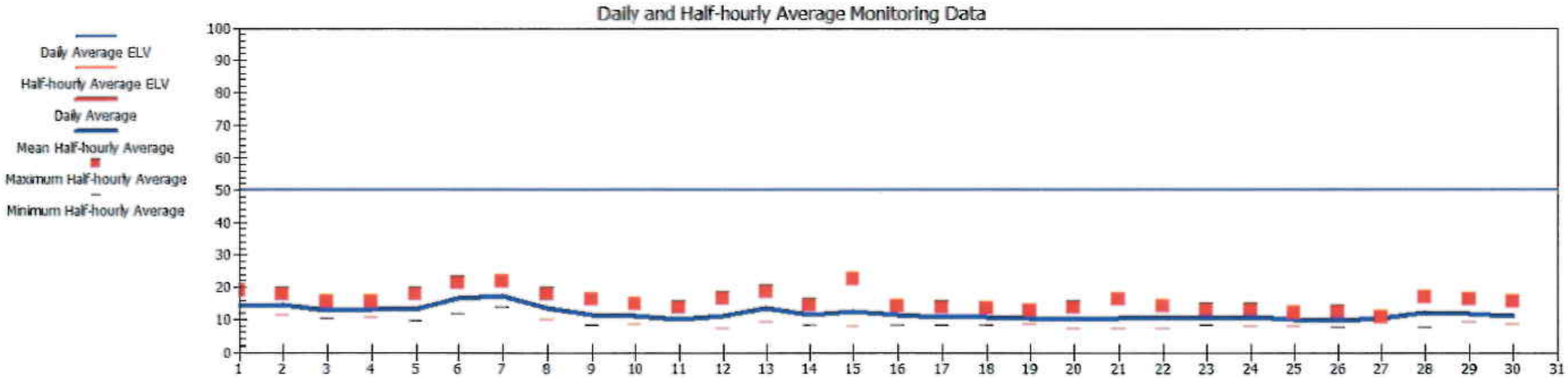
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	22	Maximum Half-hourly average	19	18	15	15	18	21	22	18	16	15	14	17	18	14	22	14	14	14	13	14	16	14	13	13	12	12	11	17	16	16	
	Monthly mean	12	Mean Half-hourly average	14	14	13	13	13	16	17	13	11	11	10	11	13	11	12	11	11	10	10	10	10	10	10	11	10	10	10	12	12	11	
	Monthly minimum	0	Minimum Half-hourly average	12	11	10	11	10	12	14	10	8	8	0	7	9	8	8	8	8	8	8	7	7	7	8	8	8	8	10	7	9	9	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	17	Daily average	14	14	13	13	13	16	17	13	11	11	10	11	13	11	12	11	11	10	10	10	10	10	10	11	10	10	10	12	12	11	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

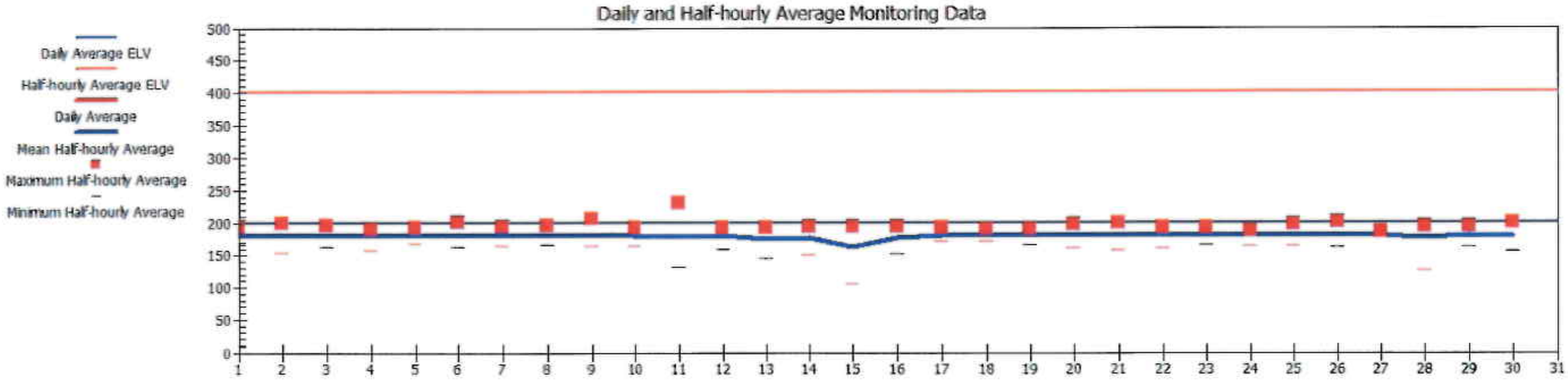
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of September 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	230	Maximum Half-hourly average	195	200	197	191	193	202	195	195	206	192	230	193	192	195	195	195	192	190	191	197	199	192	192	187	198	201	186	195	194	199	
	Monthly mean	179	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	180	179	180	175	177	163	177	180	180	180	180	180	180	180	180	180	180	181	177	180	179	
	Monthly minimum	106	Minimum Half-hourly average	167	153	163	157	167	162	164	167	165	164	132	160	145	151	106	152	171	171	167	161	158	161	167	165	164	163	176	126	163	157	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	181	Daily average	180	180	180	180	180	180	180	180	180	180	179	180	175	177	163	177	180	180	180	180	180	180	180	180	180	180	181	177	180	179	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

28 JUL 2016

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Air 7 / 30/11/2012

Reporting of periodically monitored emissions to air for the period from Jan 2016 to March 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	2 mg/m^3	Periodic over minimum 1-hour period	<0.02	BS ISO 15713	19/08/2016 10:19-11:19	0.002
A2				<0.02		19/08/2016 11:35-12:35	0.002
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period	<0.001	BS EN 14385	13/07/2016 96 mins between 09:15 and 10:55	0.0002
A2				0.0006		13/07/2016 96 mins between 12:00 and 13:40	0.0001
A1	Mercury and its compounds	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period	0.002	BS EN 13211	as Cadmium	0.0001
A2				0.002		as Cadmium	0.0002
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m^3	over minimum 30 minute, maximum 8 hour period	0.013	BS EN 14385	as Cadmium	0.002
A2				0.04		as Cadmium	0.007

28 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / Furans (I-TEQ)	0.1 ng/m³	over minimum 6 hour period, maximum 8 hour period	0.035 ng/m³	BS EN 1948 Parts 1, 2 and 3	12/07/2016 360 mins between 09:45 and 16:00	0.008
A2				0.04 ng/m³		15/07/2016 360 mins between 09:05 and 15:16	0.007
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00239 ng/m³	BS EN/TS 1948-4	as above	0.00054
A2				0.00071 ng/m³		as above	0.00016
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00012 ng/m³	BS EN/TS 1948-4	as above	0.00003
A2				0.00004 ng/m³		as above	0.0001
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00389 ng/m³	BS EN/TS 1948-4	as above	0.00079
A2				0.00322 ng/m³		as above	0.00073
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.032 ng/m³	BS EN/TS 1948-4	as above	0.007
A2				0.04 ng/m³		as above	0.009

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.037 ng/m³	BS EN/TS 1948-4	as above	0.008
A2				0.04 ng/m³		as above	0.010
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.076 ng/m³	BS EN/TS 1948-4	as above	0.017
A2				0.07 ng/m³		as above	0.017
	Poly-cyclic aromatic hydrocarbons (PAHs)		over minimum 6 hour period, maximum 8 hour period				
A1	Total	No limit applies		*1.448 µg/m³*	BS ISO 11338-1 and BS ISO 1138-2	12/07/2016 360 mins between 10:04 and 16:08 for all components	*0.328*
A2				*<0.61 µg/m³*		14/07/2016 360 mins between 08:45 and 14:56 for all components	*0.13*
A1	Anthanthrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo{a}anthracene	No limit applies		*0.024*			*0.006*
A2				*<0.01*			*0.002*
A1	Benzo[b]fluoranthene	No limit applies		*<0.012*			*0.003*

28 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2				<0.01			0.002
A1	Benzo[k]fluoranthene	No limit applies		<0.012			0.003
A2				<0.01			0.002
A1	Benzo[b]naph(2,1-d}thiophene	No limit applies		<0.012			0.003
A2				<0.01			0.002
A1	Benzo[c]phenanthrene	No limit applies		<0.012			0.003
A2				<0.01			0.002
A1	Benzo[ghi]perylene	No limit applies		<0.012			0.003
A2				<0.01			0.002
A1	Benzo[a]pyrene	No limit applies		<0.012			0.003
A2				<0.01			0.002
A1	Cholanthrene	No limit applies		<0.012			0.003
A2				<0.01			0.002

2 0 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Chrysene	No limit applies		*0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Cyclopenta(c,d)pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Dibenzo[ah]anthracene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Dibenzo[a,i]pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Fluoranthene	No limit applies		*0.134*			*0.030*
A2				*0.05*			*0.01*
A1	Indo[1,2,3-cd]pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*

2 8 JUL 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Naphthalen	No limt applies		*1.132*			*0.256*
A2				*0.41*			*0.08*

[1] For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .... Date 28 JUL 2016

(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Performance 1 / 30/11/2012

Reporting of Waste Disposal and Recovery for the year 2016 (to end Q3)

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residues	D9	5549.88	-
IBA which is classified as hazardous waste	D9	26.72	-
Total hazardous waste		5576.60	-
2) Non-Hazardous Wastes			
IBA	R5	30230.43	30230.43
Other non-hazardous wastes	R4	26.14	26.14
Total non-hazardous waste		30256.57	30256.57
TOTAL WASTE	-	35833.17	30256.57

Operator's comments :

D9 – acid neutralisation followed by non-hazardous landfill, R5 – processed and reused, R4 – metals recovered

Boiler ash was removed directly from the boiler through cleaning and was therefore not included in standard IBA and was disposed of as APCr processing.

Signed ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Date 2 8 JUL 2016

Reporting of Water and Other Raw Material Usage for the year 2016 (to end Q3)

Raw Material	Usage	Unit	Specific Usage	Unit
Mains water	27244	m^3	0.069	m^3/t
Total water usage	67467	m^3	0.170	m^3/t
Ammonia	408	Tonnes	1.029	kg/t
Activated carbon	143	Tonnes	0.360	kg/t
Lime/hydrated lime or sodium bicarbonate	6757	Tonnes	17.034	kg/t

Operator's comments :

Fuel burn = 396,685 tonnes

Signed .... Date 28 JUL 2016
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of other performance indicators for the period 2016 (to end Q3)

Parameter	Result
Number of periods of abnormal operation	1 period - 30 mins
Cumulative hours of abnormal operation for this calendar year	30 mins

Operator's comments :

11/09/16 – Loss of CEMs due to failure of N2 calibration gas

Signed .... Date..............................
(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number :Energy 1 / 30/11/2012

Reporting of Energy Usage/Export for the year 2016 (to end Q3)

Energy Source	Energy Usage	Unit	Contained Energy (MWh)
Electricity Produced	176362	MWh	
Electricity Imported	22376	MWh	
Electricity Exported	163856	MWh	
Gas Oil	721	tonnes	
Steam/hot water Exported	0	MWh	

Operator's comments :

Signed ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Date 28 JUL 2016

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/07/2016 to 31/07/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	1.11	0.42	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																
	Sb mg/kg	**Cd** mg/kg	**Tl** mg/kg	**Hg** mg/kg	**Pb** mg/kg	**Cr** mg/kg	**Cu** mg/kg	**Mn** mg/kg	**Ni** mg/kg	**As** mg/kg	**Co** mg/kg	**V** mg/kg	**Zn** Mg/kg	**DIOXIN I-TEQ ng/kg**	**DIOXIN WHO-TEQ ng/kg**		
															Humans /	Birds	Fish
Bottom Ash	113	15.2	0.08	0.42	814	168	2876	891	133	10.4	83.5	54.6	2862	8.32	16.9	32.7	18.2
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	649	232	1.00	3.20	2410	49.8	828	255	32.7	27.0	8.66	23.1	12100	552	1132	2164	1216
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed ....

(authorised to sign as representative of Ferrybridge MFE Limited)

Date..............................

Permit Reference Number : SP3239FU

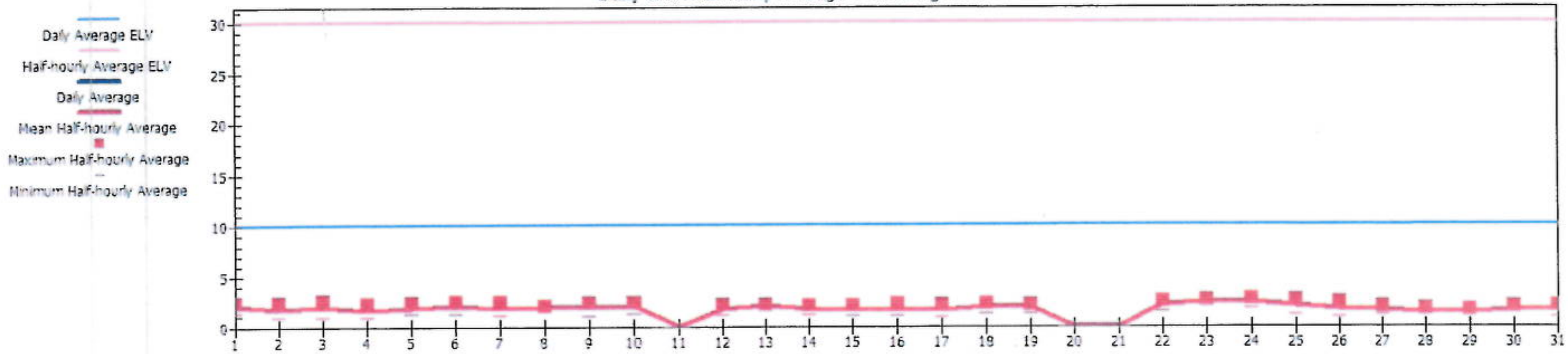
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of October 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	3	Maximum Half-hourly average	2	2	3	2	2	2	2	2	2	2	Off	2	2	2	2	2	2	2	2	Off	Off	3	3	3	3	2	2	2	2	2	2
	Monthly mean	2	Mean Half-hourly average	2	2	2	2	2	2	2	2	2	2	Off	2	2	2	2	2	2	2	2	Off	Off	2	2	2	2	2	2	1	1	2	2
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	2	1	1	Off	1	2	1	1	1	1	1	1	Off	Off	2	2	2	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	2	Daily average	2	2	2	2	2	2	2	2	2	2	Off	2	2	2	2	2	2	2	2	Off	Off	2	2	2	2	2	2	1	1	2	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

Permit Reference Number : SP3239FU

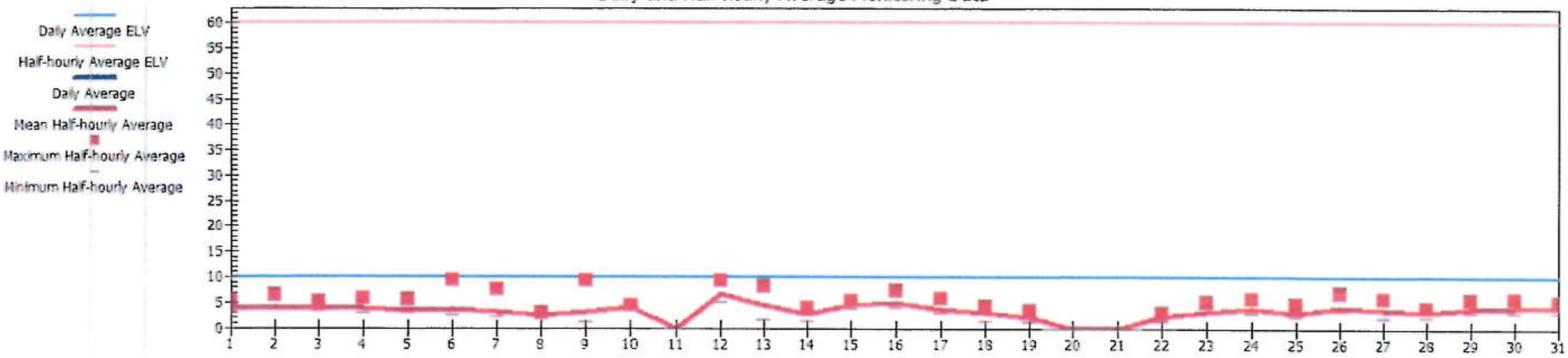
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of October 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	9	Maximum Half-hourly average	5	6	5	6	6	9	7	3	9	5	Off	9	8	4	5	7	6	4	3	Off	Off	3	5	6	5	7	6	4	6	6	5
Half-hourly	Monthly mean	4	Mean Half-hourly average	4	4	4	4	3	4	3	3	3	4	Off	7	4	3	5	5	4	3	2	Off	Off	2	3	4	3	4	4	3	4	4	4
average	Monthly minimum	1	Minimum Half-hourly average	3	4	3	3	3	2	2	2	1	4	Off	5	2	2	4	4	3	2	1	Off	Off	1	3	3	2	3	2	2	3	3	3
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily	Monthly maximum	7	Daily average	4	4	4	4	3	4	3	3	3	4	Off	7	4	3	5	5	4	3	2	Off	Off	2	3	4	3	4	4	3	4	4	4
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date...

(Authorised to sign as a representative of the Operator)

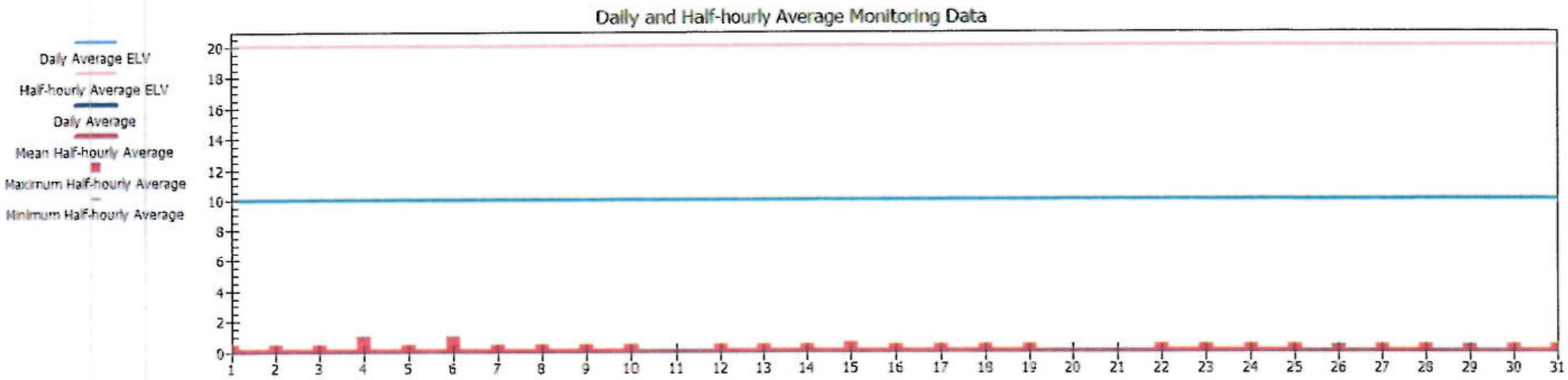
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	0	0	0	1	0	1	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

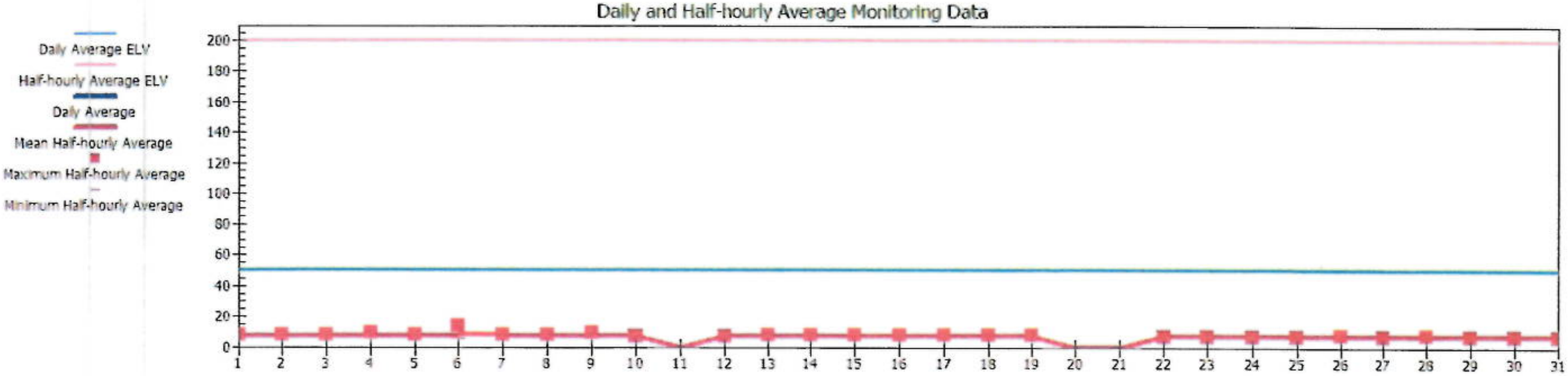
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	13	Maximum Half-hourly average	7	7	7	9	7	13	8	7	9	7	Off	7	7	8	8	8	8	7	7	Off	Off	7	7	7	7	7	7	7	7	7	7
	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	Off	7	7	7	7	7	7	7	7	Off	Off	7	7	7	7	7	7	7	7	7	7
	Monthly minimum	5	Minimum Half-hourly average	7	6	7	7	7	6	7	7	5	7	Off	5	5	7	7	7	7	7	7	Off	Off	6	7	7	7	7	6	7	7	7	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	Off	7	7	7	7	7	7	7	7	Off	Off	7	7	7	7	7	7	7	7	7	7
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date...

(Authorised to sign as a representative of the Operator)

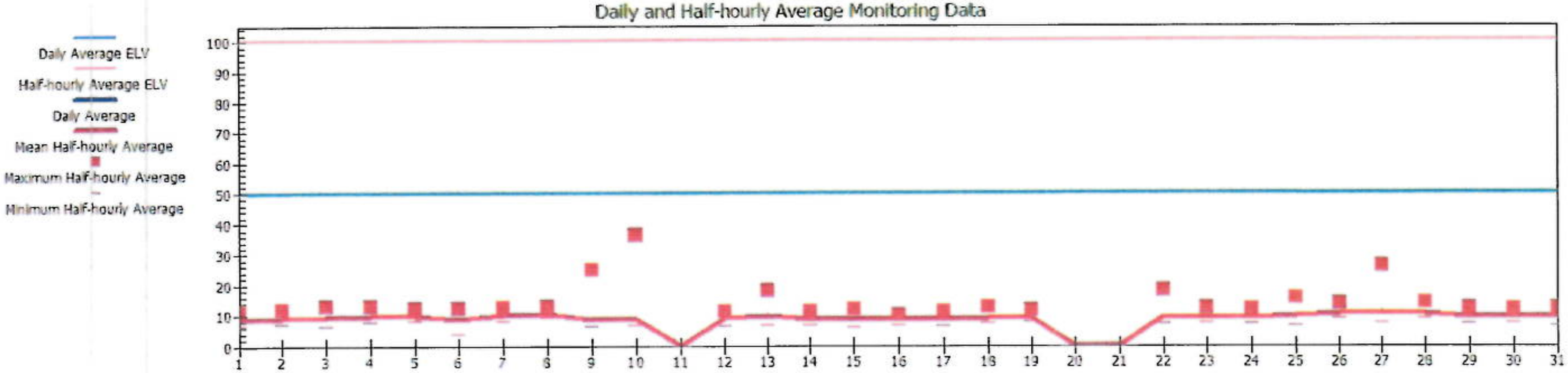
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	36	Maximum Half-hourly average	11	12	13	13	12	12	13	13	25	36	Off	11	18	11	12	10	11	13	11	Off	Off	18	12	12	16	14	26	14	12	12	12
	Monthly mean	9	Mean Half-hourly average	9	9	9	10	10	9	10	10	9	9	Off	9	10	9	9	9	9	9	9	Off	Off	9	9	9	10	10	11	11	9	9	9
	Monthly minimum	4	Minimum Half-hourly average	6	7	6	8	8	4	8	9	6	7	Off	6	7	7	6	7	6	8	8	Off	Off	7	7	7	6	9	8	9	7	7	7
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	11	Daily average	9	9	9	10	10	9	10	10	9	9	Off	9	10	9	9	9	9	9	9	Off	Off	9	9	9	10	10	11	11	9	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

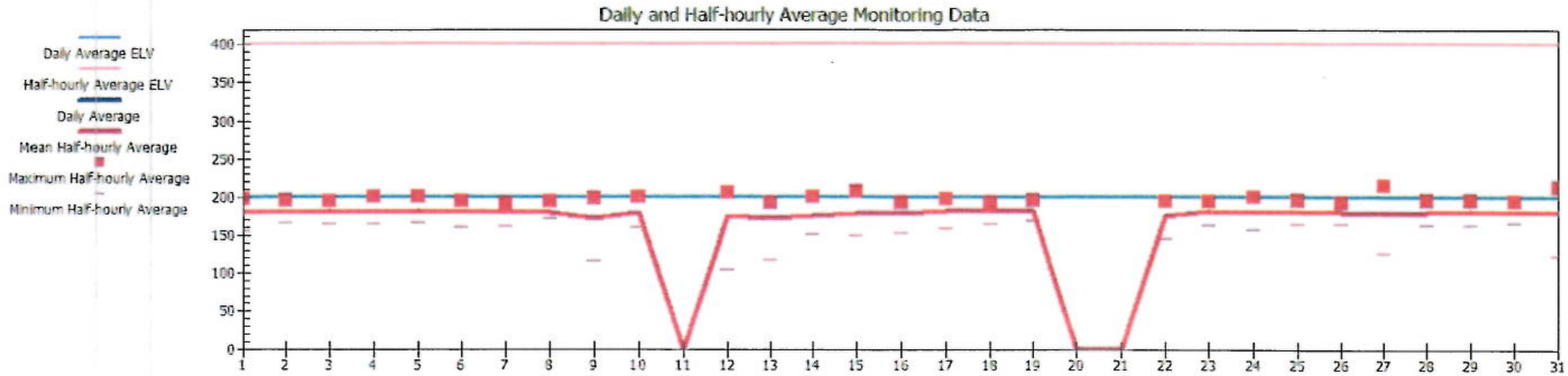
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	214	Maximum Half-hourly average	196	195	194	200	200	194	191	194	198	200	Off	206	192	199	207	192	197	192	196	Off	Off	194	194	200	196	192	214	195	196	194	214
	Monthly mean	179	Mean Half-hourly average	180	180	180	180	180	180	180	180	173	180	Off	175	172	175	178	177	181	180	180	Off	Off	175	180	180	180	180	178	180	180	179	180
	Monthly minimum	104	Minimum Half-hourly average	155	167	165	164	165	160	162	171	116	161	Off	104	118	152	150	153	159	165	170	Off	Off	145	163	157	165	164	126	163	163	165	124
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	Off	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	180	180	180	180	180	180	180	180	173	180	Off	175	172	175	178	177	181	180	180	Off	Off	175	180	180	180	180	178	180	180	179	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

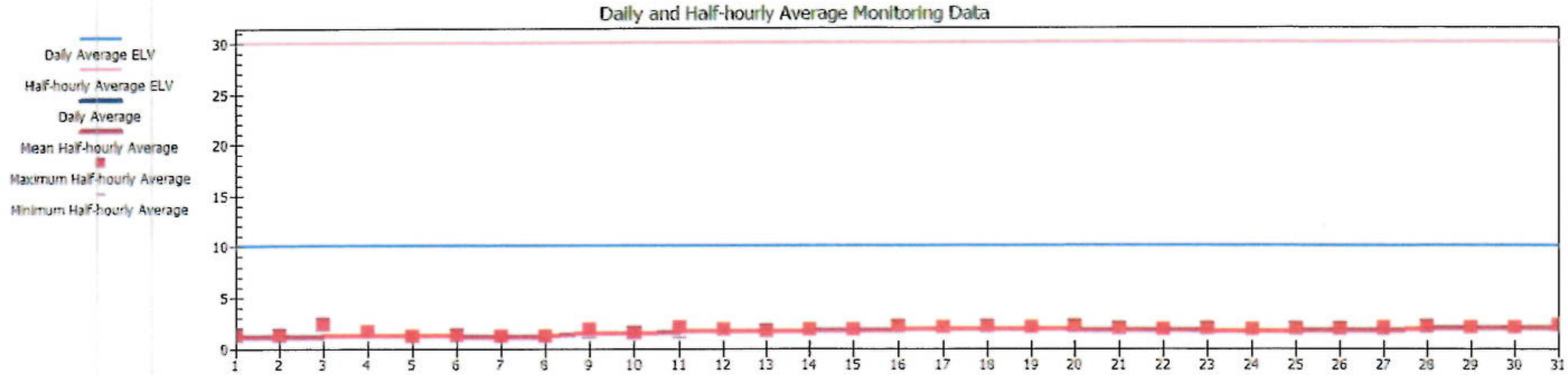
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	1	1	2	2	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Monthly mean	2	Mean Half-hourly average	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	2	Daily average	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

27 JAN 2017

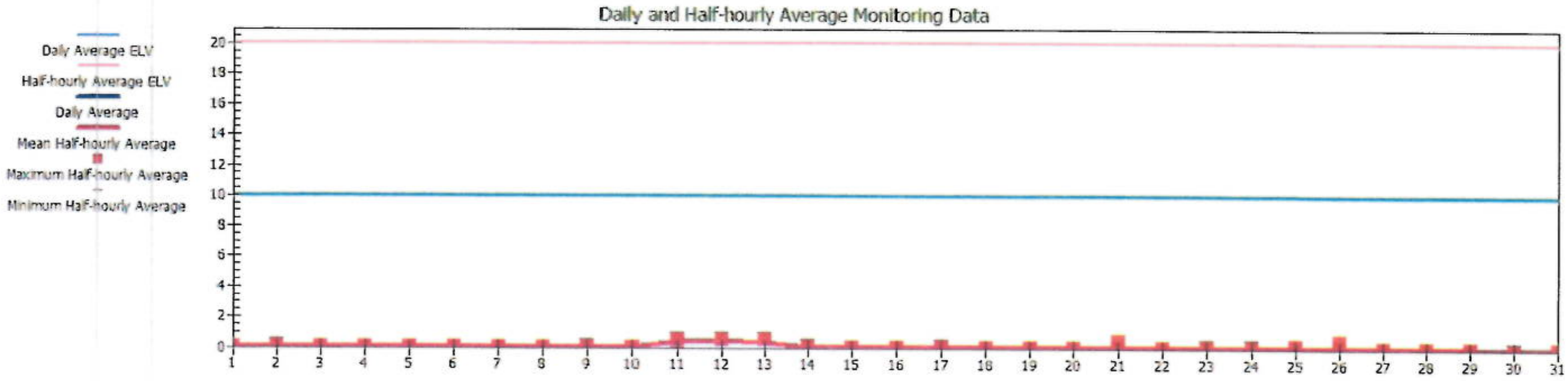
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	1	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	1	Daily average	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

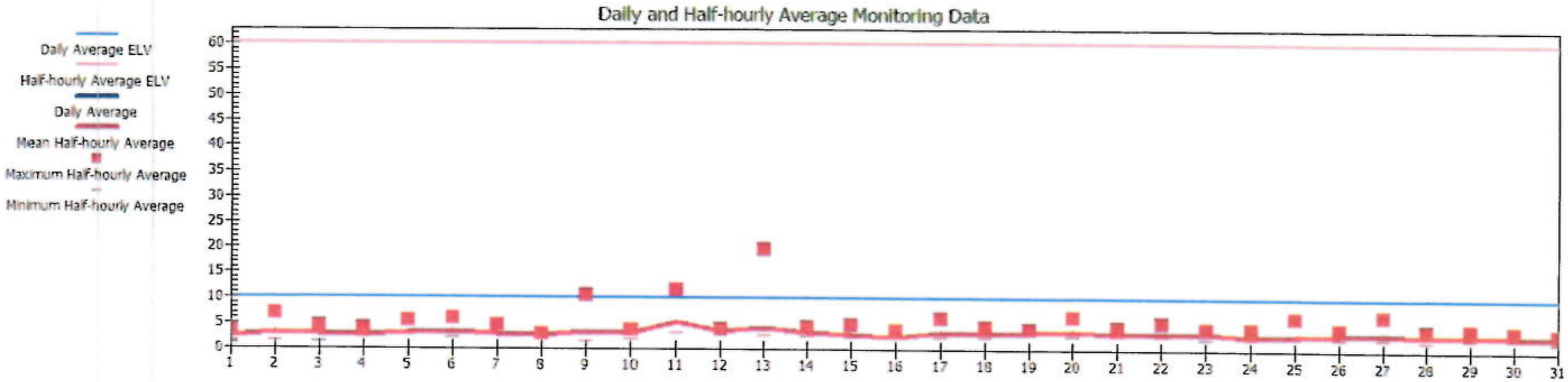
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	20	Maximum Half-hourly average	3	7	4	4	5	6	4	3	10	4	11	4	20	4	5	4	6	4	4	6	4	5	4	4	6	4	7	4	4	4	3
	Monthly mean	3	Mean Half-hourly average	2	3	3	3	3	3	3	3	3	3	5	3	4	3	3	2	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	2	3	2	2	2	1	2	3	3	3	3	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	5	Daily average	2	3	3	3	3	3	3	3	3	3	5	3	4	3	3	2	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

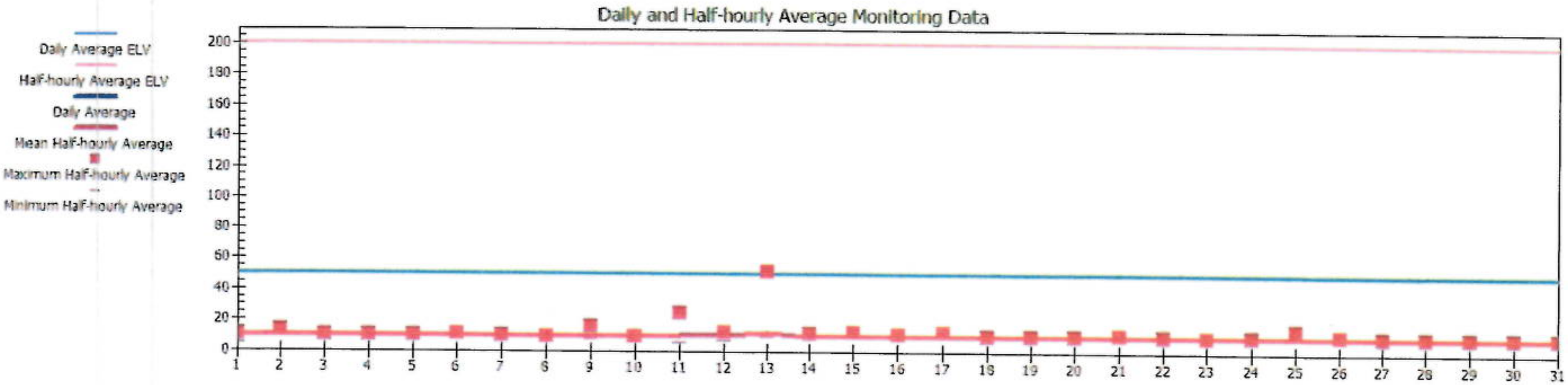
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	52	Maximum Half-hourly average	10	13	10	10	10	11	10	9	16	9	25	12	52	11	12	10	12	10	10	10	11	10	9	10	14	10	10	10	10	10	10
	Monthly mean	9	Mean Half-hourly average	9	9	9	9	9	9	9	9	9	9	10	10	11	9	10	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	Monthly minimum	6	Minimum Half-hourly average	9	9	8	9	8	8	9	9	8	8	6	7	9	9	9	9	9	9	9	8	9	9	8	8	9	9	8	8	9	9	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	11	Daily average	9	9	9	9	9	9	9	9	9	9	10	10	11	9	10	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

Date...

(Authorised to sign as a representative of the Operator)

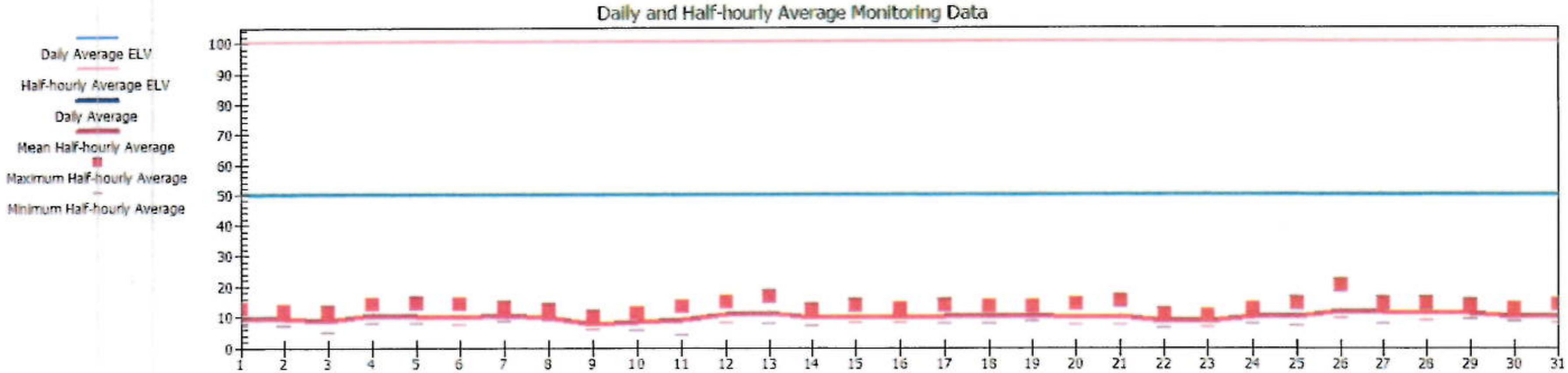
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	20	Maximum Half-hourly average	13	12	12	14	14	14	13	12	10	11	13	15	17	12	14	12	14	13	13	14	15	11	10	12	14	20	14	15	14	12	14
	Monthly mean	10	Mean Half-hourly average	10	9	9	11	10	10	10	10	8	8	9	11	11	10	10	10	10	10	10	10	10	8	9	10	10	12	12	11	11	10	10
	Monthly minimum	4	Minimum Half-hourly average	7	7	5	8	8	8	9	9	6	6	4	8	8	7	8	8	8	8	9	8	7	6	7	8	7	10	8	9	9	9	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	12	Daily average	10	9	9	11	10	10	10	10	8	8	9	11	11	10	10	10	10	10	10	10	10	8	9	10	10	12	12	11	11	10	10
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

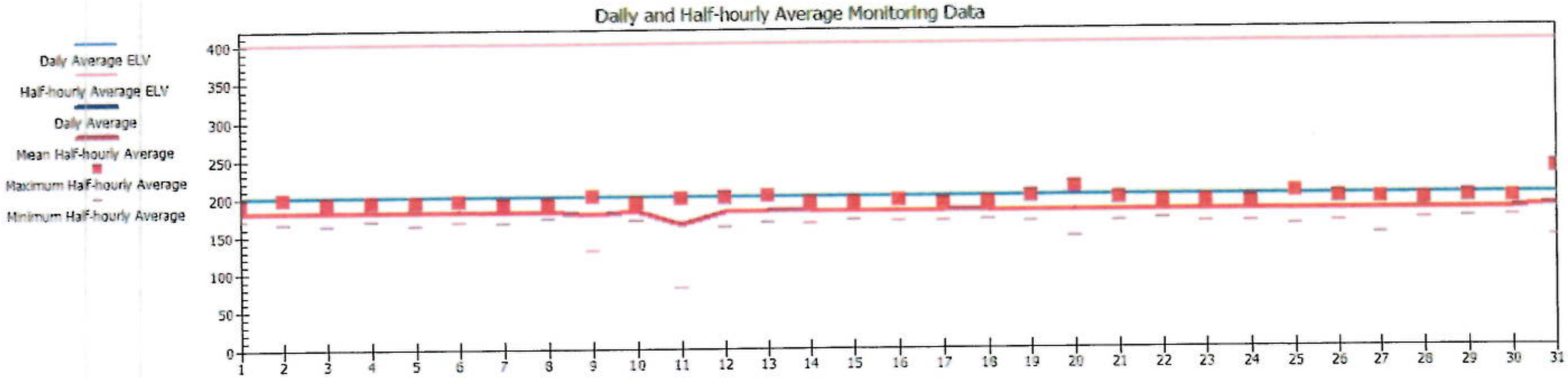
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of October 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	233	Maximum Half-hourly average	191	196	191	192	193	194	190	190	199	191	196	198	199	191	190	194	190	191	199	210	195	191	191	189	203	195	194	193	195	195	233
	Monthly mean	179	Mean Half-hourly average	180	180	180	180	180	180	180	181	177	180	163	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	179	180	180	180	185
	Monthly minimum	79	Minimum Half-hourly average	170	166	164	169	163	167	166	172	130	168	79	160	167	165	170	167	167	169	166	146	166	169	165	165	161	165	148	167	170	170	144
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	185	Daily average	180	180	180	180	180	180	180	181	177	180	163	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	179	180	180	180	185
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date..

(Authorised to sign as a representative of the Operator)

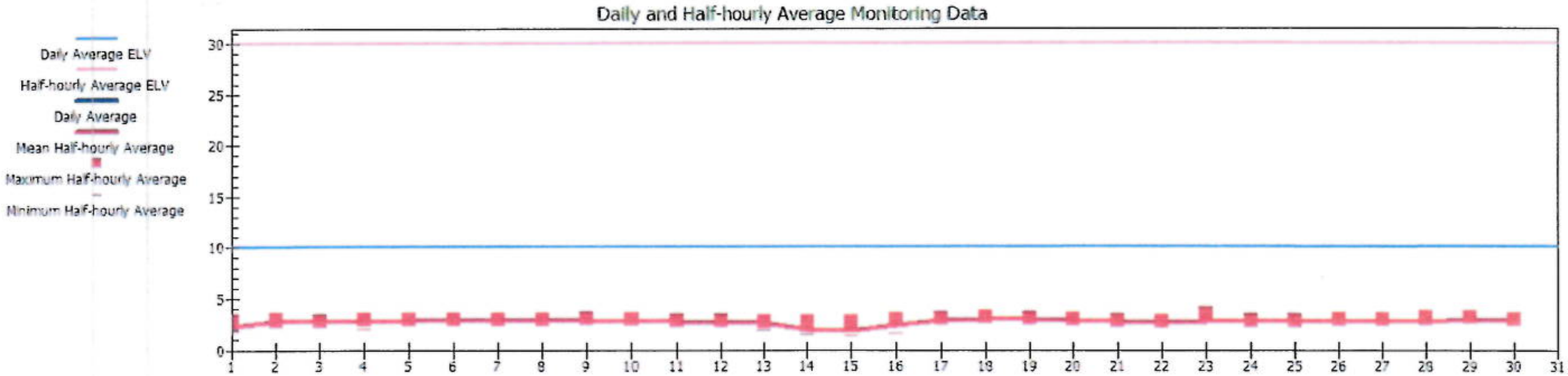
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	3	Maximum Half-hourly average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Monthly mean	3	Mean Half-hourly average	2	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Monthly minimum	1	Minimum Half-hourly average	2	2	3	2	3	3	3	3	3	3	2	2	2	1	1	2	2	3	3	2	3	2	3	3	3	3	3	2	3	3	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	3	Daily average	2	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date...

(Authorised to sign as a representative of the Operator)

27 JAN 2017

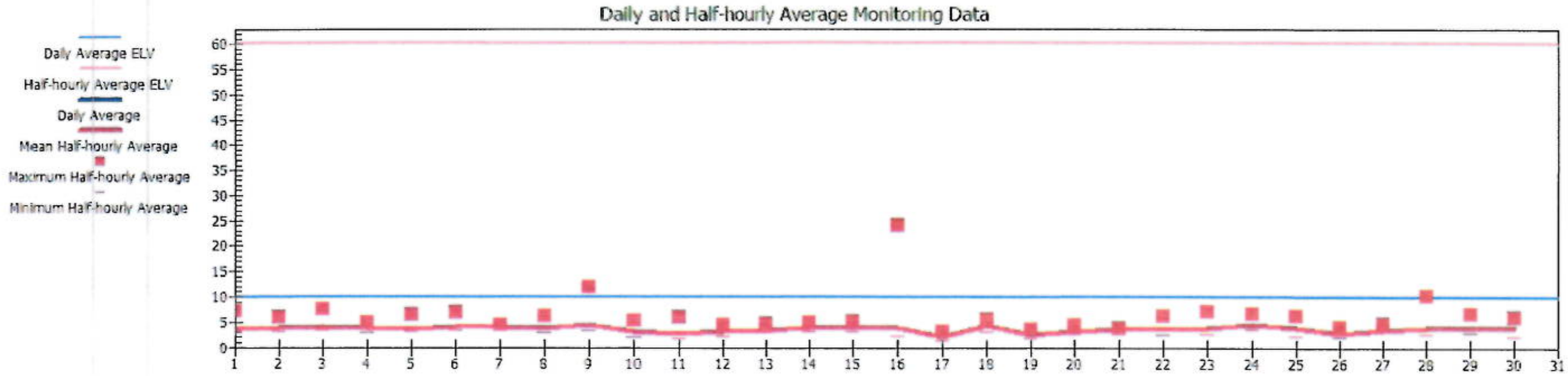
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	24	Maximum Half-hourly average	7	6	8	5	6	7	5	6	12	5	6	4	5	5	5	24	3	6	4	5	4	6	7	7	6	4	5	10	7	6	
	Monthly mean	4	Mean Half-hourly average	4	4	4	4	4	4	4	4	4	3	3	3	3	4	4	4	2	4	3	3	4	4	4	4	4	3	3	4	4	4	
	Monthly minimum	1	Minimum Half-hourly average	3	3	3	3	3	3	3	3	3	2	2	2	3	3	3	2	1	3	2	3	3	3	3	4	2	2	3	3	3	2	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	4	Daily average	4	4	4	4	4	4	4	4	4	3	3	3	3	4	4	4	2	4	3	3	4	4	4	4	4	3	3	4	4	4	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date..

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

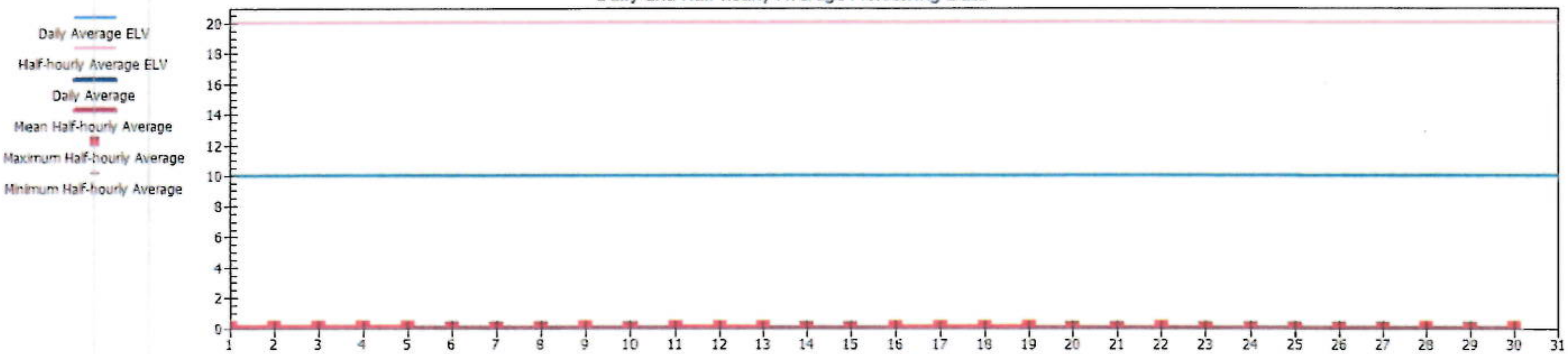
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of November 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date...

(Authorised to sign as a representative of the Operator)

27 JAN 2017

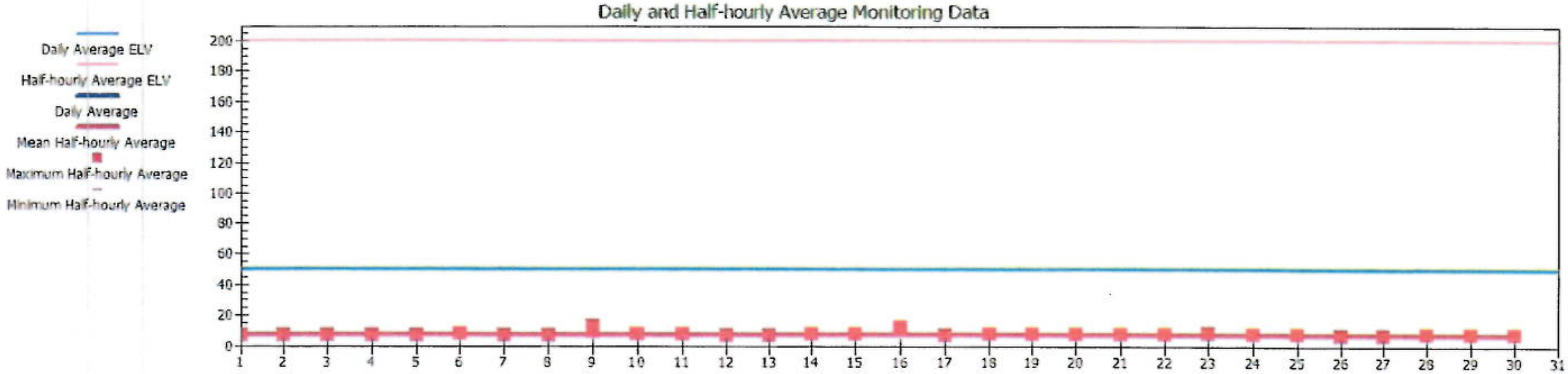
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	13	Maximum Half-hourly average	7	7	7	7	7	8	7	7	13	8	8	7	7	8	7	12	7	7	7	7	8	8	9	7	7	7	7	7	7	8	
Half-hourly	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
average	Monthly minimum	5	Minimum Half-hourly average	6	7	7	6	7	7	7	7	5	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Daily	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date...

(Authorised to sign as a representative of the Operator)

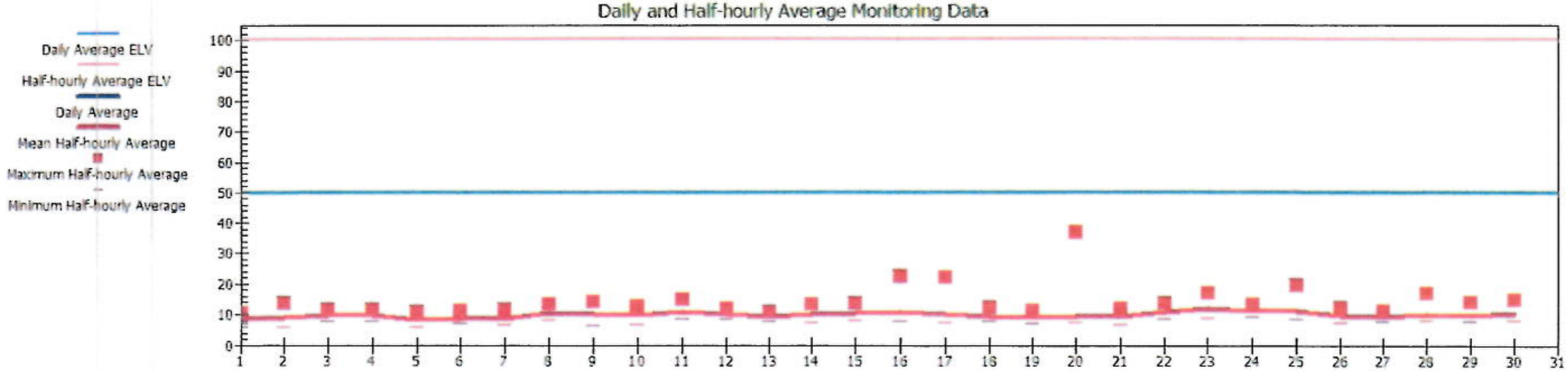
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	37	Maximum Half-hourly average	10	14	11	12	11	11	12	13	14	12	15	12	11	13	14	23	22	12	11	37	12	14	17	13	20	12	11	17	14	15	
Half-hourly	Monthly mean	10	Mean Half-hourly average	9	9	10	10	8	9	9	10	10	10	11	10	9	10	10	11	10	9	9	9	9	11	12	11	11	10	9	10	10	11	
average	Monthly minimum	6	Minimum Half-hourly average	7	6	8	8	6	7	7	8	6	7	9	8	8	7	8	8	8	8	7	7	7	8	9	9	9	8	8	8	8	8	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Daily	Monthly maximum	12	Daily average	9	9	10	10	8	9	9	10	10	10	11	10	9	10	10	11	10	9	9	9	9	11	12	11	11	10	9	10	10	11	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date..

(Authorised to sign as a representative of the Operator)

27 JAN 2017

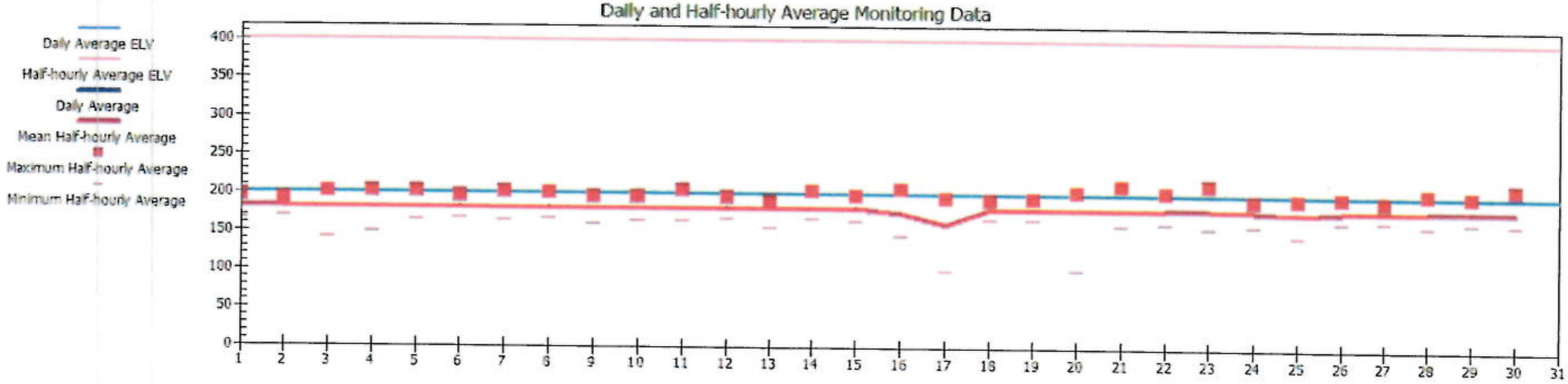
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	213	Maximum Half-hourly average	196	191	200	201	202	195	201	200	195	196	204	196	189	202	197	206	194	193	195	203	212	202	213	193	194	197	192	202	200	210	
	Monthly mean	179	Mean Half-hourly average	180	180	179	179	180	180	180	180	180	180	180	180	180	180	180	175	160	180	180	179	180	180	181	180	176	180	180	181	180	180	
	Monthly minimum	100	Minimum Half-hourly average	166	169	141	149	165	167	165	168	161	165	165	168	156	167	165	145	100	167	168	102	160	163	157	160	147	166	168	161	167	165	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	181	Daily average	180	180	179	179	180	180	180	180	180	180	180	180	180	180	180	175	160	180	180	179	180	180	181	180	176	180	180	181	180	180	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date..

(Authorised to sign as a representative of the Operator)

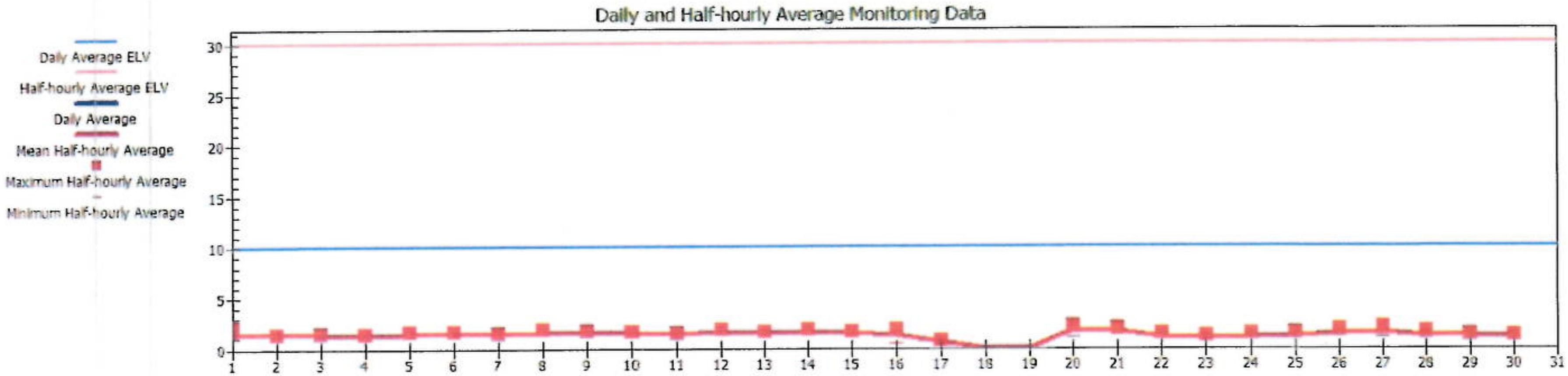
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Monthly maximum	2	Maximum Half-hourly average	2	1	2	1	2	2	1	2	2	2	2	2	2	2	2	2	1	Off	Off	2	2	1	1	1	1	2	2	2	1	1	
Half-hourly	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	Off	Off	2	2	1	1	1	1	1	1	1	1	1	
average	Monthly minimum	0	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	Off	Off	1	1	1	1	1	1	1	1	1	1	1	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	2	Daily average	1	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	Off	Off	2	2	1	1	1	1	1	1	1	1	1	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

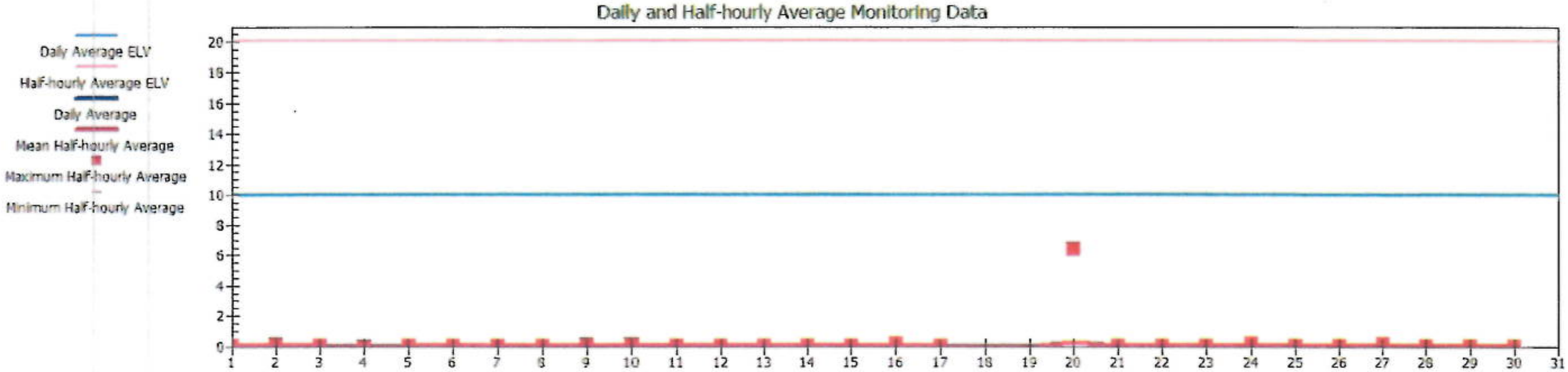
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Monthly maximum	6	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	6	0	0	0	0	0	0	0	0	0	0	
Half-hourly	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
average	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Daily	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date..

(Authorised to sign as a representative of the Operator)

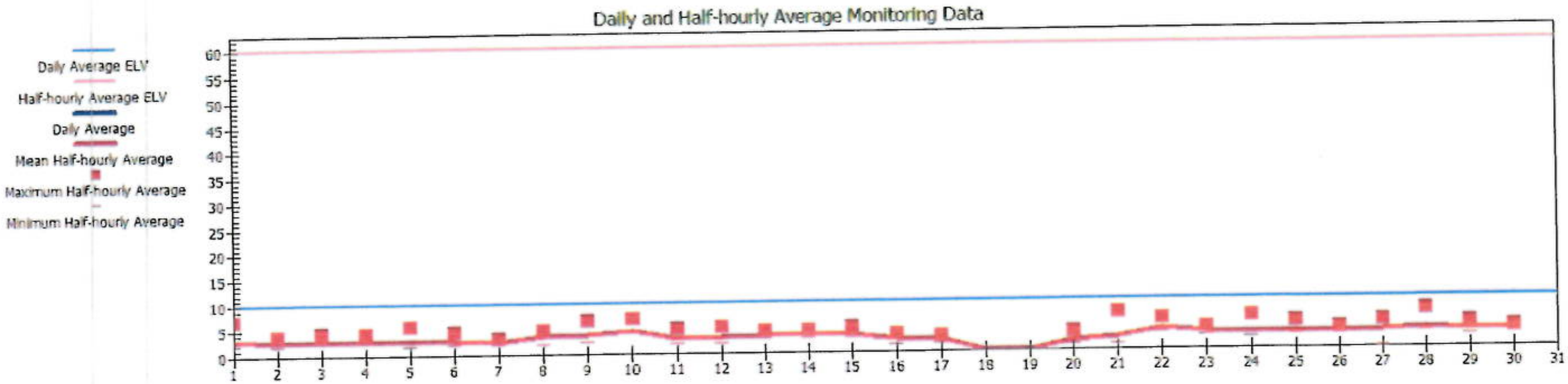
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Monthly maximum	7	Maximum Half-hourly average	7	4	4	4	5	4	3	5	6	7	5	5	4	4	5	3	3	Off	Off	3	7	6	4	6	5	4	5	7	5	4	
	Monthly mean	3	Mean Half-hourly average	3	2	3	3	3	2	2	3	4	4	3	3	3	3	3	2	2	Off	Off	2	2	4	3	3	3	3	3	4	3	3	
	Monthly minimum	0	Minimum Half-hourly average	2	2	2	2	2	2	2	2	2	4	2	2	3	3	3	1	1	Off	Off	1	1	3	3	2	3	3	0	3	2	3	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Monthly maximum	4	Daily average	3	2	3	3	3	2	2	3	4	4	3	3	3	3	3	2	2	Off	Off	2	2	4	3	3	3	3	3	4	3	3	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

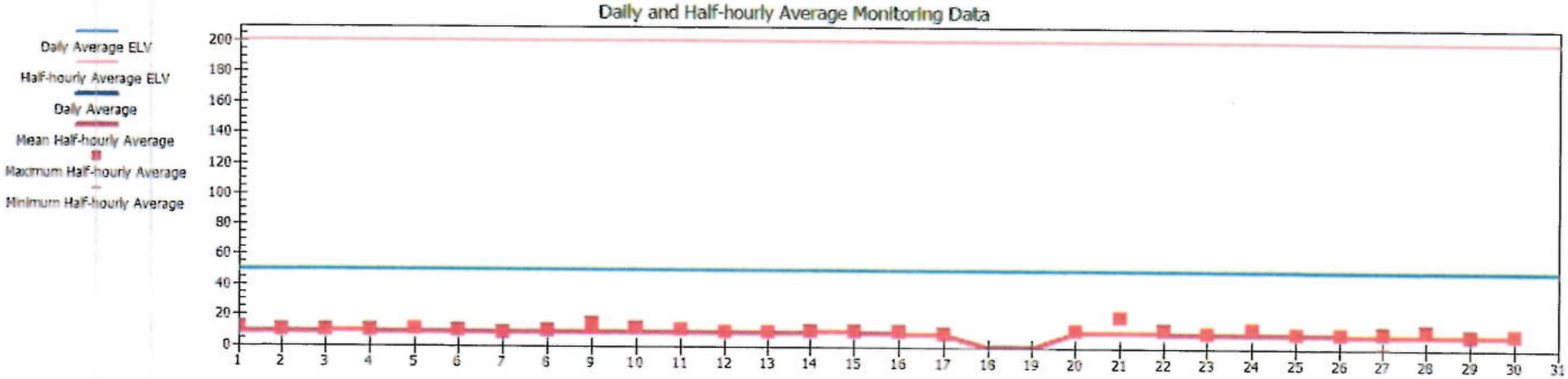
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
	Monthly maximum	20	Maximum Half-hourly average	11	10	10	10	10	10	9	10	14	12	10	9	9	10	10	10	8	Off	Off	10	20	11	9	12	9	9	10	11	8	9	
	Monthly mean	9	Mean Half-hourly average	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	8	8	Off	Off	9	10	9	8	8	9	8	8	8	8	8	
	Monthly minimum	0	Minimum Half-hourly average	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	Off	Off	8	8	8	8	8	8	8	0	7	7	7	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	10	Daily average	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	8	8	Off	Off	9	10	9	8	8	9	8	8	8	8	8	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

Permit Reference Number : SP3239FU

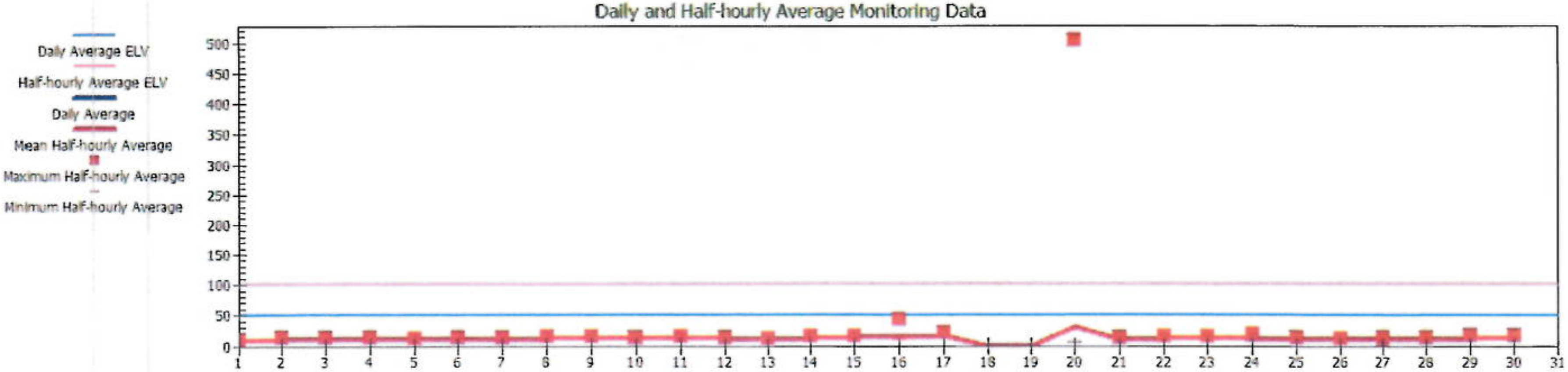
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of November 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	Monthly maximum	503	Maximum Half-hourly average	10	14	14	14	13	13	13	16	15	14	15	13	13	15	15	43	21	Off	Off	503	14	16	15	20	14	12	13	13	17	18	
	Monthly mean	12	Mean Half-hourly average	9	9	11	11	11	11	10	12	11	12	12	11	10	11	13	15	16	Off	Off	31	10	11	12	11	11	10	10	9	12	14	
	Monthly minimum	1	Minimum Half-hourly average	6	7	9	8	8	9	8	8	9	8	10	9	9	8	11	11	13	Off	Off	7	7	9	10	9	8	7	1	8	9	11	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	1	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	1	0	0	0	0	0	0	0	0	0	0	
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Monthly maximum	31	Daily average	9	9	11	11	11	11	10	12	11	12	12	11	10	11	13	15	16	Off	Off	31	10	11	12	11	11	10	10	9	12	14	
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed..

(Authorised to sign as a representative of the Operator)

Date..

27 JAN 2017

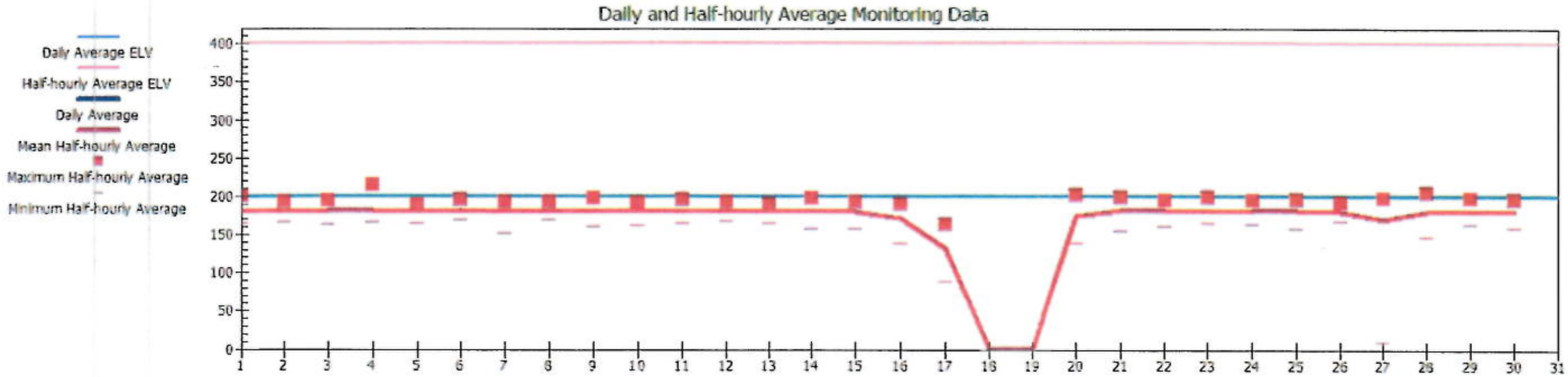
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of November 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
	Monthly maximum	214	Maximum Half-hourly average	199	192	194	214	189	196	193	192	197	192	196	193	190	196	192	190	163	Off	Off	201	198	194	198	194	196	191	197	204	197	195	
Half-hourly	Monthly mean	177	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	171	131	Off	Off	174	180	180	179	180	180	180	169	179	180	180	
average	Monthly minimum	9	Minimum Half-hourly average	165	165	163	167	164	169	152	169	160	162	165	167	165	157	157	138	89	Off	Off	138	154	160	165	164	158	167	9	148	163	159	
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Off	Off	0	0	0	0	0	0	0	0	0	0	0	
			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Daily	Monthly maximum	180	Daily average	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	171	131	Off	Off	174	180	180	179	180	180	180	169	179	180	180	
average	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Signed.. Date..

(Authorised to sign as a representative of the Operator)

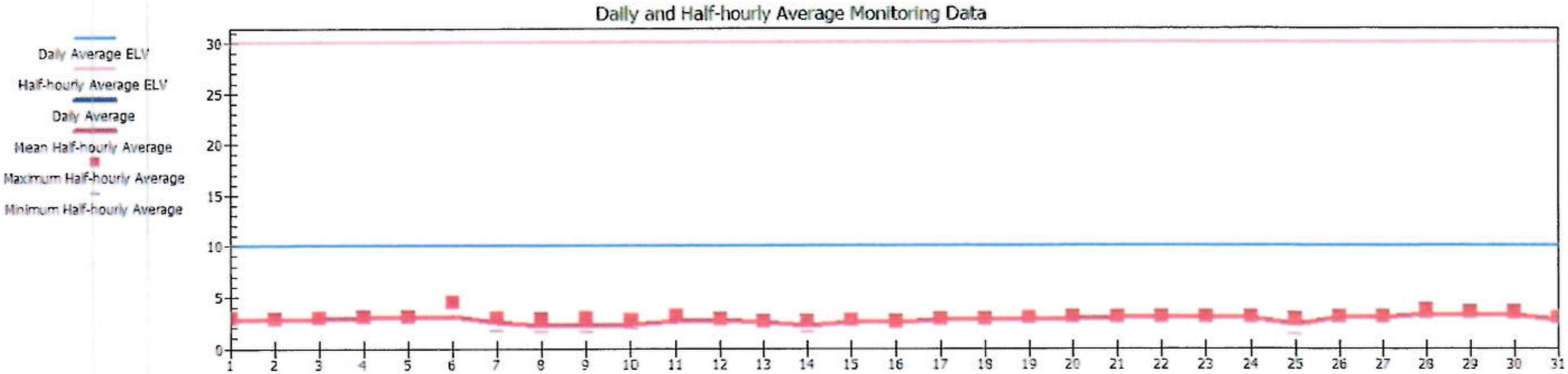
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A1 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	4	Maximum Half-hourly average	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3
	Monthly mean	3	Mean Half-hourly average	3	3	3	3	3	3	2	2	2	2	3	3	2	2	2	2	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3
	Monthly minimum	1	Minimum Half-hourly average	3	3	3	3	3	3	2	2	2	2	2	3	2	2	2	2	2	2	2	3	3	3	3	3	1	3	3	3	3	3	2
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	3	Daily average	3	3	3	3	3	3	2	2	2	2	3	3	2	2	2	2	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

Permit Reference Number : SP3239FU

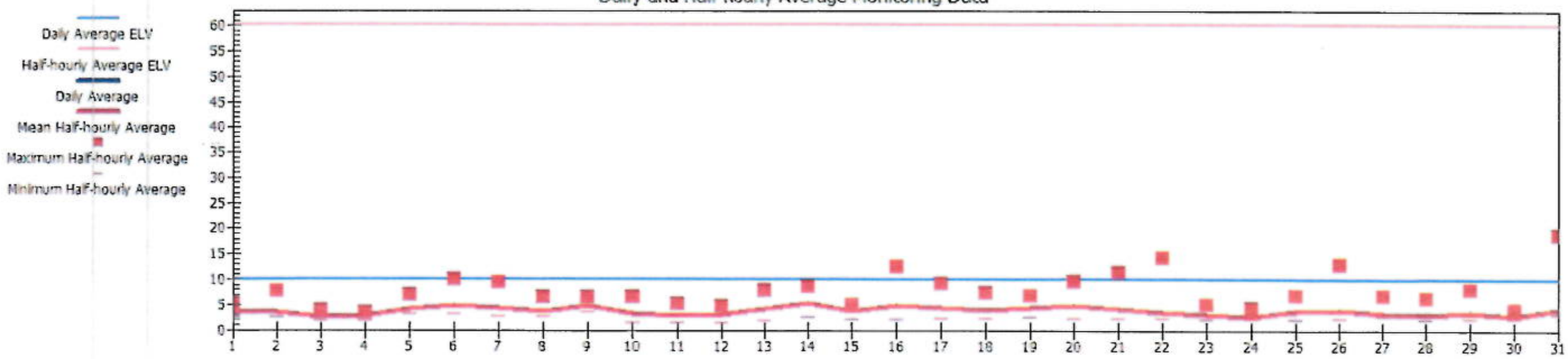
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A1 For the month of December 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	19	Maximum Half-hourly average	5	8	4	3	7	10	9	7	7	6	5	5	8	8	5	12	9	7	7	10	11	14	5	4	7	13	7	6	8	4	19
	Monthly mean	4	Mean Half-hourly average	3	3	3	3	4	5	4	4	5	3	3	3	4	5	4	5	4	4	4	5	4	3	3	3	4	4	3	3	3	3	4
	Monthly minimum	1	Minimum Half-hourly average	2	2	2	2	3	3	3	3	4	1	1	1	2	3	2	2	2	2	3	2	2	2	2	2	2	2	3	2	2	2	3
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	5	Daily average	3	3	3	3	4	5	4	4	5	3	3	3	4	5	4	5	4	4	4	5	4	3	3	3	4	4	3	3	3	3	4
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date...

(Authorised to sign as a representative of the Operator)

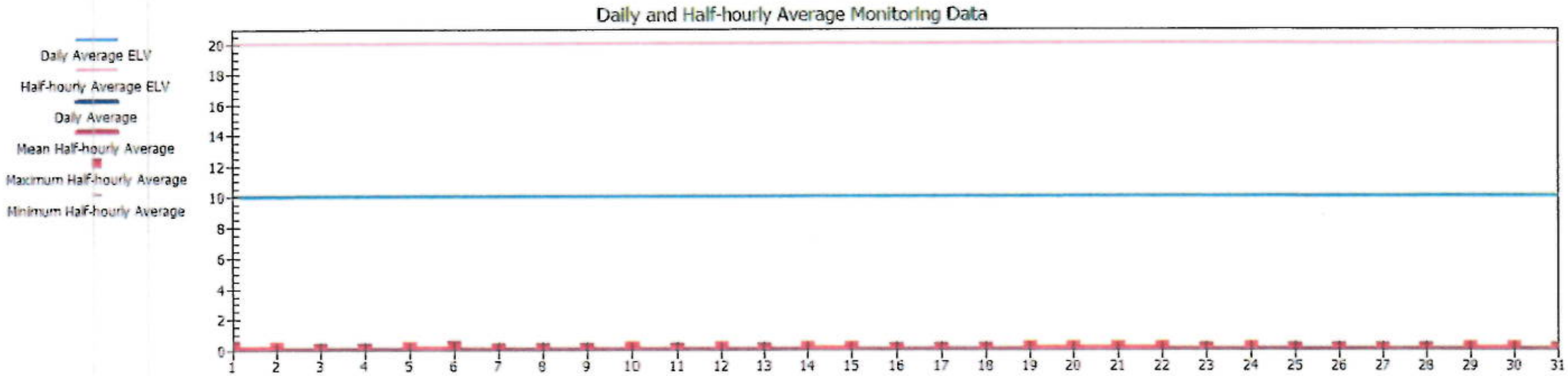
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A1 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

Permit Reference Number : SP3239FU

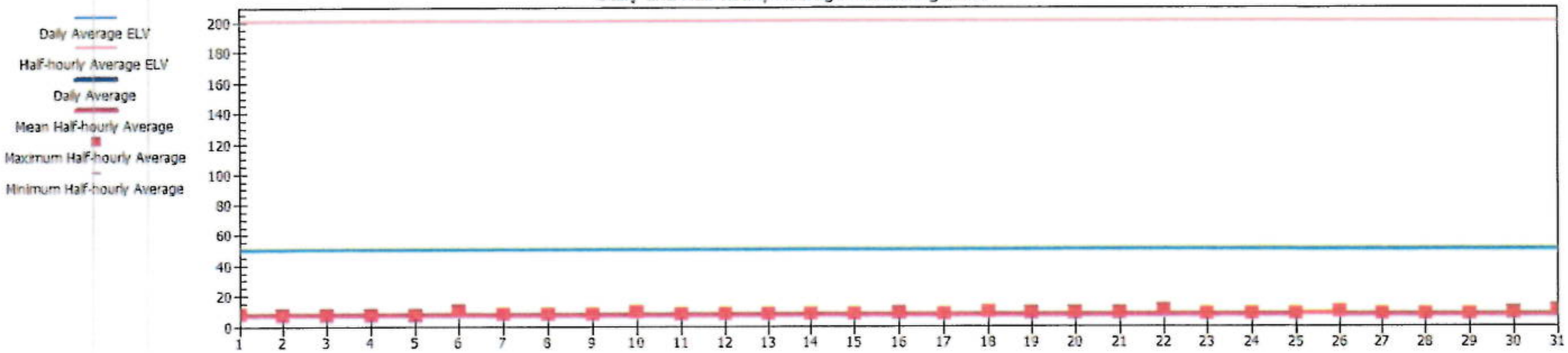
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A1 For the month of December 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	10	Maximum Half-hourly average	8	7	7	7	7	10	8	7	7	9	8	8	8	7	7	8	8	9	8	8	8	10	7	7	8	9	7	8	8	8	10
	Monthly mean	7	Mean Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Monthly minimum	6	Minimum Half-hourly average	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	7	Daily average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date...

(Authorised to sign as a representative of the Operator)

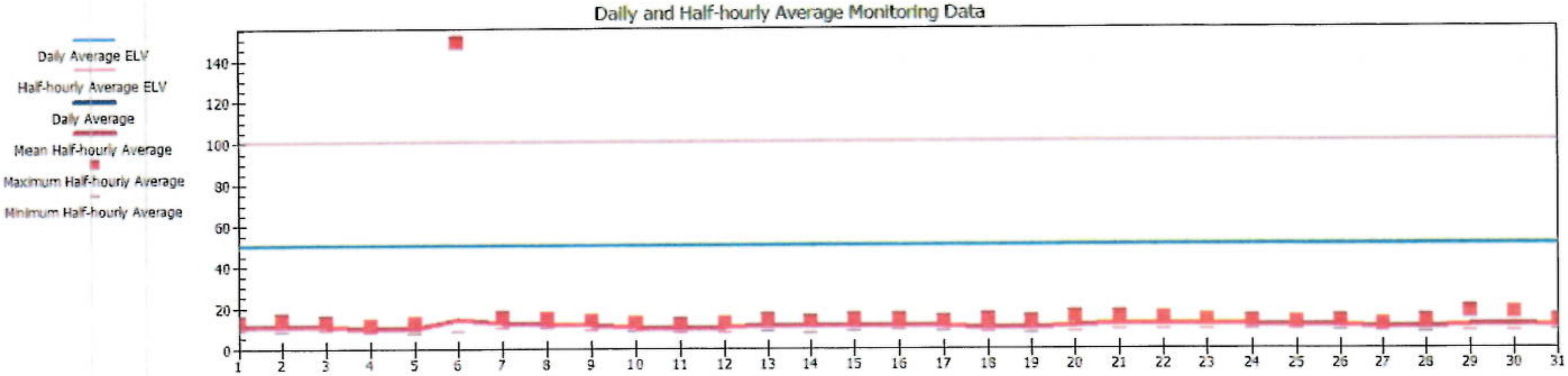
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A1 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	148	Maximum Half-hourly average	13	14	13	11	12	148	15	14	13	12	12	12	14	13	14	14	13	14	13	15	15	14	13	13	12	13	11	13	17	17	13
	Monthly mean	11	Mean Half-hourly average	11	11	11	9	9	14	12	12	11	10	9	10	11	11	11	11	10	10	10	11	12	11	11	11	11	10	9	10	10	11	10
	Monthly minimum	7	Minimum Half-hourly average	9	9	9	8	7	9	10	10	9	9	8	8	9	7	9	9	8	8	7	8	9	9	9	9	9	8	8	7	8	8	8
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	1	No of exceedances of ELV	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	14	Daily average	11	11	11	9	9	14	12	12	11	10	9	10	11	11	11	11	10	10	10	11	12	11	11	11	11	10	9	10	10	11	10
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

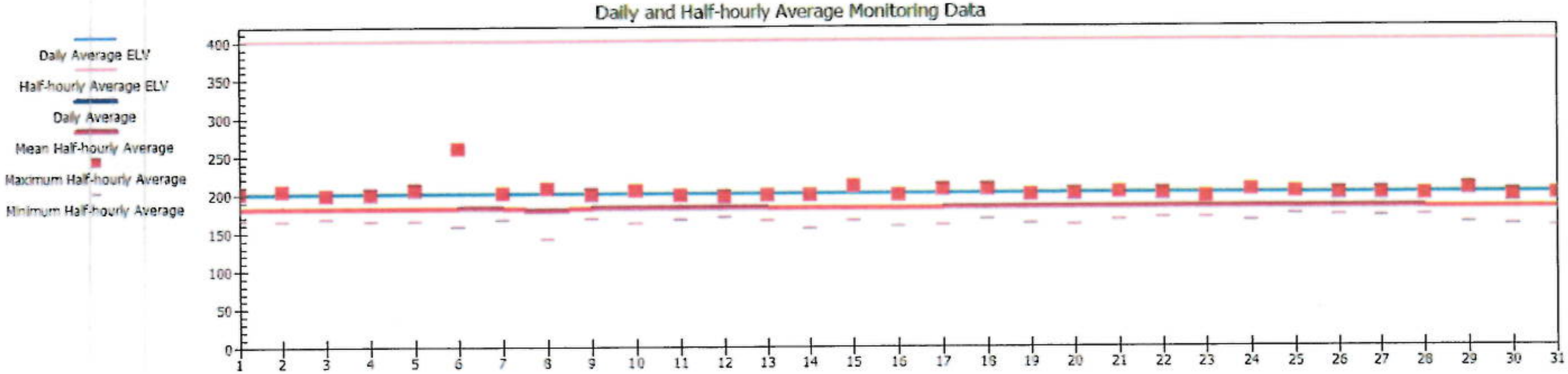
Permit Reference Number : SP3239FU

Installation: Knottingley

Operator : Ferrybridge MFE Limited

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A1 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	258	Maximum Half-hourly average	200	203	197	198	204	258	199	205	199	203	197	196	197	197	208	197	203	203	197	198	200	198	195	203	200	198	198	197	204	195	196
	Monthly mean	180	Mean Half-hourly average	180	180	180	180	180	181	180	178	181	180	181	180	181	180	180	180	181	180	181	180	181	180	180	181	181	181	181	180	179	180	180
	Monthly minimum	141	Minimum Half-hourly average	165	165	167	165	165	157	166	141	167	162	166	169	164	154	164	158	159	167	160	158	165	167	167	163	172	171	169	170	160	158	155
	Total Invalid results	13	No of Invalid results	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	180	180	180	180	180	181	180	178	181	180	181	180	181	180	180	180	181	180	181	180	181	180	180	181	181	181	181	180	179	180	180
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date...

(Authorised to sign as a representative of the Operator)

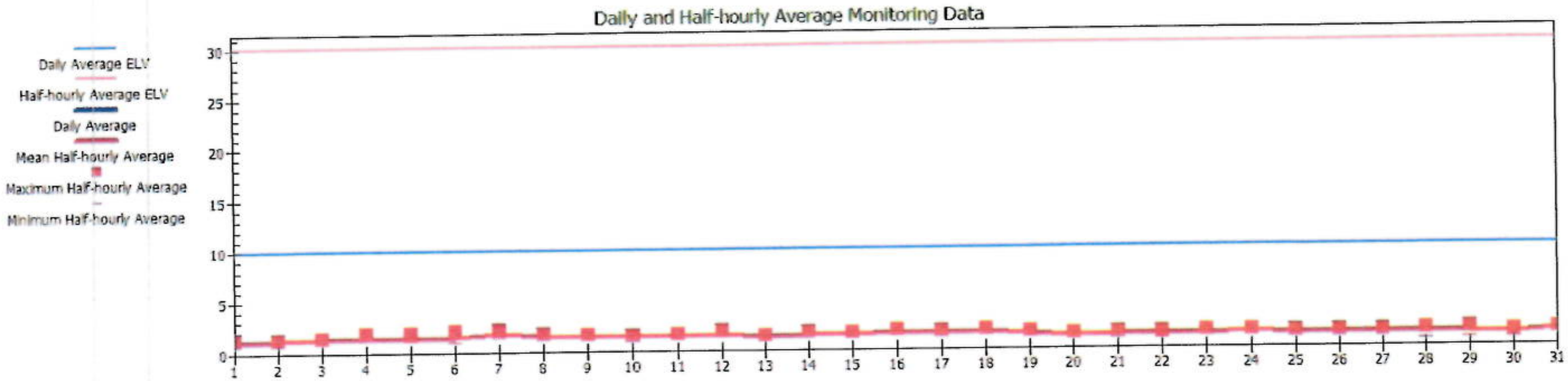
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for Dust mg/m3 at Emission Point A2 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	2	Maximum Half-hourly average	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2	2	1	1	2	2	1	2
	Monthly mean	1	Mean Half-hourly average	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
	Monthly minimum	1	Minimum Half-hourly average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	2	Daily average	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed...

(Authorised to sign as a representative of the Operator)

Date...

27 JAN 2017

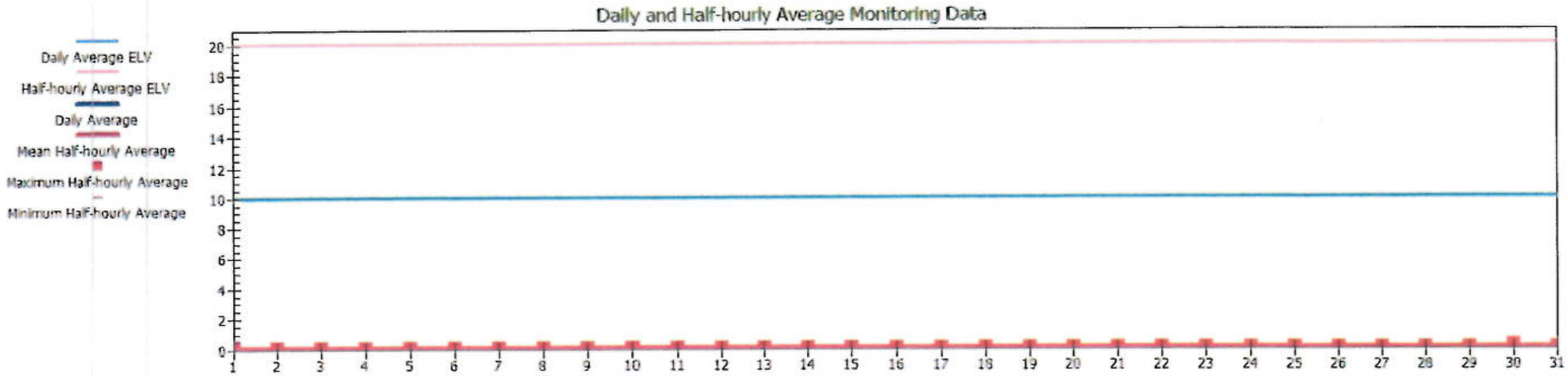
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for TOC mg/m3 at Emission Point A2 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Monthly maximum	0	Maximum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly mean	0	Mean Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monthly minimum	0	Minimum Half-hourly average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed... Date...

(Authorised to sign as a representative of the Operator)

Permit Reference Number : SP3239FU

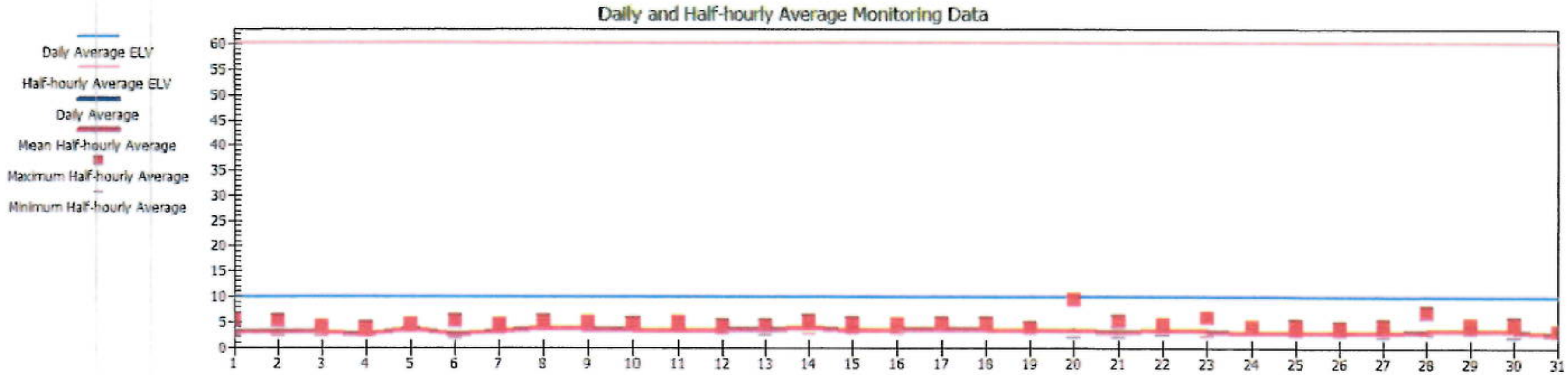
Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for HCl mg/m3 at Emission Point A2 For the month of December 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	Monthly maximum	9	Maximum Half-hourly average	5	5	4	4	4	5	5	5	5	5	5	4	4	5	5	4	5	5	4	9	5	5	6	4	4	4	4	7	4	5	3
	Monthly mean	3	Mean Half-hourly average	3	3	3	3	4	3	3	4	4	3	3	3	3	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	2
	Monthly minimum	2	Minimum Half-hourly average	2	2	2	2	3	2	3	3	3	3	3	3	2	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	2	2
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	4	Daily average	3	3	3	3	4	3	3	4	4	3	3	3	3	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	2
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

(Authorised to sign as a representative of the Operator)

Date.. 27 JAN 2017

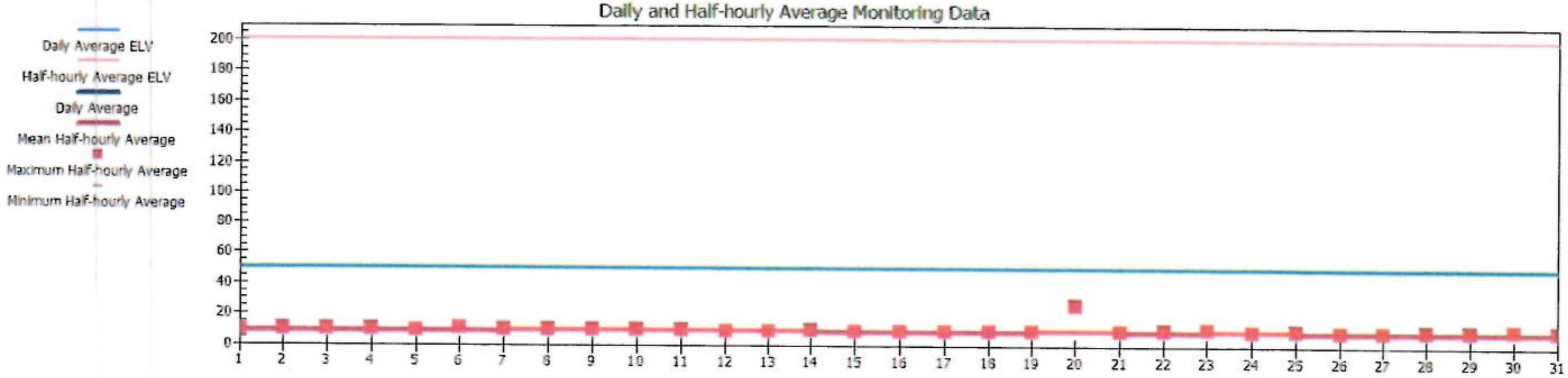
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for SO2 mg/m3 at Emission Point A2 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	26	Maximum Half-hourly average	9	10	10	10	9	11	10	10	10	10	10	9	9	10	9	9	9	9	9	26	9	10	10	9	10	9	9	10	10	11	10
	Monthly mean	9	Mean Half-hourly average	9	8	8	9	8	8	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	8	8	8	9	9
	Monthly minimum	7	Minimum Half-hourly average	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	8	9	8	8	7	8	8	9
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	9	Daily average	9	8	8	9	8	8	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	8	8	8	9	9
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed..

Date...

(Authorised to sign as a representative of the Operator)

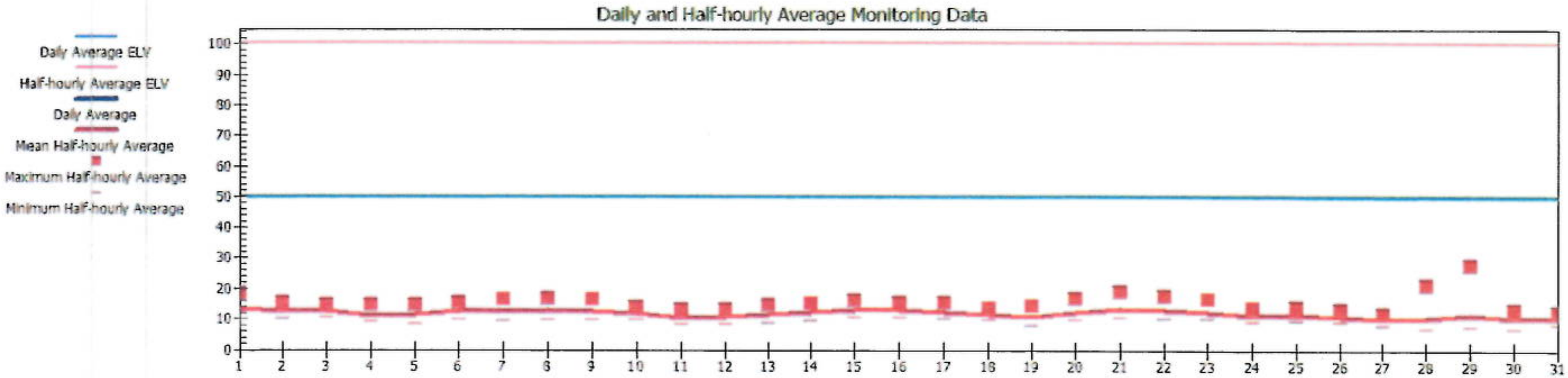
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for CO mg/m3 at Emission Point A2 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Monthly maximum	28	Maximum Half-hourly average	18	15	15	14	14	15	16	17	16	14	13	13	14	15	16	15	15	13	14	17	19	17	16	13	14	13	12	21	28	13	12
	Monthly mean	11	Mean Half-hourly average	13	12	12	11	11	12	12	13	12	11	10	10	11	12	13	13	12	11	11	12	13	13	12	11	11	11	10	10	11	10	10
	Monthly minimum	7	Minimum Half-hourly average	10	10	10	9	8	10	9	10	10	10	8	8	9	9	10	11	10	10	8	10	10	10	10	9	9	9	8	7	7	7	8
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Monthly maximum	13	Daily average	13	12	12	11	11	12	12	13	12	11	10	10	11	12	13	13	12	11	11	12	13	13	12	11	11	11	10	10	11	10	10
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.......[signature].......

(Authorised to sign as a representative of the Operator)

Date.......

27 JAN 2017

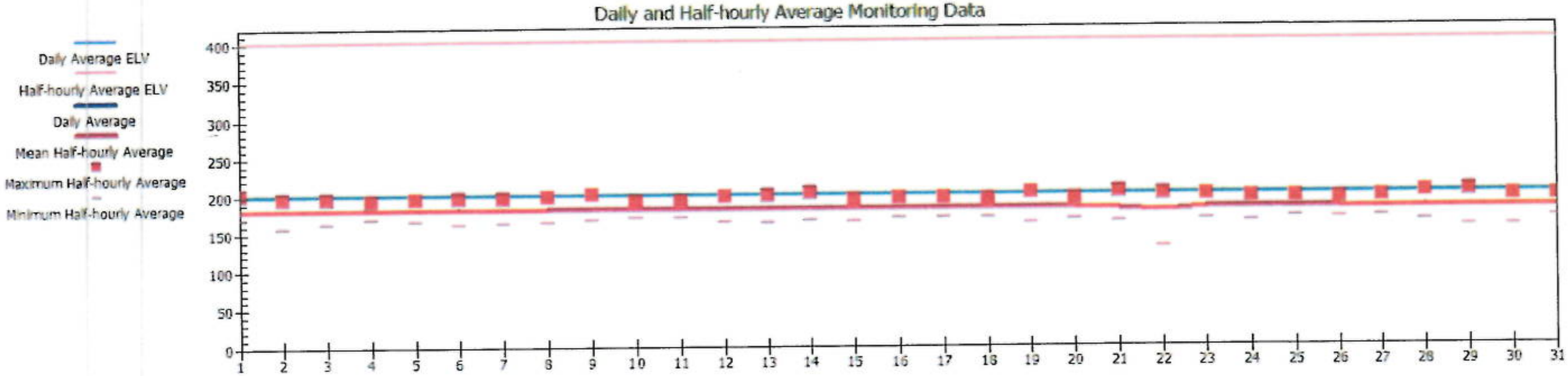
Permit Reference Number : SP3239FU

Operator : Ferrybridge MFE Limited

Installation: Knottingley

Form Number:

Reporting of Continuously Monitored Emissions to Air for NOx mg/m3 at Emission Point A2 For the month of December 2016



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-hourly average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Monthly maximum	202	Maximum Half-hourly average	202	196	195	193	194	196	196	197	200	191	190	198	198	201	193	194	195	192	200	193	201	198	197	194	194	192	194	199	201	193	194
	Monthly mean	180	Mean Half-hourly average	180	180	180	180	180	180	180	180	180	180	180	180	180	181	180	180	180	180	180	180	180	177	181	180	181	180	180	181	179	180	181
	Monthly minimum	129	Minimum Half-hourly average	169	157	162	170	166	161	164	165	167	170	170	165	163	166	165	169	169	169	161	166	163	129	166	164	169	167	169	163	155	155	168
	Total Invalid results	0	No of Invalid results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of exceedances	0	No of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Monthly maximum	181	Daily average	180	180	180	180	180	180	180	180	180	180	180	180	180	181	180	180	180	180	180	180	180	177	181	180	181	180	180	181	179	180	181
	No of invalid days	0	Value Valid?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value Exceeds ELV?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed.. Date..

(Authorised to sign as a representative of the Operator)

Permit Number : EPR/SP3239FU

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Air 7 / 30/11/2012

Reporting of periodically monitored emissions to air for the period from Jul 2016 to Dec 2016

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	2 mg/m³	Periodic over minimum 1-hour period	<0.02	BS ISO 15713	19/08/2016 10:19-11:19	0.002
A2				<0.02		19/08/2016 11:35-12:35	0.002
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	<0.001	BS EN 14385	13/07/2016 96 mins between 09:15 and 10:55	0.0002
A2				0.0006		13/07/2016 96 mins between 12:00 and 13:40	0.0001
A1	Mercury and its compounds	0.05 mg/m³	over minimum 30 minute, maximum 8 hour period	0.002	BS EN 13211	as Cadmium	0.0001
A2				0.002		as Cadmium	0.0002
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m³	over minimum 30 minute, maximum 8 hour period	0.013	BS EN 14385	as Cadmium	0.002

27 JAN 2017

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2				0.04		as Cadmium	0.007
A1	Dioxins / Furans (I-TEQ)	0.1 ng/m^3	over minimum 6 hour period, maximum 8 hour period	0.035 ng/m^3	BS EN 1948 Parts 1, 2 and 3	12/07/2016 360 mins between 09:45 and 16:00	0.008
A2				0.04 ng/m^3		15/07/2016 360 mins between 09:05 and 15:16	0.007
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00239 ng/m^3	BS EN/TS 1948-4	as above	0.00054
A2				0.00071 ng/m^3		as above	0.00016
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00012 ng/m^3	BS EN/TS 1948-4	as above	0.00003
A2				0.00004 ng/m^3		as above	0.0001
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.00389 ng/m^3	BS EN/TS 1948-4	as above	0.00079
A2				0.00322 ng/m^3		as above	0.00073
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.032 ng/m^3	BS EN/TS 1948-4	as above	0.007
A2				0.04 ng/m^3		as above	0.009

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.037 ng/m³	BS EN/TS 1948-4	as above	0.008
A2				0.04 ng/m³		as above	0.010
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	over minimum 6 hour period, maximum 8 hour period	0.076 ng/m³	BS EN/TS 1948-4	as above	0.017
A2				0.07 ng/m³		as above	0.017
	Poly-cyclic aromatic hydrocarbons (PAHs)		over minimum 6 hour period, maximum 8 hour period				
A1	Total	No limit applies		*1.448 µg/m³*	BS ISO 11338-1 and BS ISO 1138-2	12/07/2016 360 mins between 10:04 and 16:08 for all components	*0.328*
A2				*<0.61 µg/m³*		14/07/2016 360 mins between 08:45 and 14:56 for all components	*0.13*
A1	Anthanthrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo{a}anthracene	No limit applies		*0.024*			*0.006*
A2				*<0.01*			*0.002*

27 JAN 2017

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Benzo[b]fluoranthene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo[k]fluoranthene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo[b]naph(2,1-d)thiophene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo[c]phenanthrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo[ghi]perylene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Benzo[a]pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Cholanthrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Chrysene	No limit applies		*0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Cyclopenta(c,d)pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Dibenzo[ah]anthracene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Dibenzo[a,i]pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Fluoranthene	No limit applies		*0.134*			*0.030*
A2				*0.05*			*0.01*

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Indo[1,2,3-cd]pyrene	No limit applies		*<0.012*			*0.003*
A2				*<0.01*			*0.002*
A1	Naphthalen	No limt applies		*1.132*			*0.256*
A2				*0.41*			*0.08*

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .... Date..........................

(authorised to sign as representative of Ferrybridge MFE Limited)

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number : Performance 1 / 30/11/2012

Reporting of Waste Disposal and Recovery for the year 2016

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residues	D9	22,824	-
IBA which is classified as hazardous waste	D9	359	-
Total hazardous waste		23,183	-
2) Non-Hazardous Wastes			
IBA	R5	119,760	119,760
Other non-hazardous wastes	R4	199	199
Total non-hazardous waste		119,959	119,959
TOTAL WASTE	-	143,142	119,959

Operator's comments :

D9 – acid neutralisation followed by non-hazardous landfill, R5 – processed and reused, R4 – metals recovered

Boiler ash was removed directly from the boiler through cleaning and was therefore not included in standard IBA and was disposed of as APCr processing.

Signed .... Date...........................
(authorised to sign as representative of Ferrybridge MFE Limited)

27 JAN 2017

Reporting of Water and Other Raw Material Usage for the year 2016

Raw Material	Usage	Unit	Specific Usage	Unit
Mains water	43294	m^3	0.077	m^3/t
Total water usage	123604	m^3	0.221	m^3/t
Ammonia	532	Tonnes	0.949	kg/t
Activated carbon	199	Tonnes	0.347	kg/t
Lime/hydrated lime or sodium bicarbonate	9444	Tonnes	16.855	kg/t

Operator's comments :

Fuel burn for the year = 573,035 tonnes

Signed .... Date..............................
(authorised to sign as representative of Ferrybridge MFE Limited)

Reporting of other performance indicators for the period 2016

Parameter	Result
Number of periods of abnormal operation	1 period - 30 mins
Cumulative hours of abnormal operation for this calendar year	30 mins

Operator's comments :

11/09/16 – Loss of CEMs due to failure of N2 calibration gas

Signed .... Date............................
(authorised to sign as representative of Ferrybridge MFE Limited)

2017

Permit Number : EPR/SP3239FU

Operator : Ferrybridge MFE Limited

Facility : Ferrybridge Multifuel Facility

Form Number :Energy 1 / 30/11/2012

Reporting of Energy Usage/Export for the year 2016

Energy Source	Energy Usage	Unit	Contained Energy (MWh)
Electricity Produced	326,051	MWh	
Electricity Imported	21,855	MWh	
Electricity Exported	299,218	MWh	
Gas Oil	876	tonnes	
Steam/hot water Exported	0	MWh	

Operator's comments :

Signed ....

Date..............................

(authorised to sign as representative of Ferrybridge MFE Limited)

Facility : Ferrybridge Multifuel Facility

Form Number : Residues 1 / 30/11/2012

Reporting of residue quality for the period from 01/10/2016 to 31/10/2016

Ash Composition (TOC/LOI)			
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$	
Bottom Ash	1.33	0.58	

* At least one of LOI or TOC to be reported.

Ash Composition (Metals, Dioxins, etc.)																	
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans /	Birds	Fish
Bottom Ash	126	17.4	0.08	0.41	810	150	2948	1194	139	10.3	49.2	60.1	3367	7.88	8.15	15.3	8.26
Fly Ash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APC Residues	731	216	0.90	4.30	2049	57.4	694	238	34.3	37.1	8.20	27.3	10810	472	483	1087	539
Other solid residues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signed .... Date..............................
(authorised to sign as representative of Ferrybridge MFE Limited)

27 JAN 2017

FERRYBRIDGE MULTI FUEL PROJECT

ANNEX 1 PART A

SCOPE OF WORKS

Document revision record			
ISSUE NO.	**AUTHOR**	**DATE**	**DETAILS OF REVISIONS**
0	FMFEL	28/03/2012	Original

1.5 Fuel – Waste

The plant shall be designed to accept any or all of the following wastes:

1. Solid Recovered Fuel (SRF) from municipal solid waste (MSW);
2. Waste wood;
3. Industrial and commercial waste from offices, warehouses, shops and industrial premises and collected by private *contractor*s; and
4. All wastes listed in the Environmental Permit application.

The *Contractor* is assumed to have a good knowledge of this type of waste in the UK and its limitations and difficulties. The *Contractor* shall take all reasonable steps to ensure the plant can operate with this type of waste and no restrictions on the acceptability of waste shall be placed by the *Contractor* other than those expected as Good Industry Practice in the UK for this type of plant.

The wastes which the plant will process will come from various waste pre-treatment facilities and it is therefore anticipated that the NCV of the waste will be an average of 13.5 MJ/kg.

1.5.1 Design Waste for EfW Plant

The waste composition set out below is provided to correspond to Design Point on the Firing Diagram and represents the 'Design Waste' referred to elsewhere in the Contract documentation:

Table 1A.1 – Design Waste Specification	
Ultimate Analysis of Design Waste – As Received	
Carbon	35.6%
Hydrogen	5.2%
Nitrogen	0.6%
Sulphur	0.2%
Chloride	0.5%
Oxygen	25.1%
Ash	12.8%
Water	20.0%
Total	100.0%
Calorific value from ultimate analysis (Steinmueller Formula)	
Gross Calorific Value (as received), MJ/kg	15.0
Net Calorific Value (as received), MJ/kg	13.5

For information only, the Design Waste composition is based on a typical mix of 60% SRF, 30% C&I waste and 10% waste wood, although this does not limit in any way the *Employer's* intentions to process varying quantities of the types of waste. The purpose of the Design Waste is to ensure that there is a defined set of data for the guaranteed thermal performance of the EfW plant at 100% MCR. The *Employer* does not undertake at any time to provide a waste with the characteristics of the Design Waste. Where Design Waste is used within the Contract as the unit of measure of throughput, the intention is that the throughput will be derived from the boiler steam output using the boiler as a calorimeter. The actual throughput of waste at a given steam flow will vary with the NCV of the waste.

The derivation of NCV on the basis of an ultimate analysis depends on the formula used and, where there is a discrepancy between the ultimate analysis of the Design Waste as stated in the table above and the *Contractor's* calculation of the NCV, the value of the NCV stated in Table 1A.1 – Design Waste Specification shall prevail.

1.5.2 Waste Composition Ranges

Table 1A.2 – Acceptable Waste Ranges

Table 1A.2 – Acceptable Waste Ranges		
% by weight as received (monthly average for mixed fuel as delivered to the boiler)	Minimum	Maximum
Nitrogen	-	1.5%
Sulphur	-	0.7%
Chlorine	-	1.0%
Ash	1%	25%
Moisture	10%	40%
Bulk Density kg/m^3	100	400
% dust (<5mm) in waste wood	-	20%
% dust (<1mm) in SRF		5.0%
Net Calorific Value MJ/kg	As per the firing diagram contained in this Annex	16.5

All waste fuels may contain contamination commensurate with their sourcing, for example tramp metals, trace elements, aluminium foil and occasional large, non-combustible items. The waste ranges in the table above are based upon averaged samples taken over a month, which were blended and analysed. Sampling and measurement shall be performed by the *Employer* in compliance with DD CEN/TS/15359 Solid Recovered Fuels – Specifications and Classes during normal plant operation. Where any parameter in Table 1A.2 leads to a significant impact on the design of the Works, the *Contractor* shall identify this and notify the *Project Manager*.

APPENDIX C RAMBOLL – FERRYBRIDGE MEMO

RAMBØLL

ENERGY

MEMO

Job	**TNG Energy from Waste Facility, Eastern Creek, References Facility Ferrybridge**
Date	**2018.05.11**
To	**For internal use only**
From	**Ahmet Erol**

Background

Arup has stated that the design fuel mix for TNG is not directly comparable with the design fuel of Ferrybridge.
This memo provides further information on database to Memo TNGWTE-141-023-Reference Facilities, dated 26.10.2016.

General

Ramboll requested the technology supplier HZI, Mr Marc Stammbach and the owner SSE, Mr. Andrew Ellis for further detailed information on waste composition for the reference facility Ferrybridge.

The information from both are very limited about the waste composition. Ramboll received following information:

- Fuel report (see extract Appendix 1)
  Compositional and Chemical Analysis of Waste Entering Ferrybridge FM1,
  Table 1: Composition in weight percent for February 2018 and
  Table 2: Composition in weight percent for February 2018
- Contractual fuel composition (see extract Appendix 2)
  Ferrybridge Multi fuel project, Annex 1A Scope of Works-Original, chapter 1.5.1 Design Waste for EfW Plant, dated 28/03/2012
- Operational experience (see Appendix 3)
  Email form SSE with information about CV, ash averages, chlorine and sulphur content, and moisture averages, dated 26.02.18

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File; TNGWTE-141-036-Reference Facility Ferrybridge.docx
Ver. 1

Rambøll Danmark A/S
DK reg.no. 35128417

Member of FRI

Results

Chemical analysis

The following table shows the chemical design composition for the TNG as well as the Ferrybridge facility (columns 1 and 2) as well as the operational values for Ferrybridge according to Appendix 1 (column 3).

		TNG	Ferrybridge	Ferrybridge
		Design	**Design** [1]	**Operation** [2]
Carbon (C)	%	31.53	35.60	25.72
Hydrogen (H)	%	4.20	5.20	3.27
Nitrogen (N)	%	0.71	0.60	0.83
Sulphur(S)	%	0.18	0.20	0.09
Chloride (Cl)	%	0.23	0.50	0.41
Oxygen (O)	%	20.02	25.10	12.35
Water (H2O)	%	21.43	20.00	40.39
Ash	%	21.70	12.80	16.95
Total	%	100.00	100.00	100.01
NCV	MJ/kg	12.30	13.50	9.66

Table 1 Design waste composition of TNG and Ferrybridge FM1 and operational composition of FM1

The design parameters of TNG and Ferrybridge are shown to be close and comparable.

The main difference between the design and operational data in Ferrybridge is the water content of this specific sample. Waste in general may contain more or less water due to seasonal weather conditions.

When collecting the operational data from the Ferrybridge facility the operator made the following comment (see Appendix 3): "Overall our measured NCV is around 12 MJ/kg but there are significant variations depending on whether it is wet C&I or MBT derived RDF. Our normal range is 10 to 16.5 MJ/kg but on average we probably have most of our suppliers in the 10 to 14 MJ/kg range. … Moisture averages around 35% but is quite seasonal."

In this case the analysed fraction seems to have an unusually high moisture content and this is to be expected having regard to the daily variability of the waste fuel stream. The NCV of the sample is below 10 MJ/kg and therefore on the very low side. It therefore seems that the analysed fraction is rather from a wet season and is not representative for an average sample.

[1] FERRYBRIDGE MULTI FUEL PROJECT, Annex 1A Scope of Works- Original, chapter 1.5.1 Design Waste for EfW Plant, dated 28/03/2012

[2] Compositional and Chemical Analysis of Waste Entering Ferrybridge FM1, Table 2 Waste composition to Ferrybridge FM1, February 2018

In order to calculate the composition at the upper level of the mentioned range (14 MJ/kg) the following table shows a sample calculation with a water content reduced to 20%.

		Ferrybridge	Ferrybridge
		Design [1]	**Reduced water** [2]
Carbon (C)	%	35.60	34.52
Hydrogen (H)	%	5.20	4.39
Nitrogen (N)	%	0.60	1.11
Sulphur(S)	%	0.20	0.12
Chloride (Cl)	%	0.50	0.55
Oxygen (O)	%	25.10	16.57
Water (H2O)	%	20.00	**20.00**
Ash	%	12.80	22.75
Total	%	100.00	100.01
NCV	MJ/kg	13.50	13.90

Table 2 Waste composition to Ferrybridge FM1 reduced water content

The calculation with a reduced water content (representing the higher end of the operational values) is well in line with the chemical design composition.

An exception are the ash and oxygen content. The oxygen content however is not a measured value but is calculated as the resulting difference between the sum total of all the elements and 100% and therefore to be considered with care.

The difference in ash is mainly the result of little wood waste (wood has a very low ash content) which was initially calculated as part of the design fuel but nowadays not part of the fuel received due to the high percentage of C&I waste.

When reducing the water amount to 20% the chemical composition of the TNG design is well in line with the Ferrybridge operational value at comparable NCV.

		TNG	Ferrybridge
		Design	**reduced water**
Carbon (C)	%	31.53	34.52
Hydrogen (H)	%	4.20	4.39
Nitrogen (N)	%	0.71	1.11
Sulphur(S)	%	0.18	0.12
Chloride (Cl)	%	0.23	0.55
Oxygen (O)	%	20.02	16.57
Water (H2O)	%	21.43	**20.00**
Ash	%	21.70	22.75
Total	%	100.00	100.01
NCV	MJ/kg	12.30	13.90

Table 3 Waste composition Ferrybridge -TNG comparison

Naturally the question what the influence of a lower NCV will be on operation and emission must be answered.

The generated energy in a WtE plant is depending on the waste throughput and the calorific value of the waste. The WtE plant can be controlled through the waste throughput. If the calorific value is low (high moisture content), more waste must be incinerated. If the calorific value is high (low moisture content) less waste needs to be incinerated.

Compared with Ferrybridge the higher CV of TNG requires less waste in order to get its design output of electricity. Whilst this increased water content has the impact of lowering the net calorific value to 9.66 NCV [instead of the NVC of13.50 MJ/kg in the design] it has no other detrimental effect on emissions.

Fractional waste composition analysis

Further to the chemical composition there is also an analysis of fractional composition of the operational waste stream in the Ferrybridge facility. The following table shows the comparison of the operation values of Ferrybridge with the design values of TNG.

		TNG	Ferrybridge
		Design	**Operation** [3]
Paper/Cardboard	%	11.82	14.22
Wood/Timber	%	31.16	7.41
Plastic	%	14.96	18.00
Metal (Ferrous and non-ferrous)	%	2.51	3.65
Organic (not wood/timber)	%	19.82	38.08
WEE (electronic waste)	%	0.00	1.02
Hazardous	%	0.00	0.14
Glass	%	1.24	3.67
Other* (including earth and building materials)	%	18.49	13.81
Total		100.00	100.00

Table 4: Composition in weight percent for February 2018

Note: In order to compare the waste fractions of TNG and Ferrybridge for table 4 obviously similar fractions from the Ferrybridge waste analysis (as metals, plastic, etc.) have been summarized in one fraction. The fractions "other" and "organic" are a summary of the following subfractions:

- Other: fines, misc.non.comb., nappies, shoes, carpet/underlay
- Organic: putrescibles, textiles

The comparison of the waste fractions shows comparable values for paper/cardboard, plastic and metals. The main difference is wood/timber and organic.

The difference in wood/timber has been explained earlier: For the calculation of the design waste of Ferrybridge a rather high percentage of pure wood waste was assumed. In the meantime the market is mainly demanding the treatment of RDF from C&I and MSW. This results in a lower wood and higher organic percentage.

The high organic percentage (and other fractions as nappies) is obviously the result of a rather high percentage of RDF from MSW in this sample. Actually 5% nappies and 30% putrescible are typical values for MSW (in this sample 6% nappies and 35% putrescibles where found), therefore it seems that this sample does not reflect the typical average split of 50% RDF from C&I and 50% RDF from MSW but rather near to 100% RDF from MSW.

[3] Compositional and Chemical Analysis of Waste Entering Ferrybridge FM1, Table 1: Composition in weight percent for February 2018

Appendix 1

(deleted)

Compositional and Chemical Analysis of Waste Entering Ferrybridge FM1

Report Produced for (deleted)

Report Produced by (deleted)

February 2018 **Issued for Comment**

Table 1: Composition in weight percent for February 2018

Sample area		Modelled EfW Input 2018
Proportion (%)		100
Category		
Paper/card		14.22
Plastic film		9.65
Dense plastic		8.35
Textiles		2.86
Miscellaneous comb.	Shoes	0.53
	Nappies	6.02
	Wood	0.71
	MDF/chipboard/ composite/laminate	0.61
	Carpet/underlay	0.48
	Furniture	0.20
	WEEE	1.02
	Other misc comb.	5.89
Misc. non-comb		1.34
Glass		3.67
Putrescibles		35.22
Ferrous metal		2.21
Non-ferrous metal		1.44
Batteries		0.07
Herbicides and Pesticides		0.00
Clinical		0.03
Paints, varnish and oils		0.03
Potentially hazardous		0.01
Fines		5.44
Total		100.00

Table 2 Waste composition to Ferrybridge FM1

Sample Reference		Modelled EfW Input waste
Analyte	**Units**	**Results**
Moisture	% Wt	40.39
Ash	% Wt	16.95
Gross CV	MJ/kg	11.34
Net CV	MJ/kg	9.66
Oxygen	% Wt	12.35
Carbon	% Wt	25.72
Hydrogen	% Wt	3.27
Nitrogen	% Wt	0.83
Sulphur	% Wt	0.09
Chlorine	% Wt	0.41

Table 3 Calculated qualifying percentage of energy derived from biomass

Primary Category	% by weight	Gross Calorific Value MJ/kg	Weighted CV	% by CV	Biodegradable Content	Qualifying %
Paper and card	14.22	10.73	1.53	13.45	1.0	13.45
Plastic film	9.65	19.46	1.88	16.56	0.0	0.00
Dense plastic	8.35	27.33	2.28	20.12	0.0	0.00
Textiles	2.86	17.21	0.49	4.33	0.5	2.17
Misc. combustible	15.45	14.09	2.18	19.18	0.5	9.59
Misc. non-combustible	1.34	0	0.00	0.00	0.5	0.00
Glass	3.67	0	0.00	0.00	0.0	0.00
Putrescibles	35.22	7.38	2.60	22.92	1.0	22.92
Ferrous Metal	2.21	0	0.00	0.00	0.0	0.00
Non-ferrous metal	1.44	0	0.00	0.00	0.0	0.00
Batteries	0.07	0	0.00	0.00	0.0	0.00
Herbicides & pesticides	0.00	0	0.00	0.00	0.0	0.00
Clinical	0.03	5	0.00	0.02	0.5	0.01
Paint, Varnish and oil	0.03	43	0.01	0.13	0.0	0.00
Hazardous	0.01	0	0.00	0.00	0.0	0.00
Fines	5.44	6.88	0.37	3.30	0.5	1.65
Total	100.00		11.34	100.00		49.78

Appendix 2

FERRYBRIDGE MULTI FUEL PROJECT

ANNEX 1 PART A

SCOPE OF WORKS

Document revision record			
ISSUE NO.	**AUTHOR**	**DATE**	**DETAILS OF REVISIONS**
0	FMFEL	28/03/2012	Original

1. Solid Recovered Fuel (SRF) from municipal solid waste (MSW);
2. Waste wood;
3. Industrial and commercial waste from offices, warehouses, shops and industrial premises and collected by private *contractor*s; and
4. All wastes listed in the Environmental Permit application.

The *Contractor* is assumed to have a good knowledge of this type of waste in the UK and its limitations and difficulties. The *Contractor* shall take all reasonable steps to ensure the plant can operate with this type of waste and no restrictions on the acceptability of waste shall be placed by the *Contractor* other than those expected as Good Industry Practice in the UK for this type of plant.

The wastes which the plant will process will come from various waste pre-treatment facilities and it is therefore anticipated that the NCV of the waste will be an average of 13.5 MJ/kg.

1.5.1 Design Waste for EfW Plant

The waste composition set out below is provided to correspond to Design Point on the Firing Diagram and represents the 'Design Waste' referred to elsewhere in the Contract documentation:

Table 1A.1 – Design Waste Specification	
Ultimate Analysis of Design Waste – As Received	
Carbon	35.6%
Hydrogen	5.2%
Nitrogen	0.6%
Sulphur	0.2%
Chloride	0.5%
Oxygen	25.1%
Ash	12.8%
Water	20.0%
Total	100.0%
Calorific value from ultimate analysis (Steinmueller Formula)	
Gross Calorific Value (as received), MJ/kg	15.0
Net Calorific Value (as received), MJ/kg	13.5

For information only, the Design Waste composition is based on a typical mix of 60% SRF, 30% C&I waste and 10% waste wood, although this does not limit in any way the *Employer's* intentions to process varying quantities of the types of waste. The purpose of the Design Waste is to ensure that there is a defined set of data for the guaranteed thermal performance of the EfW plant at 100% MCR. The *Employer* does not undertake at any time to provide a waste with the characteristics of the Design Waste. Where Design Waste is used within the Contract as the unit of measure of throughput, the intention is that the throughput will be derived from the boiler steam output using the boiler as a calorimeter. The actual throughput of waste at a given steam flow will vary with the NCV of the waste.

The derivation of NCV on the basis of an ultimate analysis depends on the formula used and, where there is a discrepancy between the ultimate analysis of the Design Waste as stated in the table above and the *Contractor's* calculation of the NCV, the value of the NCV stated in Table 1A.1 – Design Waste Specification shall prevail.

1.5.2 Waste Composition Ranges

Table 1A.2 – Acceptable Waste Ranges

Table 1A.2 – Acceptable Waste Ranges		
% by weight as received (monthly average for mixed fuel as delivered to the boiler)	Minimum	Maximum
Nitrogen	-	1.5%
Sulphur	-	0.7%
Chlorine	-	1.0%
Ash	1%	25%
Moisture	10%	40%
Bulk Density kg/m^3	100	400
% dust (<5mm) in waste wood	-	20%
% dust (<1mm) in SRF		5.0%
Net Calorific Value MJ/kg	As per the firing diagram contained in this Annex	16.5

All waste fuels may contain contamination commensurate with their sourcing, for example tramp metals, trace elements, aluminium foil and occasional large, non-combustible items. The waste ranges in the table above are based upon averaged samples taken over a month, which were blended and analysed. Sampling and measurement shall be performed by the *Employer* in compliance with DD CEN/TS/15359 Solid Recovered Fuels – Specifications and Classes during normal plant operation. Where any parameter in Table 1A.2 leads to a significant impact on the design of the Works, the *Contractor* shall identify this and notify the *Project Manager*.

1.5.3 Unacceptable Waste

Unacceptable waste shall be bulk deliveries which include significant quantities of the following:

- Liquids and slurries (except sewage sludge);
- Hazardous wastes;
- Salts, chemical residues;
- Slaughter house waste, cadavers;
- Explosives;
- Unshredded bulky goods;
- Bone meal;
- Radioactive wastes;

Appendix 3

From: Ellis, Andrew <andrew.r.ellis@sse.com>
Sent: Donnerstag, 26. April 2018 17:29
To: Ken Sahan
Cc: Ahmet Erol; Geert Stryg; Maguire, Hugh
Subject: RE: Ferrybridge - Waste composition

Ken

We don't have waste composition analyses but in general our RDF comes from around 50% MSW and 50% C&I.

Overall our measured NCV is around 12MJ/kg but there are significant variations depending on whether it is wet C&I or MBT derived RDF. Our normal range is 10 to 16.5MJ/kg but on average we probably have most of our suppliers in the 10 to 14 MJ/kg range.

Our ash averages around 15% (max 25%(, Cl 0.5% (mx1.0) and S 0.15% (max 0.7). Moisture averages around 35% but us quite seasonal.

From a processing perspective all our RDF has gone through a shredder (-300mm) with C&I having a basic floor pick for bulky waste and recyclates and some operate an overband magnet.

MSW is either from a Renewi MBT plant with c15% recyclates extracted after drying or from plant where MSW is shredded/screened to -50mm and an overband magnet. The upshot of that is that we really don't get odour issues.

I hope the above gives you enough info.

Cheers

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APPENDIX D AIR QUALITY RESPONSE

Via email
NSW Independent Planning Commission

11 May 2018

Dear Ms Kruk

Eastern Creek Energy from Waste Facility – SSD 6236

I am responding to the NSW Department of Planning and Environment (DPE)'s recent recommendation for refusal of the subject development application, which has since been referred to the Independent Planning Commission (IPC) for determination.

Specifically (since the two are linked within the refusal logic) I am responding to the following DPE reasons for refusal:

a) the development is inconsistent with key requirements of the NSW Energy from Waste Policy Statement (EPA 2015)

b) the impacts to air quality and risk to human health are unknown

To support my response, I have liaised directly with the technology provider, Hitachi Zosen Inova (HZI). I understand that HZI is also providing a clarification letter, and as such it is recommended that this document is reviewed concurrently with this submission.

Input from HZI is highly relevant given that they are the technology provider for the UK's Ferrybridge Energy from Waste (EfW) facility as well as the proposed TNG EfW facility at Eastern Creek (hereafter, "TNG"). They are therefore able to speak with some authority as to the applicability of the Ferrybridge EfW facility as a "reference facility".

The development is inconsistent with key requirements of the NSW Energy from Waste Policy Statement

Within *ARUP Eastern Creek EfW RTS Merit Review – Final – March 2018*, dated 9 March 2018, it is stated that the fuel types between the Ferrybridge EfW facility and TNG are not "wholly comparable" and therefore the TNG proposal is "not deemed compliant with the NSW EfW Policy Statement".

The above is relevant to air quality matters because, by logic applied by DPE, if the fuel source from a reference facility is not "wholly comparable", then the emissions to air (post-abatement technology) are somehow unknown.

This argument has been used to query the efficacy of both the Air Quality Assessment and the Human Health Risk Assessment that relies upon this information.

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The relevant paragraph in the NSW EfW Policy Statement is (page 6) states:

Energy recovery facilities must use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions.

It is important that the above acknowledges that there is typically some variability in fuel sources from EfW facilities. This variability will be both temporal (i.e. as waste streams change over time) and between facilities.

I note that, in terms of emissions to air, the most critical aspects for a “reference facility” are:

- Similar scale; the Ferrybridge EfW facility has a design capacity of 2 x 256,500 tpa of waste derived fuel –TNG has a design capacity of 2 x 276,250 tpa of waste derived fuel; a 7.7% difference in design throughput.
- Similar technology; HZI is the same moving grate technology provider for both Ferrybridge and TNG
- Similar air pollution control technology; HZI have specified the same pollution control technology (activated carbon / lime injection, baghouse and Selective Non-Catalytic Reduction (SNCR)) at both Ferrybridge and TNG

The latter point is of critical import. As stated within HZI’s clarification letter (HZI, 2018), the air pollution control technology at any modern EfW facility is designed to handle a range of waste derived fuel *without significant impact upon the post-abatement technology emissions to air*.

This is since the air pollution control systems associated with modern EfW facilities are not an “efficiency” system (i.e. able to reduce emissions post-abatement on a percentage basis). Rather, they should be considered as a “constant outlet concentration” system.

The concept of a constant outlet concentration system is well documented in pollution abatement and control technologies. For example, the below reference from USEPA (1991) related to baghouse technology:

Fabric filters using mechanical shaking, reverse air, and pulse-jet cleaning are fundamentally different from ESPs and venturi scrubbers in that they are not "efficiency" devices. A properly designed and operated fabric filter using one of these two cleaning methods will yield a relatively constant outlet particle concentration, regardless of inlet load changes.

Explicitly, HZI note within their manufacturer’s guarantee documentation that that there is significant tolerance and flexibility in terms of the fuel used that *will in no way impact upon the facility’s emission control guarantees* (namely, to remain below the European Industrial Emissions Directive (IED) in-stack emission limits). This flexibility in the waste fuel composition is inherent in the technology in recognition that the fuel mix can, and will, change with societal / regulatory attitudes.

By way of example, it is understood that the design fuel mix proposed for the Ferrybridge EfW facility differs from the actual fuel mix in operations, *with no impact upon the ability of the facility to meet its atmospheric emissions performance specifications*.

Section 2.11 of TNG's Project Definition Brief (Ramboll, 2017) presents other EfW facilities currently operational in Europe, of a similar scale to TNG, as reproduced below:

Table 1: *Example reference facilities, after Ramboll 2017*

Facility/Location	Country	Commission year	Capacity t/a	NCV MJ/kg	Furnace/Boiler	Supplier Furnace/Boiler	APC	Supplier APC
TNG	AU	-	2 x 276'250	12.30	Grate	HZI	Semi dry (lime)	-
Grossräschen	DE	2008	1 x 246'000	12.50	Grate	AEE	Semi dry (lime)	LAB
Heringen	DE	2009	2 x 148'500	12.60	Grate	AEE	Semi dry (lime)	LAB
Premnitz	DE	2008	1 x 150'000	13.00	Grate	AEE	Semi dry (lime)	Lühr
Hannover	DE	2005	2 x 140'000	13.50	Grate	AEE	Semi dry (lime)	LAB
Knapsack	DE	2009	2 x 150'000	15.00	Grate	AEE	Semi dry (lime)	Lühr
Ferrybridge	UK	2015	2 x 256'500	13.50	Grate	HZI	Semi dry (lime)	HZI
Riverside	UK	2011	3 x 195'000	9.60	Grate	HZI	Semi dry (lime)	HZI
TIRME Mallorca	ES	2009	4 x 104'000	10.00	Grate	HZI	Semi dry (lime)	HZI

The facilities specified in Table 1 show some variability in commissioning year, capacity and technology supplier. Ramboll (2017) additionally documents that these facilities have variability in terms of the waste feedstock composition.

However, critically, the above facilities all operate using a similar furnace / boiler technology, and air pollution control (APC) system. This leads Ramboll to conclude:

All relevant design parameters of TNG are well within comparable plants which are successfully in operation. As a result it can be said that the technology option pursued, being moving grate technology with semi dry flue gas treatment, was selected based on its capacity to handle a wide range of fuel types and variation of feed stock and is fully suitable for this application.

Critical to air quality matters, ERM has completed a review of information in the public domain[1] on the air emission performance of the facilities documented in Table 1.

We were not able to identify any instance where the above facilities have operated outside of the IED emission limits[2]. This is despite these facilities having been operation for many years (three for in excess of a decade).

[1] Refer to References section for links to information reviewed.
[2] The exception to this was two exceedances of the carbon monoxide (CO) half-hourly IED limit identified at the Riverside EfW facility in 2016. Note that for this application, CO is referenced as an indicator for good combustion, as opposed to being a key pollutant of concern.

The impacts to air quality and risk to human health are unknown

The emissions to air from the Ferrybridge EfW facility are well known and have been quantified since the facility became operational in 2015.

The data sources to derive these air emission include the facility's Continuous Emission Monitoring System (CEMS) outputs as well as periodic stack testing results for a comprehensive list of compounds.

These outputs are aggregated within quarterly and annual returns to the regulator, which do not demonstrate any non-compliance of IED limits since commissioning in 2015. In fact, the facility *consistently operates well below the IED limits*.

These data (to reiterate; based on like scale and equivalent technology / air pollution control as TNG) have been referenced in deriving the 'expected case' for TNG emissions (air quality impact assessment Scenario 1).

An additional air quality impact assessment scenario, comprising TNG operating at the IED emission limits for all hours of operation, 24 hours per day, 365 days per year, has been provided within the air quality assessment (Scenario 4).

These scenarios predict compliance with all NSW EPA ambient air quality criteria for all averaging periods, with a significant buffer before emission limits are exceeded.

To be clear, if the TNG facility were to be operating close to, or above the IED emission limits, this would be readily detectable in real-time, due to the facility's proposed Continuous Emissions Monitoring System (CEMS).

Under such conditions, automatic alarms are raised and the facility, now operating out of specification, would be shut down.

In the event that automatic shut-down is somehow not enabled, the facility, due to its commitment to operate and publish CEMS data online and in real time, would easily identified by the environmental regulator / community and would be shut down as an enforcement action, within hours.

By way of further assurance, previous iterations of air quality modelling for TNG *operating at double the currently proposed fuel capacity (i.e. 2 x 2 x 276,250 tpa of waste derived fuel) has demonstrated compliance operating at the IED emission limits for all hours of operation, 24 hours per day, 365 days per year*.

On the above basis, it is unclear how it can be stated that the impacts to air quality are unknown. No scientific / evidence basis for this statement is provided to support such opinion.

This is reinforced by the conclusions of NSW EPA's latest technical commentary on the TNG air quality and ozone assessment documentation (NSW EPA, 2018):

Most recent air quality impact assessment conducted generally in accordance with the Approved Methods

The updated AQIA has generally been conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (Approved Methods). The majority of the outstanding air quality issues identified in the review of the amended EIS have been satisfactorily resolved, as detailed above. The remaining outstanding air quality issues can be adequately managed via conditions.

additionally;

All air quality impact assessment results are generally consistent

The EPA has reviewed the results of all previous AQIA's. This has involved comparing assumed emission concentrations and predicted ground level concentrations in the four AQIA's. Despite the issues with the previous AQIA's, the changes in the predicted ground level concentrations are generally consistent with any changes in the model set-up or assumed emission concentrations.

and finally:

AQIA generally predicts compliance with the EPA's impact assessment criterion

The updated AQIA predicts compliance with the EPA's impact assessment criterion for all pollutants for Scenario 1 (expected) and Scenario 4 (IED Limits).

The above commentary, provided by NSW EPA's air quality subject matter experts, appears at odds with the DPE reason for refusal "the impacts to air quality and risk to human health are unknown".

Finally, it is acknowledged that NSW EPA, 2018 does contend that, based on the proposed TNG waste types, there is some uncertainty remaining regarding the ability to achieve best practice emission control.

The commentary relating to DPE reason for refusal a) provided above seeks to dispel this. I also note that the conclusions within NSW EPA, 2018 state that compliance with EfW Policy reference facility requirements could be achieved with project modification (i.e. adequately managed by conditions).

Finally, I make limited commentary upon the review of health risk matters (EnRisks, 2018). I welcome the conclusion of this review:

The risk assessment has used conservative choices for the exposure assessment assumptions and the air dispersion modelling used to estimate ground level concentrations was appropriate for this purpose.

This appears to contradict to DPE reason for refusal “the impacts to air quality and risk to human health are unknown”.

EnRisks, 2018 does however caveat this by stating:

> the use of uncommon waste streams as part of the fuel mix for such a facility does bring some uncertainty as to whether or not these legal limits or the maximum measured values from the UK facilities can be complied with/ are relevant for this assessment

The peer reviewer’s reference to “uncommon waste streams” is unspecified, but may to relate to the proposed use of floc waste (the residue from the shredding of car and metal recyclables) as a fuel source.

I note that, given recent regulatory feedback, the proponent has voluntarily agreed to remove this “uncommon waste stream”. In turn, this should remove the peer reviewer’s perception that emissions are in some way uncertain as a result.

I trust that the above provides adequate commentary to address the DPE reasons for refusal that relate to air quality matters.

Do not hesitate to contact the undersigned should you wish for clarification on any aspect of the above or the TNG air quality and ozone assessment documentation produced to date.

Yours sincerely

D.A.Roddis

Damon Roddis
Partner – Air Quality

References

EnRisks, 2018: EPA Submission_ Attachment C_ EnRiskS Pty Ltd_ Human Health Risk Assessment.pdf.pdf dated 7 March 2018, accessed 7 May 2018 from: https://majorprojects.accelo.com/public/66c715ff3275bef62e27f648af1c7068/EPA%20Submission_%20Attachment%20C_%20EnRiskS%20Pty%20Ltd_%20Human%20Health%20Risk%20Assessment.pdf.PDF

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Ramboll, 2017: *The Next Generation NSW Pty Ltd Project Definition Brief*, September 2017, accessed 7 May 2018 from: https://majorprojects.accelo.com/public/f9354ff1a601957eea241548dd8f8928/Appendix%20D_%20Project%20Definition%20Brief.pdf

NSW EPA, 2018: EPA Submission *ATTACHMENT B – Environment Protection Authority – Air Quality and Ozone Impact Assessment*, accessed 7 May 2018 from: https://majorprojects.accelo.com/public/5cbc1ec4846ae44cf86d070b4de89fc8/EPA%20Submission_%20Attachment%20B_%20NSW%20EPA_%20Air%20Quality%20&%20Ozone%20Assessment.pdf.PDF

US EPA, 1991 *Control Technologies for Hazardous Air Pollutants*

Emission Performance References

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Hürth-Knapsack – Germany

chemiepark-knapsack.de/fileadmin/user_upload/EEW_Emissionswerte

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Premnitz – Germany

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Grossräshen – Germany

eew-energyfromwaste.com/de/standorte/heringen

Riverside – UK

http://www.coryenergy.com/wp-content/uploads/2017/05/RRRL-annual-op-report-2016.pdf

Ferrybridge – UK

Ferrybridge FM1 Compliance Annual Returns for 2015 and 2016 (2 reports)

Ferrybridge FM1 Compliance Quarterly Returns for Q1-Q4 2016 and Q1 2017 (5 reports)

TIRME Mallorca – Spain

http://www.tirme.com/uk/incineration_02f3s25.html

APPENDIX E HUMAN HEALTH RESPONSE

AECOM Imagine it. Delivered.

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3 May 2018

Stewart Doran
Level 23, Darlig Park Tower 2,
201 Sussex Street
Sydney, NSW 2000

Dear Stewart

Response to items raised in the enRisks letter titled "Energy from Waste Facility, Eastern Creek, NSW - Review of Health Risk Related Matters Covered in the Proposal" dated 7th March 2018

This letter details AECOMs response to specific items outlined in the enRisks review of the AECOM Human Health Risk Assessment dated 28 September 2017.

It is noted that there are a number of comments and concerns raised within the enRisk review which relate to the input assumptions from the Air Quality Impact Assessment. Those comments will be addressed by ERM (formerly Pacific Environment).

It is noted that the Planning Department Independent Expert Advice was that enRisks are satisfied that the HHRA has adopted standard approaches considered appropriate for Australia.

This letter focuses on the discussion around the magnitude of estimated risks and margin of safety commentary presented in Section 5.0 of the enRisks correspondence "Energy from Waste Facility, Eastern Creek, NSW – Review of Health Risk Related Matters Covered in the Proposal" 7th March 2018.

1.0 Modelled Scenarios – Risk Estimates

AECOM considers that discussions around Scenario 2 are now redundant. The POEO limits are not planned to be adopted as emission targets for the proposed facility. These limits were presented in the report for historical consistency only.

Therefore the focus of the response will be on the commentary for Scenario 1 and Scenario 4.

1.1 Scenario 1

Scenario 1 presents the normal stack operation parameters which is most representative of normal operations.

enRisks have provided commentary on a ten-fold safety margin for residential receptors which has been estimated based on the calculated hazard index from the risk assessment. The assumption is the calculated hazard index of 0.13 for an adult and 0.15 for a child would need to increase approximately ten times to exceed the adopted hazard quotient risk for non-carcinogens target of 1.

AECOM notes that the risk estimates are based on a number of conservative assumptions.

The estimation of risk is based on the grid maximum concentration for all receptors regardless of the location. It is noted that the current location of the grid maximum is within an area zoned commercial/industrial surrounding the site and some distance from residential receptors and therefore the adoption of such a concentration for the estimate of risk exposure for residents is inherently conservative.

In addition of the six residential exposure pathways considered cumulatively to estimate the current hazard index, five of these are based off soil concentrations estimated from deposition modelling onto soil. The estimates of soil concentrations from deposition modelling are inherently conservative as they:

- Don't account for any building wakes of objects.

- They are based on an established relationship between the estimated in-stack concentrations under standard operations and the rate of deposition. Dust deposition conservatively assumes both wet and dry particulates.
- Given that particulate matter less than 2.5 micrometres are not readily affected by gravitational settling, to generate a non-zero outcome, deposition modelling was completed based on an assumption that all particulate matter is released within the 10 micrometre (PM_{10}) size fraction. This is considered conservative for deposition purposes, and in reality the particulate is anticipated to lie within the $PM_{2.5}$ size fraction. Deposition estimates were derived through conventional atmospheric dispersion modelling, using the assumption of particulate in the 10 micrometres in aerodynamic diameter.

The estimation of the concentration in soil from depsostion rates is based on the following equation (Stevens 1991):

Concentration in Soil following Dust Deposition (Stevens, 1991)

$$C_s = \frac{DR * (1 - e^{-k*t})}{d * p * k} * 1000$$

Where:

C_s = Concentration of CoPC in soil (mg/kg)

DR = Particle deposition rate for accidental release (mg/m^2/year)

K = Chemical-specific soil-loss constant (1/year) = In(2)/$T^{0.5}$

T0.5 = Chemical half-life in soil (years)

T = Accumulation time (years)

D = Soil mixing depth (m)

P = Soil bulk-density (g/m^3)

1000 = Conversion from g to kg

A number of conservative assumptions were adopted to estimate the soil concentrations as detailed below:

- The soil mixing depth for deposition was assumed to be 15cm for plant roots. The equation presented also assumes a uniform distribution of the particle deposition at all times. This is considered to be a very conservative assumption.
- The half life was assumed to be 100 years where insufficient data was available. This is longer than the proposed lifetime of the plant of 25 years, so no degradation was assumed to occur for any of the chemicals of concern once released onto the soil.
- A uniform soil type was assumed to be present (sandy soil), and uniform concentrations are assumed to be present (i.e. not heterogeneous)

It is considered that when these conservative assumptions are looked at collectively they are likely to be representative of compounding conservatism within the risk estimates. This letter is only focussing on the assumptions adopted in the human health intake equations. In addition, there are a number of conservative assumptions undertaken within the Air Quality Impact Assessment (AQIA) undertaken by Pacific Environment. The AQIA provided AECOM the estimated concentrations in air and the deposition rates in which were used to estimate soil concentrations which may be up taken directly by residents or up taken by secondary exposure from plants, eggs and beef.

2.0 Scenario 4- IED Limits

Scenario 4 is representative of the EU Industrial Emissions Directive Based Limits (IED) and will be adopted as the licence limits for the proposed EFW plant. Scenario 4 is therefore representative of the limits in which the plant would be shut down.

As noted by enRisks, these limits are more stringent than the redundant Scenario 2 POEO limits. Where chemical limits for the IED were not specified, the maximum concentrations presented in Scenario 1 (normal operations) have been adopted.

In addition to the commentary provided above in response to the conservative nature of the assessment undertaken by AECOM for Scenario 1, which is also applicable to the estimated hazard index for Scenario 4, it is important to re-iterate that the estimated hazard index risks of an Adult at 0.19 and child at 0.25 are representative of the estimated exposure in which the plant would not be operating and would be shut down.

Therefore commentary provided about a 4-5 fold safety margin (i.e. where the estimated hazard index may exceed the adopted risk target of 1) "may be considered an acceptable margin of safety" are not valid. In the unlikely event the IED limits were triggered it is considered that exposure would not be representative of chronic exposure (i.e. long periods of time- as has been modelled) based on the plant design, it would be minutes (rather than 30 years) of exposure whilst the plant was in the process of being shut down.

Please contact the undersigned should you require additional information.

Yours faithfully

amanda Lee

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Stevens B, 1991. *2,3,7,8-Tetrachlorobenzo-p-Dioxin in the Agricultural Food Chain: Potential Impact of MSW Incineration on Human Health*. Presented in: Health Effects of Municipal Waste Incineration, Edited by Holly A, Hattemer-Frey and Curtis Travis, CRC Press, 1991.

APPENDIX F MRA – RESOURCE RECOVERY CRITERIA

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2nd May 2018

RE: Response to Assessment Report SSD 6236 (April 2018)

To whom it may concern,

MRA Consulting Group ("MRA") prepared the report: *Feedstock review in accordance with the Resource Recovery Criteria of the EfW Policy Statement* ("Feedstock Study") for the Proponent, which was submitted as part of the Proponent's Response to Submissions (RTS).

This letter has been prepared by MRA in response to the report: *State Significant Development Assessment: Eastern Creek Energy from Waste Facility SSD 6236* ("the Assessment Report"), prepared by the Deparment of Planning and Environment and released in April 2018.

Pages 41 and 42 of the Assessment Report provide an assessment of MRA's Feedstock Study. The Assessment Report refers to an independent assessment undertaken by the consultancy, ARUP, stating: *"ARUP's assessment concluded the Applicant's assessment of the available residual waste fuel feedstock for the development is over-estimated for three reasons:*

1. ***the resource recovery criteria percentage limits have been applied to the total volume of residual waste in the MLA market, rather than on an individual facility basis, as required by the EfW Policy"***

This is incorrect.

MRA applied the percentage limits to specific facilities as described on Page 30 and Table 19 of MRA's Feedstock Study (see Appendix A). All facilities were assessed for their recovery rate and specific recovery percentages applied. Some recovery rates were assumed but these were based on industry averages (conservative) and assumptions were stated (see Appendix A).

Secondly, ARUP appear to have confused the two independent parts of the MRA Feedstock Report.

Section 2 of the MRA Feedstock Report is an Metropolitan Levy Area (MLA) market assessment which describes the total generation rates of waste and calculates the total "eligible waste" under the NSW EfW policy controls. It is a market assessment not a facility assessment.

Section 3 is a specific assessment of the Proponent's waste feedstock.

MRA has not double counted available tonnes. The two sections must be read separately (as is clearly stated in the report).

2. ***"Unjustified increases in waste streams at the Genesis facility"***

This is incorrect.

MRA has justified the planned expansions to the proponent's existing facilities on page 32 of the Feedstock Study (see Appendix B).

The report also notes that the extent of any further expansion is a commercial decision.

3. ***“Double counting of feedstock sourced from the Applicant’s operations and in the MLA market.***

This is incorrect.

As stated previously ARUP have conflated to separate and independent sections of the Feedstock Study.

Section 2 of MRA’s Feedstock Study is a market assessment.

Section 3 is a specific tonnage assessment of the proposed facility.

ARUP has misunderstood the report and its purpose.

Yours sincerely,

Mike Ritchie (BSc, Hons, MSc, MBA)

Managing Director

MRA Consulting Group

Appendix A. Application of % limits to individual facilities

Table 19 of MRA's Feedstock Study:

Currently directly delivered to Genesis EC Landfill	Pre-processed through a 'facility'?	Tonnes In	% Eligible (EfW)	Eligible Tonnes (EfW)	Notes
Aggregate	No	61		-	*Separated waste stream*
Asbestos	No	271,495		-	*Separated waste stream*
Brick/Concrete	No	121		-	*Separated waste stream*
Carpet	No	17		-	*Separated waste stream*
Ferrous metals	No	-		-	*Separated waste stream*
Residual Floc	Yes	54,241	100%	54,241	*Residual from a metal recycling plant - "facility processing mixed C&I waste"*
Mattresses	No	4		-	*Separated waste stream*
Mixed - from glass recycling plants	Yes	18,862	100%	18,862	*Residual from glass recycling plants - "facility processing mixed C&I waste"*
Mixed - from C&I processors	Yes	17,510	100%	17,510	*Residual from C&I processors - "facility processing mixed C&I waste"*
Mixed - Genesis Alexandria	Yes	15,841	100%	15,841	*Residual from a C&D processor - "facility processing mixed C&D waste"*
Mixed - Misc.	No	169,574		-	*Unprocessed mixed stream - if processed could count 25% as eligible tonnes*
Other - mill rejects	Yes	7,176	100%	7,176	*Residual from paper mill, which is a "facility processing mixed C&I waste"*
Other - MRF	Yes	25,709	100%	25,709	*Residual from a processor, which is a "facility processing mixed C&I waste"*
Other - Misc.	No	89		-	*Unprocessed mixed stream - if processed could count 25% as eligible tonnes*
Plastic	No	15		-	*Separated waste stream*
Textiles	No	47	100%	47	*100% eligible as classified as "Separated waste streams - Textiles"*
Tyres	No	7	100%	-	*100% eligible - "Separated waste streams - Tyres" - however fuel spec. limits use*
Vegetation	No	0		-	*Separated waste stream*
Wood	No	13	100%	13	*100% eligible as classified as "Separated waste streams - Waste wood"*
SUB-TOTAL		**580,783**		**139,399**	

Extract from page 30 of MRA's Feedstock Study:

The assumptions behind Table 19 are as follows (all quotations refer to Table 1 of the Resource Recovery Criteria):

1. The Landfill currently:
    a. accepts and buries separated waste streams of predominantly C&D and C&I waste; and
    b. accepts and buries residual material from paper mills and other secondary processors; and
    c. accepts and buries residual material from metal recyclers, C&I dirty MRFs and C&D MRFs; and
    d. does not have any processing activity occurring on site, albeit this can be introduced in the future.
2. Material described in (b) constitute residual waste from facilities processing source-separated recyclables from C&I.
3. The EPA has confirmed with MRA via phone and email that "Facilit[ies] processing source-separated recyclables from MSW" may include "Facilit[ies] processing source-separated recyclables from C&I" if properly documented. Therefore, MRA assumed that up to 10% by weight of the waste stream received at a facility processing source-separated recyclables from C&I is allowed for energy recovery.
4. MRA assumed that material received by the Proponent described in (b) amounts to less than 10% of the source-separated materials received by the processing facility.
5. MRA assumed that residual from C&D MRFs received by the Proponent amount to less than 25% of the mixed wastes received by the C&D MRFs.
6. MRA assumed that residual from metal recyclers and C&I dirty MRFs received by the Proponent amount to less than 50% of the wastes received by the facilities.

Appendix B. Justification of increases in waste streams at Genesis

Table 21 of MRA's Feedstock Study:

Genesis EC Facility Input (excl. Genesis MPC Input)	Original Tonnes In	Target % Composition	Expanded Tonnes In	Difference	% Eligible (EfW)	Genesis Expansion Eligible Tonnes	Notes
Aggregate	41,754	8.98%	41,754	-	0%	-	*Separated waste stream*
Aluminium	-	0.00%	-	-	0%	-	*Separated waste stream*
Asbestos	8	0.00%	8	-	0%	-	*Separated waste stream*
Batteries	-	0.00%	-	-	0%	-	*Separated waste stream*
Brick/Concrete	153,805	71.30%	331,564	177,759	0%	-	*Separated waste stream*
Carpet	5	0.00%	11	6	0%	-	*Separated waste stream*
Ferrous metals	24	0.01%	54	30	0%	-	*Separated waste stream*
Mattresses	0	0.00%	0	0	0%	-	*Separated waste stream*
[Unknown]	12	0.01%	27	15	0%	-	*Separated waste stream*
Non-ferrous metals	-	0.00%	-	-	0%	-	*Separated waste stream*
Other	20	0.01%	45	25	0%	-	*Separated waste stream*
Paper/Cardboard	-	0.00%	-	-	0%	-	*Separated waste stream*
Plasterboard	324	0.16%	730	405	0%	-	*Separated waste stream*
Plastic	6	0.00%	13	7	0%	-	*Separated waste stream*
Soil	6,403	3.10%	14,404	8,001	0%	-	*Separated waste stream*
Textiles	11	2.10%	9,765	9,755	100%	9,755	*100% eligible - "Separated waste streams - Textiles"*
Tyres	17	0.00%	17	-	100%	-	*100% eligible - "Separated waste streams - Tyres" fuel spec. limits use*
Vegetation	1,305	0.63%	2,935	1,630	0%	-	*Separated waste stream*
VENM	-	0.00%	-	-	0%	-	*Separated waste stream*
Wood	741	12.59%	58,545	57,804	100%	57,804	*100% eligible - "Separated waste streams - Waste wood"*
[Blank]	2,280	1.10%	5,129	2,849	0%	-	*Separated waste stream*
SUB-TOTAL	**206,714**	**100.00%**	**465,000**	**258,286**		**67,559**	

Extract from page 32 of MRA's Feedstock Study:

The assumptions behind Table 21 are as follows: 1. In total, the Environmental Protection Licence for the Genesis Facility allows for the processing of 1.3 million tpa. In this respect, the waste received by the Genesis Facility can be maximised to 465,000 tpa. This allows for the Plant to be maximised to 380,000 tpa of waste received and the introduction of a sister C&I facility at 455,000 tpa of waste received. 2. If the Genesis Facility is maximised to 465,000 tpa of waste received, the eligible separated waste streams will grow. The streams of Textiles and Wood have been the focus of growth.

APPENDIX G COMMUNITY CONSULTATION

Date	Item
April 2013	**Project website** A dedicated website (www.tngnsw.com.au) has been created to offer general information on the proposal, together with a project flyer and video. In addition, frequently asked questions were uploaded to provide responses to general questions. As the Energy from Waste facility is a new concept to NSW the website focuses on educating the visitor on how the technology operates and creates ‘green’ energy.
Ongoing	**1800 community line and project email** A dedicated, toll-free 1800 community information line (180 252 040) and email address (info@tngnsw.com.au) was established from the inception of the consultation to provide an immediately available and central point of contact for stakeholder and community enquiries. Both the information number and email address have been promoted via the website and on all communications collateral including the media release and project flyer.
December 2013	**Key stakeholder correspondence** Correspondence has been sent via post and/or email to identified key stakeholders and community groups. Distributed in early December 2013, the correspondence included a project overview and flyer with the offering of a personal briefing should they request it. This was also followed up by direct phone calls to some key stakeholders offering a personal briefing.
Stakeholder category	**Identified stakeholder**
NSW Government	Director General of Department of Premier and Cabinet
	Premier and Minster for Western Sydney
	Minister for Environment and Heritage
	Minister for Resources and Energy
	Minister for Western Sydney
	Parliamentary Secretary for Western Sydney
	Shadow Minister for Energy
	Shadow Minister for Environment and Climate Change
	Shadow Minister for Western Sydney
Federal Members	Federal Member for Chifley
	Federal Member for McMahon
NSW State Members	Member for Blacktown
	Member for Mount Druitt
	Member for Mulgoa
	Member for Smithfield
State Government agencies	Land Partners
	NSW Department of Planning and Infrastructure
	NSW Environment Protection Agency
	NSW Trade and Investment
	Sydney Water
Local government	Blacktown City Council and Councillors
	Penrith City Council and Councillors
	Western Sydney Regional Organisations of Councils
Industry peak bodies	Master Builders Association
	Sustainable Energy Association of Australia
	Waste Management Association of Australia

Environmental peak bodies	Total Environment Centre
Indigenous peak bodies	Deerubbin Local Aboriginal Land Council
Business Chambers	NSW Business Chamber Regional Development Australia – Sydney Western Sydney -Sydney Business Chamber
Community groups	Blacktown District Environment Group Minchinbury Jets Minchinbury Residents Action Group Spartan Blacktown Football Club Western Sydney Conservation Alliance Inc. Whalan Action Group
Surrounding residential neighbours	Erskine Park – 2,000 residents Minchinbury – 2,000 residents
Surrounding business	Aldi Alspec Arbonne Australand Best & Less Capral (formerly OneSteel) Cassons CH2 DHL Supply Chain FedEx Freight Distribution Management Fulton Hogan Goodman Hanson Ingram Micro Jacfin K Mart Ltd Life's Good Macism Milton Trading Myer Nover NSW Department of Planning and Infrastructure OfficeMax Ontex Australia Sargents Pies SK Steel Australia Woolworths
4th December 2013	**Mailbox drop to 4,000 homes.** Two letter box drops were undertaken to inform the nearby residential areas in the suburbs of Minchinbury and Erskine Park about the project. The first was on the proposed facility and the second was an invite to a community information day and site tour A total of 4,000 residences received the project flyers and a DVD which showed the proposed facility and the project.
22nd February 2014	1–5PM **Community Information afternoon hosted by TNG.** 4-hour information day. General discussion. Introduction and overview of facility. Site tour. Community information day. On the 22nd February 2014 a community information afternoon was hosted by TNG. Approximately 32 people were in attendance The aim of the afternoon was to inform and educate any interested party or individual of the proposed facility. The four-hour information day saw a general discussion upon arrival followed by an introduction and overview of the proposed facility by TNG's Managing Director. The

	overview included a 10-minute presentation followed by an opportunity for questions and answers. A site tour of the facility was then conducted for the attendees.
26th February 2014	26 February 2014 7-8PM Where: Blacktown Council Chambers **Presentation to Councillors and Officers** – Play video and Q & A session
5th May 2014	Stephen Bali Councillor – Blacktown Council When: Monday, 5 May 2014 4-5 PM Where: Tour of Genesis facility Eastern Creek
6-8th May 2014	Waste Avoidance and Resource Recovery Conference – TNG NSW representatives attended and presented at the above conference. There were 487 delegates in attendance comprising of industry leaders and Government representatives (including delegates from local councils). Environmental Protection Authority EPA representatives from NSW and Victoria were also in attendance. TNG NSW's Managing Director was on a panel where he gave a comprehensive overview of the Energy from Waste facility. Further, a standalone TNG NSW presentation session regarding the Energy from Waste facility was attended by approximately 140 delegates. At this presentation a video was shown followed by a Question and Answer session. Finally, TNG NSW had an exhibition stand throughout this 2-day Conference showing the 12-minute video and answering questions, queries from the delegates.
2nd Dec 2014	Susan Coulter; Mayor Blacktown; Stephen Bali; Kerry Robinson; Glennys James; Darryl Watkins Subject: Genesis facility Eastern Creek and EfW – Consultation meeting When: Tuesday, 2 December 2014 2:30-3:30 PM Where: Porirua Room, Blacktown City Council
May-July 2015	Original EIS – Public Exhibition
7th July 2015	Blacktown Council and DoP Consultation meeting
November 2016	Presentation and panel questions at Blacktown City Council, Strategy meeting • Blacktown City Council – Mayor, Councillors, the General Manager and relevant Council Officers (including the Policy and Strategy committee) – 23/11/13, 26/11/13, 27/11/13 and 26/2/14 • Penrith City Council – Mayor and relevant Council Officers – 18/12/13 • State Member for Mount Druitt – 27/11/13 • State Member for Blacktown – (briefing and site visit) – 24/1/14

December 2016	Amended EIS – Public Exhibition
10th December 2016	11AM - 3PM Genesis Recycling facility. Community Consultation at Eastern Creek and site tour of waste facility (following demonstration outside Genesis).
6th February 2017	7PM Minchinbury Neighbourhood Centre. Blacktown Community Consultation.
16th February 2017	7PM Erskine Park Community Hall. Penrith Community Consultation.
24th February 2017	Mailbox Drop to 5,000 residents
13th April 2017	Community Consultation at Erskine Park Community Hall.
2nd May 2017	Coffs Harbour Waste Conference. TNG NSW representative attended and presented at the above waste conference. There were 585 delegates in attendance comprising of industry leaders and Government representatives (including delegates from local councils). EPA representatives were also in attendance. TNG NSW's Managing Director gave a presentation on the role of Energy from Waste in an integrated waste management strategy. Educational material was distributed.
July 2017	Response to Submissions Report Lodged.
Online and Social Media	**Facebook – TNG Ad Campaign** 3,321,517 impressions 899,757 people 230,656 people taking action TNG Facebook page has 1,551 followers **Google Adwords – TNG** 7.85 million impressions 13,500 clicks **Web Traffic – TNG – Since 25 Dec** 2,539 sessions 1,866 users 5,534 page views **Web Traffic – DADI – Since 1 Oct 2017** 82,861 sessions 63,116 users 154,497 page views
TV ADS- Channel 9	The applicant commissioned three TV advertisements regarding its project which were broadcast on Channel 9 in Sydney.

Print Media	The applicant commissioned full page advertisements in Sydney regarding the project in the Sunday Telegraph Ads.
Public Opinion Survey	A survey of community opinion was undertaken.

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