

Natural Resources Wales permitting decisions

Review of an Environmental Permit under the Environmental Permitting (England & Wales) Regulations 2010 (as amended)

Variation and consolidation of a bespoke permit

We have decided to issue an Natural Resources Wales initiated variation for Harsco Metals operated by Harsco Metals Group Limited.

The variation and consolidation number is EPR/BP3635MR/V006.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This is a decision document, which accompanies a variation notice being issued following a review of the permit.

It explains:

- **how** we have carried out our statutory review of the Operator's Permit;
- **why** we have decided to vary the Permit as a result of that review; and
- **why** we have included the specific conditions in the revised Permit through the variation notice we are issuing.

It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. This review has been undertaken with reference to the decision made by the European Commission establishing best available techniques (BAT) conclusions ('BAT Conclusions') for the Production of Iron & Steel, which includes coke making activities,

which were published as a Commission Implementing Decision (2012/135/EU) in the Official Journal of the EU on 8 March 2012. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position. It also provides a justification for the inclusion of any specific conditions in the permit that are in addition to those included in our generic permit template.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit. It also modernises the entire permit to reflect the conditions contained in our current permit template.

The introduction of the new Permit format makes the Permit consistent with other permits issued to installations in this sector. Although the wording of some conditions has changed and others have disappeared because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document we address only our determination of substantive issues relating to the new BAT Conclusions.

This Variation is considered to be a normal variation because along with the administrative changes i.e. consolidating previous variations and moving to the new template, some detailed technical evaluation is required. This is a more complex variation than the norm, because it is doing three different things at the same time:

- **First**, it gives effect to our decisions following the statutory review of the existing Permit, following the implementation of the IED and the publication of BAT Conclusions covering the production of coke, iron & steel. That is what this variation is principally about.
- **Second**, it takes the opportunity to bring earlier variations into an up-to-date, consolidated Permit. These changes have already taken place and we are not re-explaining them, but the consolidated Permit should be easier to understand and use.
- **Third**, it modernises the entire Permit to reflect our current template. The template reflects our modern regulatory permitting philosophy and was introduced because of a change in the governing legislation. This took place when the Pollution Prevention and Control (England and Wales) Regulations 2000 were replaced in

2008 by a new statutory regime under the Environmental Permitting Regulations 2010 (as amended in 2013) to effectively introduce the IED.

The introduction of new template conditions makes the Permit consistent with our current general approach and philosophy. Although the wording of some conditions has changed, while others have disappeared because of the new regulatory approach, it does not affect the level of environmental protection achieved by the Permit in any way. We therefore explain only the statutory review in this document.

As the Variation will not have any negative effects on the environment it is not a substantial variation and so does not require external consultation. Because the activities are Directly Associated Activities to Tata Steel, a fixed Tier 2 bespoke charge of £1958 will be invoiced to the Operator, however because of the changes made to the permitted activities (i.e. the site will be permitted as an installation in its own right), future charges will be based on the sites OPRA charge.

Structure of this document

- Summary of our decision
- The legal framework
- How we took our decision
- Key issues/Regulation 60 response
- Conclusion
- Annex 1 Decision Checklist regarding relevant BAT Conclusions

1 Our decision

We have issued a Variation, which will allow the Operator to operate the Installation, subject to the conditions in the varied Permit.

The Variation does three things:

- it consolidates the original Permit to reflect changes made through earlier variations;
- it brings the Permit into line with our modern regulatory template; and
- it varies the Permit where appropriate to reflect the outcome of our statutory review and incorporate Best Available Techniques (BAT) and associated Emission Limit Values (ELV's).

We consider that, in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the Permit will continue to ensure that a high level of protection is provided for the environment and human health.

The original Permit, issued on 6th June 2003, ensured that the Installation, employed Best Available Techniques (BAT) and ensured a high level of protection for human health and the environment. We have altered the Permit as a result of the statutory review, and we are confident that the new requirements will deliver a superior level of protection to that which was previously achieved.

2 The legal framework

The Consolidated Variation Notice will be issued under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Consolidated Variation Notice, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

3 How we reached our decision

Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 60(1) of the Environmental Permitting (England and Wales) Regulations 2010 (a Regulation 60 Notice) on 30th September 2013 requiring the Operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

- Describes the techniques that will be implemented before 08/03/2016, which will then ensure that operations meet the revised standard, or
- justifies why standards will not be met by 08/03/16, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.
- Where their permitted activity involves the use, production or release of a hazardous substances, as defined in Article 3(18) of the Industrial Emissions Directive, Cambrian Stone Limited were required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity. Cambrian Stone Limited were required to provide a copy of the risk assessment and any consequent baseline report.
- Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT AEL) described in the BAT Conclusions Document, the Regulation 60 Notice requested that the Operator make a formal request for derogation from compliance with that AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

- The Regulation 60 Notice response from the Operator was received on 01st April 2014. We considered that the response contained sufficient information for us to commence determination of the permit review. The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 60 Notice response that appears to be confidential in relation to any party.

Key issues of the decision

BAT Conclusions for the Production of Iron & Steel, which includes coke making activities, were published as a Commission Implementing Decision (2012/135/EU) in the Official Journal of the EU on 8 March 2012. There are 95 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the permit/variation notice issued.

A detailed response was received from Harsco Metals Group Limited. Where the Operator has concluded that they have achieved BAT, and we are in agreement, no further information / justification has been sought by Natural Resources Wales.

Where Natural Resources Wales did not agree with the conclusions reached by the Operator, depending upon the information that was lacking or required clarification, Natural Resources Wales have either included an improvement or requested additional information / justification. Additional requests for information were sent to Harsco Metals Group Limited. These are listed in this section with the additional justification received as well as an explanation of how Natural Resources Wales has assessed this, and where necessary, amend the permit to ensure compliance with the BAT conclusions.

Changes we have made.

The Environmental Permitting Regulations (EPR) were updated in 2013 as a result of the implementation of the Industrial Emissions Directive. These amendment regulations introduced new activities to the EPR one of which was the treatment of slags and ashes in section 5.4 of Part 2 of Schedule 1 – Disposal, recovery or a mix of disposal and recovery of non-hazardous waste. The activities carried out by Harsco are metal recovery from steel slag by crushing and magnetic separation. These activities should be regulated under the newly prescribed activity for the treatment of slags and ashes i.e. Section 5.4 Part A (1) (b) Recovery of a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC – (iii) treatment of slags and ashes.

Improvement conditions

Based on the information in the Regulation 60 response we consider that we need to set improvement conditions. These conditions are set out below. We are using these conditions to require the Operator to provide Natural Resources Wales with details that need to be established or confirmed during and/or after commissioning.

IC1 & IC2 have been set so that the operator can demonstrate to NRW that Technical Competence for waste operations has been achieved. Because the activities are newly regulated as Specified Waste Management Activities the operator has been provided with a grace period of 12 months to achieve the relevant Certificate of Technical Competence.

Improvement programme requirements		
Reference	Requirement	Date
IC1	The Operator shall demonstrate to Natural Resources Wales that suitable person are signed up to the relevant scheme to demonstrate technical competence for specified waste management activities.	Within one month of permit issue
IC2	The Operator shall submit the relevant certificate demonstrating technical competence.	Within 12 months of permit issue
IC3	<p>The operator shall provide a written report to Natural Resources Wales that assesses the influence of the following factors:</p> <ul style="list-style-type: none">a) molten iron chemistry;b) molten iron viscosity;c) torpedo temperature and standing time;d) torpedo size; ande) any other relevant factors <p>on the potential for environmental emissions from molten iron pouring and plating. The relationship between torpedo pouring angle and the duration of pouring for different sized torpedoes shall be explored as part of the report.</p>	Within 12 months of permit issue

5 Conclusion

We consider that the Installation already employed what used to be BAT, and that the Operator has achieved significant improvements in performance since the Permit was originally granted. The revised BREF and its BAT-AELs provide the opportunity to consider further environmental improvements. Coupled with the consolidation and modernisation of the Permit, we believe this Variation and consolidation provides a sound basis for ongoing regulation of the Installation.

We believe that we have ensured compliance with all relevant legal requirements in carrying out this review and making our determination on the Variation.

Annex 1 Decision Checklist regarding relevant BAT Conclusions.

BAT Conclusions for the Iron and Steel (including coke making activities) industry, were published by the European Commission on 8th March 2012. There are 95 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the Consolidated Variation Notice.

All BAT Conclusions arising are listed by number in order below.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
General BAT conclusions			
The BAT mentioned in this section apply to all installations covered by these BAT conclusions (Iron and Steel Making).			
1.	BAT is to implement and adhere to an environmental management system (EMS)	4	Currently Compliant. Harsco Metals and Minerals Port Talbot is covered by an environmental management system that has been independently certified as conforming to the requirements of ISO14001, the international environmental management systems standard. The features set out in the BAT conclusion are all requirements of ISO14001.
2.	BAT is to reduce thermal energy consumption	5	Currently Compliant. Electricity, gas and water are supplied through Tata Steel. Energy reduction programme is now in place. Carbon footprint reduction objectives being set.
3.	BAT is to reduce primary energy consumption by optimisation of energy flows and optimised utilisation of process gases such as coke oven gas, blast furnace gas and basic oxygen gas.	5	Not Applicable. This element of the BAT conclusions document is outside the scope of the operations carried out by Harsco. The control of process gases from coke ovens and blast furnaces is within Tata Steel's operational remit.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
4.	BAT is to use desulphurised and dedusted surplus coke oven gas and dedusted blast furnace gas and basic oxygen gas (mixed or separate) in boilers or in combined heat and power plants to generate steam, electricity and/or heat using surplus waste heat for internal and external heating networks, if there is a demand from a third party.	6	Not Applicable. This element of the BAT conclusions document is outside the scope of the operations carried out by Harsco. The control of process gases from coke ovens and blast furnaces, and any potential for subsequent utilisation, is within Tata Steel's operational remit.
5.	BAT is to minimise electrical energy consumption	6	Currently Compliant. Electricity is supplied by TATA Steel. However, energy reduction programme is now in place. One of the main objectives is to identify energy efficiency opportunities and increase energy consumption awareness of our employees. Energy monitors have fitted to 7 areas that were identified as high electricity usage areas and continuous monitoring has been implemented on site. Energy Reduction is an on-going process.
6.	BAT is to optimise the management and control of internal material flows in order to prevent pollution, prevent deterioration, provide adequate input quality, allow reuse and recycling and to improve the process efficiency and optimisation of the metal yield.	7	Currently Compliant. Management of wastes is underpinned by a material flows hierarchy, where possible potential wastes are avoided through prevention and minimisation at the source. When these options are not feasible the emphasis is upon reuse or recycling of materials and by-products to avoid waste being produced.
7.	In order to achieve low emission levels for relevant pollutants, BAT is to select appropriate scrap qualities and other raw materials. Regarding scrap, BAT is to undertake an appropriate inspection for visible contaminants which might contain heavy metals, in particular mercury, or might lead to the formation of polychlorinated dibenzodioxins/furans (PCDD/F) and polychlorinated biphenyls (PCB).	8	Currently Compliant. <ul style="list-style-type: none"> Scrap is recovered using a rotating electro magnet; therefore only ferrous metals are picked up. Visual inspection is carried out. Harsco Metals is covered by a quality management system that has been independently certified as conforming to the requirements of ISO 9001.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			<ul style="list-style-type: none"> Harsco Metals and Minerals receives scrap for the BOS plant. There are procedures in place for monitoring composition and standard of scrap and to exclude unsuitable scrap. When scrap does not meet the standard of the BOS criteria, it is quarantined.
8.	BAT for solid residues is to use integrated techniques and operational techniques for waste minimisation by internal use or by application of specialist recycling processes (internally or externally)	8	Not Applicable As the processes may be carried out by a third party, the recycling itself may not be within the control of the operator of the iron and steel plant, and therefore may not be within the scope of the permit.
9.	BAT is to maximise external use or recycling for solid residues which cannot be used or recycled according to BAT 8, wherever this is possible and in line with waste regulations. BAT is to manage in a controlled manner residues which can neither be avoided nor recycled.	9	Not Applicable All material taken to Harsco is recyclable
10.	BAT is to use the best operational and maintenance practices for the collection, handling and transport of all solid residues and for the hooding of transfer points to avoid emissions to air and water.	9	Compliant in the future Briquetting plant requires maintenance and does not meet BAT
11.	BAT is to prevent or reduce diffuse dust emissions from materials storage, handling and transport	9	Currently Compliant Harsco Metals has an Environmental Management System. Within this system there is an Air Quality Management Plan (AQMP) that is supported by formal objectives. Steel plant is monitored by on-site and off-site PM10 monitors as detailed in air quality management plan.
12.	BAT for waste water management is to prevent, collect and separate waste water types, maximising internal recycling and using an adequate treatment for each final flow. This	13-14	Currently Compliant At Port Talbot potable water is not used for production lines and only used for human use. Water used to water the slag is

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	includes techniques utilising, e.g. oil interceptors, filtration or sedimentation		taken from Tata mill water and recycled water, It has been looked at for taking the water back to mill, for safety reasons recycling is difficult, water minimisation is key, water management is a high priority due to water/metal explosion.
13.	BAT is to measure or assess all relevant parameters necessary to steer the processes from control rooms by means of modern computer-based systems in order to adjust continuously and to optimise the processes online, to ensure stable and smooth processing, thus increasing energy efficiency and maximising the yield and improving maintenance practices.	14	Currently Compliant All major processes are controlled by means of computer-based systems to ensure safe operation and to achieve the most efficient overall process
14.	BAT is to measure the stack emissions of pollutants from the main emission sources from all processes.	14	Currently Compliant Harsco Metals carries out continuous monitoring on identified point sources (lancing booth and scarfing machine) and reporting results to Natural Resources Wales.
15.	For relevant emissions sources not mentioned in BAT14, BAT is to measure the emissions of pollutants from all processes included in the Sections 1.2-1.7 and from process gas-fired power plants within iron and steel works as well as all relevant process gas components/pollutants periodically and discontinuously. This includes the discontinuous monitoring of process gases, stack emissions, polychlorinated dibenzodioxins/furans (PCDD/F) and monitoring the discharge of waste water, but excludes diffuse emissions (see BAT16)	14	Currently Compliant Harsco Metals carries out continuous monitoring on identified point sources (lancing booth and scarfing machine) and reporting results to Natural Resources Wales.
16.	BAT is to determine the order of magnitude of diffuse emissions from relevant sources by the methods mentioned below. Whenever possible, direct measurement methods are preferred over indirect methods or evaluations based on calculations with emissions factors.	15	Compliant in the future Direct emission measurements have been undertaken of fugitive releases for fume booth and scarfing machine. The magnitudes of other diffuse emissions have not been evaluated. BAT is to be achieved by 2016.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
17.	BAT is to prevent pollution upon decommissioning by using necessary techniques	16	Currently Compliant Harsco Metals has developed a decommissioning plan. In case of decommissioning, the "closure plan" is comprised of both the site health & safety and environmental issues .
18.	BAT is to reduce noise emissions from relevant sources in the iron and steel manufacturing processes by using one or more of the following techniques depending on and according to local conditions	16	Currently Compliant Noise from process operations is largely controlled by enclosure within buildings and the implementation of procedures to ensure that doors are opened only when necessary so that the noise is contained as much as possible. Complaints of noise from the local community are recorded and investigated to try to identify the source of the noise, if noise is attributed to an onsite source then action is taken to rectify the issue.
69.	BAT Conclusions for Blast Furnaces BAT for minimising slag treatment emissions is to condense fume if odour reduction is required	17	Not Applicable Slag granulators are covered by a separate permit. No odour reduction is required.
79.	BAT Conclusions for Basic Oxygen Steelmaking and Casting BAT for on-site slag processing is to reduce dust emissions by using a combination of techniques	17	Currently Compliant Metal recycling area is covered but not extracted. Slag is transported by shovel loaders or dumpers depending of transporting distance. Conveyors are wetted, fog cannons are used and being built for desulph pits, one of the desulph pits has been refurbished and including fog cannons in the design, throw of 30 meters.

Further information was requested for the following BAT conclusions:

BAT Conclusion No	Summary of BAT Conclusion requirement	Reason for requesting additional information	Additional information received
General BAT conclusions The BAT mentioned in this section apply to all installations covered by these BAT conclusions (Iron and Steel Making).			
5.	BAT is to minimise electrical energy consumption	Clarification of the status of Harsco's energy reduction policy and any interventions.	Currently Compliant. A number of interventions have been made and further improvements have been planned as part of Harsco's energy reduction programme. Energy use audits are being undertaken at all Harsco UK sites. Some energy use monitors fitted at scarfing, coke handling and iron making areas which Harsco targeted as high energy users. Metal Recovery plant conveyors also being considered for energy use monitors.
10.	BAT is to use the best operational and maintenance practices for the collection, handling, storage and transport of all solid residues and for the hooding of transfer points to avoid emissions to air and water.	Briquetting plant requires maintenance and does not meet BAT. Confirmation of who owns Briquetting Plant was requested.	Currently Compliant. The plant/equipment and the building are both owned by and are the responsibility of Tata. Harsco operates the equipment on Tata's behalf.