Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

British Steel Limited

Scunthorpe Integrated Iron & Steelworks
Brigg Road
Scunthorpe
North Lincolnshire
DN16 1XA

Variation application number

EPR/RP3206BE/V004

Permit number

EPR/RP3206BE

Scunthorpe Integrated Iron & Steelworks
Permit number EPR/RP3206BE

Introductory note

This introductory note does not form a part of the notice

The following notice gives notice of the variation of environmental permits A, B and C referred to in the status logs below and the replacement of those permits with a consolidated environmental permit.

In addition, Permit A is being varied and schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

The variation consolidates the following permits in one single permit

- EPR/RP3206BE (Sinter production, coke making and handling, iron production – blast furnaces, steel production – basic oxygen steelmaking (BOS), secondary steelmaking, hot rolling and site energy production)
- EPR/VP3103MJ (Waste oxide briquetting, slab yard operations, slag de-metalling/screening and oversized ferrous scrap processing)
- EPR/VP3007SH (Blast furnace hydro cyclone slurry dewatering facility)

This variation amends the following aspects:

Sinter Plant derogation - Emission point A1

BAT 20 - BAT-associated emission level value (AEL) for dust 40 mg/Nm^3 for the advanced electrostatic precipitator as a daily mean value: Derogated emission limit for dust of 100 mg/Nm^3 (with advanced electrostatic precipitator) as a daily mean value until 30/09/2024.

Appleby Coke Ovens - Derogation against the following BAT

Emission points A302 Appleby Coke Oven (ACO) 1&2 Battery stack and A303 3&4 Battery stack

BAT 48 - to reduce the sulphur content of the coke oven gas (COG) by using one of the identified techniques (BAT AEL 1000 mg/Nm^3): Derogated emission limit of 5000 mg/Nm^3 for hydrogen sulphide (H_2S) until 31/12/2026

BAT 49 IV - reduce the emissions from coke oven under-firing only for:

- oxides of sulphur (BAT AEL 500 mg/Nm^3): Derogated emission limit of 5000 mg/Nm^3 for sulphur oxides (SOx) expressed as sulphur dioxide (SO_2) until 31/12/2026.

- particulate matter (dust) (BAT AEL < 1 – 20 mg/Nm^3): Derogated emission limit of 200 mg/Nm^3 for particulate matter (dust) until 31/12/2026.

Coke Oven Battery ACO 1-2 and Coke Oven Battery ACO 3-4

BAT 50 - reduce particulate matter (dust) emissions from coke pushing by using one of the identified techniques (BAT AEL <10 mg/Nm^3): Derogation until 31/01/2026 and no set limit for particulate matter (dust), emissions controlled by coke pushing emissions factor PEF limits.

Emission point A325 - Appleby Coke Quenching Towers for Battery 3-4

BAT 51 - to reduce dust emissions in coke quenching by using one of the identified techniques (BAT AEL < 25g/t): Derogation until 31/12/2026 and no limit set for particulate matter (dust) coke emissions as controlled by wet quenching.

Operator requested amendments

- Amend conditions in sections 1 to 4
- Amend Table S1.1
- Amend Table S1.2
- Amend Table S1.3
- Amend Raw materials Table S2.1
- Amend Schedule 2 waste tables to clearly specify the waste types under each activity, add and amend waste types
- Amend Tables S3.0, S3.1, S3.2, S3.4, S3.6, S3.9
- Add Table S3.7
- Remove Schedule 3(a) and Schedule 3(b)
- Amend Reporting Tables S4.1, S4.2, S4.3, S4.4, S4.5
- Update site plan showing biological effluent treatment plant boundary
- Permit Annex - Derogations under Industrial Emission Directive

Environment Agency initiated variation amendments

- Amend Table S1.1
- Amend air emissions point A1
- Amend Table S1.3
- Amend waste tables in Schedule 3
- Amend Tables S3.0, S3.1, S3.2, S3.3, S3.6
- Add Table S3.10
- Amend Tables S4.1, S4.4

The installation is operated as follows:

Scunthorpe integrated coke, iron and steel works is situated in North Lincolnshire to the east of Scunthorpe town. The site, covering approximately 1000 hectares, has a multitude of emission points and associated plant and site fugitive emissions. Liquid steel production at full capacity is approximately 4.5 million tonnes per annum though this can be flexibly reduced by operating a combination of three permitted blast furnaces.

The site is characterised by several identifiable processes which are carried out sequentially across the installation to convert raw materials such as iron ores, coal and scrap metal wastes into steel and undertake continuous casting to semi-finished slabs and billets. These are hot rolled on site to produce plates, sections, rails and rods for sale on world markets.

Raw materials

Bulk raw materials including iron ore and coking coals arrive by ship at the deep water port at Immingham and are discharged by unloader cranes to be stocked out and transhipped to Scunthorpe, mainly by rail. Iron ores, other raw materials and works arising recyclables (“reverts”) are blended together into a sinter plant feed. This blend is laid down in beds to allow good mixing of material.

Sinter production

Sinter feed is recovered from the beds by barrel reclaimers and a blend of sinter bed material, fluxes, coke breeze and limestone are fed onto a travelling grate where it is heated to a temperature in the region of 1300°C. Air is drawn through the bed of heated material and the flame front fuses the fine material into sinter. The sinter is cooled and screened prior to being transferred to the blast furnaces. Waste gases produced during sintering pass through an electrostatic precipitator and are discharged through the 107 m high stack to atmosphere.

Coke making

The Coke Oven Plant operates at Appleby. Coal is predominantly delivered by train to the Coal Handling Plant area to form a coal blend from coal beds (~14 -17) prior to being recovered by a stacker-reclaimer. It is then stored in silos and taken by conveyors to both coke oven plants battery silos. The coal is charged to ovens where it is heated at a temperature of between 1200-1300°C for a period of approximately 18-24 hours to produce coke before being pushed out of the oven chambers and quenched by water. After quenching the coke is graded by size and transferred to the blast furnaces. Coke Oven gas (COG) driven off in the ovens is initially cooled, processed through gas cleaning scrubbers and by-products removed prior to gas-holder storage or reuse. Raw COG flaring can occur if a battery over-pressurises. Clean gas is recycled within the site as a high calorific value (CV) fuel and exported as a constituent of mixed enhanced gas (MEG) used to fuel boilers and reheat furnaces on the site. Excess gas may be flared via dedicated flare stack. Cooling and process waters transferred from the by-products plant are treated in an off-site biological effluent treatment plant prior to discharge into the River Trent.

The Coke Handling Plant

The main purpose of this associated activity at the installation is the screening and crushing of coke to produce a <3.35 mm size fraction for use in the iron and steel works sintering operation. The plant typically processes 8,300 t/week.

Works produced coke is delivered via a conveyor and stockpiled awaiting processing. Imported coke is delivered in covered wagons and stockpiled awaiting processing. Oversize fractions screened out are used elsewhere on the iron and steel works. The (22-45) mm size fraction is conveyed into a lorry for transportation to the Ross coke nuts stocking area. Fugitive emissions to air from screening, conveying and crushing are minimised by enclosing the plant as much as is possible.

Three product size coke stockpiles can be present for any grade of coke that has been recently processed: a screened >45mm fraction, the screened <3.35mm fraction and the crushed <3.35mm fraction. Other stockpiles are utilised to provide an option to by-pass the crushing plant. This allows the screening and crushing operations to be de-coupled and simplifies the processing and segregation of different coke grades. Fugitive releases from stockpiles are minimised by spraying with water (recycled from the iron and steel works) as required when dry or windy weather prevails.

A mobile screening operation processes wet coke (pond breeze) from the works. The oversize material is processed through this crushing and screening operation, the undersize is stockpiled awaiting removal.

Iron production – Blast furnaces

There are three permitted blast furnaces and associated support and process gas cleaning plant. At the blast furnaces, coke, sinter, rubble ore, pellets and fluxes, are weighed and batched to be charged to the blast furnace. The blast furnaces operate on a continuous basis and are maintained at a full stock line level by charging alternate layers of coke and ore. High pressure air is produced in the turbo blower house and passed through the furnace stoves where it is heated to temperatures in the range of 1000-1200°C. The pre-heated air is injected together with granular coal into the furnace at tuyere level just above the hearth and flows upwards to the top of the furnace. The air reacts with carbon from the granular coal and the coke at the tuyeres to form carbon monoxide which reduces the iron ore to iron as it travels up the furnace. Further reduction of the iron ore is undertaken directly by the coke in the bosh and stack areas of the furnace. Gangue material in the ores and coke agglomerate together to form a molten slag at the high temperatures produced from the exothermic reduction reactions. The molten iron is produced in the furnace; both iron and slag fall to the hearth of the furnace where they are periodically removed via taphole operations to minimise fumes which are captured by a dedicated secondary emissions abatement system.

The iron and slag flowing from the taphole are separated in the iron runner. Slag is skimmed off the top of the iron into the slag runner to be further processed in the air-cooling slag pits or by a rapid water-cooling granulator. The iron flows underneath the skimmer arrangement to ensure slag-free iron passes into torpedo ladles for transportation to the steel plant. Excess liquid iron may be “plated” in the iron plating beds if the Steel-making plant cannot accept it.

The blast furnace gas leaves the furnace top at moderate pressure, cooled and cleaned in the primary gas cleaning scrubber system. Clean gas is used as a fuel to preheat the incoming air in the blast furnace stoves, to power the turbo blowers and as a constituent of mixed enhanced gas (MEG) used to fuel boilers and reheat furnaces on the site. Excess gas can be stored in gas holders or flared through a dedicated flare stack. Slurry formed in the wet gas cleaning scrubber process is subject to hydro-cyclone techniques to partition zinc bearing fractions. A usable under-flow slurry portion (low zinc) is recycled onsite. The over-flow is dewatered to a filter cake, which is blended for waste recovery with other iron-bearing waste material for the cement industries. Slurry bypassing de-watering plant forms slurry lagoon cake containing BOS slurry residues, some can be recovered as a revert material. The processes concentrate up very low levels of naturally occurring radioactive materials designated as Technology Enhanced - NORM.

Steel Production - BOS

The liquid iron is transported 2.5 km by rail to the Basic Oxygen Steelmaking (BOS) plant in refractory lined torpedo ladles with a capacity of approximately 300 tonnes. The ladles are lidded prior to leaving the blast furnaces to reduce energy loss and emissions from the torpedo mouth. On arrival at the BOS plant the ladle is teemed into a transfer ladle and the content is desulphurised, if necessary, prior to transfer to the steel making BOS vessel. High sulphur slag formed is skimmed off to slag ladles for air cooling in slag pits and dust emissions managed prior to landfill disposal. The fume produced is extracted to a bag filter cleaning system prior to discharge to the atmosphere.

Desulphurised iron is charged in approximately 220 tonnes batches to one of three BOS vessels where scrap and fluxes are added to the melt and oxygen is used to refine the iron to steel. The oxygen is blown on to the surface of the steel at supersonic velocity; the process is controlled by a complex software system that automatically adjusts the lance height during the blow period. After sampling for quality, the steel may be re-blown for a final trim or teemed into a ladle for further processing. Fume from the process is cleaned in a gas cleaning plant and vented to atmosphere through flare stacks or collected for use as a site fuel, dependant on the gas composition. The gas is a major constituent of mixed enhanced gas (MEG) used to fuel boilers and reheat furnaces on the site. Slurry from the gas cleaning plant is processed with other site arising slurries and dusts at the waste oxide briquetting (WOB) plant to produce a briquette which may be fed back into the BOS vessel (or Blast Furnace) as an iron ore replacement. After air cooling BOS Slag in prepared pits from the vessel, it is de-metalled and processed by third-party contractors. Reject slags and fines are disposed of at an on-site landfill.

Secondary Steelmaking

Following primary steel making the steel can go through a number of secondary steel making processes and intermediate storage, before being converted by continuous casting to slabs, bloom and billets. To homogenise the steel chemistry and temperature the steel may be argon stirred, following which the steel may be refined to customer requirements in a ladle arc furnace or vacuum degasser.

Continuous casting

The steel is transported to the continuous casting plant (Concast) to form slabs, blooms or billets. At Concast the steel is vertically teemed into reciprocating water-cooled copper moulds and drawn from the mould in a semi-finished partially solid state, cooling whilst it is drawn horizontal and cut to length. The plant currently consists of one slab caster, one billet caster and two bloom casters. Provision of tundish changing and sequential casting of different steel grades allow long production sequences. Cooling water from the plant is recycled and any scale collected is recycled back to the sinter process.

The slabs, blooms and billets may undergo surface treatment. Slabs and blooms can be subdivided to customer requirements. The semi-finished products can be sold or sent to hot rolling mills on site for finishing.

Hot rolling

The installation has the following Mills:

- The Rail and Section Mill which produces a variety of rails, sections and beams for use in the construction, engineering and automotive industries.
- The Rod Mill which produces rod principally for wire drawing to supply the manufacturers of tyre cord, screws, nails, etc.

The rolling process involves reheating the steel in a gas fired furnace, using site arising gases as the main fuel. Furnace control systems are used to optimise fuel use and minimise gaseous emissions. The steel is shaped in a rolling process to a finished specification, then air cooled and a variety of finishing operations carried out e.g. straightening, levelling, surface dressing, cutting to size and coating, prior to dispatch to customers. The mills have water treatment plants to remove iron rich scale which is recycled in the installation, the water being reused. Where scale becomes contaminated with oil, this can be transported to the millscale treatment pad for dewatering prior to further treatment off-site to remove the oil and/or for recycling at the sinter plant.

Site energy production

The main energy input into the installation is in the form of coal which accounts for the majority of all delivered energy. This coal is converted to coke in the Appleby coke oven plant and the arising by-product gas (Coke Oven gas) is distributed throughout the site for use as a fuel. The coke is charged into the blast furnaces where it acts as a reductant on the iron ore to produce iron. As a consequence of the ironmaking process a low calorific value gas (Blast Furnace gas) is produced. This gas is fired on the blast furnace stoves and is also distributed throughout the site as a fuel. Gas produced during steel making at the BOS plant is collected when it reaches a predetermined carbon monoxide (CO) level and is distributed throughout the site as a fuel. The above integration of energy producers and consumers enables the maximum use of the sites arising gases and minimises the use of purchased premium fuels.

The Central Power Station currently utilises works arising gases and purchased fuels (heavy fuel oil, natural gas) to produce steam for process use, space heating and electrical generation. The plant was built in 1976 and has been expanded over the succeeding years to have 2 boilers and 6 main turbo-alternators. There is a continuous demand for steam and internal electrical generation. All plant items are thus operated all year round, with some redundancy for planned stoppages. The plant has a steam raising capacity of 265 MWth, with a generation capacity of 53.6 MW. The Turbo Blower House (TBH) has an array of boilers to produce high pressure steam, primarily to drive two large turbo-blowers that provide the cold blast air to the blast furnaces. Through developments the plant also has some capacity to produce steam for process use and some electrical generation.

Water sources for the site

Process water for the integrated works is provided via abstractions from the River Trent, River Ancholme and the North Lincolnshire Boreholes. Additionally, recovered site drainage and mines water are utilised in the process. Current site water use is approximately 2.7 m^3 per tonne of liquid steel. Process wastewater and site drainage is discharged to the artificial Brumby Beck which joins the Bottesford Beck surrounding and running through the site. Coke oven effluent is pumped to a biological effluent treatment plant before final discharge to the River Trent via W10 discharge point. Discharges to surface waters is via 10 permitted points, W5 is an emergency outlet point for the BOS area.

Scunthorpe Briquetting Plant (SBP)

The SBP process is within the BOS plant mould bay area. The process recycles iron oxide solids from the basic oxygen steelmaking (BOS) vessel gas cleaning plant, iron and steelmaking gas cleaning plant dry dusts and millscale sludge from the continuous casting and rolling mill processes.

The briquettes produced are recycled into the steelmaking process as coolant additions to the steelmaking BOS vessels.

The process plant consists of three distinct units, namely, BOS slurry dewatering, blending and briquetting.

BOS slurry is pumped to a thickener tank where the densified slurry underflow is pumped via an agitator holding tank onto a bank of high-pressure filtration tube presses. The clarified overflow from the thickener and the tube press filtrate are returned to the BOS/blast furnace slurry lagoons.

The blending plant is supplied with BOS slurry filter cake by a front end loader into a concrete bunker to which millscale and black sand are added and lime at a predetermined rate to provide the required moisture content.

The mix is discharged into a mixer, blended and passed over a screen, oversize material being recycled back into the mixer. The material passing through the screen is stockpiled and allowed to cure prior to briquetting.

The stockpiled blend is then mixed with gas cleaning plant dusts. The dusts are fed from silos into a batching hopper. Polymers are then added as a binder and after a period of mixing the material is discharged onto a briquetting feed conveyor. The briquettes formed in the press are passed over a screen and stockpiled in the building, undersize material being recycled to the blending area.

There are no release points to air. All the main activities are carried out in an enclosed building to minimise fugitive emissions to air. Deliveries of lime and dusts utilise enclosed reception hoppers and containment systems.

Yarborough Metal Recovery and Slag Processing Site

The metal recovery plant takes in steel making process by-products (BOS slag and debris) and processes them to recover different size ranges of steel scrap and slag for re-use in the integrated steelworks site or transferred to a third party for further processing/use.

The metal recovery plant is a single multi-screening unit capable of screening all required size fractions of metal and slag. Slag produced at one of three different size fractions can then be further processed at secondary crushing and screening plant. Conditioning of plant feed material and the availability of a water bowser for dust suppression, minimise fugitive dust emissions to air.

Oversize metallics (>1500mm) are broken down to smaller, usable, size fractions using a magnet crane and breaker ball.

Fugitive emissions to air are further controlled by the use of enclosures, dust suppression equipment for crushing and screening plant, covered conveyors and the use of water mist sprays at strategic points. Point source emission point 139 is fitted with a dust abatement unit.

Blast Furnace Dewatering

The blast furnace dewatering facility receives waste generated by the blast furnace gas treatment plant as part of the wet scrubbing of “top gas” from the furnace. Waste slurry is initially treated via a hydro cyclone after which remains an over flow of waste slurry containing 1-3% solid matter (w/v). This waste slurry is fed into one of two lagoons where gravity separation of the solids from the water takes place. The supernatant liquor is fed back to the slurry lagoons for further treatment before being emitted to Bottesford Beck via Seraphim Lagoon and the W1 discharge.

The hydro cyclone overflow waste slurry is piped to a dewatering facility before it enters the lagoons. At the dewatering facility slurry is fed into a lamellar clarifier where it is channelled into a restricted space between inclined baffles. Particles of silt fall downwards to the base of the clarifier and collect as captured silt. The cleaner water flows upwards through the baffles and is discharged from the clarifier. This supernatant water is transferred to the slurry lagoons, for further treatment before final discharge. The captured silt is then transferred to one of two holding tanks and kept agitated via mixing blades. Once there is a sufficient quantity of the silt sludge it is pumped into a sidebar filter press. Under 7 bar pressure, passing through a polypropylene screen further water is recovered and the solid mass increased, up to 75% (w/v). These supernatant waters are returned to the lagoons and the formed filter cake is returned to site for storage and appropriate recovery or disposal. The facility can also treat waste from the Basic Oxygen Steelmaking (BOS) process within the dewatering plant. This waste is tankered directly to the dewatering plant for further processing. During times of maintenance, wastes from the blast furnace gas treatment plant will be directed to the lagoons and thereafter treated within the dewatering plant. Also, slurry from the lagoons will be treated within the dewatering plant and delivered directly to the treatment plant and slurry lagoons as clean water.

Storage and treatment of offsite wastes

The site receives offsite wastes listed in table S2.2a from nearby British Steel sites. These wastes, which include insulating and heat transmission oils, will be brought to site for storage, bulking and transfer. Street sweeping wastes listed in Table S2.2b from the wider site will be brought to site and stored.

Leachate from the adjacent Crosby North landfills operated by British Steel will be brought onto site to be treated via the biological effluent treatment plant.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of permit A: EPR/RP3206BE		
Description	**Date**	**Comments**
Application received	Received 30/08/01	Application integrated steel works
Additional information received	19/12/01	Modelling
2nd Schedule 4 information notice.	Response 17/01/02	Site condition report
3rd Schedule 4 information notice.	Response 26/04/02	General
4th Schedule 4 information notice.	Response 31/01/03	Site condition report
6th Schedule 4 information notice.	Response 06/10/03	Impact assessment
Operator submissions of additional information	21/02/03	Normanby park material
Operator submissions of additional information	11/04/03	Normanby park material
Operator submissions of additional information	07/11/03	Normanby park material
Operator submissions of additional information	28/01/04	Normanby park material
Operator submissions of additional information	05/03/04	Process update
Permit BL3838IW	Determined 25/06/04	
Variation Notice EPR/BL3838IW/V002 issued (GP3935SC)	Effective 26/11/04	
Variation Notice EPR/BL3838IW/V003 issued (SP3736LE)	Effective 28/2/07	
Variation notice EPR/BL3838IW/V004 issued (KP3739XB)	Effective 20/12/07	
Variation notice EPR/BL3838IW/V005 DP3031XC issued	Effective 30/11/09	
Variation notice EPR/BL3838IW/V006	Effective 01/11/09	

Status log of permit A: EPR/RP3206BE		
Description	**Date**	**Comments**
Variation notice EPR/BL3838IW/V007	Effective 06/08/10	
Variation & Consolidation determined EPR/BL3838IW/V008	09/05/12	Environment Agency Variation as a result of the Scunthorpe Integrated Iron and Steel Works PM10 permit review
Regulation 60(1) Notice – request for further information dated 07/06/13	Received 27/09/13	Technical standards in relation to BAT Conclusions Numbers: 1,6,7,13,18,19, 21, 22, 23, 25-32,42-47,52-55,57-58,61,62,64-68
Further request for information dated 03/03/14	Received 30/04/14	Technical standards in relation to BAT Conclusions Numbers: 2,3,4,5,8,9,10,11,12,14,15,16,17,20,24, 48,49,50,51,56, 60, 63, 69, 75, 78, 81
Further request for information dated 03/03/14	11/08/14	Technical standards in relation to BAT48,49,50 &51 Technical standards in relation to BAT56
Further request for information dated 13/02/15	27/02/15	LCP – chapter III setting ELV's
Further request for information dated	03/03/15	Dust emissions following start-up of sinter plant
Application EPR/BL3838IW/V009 (variation)	Received 11/05/15 Duly made 29/05/15	Application to add a listed activity – millscale handling & treatment (hazardous waste). Determined as part of the sectoral review incorporating 2012 BATC
Application EPR/HP3736AW/T001 (full transfer of permit EPR/BL3838IW)	Duly made 22/05/15	Application to transfer the permit in full to British Steel Limited.
Transfer determined EPR/HP3736AW	31/07/15	Full transfer of permit complete. Effective from 02/08/15
Variation EPR/HP3736AW/V002	22/12/15	Environment Agency Variation to implement TNP
Variation and consolidation determined EPR/HP3736AW/V003	12/02/16	Environment Agency Variation and consolidated permit following Metals Sector & Chapter III & Annex V permit review
Application EPR/RP3206BE/T001 (full transfer of permit EPR/HP3736AW)	Duly made 12/02/20	Application to transfer the permit in full to Jingye Steel (UK) Ltd.
Transfer determined EPR/RP3206BE	09/03/20	Full transfer of permit complete.
Notified of change of company name and registered office address	20/03/20	Company name changed to British Steel Limited and registered office address changed to Administration Building, Brigg Road, Scunthorpe, North Lincolnshire, DN16 1BP
Variation issued EPR/RP3206BE/V002	30/03/20	Varied permit issued to British Steel Limited
Part transfer, variation and consolidation application EPR/RP3206BE/V003 (Part transfer of permit EPR/BL5288IC)	Duly Made 20/11/20	Application to part transfer activity S3.5 B (b)(i) and (ii), Coke Screening and Crushing from Harsco Metals Group Limited to British Steel Limited.
Additional information received in response to request for information dated 09/11/20	20/11/20	Non-technical summary overview.
Transfer, variation and consolidation determined EPR/RP3206BE	02/12/20	Partial transfer complete. Varied and consolidated permit issued to British Steel Limited.

Status log of permit A: EPR/RP3206BE		
Description	**Date**	**Comments**
Billing reference: CP3204LX.		
Application EPR/RP3206BE/V004 (variation and consolidation)	Duly made 28/05/21	Application to vary and update the permit to modern conditions.
Additional information regarding Sinter plant derogation	18/10/21 05/11/21 25/11/21 16/12/21	Derogation justifications.
Additional information regarding Coke ovens derogation	25/11/21 30/11/21 02/12/21 06/01/22	Derogation justifications.
Schedule 5 dated 01/09/2021 Response	12/11/21	Questions 16 (A61 stack height), 17 (A58 venting, A61 capacity) 18 (coke oven proposed limit 50mg/m^3.
	19/11/21	Questions 12 (mill scale, hazardous storage) 13 (DAA referencing) 15 (waste code descriptions) 19 (discharge grid references) 20 – 30 (water discharge details)
Additional information	01/12/21	Confirmation that proposals for zinc coating and effluent treatment plan derogation are removed from the application and therefore no response provided to the schedule 5 notice 1/09/2021 questions 1 – 11.
Schedule 5 dated 09/12/2021 Response	17/12/21	Waste codes, raw materials, treatment plant sludge, Confirmation that no significant amounts of solvent are handled on site.
	14/01/22	DAA details, emissions, acceptance, furnace MWth, request remove heavy plate mill and emissions points, request remove CPS boiler 3 from permit and associated emissions points, BS landfill leachate treatment, revised site plan, Trent water abstraction treatment methods, stack A58 height assessment, mill scale pad drainage, W5 discharge details.
Request for additional information dated 06/01/2022	24/01/22	SSSI acid deposition assessment and modelling.
Request for additional information dated	11/03/22	Scrap receipt acceptance and storage monitoring and inspection, Saturator bunding and containment.
Amendment to the application - Sinter plant derogation extension documents	14/04/22	Sinter Plant derogation justification, air dispersion modelling and cost benefit analysis.
Variation determined and consolidation issued EPR/RP3206BE/V004 Billing ref: GP3801LV	15/09/22	Varied and consolidated permit issued in modern format.

Other Part A installation permits relating to installation A		
Operator	**Permit number**	**Date of issue**
Liberty Merchant Bar Plc (Previously called Caparo Merchant Bar Plc)	EPR/BR8832IJ (as varied)	22/11/17
British Steel Ltd (Yarborough Quarry Landfill)	EPR/NP3306BZ	09/03/20
British Steel Ltd (Crosby North Landfill)	EPR/ZP3606BG	09/03/20
East Coast Slag Products Limited (previously called Lafarge Tarmac)	EPR/LP3537VV	23/04/18

Status log of permit B: EPR/VP3103MJ		
Description	**Date**	**Comments**
Application BL5288 - MultiServ Application BL5296 - Short Bros	Received 30/08/01 Received 30/08/01	
Response to Schedule 4(2) information notices - Short Bros	10/03/03	Response to Section 2.1 - Short Bros.
Response to request for information - MultiServ	Response dated 31/01/03	Request dated 22/04/02
Response to request for information - MultiServ	Response dated 20/03/03	Request dated 13/03/03
Operator submissions of additional information - MultiServ	Submission dated 26/11/01 Submission dated 19/05/03 Submission dated 28/07/03	BOS refractory reclamation New metal recovery plant / application update Further metal recovery plant information.
Permit BL5296 - Short Bros	Determined 31/03/03	
Permit BL5288 - MultiServ	Determined 31/03/04	
Variation HP3035LC including transfer and consolidation of Permit BL5296.	Determined 03/05/07	
Variation EPR/BL5288IC/V003	Determined 09/05/12	Environment Agency variation PM_{10} review
Regulation 60 Notice dated 13/10/13	Received 31/01/14	Technical standards detailed in the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production
Application EPR/BL5288IC/V004 to include a new listed activity for slag & ash handling & treatments part of the BATC sector permit review	Received 08/10/15	Application relates to existing waste treatment activities above IED threshold for scheduled activity (a newly prescribed activity). Determined as part of the metal sector review incorporating 2012 BAT Conclusions

Status log of permit B: EPR/VP3103MJ		
Description	**Date**	**Comments**
Variation EPR/BL5288IC/V004	08/03/16	Metal Sector review. Varied and consolidated permit issued in modern condition format.
Part transfer variation and consolidation application EPR/BL5288IC/T005 (Part transfer of permit EPR/BL5288IC)	Duly Made 20/11/20	Application for the part transfer of the permitted section 3.5 B (b)(i) and (ii), Coke Screening and Crushing activity to British Steel Limited
Transfer, variation and consolidation determined EPR/BL5288IC Billing Ref: WP3409LV	02/12/20	Partial transfer complete. Varied and consolidated permit issued to Harsco Metals Group Limited
Application EPR/VP3103MJ/T001 (full transfer of permit EPR/BL5288IC)	Duly made 29/04/21	Application to transfer the permit in full to British Steel Limited.
Transfer determined EPR/VP3103MJ	09/05/21	Full transfer of permit complete.
Application EPR/RP3206BE/V004 (variation and consolidation)	Duly made 28/05/21	Application to vary and update the permit to modern conditions.
Variation determined and consolidation issued EPR/RP3206BE/V004	15/09/22	Varied and consolidated permit issued in modern format. Permit number ceases and is replaced by permit number EPR/RP3206BE.

Status log of permit C: EPR/VP3007SH		
Description	**Date**	**Comments**
Application EPR/TP3731UE/A001	Duly made 04/09/07	
Additional information	29/11/07	Process and effluent streams.
Additional information	13/12/07	Detailing planning status of the installation and processes.
Permit determined	02/05/08	
Agency variation determined EPR/TP3731UE/V002	18/12/13	Agency variation to implement the changes introduced by IED.
Response to Regulation 60 Notice dated 17/12/13	25/03/14	Technical standards detailed in response to BAT Conclusions 1-18, 66-68 of the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production.

Status log of permit C: EPR/VP3007SH		
Description	**Date**	**Comments**
Additional information	01/09/15	Company named changed to Tube City IMS UK Limited.
Environment Agency variation determined EPR/TP3731UE/V003	08/03/16	Metal sector review. Varied and consolidated permit issued in modern condition format.
Notified changed of Company Name	11/12/18	Name changed to TMS INTERNATIONAL SERVICE UK LIMITED.
Variation issued EPR/TP3731UE/V004	19/12/18	Varied permit issued to TMS INTERNATIONAL SERVICE UK LIMITED.
Application EPR/VP3007SH/T001 (full transfer of permit EPR/TP3731UE)	Duly made 01/09/20	Application to transfer the permit in full to British Steel Limited.
Transfer determined EPR/VP3007SH	01/09/20	Full transfer of permit complete.
Application EPR/RP3206BE/V004 (variation and consolidation)	Duly made 28/05/21	Application to vary and update the permit to modern conditions.
Variation determined and consolidation issued EPR/RP3206BE/V004	15/09/22	Varied and consolidated permit issued in modern format. Permit number ceases and is replaced by permit number EPR/RP3206BE.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulations 18 and 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates environmental permits

Permit number

EPR/RP3206BE

EPR/VP3107MJ

EPR/VP3007SH

Issued to

British Steel Limited ("the operator")

whose registered office is

Administration Building
Brigg Road
Scunthorpe
North Lincolnshire
DN16 1XA

company registration number 12303256

to operate part of a regulated facility at

Scunthorpe Integrated Iron & Steelworks
Brigg Road
Scunthorpe
North Lincolnshire
DN16 1XA

to the extent set out in the schedules.

The notice shall take effect from 15/09/2022

The number of the consolidated permit is EPR/RP3206BE.

Name	Date
Peter Maksymiw	**15/09/2022**

Authorised on behalf of the Environment Agency

Schedule 1

Note: The condition numbers used in this schedule refer to those in the consolidated permit.

The following conditions were varied by the consolidated permit EPR/RP3206BE/V004 **as a result of the application made by the operator:**

Permit amendments

- Amended 2.1.2 - to reference only waste activities
- Amended 2.2.1 - to reference revised site boundary
- Amended 3.1.1 - to reference new emission table S3.9 due to consolidation
- Amended 3.1.3 and 3.1.4 - to remove reference to Schedules 3(a), 3(b) and 3(c) and amend table references
- Amended 3.5.1 - to remove reference to Schedules 3(a), 3(b) and 3(c) and add table S3.9
- Amended 3.5.4 - to reference table S3.9 due to consolidation
- Amended 3.6.7 - to remove reference to Schedules 3(a), 3(b) and 3(c)
- Amended 3.7.1 - Air quality management plan condition
- Amended 4.2.5 - to reference only waste activities
- Amended Table S1.1 as follows:
    - AR1 - amend reference to fuels used
    - AR2 - add tunnel furnace
    - AR3 - include a date for closure of the coke ovens
    - AR4 - reference waste tables
    - AR5 - update the limits to reference steel scrap and reference waste tables
    - AR8 - reference waste tables
    - AR9 - reference waste tables
    - AR10 - delete AR10 as Dawes Lane Coke Oven (DLCO) is demolished and renumber subsequent activities
    - AR11 - add description, add leachate treatment and reference wastes tables
    - AR12 - add description, add leachate treatment and reference wastes tables
    - AR13 - reference waste tables
    - AR15 - add activity for the storage of hazardous waste under section 5.6 A(1)(a)
    - AR16 - consolidate S5.4 A(1) (a) (ii) into the permit
    - AR17 - consolidate S5.4 A(1) b) (iii) into permit
    - AR18 - consolidate S3.5 B (a) into the permit
    - AR24 - add new DAA for cutting and surface rectification
    - AR28 - add new DAA for the reception of non-hazardous waste
    - AR29 - add new DAA for the storage of street sweeping waste
- Amended Table S1.2 to:
    - Reference the most up to date operating techniques documents, application documents, requests for information and remove out of date aspects
    - Reference documents for completed Improvement conditions IC4, IC5, IC6, IC7 and IC9
    - Reference the revised data handling procedure
    - Reference the operating techniques for the new saturator
    - Reference stack height change for emissions point A58 from 45.7m to 36m
    - Reference addition of a 50m tall new stack for new emission point A307
    - Reference the scrap acceptance procedures
    - Reference raw materials and wastes spreadsheet
- Amended Table S1.3 to:
    - Mark IC2 and IC3 as withdrawn due to derogation
    - Mark reference IC4, IC6 and IC7 as completed
    - Add IC10a, IC10b, IC11a, IC11b, IC12a, IC12b, IC12c, IC13, IC14, IC15(a,b,c,d), IC17, IC18

- Amended Raw materials Table S2.1 to include only restrictions which affect environmental impact and performance
- Amended waste tables to:
    - Add and split up waste tables to clearly specify the waste types under each activity
    - Update Hazard codes and site tonnages
    - Remove EWC codes 10 03 27*, 10 03 28 and 19 12 07
    - Add EWC waste codes 19 07 03, 19 08 12 to allow landfill leachate to be treated via Activity AR11 and AR12 (biological effluent treatment plant)
- Amended Table S3.0 to:
    - Remove emission points A129, A130, A131 – Heavy Plate Mill
    - Add emission points A139, consolidation Yarborough permit
    - Remove A301, A304, A306, A308, A309, A310, A311, A312, A313, A315 and A316 as Dawes Lane coke ovens not operational
    - Add 307A for Appleby Coke Oven gas flare new stack
- Removed Schedule 3(a) and Schedule 3(b) from the permit as the condition dates have expired
- Amended Table S3.1 to:
    - Amend emission limit value for A1 to apply daily mean limit of 100 mg/Nm3 for particulates in line with Sinter plant derogation
    - Add note for A1 shutdown periods
- Amended Table S3.2 to:
    - Amend ACO coke oven battery 1-4 DLCF, TLCF, PEF and MEF limits, monitoring frequency and monitoring standards based on IC4 completion
    - Amend ACO coke oven battery 1-4 to change ‘Mass Emission Factors’ (MEFs) to ‘Visible Emissions from Charging’ as referred to in BAT 44
    - Add limit for Door Leakage Control Factors (All batteries)
    - Add Top Leakage Control Factors (All batteries)
    - Amend the limit for coke pushing in line with the coke oven derogation (all batteries)
    - Amend A302 and A303:
        - Obscuration monitoring wording
        - Add emission limit for particulate emissions from under firing in line with derogation
        - Amend emission limit for sulphur oxides in line with derogation
        - Amend NOx monitoring and reference period due to IC6 completion
    - Remove reference to Dawes Lane coke ovens DLCO 1-3
    - Remove A301, A304, A305, A306, A307, A308, A315 and A316
    - Amend particulate matter limit for A324 and A325 in line with derogation
    - Revise table notes
    - Add point A307A flare stack to replace A307 once constructed
- Amended Table S3.4 to:
    - Amend air emission points A54, A55, A56 to remove emission limit values
    - Amend monitoring frequency and methodology for air emission point A78
- Added new Table S3.7 and emission point references A139 and A140 due to permit consolidation
- Amended existing Table S3.7 reference to Table S3.8
- Amended existing Table S3.8 reference to Table S3.9
- Amended Table S3.9 to:
    - Remove Total organic carbon (TOC) limits and monitoring and amend monitoring frequency for biological oxygen demand for 5 days (BOD5) at water discharge points W1, W2, W3, W4, W6, W7 and W9
    - Amend pH reference period to daily mean for W1, W3, W4, W6, W7, W9 and W10
    - Amend Chlorine reference period and monitoring frequency for W3, W4, W6
    - Remove emission limits from W5, W8
    - Amend heavy metal monitoring frequency at W7
    - Remove phenol monitoring at W9
- Amended Reporting Table S4.1 to:
    - Amend particulates A3 and A9 reporting to annual

    - Remove reference to DLCO 1-3
    - Remove reference to A301, A308 and A316
    - Remove reference to A201/3
    - Remove W5 and W8
    - Add A139 and A140
- Amended Table S4.2 to add scrap metal melted, dewatered sludge and filter cake tonnages
- Amended Table S4.3 to:
    - Add energy usage and process down time for Activity AR16 due to consolidation
    - Amend A302 and A303 parameters
- Amended Table S4.4 to update, add and remove forms:
    - Replace air emissions reporting form air 1 to 30 with Emissions to Air form
    - Replace forms water 1-6 with Emissions to water form
    - Remove TNP form as obsolete
    - Remove form IED CON2 as no gas turbines
    - Added form IED CON1 for LCP boilers
    - Amend waste return form to E-waste returns
    - Replace performance reporting forms due to consolidation
    - Replace energy form due to consolidation
- Updated site plan at Schedule 7 showing biological effluent treatment plant boundary and revised permit boundary plan due to consolidation.
- Amended Annex to conditions – Derogation under Industrial Emissions Directive to reference latest derogations.

The following conditions were varied by the consolidated permit EPR/RP3206BE/V004 as a result of an **Environment Agency initiated variation:**

- Amended 2.3.6 to reference revised schedule 2 waste tables
- Amended 4.2.2 (c) to reference table S4.4 reporting forms
- Deleted 4.2.2 (d) due to change in referencing process monitoring
- Amended 4.2.3 (b) to reference table S4.4 reporting forms
- Amended 4.2.7 to reference table S4.4 reporting forms
- Amended 4.3.2 to latest notification requirement
- Amended Table S1.1 to:
    - Amend AR19 - AR22, AR25 - A27 to clarify wording
    - Add AR23 DAA for treatment of abstracted water
- Amended Table S1.3 to:
    - Amend IC8 completion date to reference variation number
    - Add improvement conditions 16a, 16b, 16c,16d
- Amended Waste tables in schedule 2 to remove EWC codes as they are wastes produced on site.
    - 05 01 05*
    - 05 01 06*
    - 10 02 07*
    - 10 02 08
    - 10 02 13*
    - 10 02 14
    - 10 02 15
    - 10 02 99
    - 13 05 01
    - 13 05 03
    - 13 05 07*
    - 13 05 01*
    - 13 05 03*
    - 19 02 03
    - 19 02 05*

- Amended Tables S1.4, S3.0, S3.6, S3.8 and S4.1 to remove CPS boiler 3 as it is decommissioned
- Amended Table S3.0 to:
    - Add A24 - Gas Holders (Blast Furnace)
    - Add A62 - Gas Holder (BOS)
- Amended Table S3.1 to:
    - Amend A1 Dioxins limit and increase monitoring frequency to quarterly due to derogation and add reference to improvement condition IC13
- Amended Table S3.2 to:
    - Split ACO coke ovens into single batteries
    - Amend monitoring method and include reference to IC17 in table S3.2 (coke ovens) for all batteries
    - Amend monitoring requirements and limit for obscuration for A302 and A303 so current limit applies until IC12a, IC12b and IC12c are completed
    - Amend A302 and A303 to add monitoring for PAH and Dioxins due to derogations
- Amended Table S3.3 to:
    - Add reference to IC1 for monitoring frequency for A18, A19
- Amended Table 3.9 to:
    - Add reference to IC15c for Ammoniacal Nitrogen limit at W1
    - Amend monitoring frequency for cyanide limit subject to IC16 for W9
- Added Table S3.10 process monitoring to include obscuration monitoring once IC12a, 12b and 12c have been completed and add process monitoring which was incorrectly included in table S4.4
- Amended Table S4.1 to:
    - Amend dioxin reporting to include coke ovens points A302 and A303
    - Reference the requirements for reporting process monitoring
    - Split reporting requirement for PAH and dioxins into separate rows
- Merged Table S4.4 with Table S4.3 to correct performance monitoring and re-named as Table S4.3 and:
    - Remove hydrogen sulphide process monitoring as obsolete
    - Removed process monitoring and included it in Table S3.10
    - Add separate rows for flare and pressure relief mass emissions from A305
- Amend Table S4.5 to table S4.4 due to reporting table renumbering
    - Reference new air, water, process monitoring, water usage. Energy usage and performance indicator forms
    - Add Form IED AR1 for reporting mass emissions and energy for LCPs

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/RP3206BE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/RP3206BE/V004 authorising,

British Steel Limited ("the operator"),

whose registered office is

Administration Building
Brigg Road
Scunthorpe
North Lincolnshire
DN16 1XA

company registration number 12303256

to operate part of an installation at

Scunthorpe Integrated Iron & Steelworks
Brigg Road
Scunthorpe
North Lincolnshire
DN16 1XA

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Peter Maksymiw	**15/09/2022**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

1.5 Multiple operator installations

1.5.1 Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

1.5.2 Within the installation boundary, notwithstanding the requirements of other issued Part A installation permits relating to this installation, the Iron and Steel works Operator shall take initial responsibility for investigating all complaints made against the Installation in accordance with condition 1.1.1, whether directly or indirectly caused, for the purpose of establishing the cause of the complaint and establishing any actions necessary to prevent a re-occurrence.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR11, AR12, AR13, AR15, AR16, and AR17), waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit, which is within the area edged in green on the site plan that represents the extent of the installation covered by this permit and those of other operators of the installation.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 For the following activities referenced in schedule 1, table S1.1 (LCP341, LCP342 and LCP343) and without prejudice to condition 2.3.1, the activities shall be operated in accordance with the "Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines" dated February 2015, or any later version unless otherwise agreed in writing by the Environment Agency.

2.3.3 For the following activities referenced in schedule 1, table S1.1 (LCP341, LCP342 and LCP343) the end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, Tables S1.2 and S1.4.

2.3.4 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.5 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.6 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4a, S2.4b, S2.5a, S2.5b, S2.6, S2.7, S2.8, S2.9, S2.10, S2.11; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

Hazardous waste storage and treatment

2.3.9 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.0, S3.1, S3.2, S3.3, S3.4, S3.5, S3.6, S3.7, S3.8 and S3.9.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Total annual emissions from the LCP341, LCP342 & LCP343 emission points set out in schedule 3 table S3.6 of a substance listed in schedule 3 table S3.8 shall not exceed the relevant limit in table S3.8.

3.1.4 Where a substance is specified in schedule 3 table S3.9 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.5 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1, S3.2, S3.3, S3.4, S3.5, S3.6, S3.7 and S3.9;

(b) process monitoring specified in table S3.10.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall

have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2, S3.3, S3.4, S3.5, S3.6, S3.7 and S3.9 unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III

3.6.1 All monitoring of large combustion plant required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.

3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in schedule 3, the operator shall:

(a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and

(b) implement the approved proposals.

3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.

3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.7 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.

3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.

3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.6 the Continuous Emission Monitors shall be used such that;

(a) For the continuous measurement systems fitted to the LCP release points defined in table S3.6 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval.

(b) The 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%.

(c) The 95% confidence interval for dust releases of a single measured result shall be taken to be 30%

(d) The 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%

(e) An invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour

period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing.

(f) Any day, in which more than three hourly average values are invalid shall be invalidated.

3.7 Air Quality Management Plan

3.7.1 The Operator shall submit a written Air Quality Management Plan (AQMP) to the Environment Agency by the 30 June each year. The plan must contain appropriate measures aimed at addressing emissions of Particulate Matter (PM_{10}) and Polycyclic Aromatic Hydrocarbons (PAHs) from both significant point sources and diffuse sources on site. The measures should be targeted to address the most polluting sources on site and based on a review and analyses of measured stack releases and ambient data. The plan must take account of existing knowledge, evidence and information, particularly source and emissions inventories (point and fugitive), dispersion modelling methodology and tools, relevant meteorology, any differences in modelling with actual impact (local monitoring network evidence), assumptions made and uncertainties.

Where appropriate, the plan shall contain dates for the implementation of individual measures to prevent or, where not practicable, minimise those emissions with significant contribution to any exceedance of EU air quality limit values, objectives or targets for each of the substances in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland (as amended).

3.7.2 The AQMP should be updated and reported annually taking account of any new knowledge, evidence and information. The annual report shall include written descriptions of the improvements made during the year, action plans developed and planned improvements for the coming year; performance, and the success of previous years improvement measures should be demonstrated by an analysis of results. Where appropriate, the report shall contain dates for the implementation of individual measures to prevent or, where not practicable, minimise those emissions with significant contribution to any exceedance of EU air quality limit values, objectives or targets for each of the substances in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland (as amended).

3.7.3 Any revised AQMP should be implemented in place of the original in accordance with conditions 3.7.1 and 3.7.2 unless otherwise agreed in writing.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production/treatment data set out in schedule 4 table S4.2;

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 For the following activities referenced in schedule 1, table S1.1, AR11, AR12, AR13, AR15, AR17 and AR29, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.6 Within 10 days of the notification of malfunction or breakdown the operator shall submit an Air Quality Risk Assessment as outlined in the IED Compliance Protocol (condition 2.3.2).

4.2.7 For the following activities referenced in schedule 1, table S1.1: LCP 341, LCP 342 and LCP 343, unless otherwise agreed in writing with the Environment Agency, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form IED RTA1, listed in table S4.4, the information specified on the form relating to the site's mass emissions.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made without delay in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR1	1.1 A(1) (a) Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	LCP341: Central Power Station: 265 MWth (aggregated) LCP342: Turbo Blower House Boilers 1-4, 156 MWth (aggregated) LCP343: Turbo Blower House Boilers 5-6, 108 MWth (aggregated) Generating (steam and electricity) from natural gas, gaseous fuel mixtures and back up heavy fuel oil.	From receipt of raw materials, the combustion of fuels for energy generation for use on site to the discharge of exhausts gases.
AR2		Reheat walking beam furnace: 93.1 MWth Walking beam reheat furnace 3: 84.7 MWth Tunnel furnace: 5 MWth	2 reheat furnaces and 1 tunnel furnace - Gaseous fuels and reheating of billets and blooms ready for hot rolling.
AR3	1.2 A(1) (c) Gasification or liquefaction of coal,	Coke making	From receipt of raw materials to finished product. The Appleby coke ovens shall not operate after 31/12/2026
AR4	2.1 A(1) (a) Roasting or sintering metal ore, including sulphide ore, or any mixture of iron ore with or without other materials.	Sintering	Preparing iron ore, recycled iron oxides and associated raw materials to produce sinter. Waste types as per tables S2.5a and S2.5b
AR5	2.1 A(1) (b) Producing, melting or refining iron or steel or any ferrous alloy	3 Blast Furnaces / BOS Vessels / Secondary Steelmaking / Continuous Casting	Converting sinter, iron ore, coal and coke into liquid iron and the conversion of iron and iron or steel scrap into steel, including agreed secondary ferrous metal processing. Continuous casting of steel into bloom, billet and slab. BOS - Waste types as per table S2.4a and S2.4b

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR6	2.1 A(1) (c) Processing ferrous metals and their alloys by using hot-rolling mills with a production capacity of more than 20 tonnes of crude steel per hour.	Hot rolling mills	Rolling hot slabs, blooms and billets into rolled products for sale or further processing.
AR7	2.1 A(1) (d) Loading, unloading or otherwise handling or storing more than 500,000 tonnes in total in any 12-month period of iron ore, except in the course of mining operations, or burnt pyrites.	Iron ore storage and handling	The receipt, storage and transfer of iron ore and associated raw materials (includes unloading).
AR8	2.1 B (c) Desulphurising iron, steel or any ferrous alloy.	Iron Desulphurisation	Receipt of molten iron to the dispatch of molten desulphurised iron. Waste types as per table S2.6
AR9	3.5 B (b) (iii) Loading or unloading petroleum coke, coal, coke or any other coal product except unloading on retail sale	Loading/unloading coal and coke	From receipt of materials to their dispatch to process. Waste types as per table S2.7
AR10	4.3 A(1) (a) Producing (including any blending which is related to their production) phosphorus-, nitrogen- or potassium-based fertilisers (simple or compound fertilisers).	Chemical Fertiliser Production: ACO Ammonium Sulphate	From receipt of materials to dispatch of product.
AR11	5.4 A(1) (a) (i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment , and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment.	(BETP) Effluent treatment plant (i) biological treatment; Treatment of non-hazardous waste for the purpose of disposal D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Collecting, treating and separation of the aqueous effluent produced by the installation. Treatment of leachate arising from the adjacent British Steel-operated landfill site at Crosby North (EPR/CP3036AJ). Waste types as specified in table S2.8

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR12	5.4 A(1)(a) (ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment.	(BETP) Effluent treatment plant (ii) physico-chemical treatment; Treatment of non-hazardous waste - ferrous slurry conditioning for the purpose of disposal D9: Physico-chemical treatment which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Collecting, treating and separation of the aqueous effluent produced by the installation. Treatment of leachate arising from the adjacent British Steel-operated landfill site at Crosby North (EPR/CP3036AJ) Waste types as specified in Table S2.8
AR13	5.3 A(1)(a) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day	ii) physico-chemical treatment Treatment of hazardous waste for the purpose of recovery R4: Recycling/reclamation of metals and metal compounds Treatment of slurry from blast furnace operations D9: Physico-chemical treatment which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Mill scale handling and treatment (Oily Millscale Pad). Waste types and quantities as specified in Table S2.9
AR14	3.5 B (b)(i) and (ii), (i) crushing, grinding or otherwise breaking up coal, coke or any other coal product; (ii) screening, grading or mixing coal, coke or any other coal product	Crushing, grinding or otherwise breaking up coal, coke or any other coal product	From receipt of materials to dispatch of product, including the storage and handling of wastes.
AR15	Section 5.6 A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50	Storage of hazardous waste	Maximum quantity of waste stored shall not exceed 4,000 tonnes at any one time

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
	tonnes pending any of the activities listed in Sections 5.1, 5.2, 5.3	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)	Hazardous waste types as specified in tables S2.2, S2.4b, S2.5b, S2.7 S2.9, S2.10
AR16	5.4 A(1)(a) (ii)– Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment	Physcio-chemical treatment of non-hazardous waste from Scunthorpe Integrated Steelworks Blast Furnace and Basic Oxygen Steelmaking (BOS) processes. Lamella clarifier operation D9: Physico-chemical treatment which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 Onsite storage of non-hazardous waste pending filter press operations R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced) Filter press operation	Hydro cyclone Slurry dewatering. From receipt and storage of slurry from Scunthorpe Integrated Steelworks to dispatch of filter cake and supernatant water from the permitted site being the land marked in green on schedule 7 site plan.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
		R4: Recycling/reclamation of metals and metal compounds R5: Recycling/reclamation of other inorganic materials D9: Physico-chemical treatment which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	
AR17	S5.4 A(1) b) (iii) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day Treatment of slags and ashes	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving treatment of slags and ashes Treatment for the purpose of recovery of non-hazardous waste aggregate R5: recycling/reclamation of other inorganic materials	Transport, handling and tipping of molten slag in the designated working area and all subsequent processing. The recovery of metal from slag and all other sources within the designated working area. Waste types and quantities as specified in Table S2.11
AR18	S3.5 B (a) Crushing, grinding or other size reduction, other than the cutting of stone, or the grading, screening or heating of any designated mineral or mineral product except where the operation of the activity is unlikely to result in the release into the air of particulate matter.	BOS refractory reclamation	Receipt of raw materials to the supply of finished products including the storage and handling of wastes.
Directly Associated Activity			
AR19	Directly associated activity	Hot metal and molten slag transfers/tipping, handling and recovery	Within the steelworks installation producing coke, iron and steel.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR20	Directly associated activity	Collection and use of Blast Furnace, Basic Oxygen Steelmaking and Coke Oven fuel gases.	Within the steelworks installation producing coke, iron and steel.
AR21	Directly associated activity	Slag handling, acceptance and storage, including pit operations and granulating operations.	Within the steelworks installation producing coke, iron and steel. Waste as per Table S2.11
AR22	Directly associated activity	Storage and treatment of intermediate or waste products (e.g. “reverts” and waste oil).	Within the steelworks installation producing coke, iron and steel.
AR23	Directly associated activity	Treatment of abstracted water	Separation, filtration, flocculation, treatment with ferric sulphate and settlement of only water abstracted from the River Trent.
AR24	Directly associated activity	Cutting and surface rectification	Cutting and surface rectification of semi-finished products (e.g. slabs, blooms, billets) following the casting of steel at Concast and authorised abated emission points.
AR25	Directly associated activity	Iron and Steel by-product briquetting	Briquetting of ferrous residues and reverts.
AR26	Directly associated activity	Slab slitting	Within the steelworks installation producing coke, iron and steel.
AR27	Directly associated activity	Scrap processing associated with hot rolling mills	Within the steelworks installation producing coke, iron and steel.
AR28	Directly associated activity	Reception, treatment and storage of non-hazardous waste including scrap metal for the purpose of iron and steel manufacture R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) R4: Recycling/reclamation of metals and metal compounds	Treatment operations shall be limited to physical treatment including screening, crushing, baling, shearing and pelletising for the purpose of recovery. Non-hazardous Waste types as specified in table S2.4a
AR29	Directly associated activity	Street sweeping storage	From receipt and off-loading from site road cleaning

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			vehicles through to collection and dispatch from site. Street sweeping waste as specified in table S2.3

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to question 2.3 given in Sections 2.3.1 to Section 2.3.27 of the application	30/08/01
Application	The response to questions 2.1 to 2.12 of the original MultiServ and Short Bros. Applications.	30/08/01
Additional information submission	All information submitted in relation to operating techniques	26/11/01 19/05/03 28/07/03
Response to Schedule 4(2) information notices	Response from Short Bros. Response to Section 2.1 and 2.2.1 MultiServ	10/03/03 20/03/03
Response to Schedule 4 Notice(5) dated 13/03/03	Response to the following: Section 2.3.2, questions 1-5, Section 2.3.3, questions 1-8, Section 2.3.4, questions 1-3, Section 2.3.5, questions 1-5, All questions contained within Section 2.3.6, All questions contained within section 2.3.7, Section 2.3.18, question 1	30/05/03
Additional information submissions	All Parts	21/02/03, 1/04/03, 07/11/03, 28/01/04, 05/03/04
Application for Permit Variation	All information submitted in relation to operating techniques of the lancing booth.	11/01/06
Operator submission concerning Continuous Casting, Scunthorpe Rod Mill and Medium Section Mill	All parts	26/05/06
Application	The response to questions 2.1 and 2.2 in the Application.	04/09/07
Additional information submission	Regarding process and effluent streams. Receipt of additional information to the application	29/11/07
Additional information submission	Responses to question detailing planning status of the installation and processes.	15/02/08
Operator submission concerning replacement of Hot Metal Pour and Hot	All parts	24/07/08

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Metal Desulphurisation fume cleaning systems and installation of another slab scarfer at Concast		
Operator submission to operate installed and commissioned raw coke oven gas bleeder flares at both Appleby and Dawes Lanes Coke Ovens.	All parts	30/9/08
Variation & Consolidation determined EPR/BL3838IW/V008	Environment Agency Variation as a result of the Scunthorpe Integrated Iron and Steel Works PM10 permit review	09/05/12
Regulation 60(1) Notice – request for further information dated 07/06/13	Technical standards in relation to BAT Conclusions Numbers: 1,6,7,13,18,19, 21, 22, 23, 25-32, 42-47, 52-55, 57-58, 61, 62, 64-68	27/09/13
Response to Regulation 60 Notice dated 13/09/13	Technical standards detailed in response to BAT Conclusions 1-18, 52, 68, 69, 79 and 82 of the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production	31/01/14
Response to Regulation 60 Notice dated 13/09/13	Technical standards detailed in response to BAT Conclusions 1-18, 66-68 of the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production.	25/03/14
Further request for information dated 03/03/14	Technical standards in relation to BAT Conclusions Numbers: 2,3,4,5,8,9,10,11,12,14,15,16,17, 20, 24, 48, 49, 50,51, 60, 63, 69, 75, 78, 81	30/04/14
Further request for information dated 03/03/14	Technical standards in relation to BAT 48,49,50,51 & 56	11/08/14
Further request for information	Further information on LCP LCP – Chapter III report setting ELVs	28/09/14
Change of Operation	Letter titled "ACO Gas Holder (No.1) basin - Change of use for Emergency Storage of Effluent (Coke Oven)"; 4 November 2014.	04/11/14
Further request for information dated 13/02/15	Further information on LCP LCP – Chapter III report setting ELVs, excluding abnormal conditions when burning HFO.	27/02/15

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Further request for information dated	Dust emissions following start up of sinter plant	03/03/15
Application EPR/BL3838IW/V009 (variation)	Technical standards for millscale handling & treatment (hazardous waste). Excluding requirement for WAMITAB-certified technically competent management	11/05/15
Response to Improvement Condition IC1 in part	Completed for BATc 3, 8, 10, 11, 16, 25, 26, 56, 60, 62, 67 and 81 as written reports setting out progress to meeting BAT by 8th March 2016, except for BAT 59 and 65.	08/03/16
Response to Improvement Condition IC4	Coke Oven fugitive emissions visual monitoring limits as a percentage and methodology to be applied to battery doors and battery top leakage (BAT 46) and coal charging (BAT 44). Report "Proposed limits to be applied to door and top leakage assessments at Scunthorpe coke ovens and BAT-C 44/46 Monitoring methodology". Compliance Assessment Report ID: HP3736AW/0288865.	29/02/16
Response to Improvement Condition IC5	Measures to be taken to install a continuous Oxygen monitor to measure the oxygen content of the exhaust gas from emission point A1 of the Sinter Plant. Compliance Assessment Report ID: HP3736AW/0359296	25/02/16
Response to Improvement Condition IC6	For Appleby coke oven battery stacks A302 and A303, continuously monitor nitrogen oxides arising from under firing (as NOx corrected to 5% oxygen standard) as daily mean values as required by BATc 49 (III). Letter dated 26 January – Appleby coke ovens monitoring demonstrated compliance to BATc 49 (III) by battery design and periodic sampling waiving the requirement for CEMs.	09/02/16
Response to Improvement Condition IC7	Summary report to confirm by the results of calibration and verification testing that the performance of Continuous Emission Monitors for parameters as specified in Schedule 3 Table S3.1 emission point A1 complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3. IC 7 document HP3736_0930.	09/12/16
Response to Improvement Condition IC9	Report provided the net rated thermal input for LCP341, LCP342 and LCP343. Compliance Report ID: RP3206BE/0367732.	10/01/17
Change to MCert certified monitors	Email confirmation of MCERTS certificated pH monitors (for Hach SC1000 units) being installed at W1, W3, W4, W6, W7, W9 and W10 (tie in with the new oil monitors BETP).	21/02/18

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Further requested information dated 09/11/20 EPR/RP3206BE/V003	Non—technical summary coke crush 2.	20/11/20
Application EPR/RP3206BE/V004	Supporting Document reference RP3206BE_1 V2. Data handling methodology - Appendix 2 agreement on data handling with respect to continuous monitors and reporting average results.	28/05/21
Response to Schedule 5 Notice dated 01/09/21	Schedule 5 response letter Questions 16 A61 stack height 17 A58 connection with A61	12/11/21
	Schedule 5 response letter Questions 12 - Mill scale operations and tonnages 15 - Waste types justifications 21 - Water monitoring random samples 25 - W9 detail	19/11/21
Response to Schedule 5 Notice dated 09/12/21	Schedule 5 response letter - Answer to question 16 (waste code 19 08 12 source) WOB Briquette EMS Spec document	17/12/21
	Scrap reception and inspection procedure.pdf Schedule 5 response letter questions 1 - Non-hazardous/scrap waste activity detail 5 - Dust emissions S5.6 8 – Reheat furnace detail 9- CPS Boiler 3 (A201/3) decommission 10 - Leachate from Crosby North landfill 12 - Abstraction of water and treatment 15 - Activity 5.6 drainage system	14/01/22
Additional information response	Information supplied in response to email questions received 27/01/22. Information response letter responses to questions: 2. Waste type descriptions from offsite for storage only and street sweepings 3. Hazardous property codes 6. Scrap metal acceptance and storage locations Appleby Coke Oven (ACO) By-Products Ammonia Removal ACO Saturator operating techniques description	11/02/22
Request for information response	• AFCO Saturator No 4 Bund capacity D01 report • Scrap acceptance procedure documents	11/03/22

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
	- 02.01 Scrap Reception and Inspection work instruction - 02.06 scrap radiation monitoring equipment work instruction - British Steel Scunthorpe scrap quality manual	
Additional information response	British Steel Raw Materials and Wastes Permitted for use or transfer at Scunthorpe LADK-CGVE5C	07/09/2022

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	For BATc 59 and 65 the operator shall submit a written report setting out progress to meeting BAT.	3 months after permit issue
IC2	For BATc 48 & 49 the operator shall submit a written report setting out progress to achieving the ELVs where derogation has been granted. The report shall include, but not be limited to the following: Current performance against the ELV after derogation period has elapsed for sulphur oxides (SO_X), expressed as sulphur dioxide (SO_2) of 500 mg/Nm^3. Associated targets / timelines for reaching compliance by 8th March 2019 for Dawes Lane Coke Ovens and Associated targets / timelines for reaching compliance by 31st January 2022 for Appleby Coke Ovens. Any alterations to the initial plan submitted on 11/8/2014.	Withdrawn
IC3	For BATc 49, 50 and 51 the operator shall submit a written report setting out progress to achieving the ELVs where a derogation has been granted. The report shall include, but not be limited to the following: Current performance of dust emissions arising from under firing, coke pushing and coke quenching against the ELV after derogation period has elapsed. Associated targets / timelines for reaching compliance on Dawes Lane and Appleby Coke Ovens by 8th March 2024. Any alterations to the initial plan submitted on 11/08/14.	Withdrawn
IC4	Completed Submit a written methodology and plan to the Environment Agency for approval for assessing visible emissions from the coke oven batteries. The methodology shall be as equivalent to BATc 44 and 46 requirements. The Operator shall implement the methodology and plan in accordance with the Environment Agency's written approval.	Completed
IC5	Completed Submit a written plan to the Environment Agency for approval on the measures to be taken to install a continuous Oxygen monitor to measure the oxygen content of the exhaust gas from emission point A1 of the Sinter Plant.	Completed

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	Where appropriate, the plan shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan. The Operator shall implement the plan in accordance with the Environment Agency's written approval.	
IC6	Submit a written plan to the Environment Agency for approval of the measures to be taken to install commission and calibrate MCERT Continuous Emission Monitors by 8th March 2016 to Appleby coke oven battery stacks A302 and A303. These are to continuously monitor nitrogen oxides arising from under firing (as NOx corrected to 5% oxygen standard) as daily mean values as required by BATc 49 (III). Where appropriate, the plan shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan. The Operator shall implement the plan in accordance with the Environment Agency's written approval.	Completed
IC7	Submit a written summary report to the Environment Agency to confirm by the results of calibration and verification testing that the performance of Continuous Emission Monitors for parameters as specified in Schedule 3 Table S3.1 emission point A1 complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3.	Completed
IC8	The operator shall review the site condition report (SCR) and site protection monitoring plan to ensure Article 22 of the Industrial Emissions Directive is complied with. The Operator shall submit revised SCR to the Environment Agency in the format detailed in the 'European Commission Communication on Baseline reports (2014/C 136/03)'.	Within 1 year of permit variation EPR/HP3736AW/V003 issue and thereafter, at intervals of no more than 4 years
IC9	The operator shall provide a report in writing to the Environment Agency which provides the net rated thermal input for LCP341, LCP342 and LCP343. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised). Evidence to support this figure, shall be in the form of: a) Performance test results during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), unless this is not available in which case it shall be in the form of b) Performance test results after a significant modification (quoting the specified standards or test codes), unless this is not available in which case it shall be in the form of c) Manufacturer's contractual guarantee value, unless this is not available in which case it shall be in the form of d) Published reference data, e.g. Gas Turbine World Performance Specifications (published annually); unless this is not available in which case it shall be in the form of	Completed

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	e) Design data, e.g. nameplate rating of a boiler or design documentation for a burner system; unless this is not available in which case it shall be in the form of f) Operational efficiency data as verified and used for heat accountancy purposes, unless this is not available in which case it shall be in the form of data provided as part of Due Diligence during acquisition.	
IC10a	The operator shall submit a report to the Environment Agency for written approval. The report shall • Propose methods and monitoring proposals for determining concentrations of pollutants from the Appleby coke ovens emissions points A302 and A303 for emissions for which a BAT AEL is not set. • Justify the choice of pollutants included in the monitoring proposals including, but not restricted to, PAH and Dioxins. • Outline timescales for undertaking monitoring in order to confirm emissions concentrations. The operator shall implement the monitoring proposals in line with the timescales agreed with the Environment Agency.	2 months after variation issue
IC10b	The Operator shall submit a report to the Environment Agency for written approval outlining the results of the monitoring specified in IC10a. The report shall • Specify the concentrations of each pollutant. • Outline any emissions limits which may apply. • Determine whether further control measures are required to control emissions. • Provide justification for not implementing further control measures. • Timescales for emissions limit and emissions control implementations. The operator shall implement any limits which apply and emissions control measures within the timescales agreed with the Environment Agency.	2 months after completion of IC10a
IC11a	The operator shall submit a report to the Environment Agency for written approval which: • Outlines proposals for installation of an abatement system as part of the sinter plant which can achieve the dust emissions BAT AEL stated in BAT 20 of the sector BAT conclusions document. • Confirms the BAT AEL which will apply on installation of the new sinter plant abatement system. • Outlines timescales for installation and commissioning of the abatement system and demonstrates how this will be achieved within the derogation timescale.	6 months prior to expiry of derogation on 30/09/24 or other date agreed with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC11b	The operator shall provide evidence to confirm that the sinter plant particulate abatement system has been installed and that the relevant BAT AEL outlined in BAT 20 of the BAT conclusions document has been implemented as agreed with the Environment Agency under improvement condition IC11a.	30/09/24
IC12a	The operator shall submit a report to the Environment Agency for written approval. The report shall outline proposals for monitoring particulate concentrations for coke oven under-firing emissions in line with the particulate monitoring requirements specified in emissions monitoring table S3.2 for emission points A302 and A303.	6 months after permit issue
IC12b	The operator shall undertake monitoring of particulate emissions concentrations from under-firing from emission points A302 and A303 using the monitoring methodology agreed under IC12 (a) and submit a report to the Environment Agency for written approval outlining the results of the monitoring.	2 months after completion of IC12a
IC12c	The operator shall submit a report to the Environment Agency for written approval. The report shall • Outline the results of the particulate monitoring required under improvement condition IC12 (b). • Demonstrate the monitoring has provided reliable results. • Provide evidence to either - Justify the current particulate emission limit for emissions of particulate matter emissions from under-firing from points A302 and A303 as specified under derogation from BAT 49 as referenced in permit annex, or - Propose a lower revised emission limit than that specified under Derogation from BAT 49 as referenced in permit annex. In the event emissions exceed the derogated limit of 200mg/Nm^3 the operator shall submit proposals to the Environment Agency to reduce emissions along with timescales for implementation. The operator shall implement the agreed particulate emissions limits from emissions points A302 and A303 as agreed with the Environment Agency.	1 month after completion of IC12b
IC13	The operator shall submit a report to the Environment Agency for written approval. The report shall provide justification for a reduced monitoring frequency for Dioxins as polychlorinated dibenzodioxins/furans (PCDD/F) Dioxins I – TEQ under sinter plant emission point A1 as listed in Table S3.1. The operator shall implement the emission monitoring frequency for Dioxins as polychlorinated dibenzodioxins/furans (PCDD/F) Dioxins I – TEQ as agreed with the Environment Agency.	1 month prior to expiration of sinter plant derogation 01/08/24

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC14	The operator shall submit a report to the Environment Agency for written approval. The report shall: • Review the surface containment and drainage in all storage areas storing hazardous waste received at the site under activity S5.6A(1)(a) against the requirements for BAT and CIRIA guidance. • Outline measures to ensure storage of hazardous waste meet the required standards where current measures are not in line with BAT and CIRIA guidance. • Propose timescales for implementation of measures. The operator shall implement the proposals under this improvement condition in line with the timescales agreed with the Environment Agency.	3 months of issue of this variation
IC15a	The operator shall submit a sampling plan to the Environment Agency for approval, that includes, but is not limited to, information detailing: • the proposed National Grid Reference, analytical technique, limit of detection and frequency that sampling for Ammoniacal Nitrogen as N shall take place at a location upstream of the emission point ref W1 on site plan, Drawing No. 5530/32.01/033; Emission to the Brumby Beck; • the proposed National Grid Reference, methodology, equipment to be used and frequency that flow monitoring shall take place at a location upstream of the emission point ref W1 on the site plan, Drawing No. 5530/32.01/033; Emission to the Brumby Beck; • the proposed National Grid Reference, analytical technique, limit of detection and frequency that sampling for Ammoniacal Nitrogen as N shall take place at a location downstream of the emission point ref W1 on the site plan, Drawing No. 5530/32.01/033; Emission to the Brumby Beck. On approval the operator shall carry out the monitoring at the locations, for the frequencies and using the methods as approved. Monitoring at the approved locations shall take place when monitoring at W1 takes place in accordance with the requirements of table S3.9.	2 months from variation issue
IC15b	The operator shall carry out a river needs permit assessment for Ammoniacal nitrogen as N in accordance with 1076_14 H1 Annex D2 - Assessment of sanitary and other pollutants within Surface Water Discharges (publishing.service.gov.uk) using the data collected by the operator in accordance with IC15a and the data from monitoring of the discharge at W1 collected in accordance with the requirements of table S3.9. The operator can also use Environment Agency routine monitoring data for consideration as part of the assessment.	Within 15 months of the approval received for IC51a

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The operator shall submit the assessment to the Environment Agency for audit.	
IC15c	If written notification is provided by the Environment Agency that the conclusion of the audit carried out by the Environment Agency has identified that the discharge is impacting upon water quality in the Brumby Beck, the operator shall submit a written Action Plan to the Environment Agency for approval. The Action Plan shall identify any proposed improvements to address the impact(s), including any measures to reduce the Ammoniacal Nitrogen at source, justification for the proposed improvements and timescales for their implementation. In addition, the operator shall use the conclusions of the audit carried out by the Environment Agency to: (2) establish a revised operational compliance (numeric) limit for Ammoniacal Nitrogen as N. Following written notification by the Environment Agency, a revised compliance limit for Ammoniacal Nitrogen as N shall be deemed to be incorporated into table S3.9; and (3) assess whether continued monitoring is required. Following written notification by the Environment Agency, any monitoring requirements shall be deemed to be incorporated into table S3.9.	Within 3 months of the written notification
IC15d	The operator shall implement the improvements identified within the Action Plan approved by the Environment Agency in accordance with IC15c to the timescales approved and provide written confirmation to the Environment Agency that the improvements have been made.	In accordance with timescale approved under IC15c
IC16	The operator shall submit a report in writing to the Environment Agency for approval that includes a review of monitoring data for cyanide at emission point W9. The report shall include: • data submitted with the response dated 19/11/2021 to the schedule 5 notice and a further 12 months of data; • a review of the monitoring data, including explanation for any results above the limit of detection; • justification for the cessation of monitoring for cyanide based on the results of the monitoring. Following written approval by the Environment Agency, any changes to the monitoring requirements shall be deemed to be incorporated into table S3.9.	Within 6 months of the issue of the variation
IC17	The operator shall review the management procedures in section 31 of supporting document RP3206BE_1 V2 dated 2021 submitted with application EPR/RP3206BE/V004. The review shall include	Within 6 months of variation issue

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**

	• A review of the method for visual assessment of leakage from coke ovens outlined in the management procedure
	• Demonstration the Proposals for monitoring standards or methods are based on BCRA to meet BAT Conclusion 46
	• Describe the method which will demonstrate compliance with the permit requirements.
	• Propose monitoring standards or methods for the following parameters listed in table S3.2
	  ○ DLCF
	  ○ TLCF
	  ○ PEF
	  ○ Visible emissions from charging	

Table S1.4 Start-up and Shut-down thresholds			
Emission Point and Unit Reference		**"Minimum start up load" Load in MW and as percent of rated power output (%) and/or discrete processes**	**"Minimum shut-down load" Load in MW and as percent of rated power output (%) and/or discrete processes**
LCP341	CPS Boiler 1 (A201/1)	43.2 MW; 40%	43.2 MW; 40%
	CPS Boiler 2 (A201/2)	43.2 MW; 40%	43.2 MW; 40%
LCP342	TBH Boiler 1 – 4 (A202)	15.6 MW; 40%	15.6 MW; 40%
LCP343	TBH Boiler 5 – 6 (A203)	21.6 MW; 40%	21.6 MW; 40%

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Coke Oven gas (COG) for combustion	5000 mg/m^3 as the daily mean (06:00 hours to 06:00 hours) of the hydrogen sulphide content of coke oven gas burned at the coke ovens
Coals for carbonisation	The maximum sulphur content of the blended coal shall be 0.75% of sulphur by weight/weight (dry) (daily average 06:00 – 06:00) **Note 1**
Waste or Recovered Oil for Coke Oven coal blend bulk density control	Oil for density control or recovered oil shall meet the end of waste protocol criteria
Caustic soda for ammonia removal	Mercury free - trace (<Level of Detection)
Sulphuric acid for ammonium sulphate production	Mercury and/or cadmium free- trace (<Level of Detection)
Blended reverts, recycled process residues or Sinter feed	Oil content (maximum) of Blended reverts1.0% weight/weight (dry). Oil content (maximum) of recycled process residues <0.5% and content of the sinter feed <0.1% weight/weight (dry)
Crosby Oil Field Gas import into the works	Naturally occurring methane with no more than 20% by volume of inert or other constituents
Heavy Fuel Oil (HFO)	The maximum sulphur content shall be 1.0% of sulphur by weight/weight (dry)

Note 1 - Any sample taken and analysed in accordance with appropriate British Standards when considered together with a sampling and estimation protocol to be agreed with Environment Agency shall not exceed this limit.

Table S2.2 Permitted waste types for storage for recovery and disposal - Section 5.6 A(1) (a) Activity AR15	
Waste hazardous properties	**HP5, HP7, HP14**
13	**OIL WASTES AND WASTES OF LIQUID FUELS**
13 03	**waste insulating and heat transmission oils**
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

Table S2.3 Permitted waste types for Directly Associated Activity for non-hazardous waste storage – AR29	
Waste code	**Description**
20	**MUNICIPAL WASTES**
20 03	**other municipal wastes**
20 03 03	street cleaning residues (road sweepings and general sweepings)

Table S2.4a Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) and Directly Associated Activity for Storage Activities AR5 and AR28 - BOS – Non-Hazardous Wastes	
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 08	**Wastes from other non-ferrous thermal metallurgy**
10 08 04	particulates and dust
10 09	**Wastes from casting of ferrous pieces**
10 09 12	other particulates other than those mentioned in 10 09 11
10 13	**Wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 04	wastes from calcination and hydration of lime
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 particulates

Table S2.4a Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) and Directly Associated Activity for Storage Activities AR5 and AR28 - BOS – Non-Hazardous Wastes	
Waste code	**Description**
12 01 17	waste blasting material other than those mentioned in 12 01 16
15	**WASTE PACKING, ABSORBENTS, WIPING CLOTHES, FILTERWASTE PACKING, ABSORBENTS, WIPING CLOTHES, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**
15 01	**Packaging**
15 01 04	metallic packaging
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 01	**End of life vehicles from different means of transport and wastes from dismantling of end-of-life vehicles and vehicle maintenance**
16 01 17	ferrous metal (scrap)
17	**CONSTRUCTION AND DEMOLITION WASTES**
17 04	**Metals (including their alloys)**
17 04 05	iron and steel (scrap)
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER WASTE WATER TREATMENT PLANTS AND PREP OF WASTE 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 (scrap)
19 10	**Wastes from shredding of metal-containing waste**
19 10 01	iron and steel waste (scrap)
19 12	**Wastes from the mechanical treatment of wastes**
19 12 02	ferrous metal (scrap)
20	**MUNICIPAL WASTES**
20 01	**Separately collected fractions**
20 01 40	metals (scrap)

Table S2.4b Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) and Section 5.6 A(1)(a) Activities AR5 and AR15 – BOS and storage – Hazardous Wastes	
Waste hazardous properties	**H10, H14**
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 11*	wastes from cooling-water treatment containing oil
10 09	**Wastes from casting of ferrous pieces**
10 09 11*	other particulates containing dangerous substances

Table S2.4b Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) and Section 5.6 A(1)(a) Activities AR5 and AR15 – BOS and storage – Hazardous Wastes	
Waste hazardous properties	**H10, H14**
Waste code	**Description**
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 16*	waste blasting material containing dangerous substances for example copper

Table S2.5a Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) – Activity AR4 - Sinter Plant – Non-Hazardous Waste	
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 10	mill scales
10 02 12	Wastes from cooling-water treatment other than those mentioned in 10 02 11
10 08	**Wastes from other non-ferrous thermal metallurgy**
10 08 04	particulates and dust
10 13	**Wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 04	wastes from calcination and hydration of lime

Table S2.5b Permitted waste types for Iron and Steelmaking 2.1 A(1) (b) and Section 5.6 A(1)(a) Activities AR4 and AR15 – Sinter Plant and Storage – Hazardous Wastes	
Waste hazardous properties	**H10, H14**
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 11*	wastes from cooling-water treatment containing oil – subject to the limits in Table S2.1 Raw materials and fuels for blended reverts, recycled process residues or Sinter feed.

Table S2.6 Permitted waste types for Iron Desulphurisation at BOS plant 2.1 B (c) Activity AR8	
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 11	**wastes from manufacture of glass and glass products**
10 11 12	waste glass other than those mentioned in 10 11 11
15	**WASTE PACKING, ABSORBENTS, WIPING CLOTHES, FILTERWASTE PACKING, ABSORBENTS, WIPING CLOTHES, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**
15 01	**packaging**
15 01 07	glass
17	**CONSTRUCTION AND DEMOLITION WASTES**
17 02	**wood, glass and plastic**
17 02 02	glass (for BOS slag add.)
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITEWASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER WASTE WATER TREATMENT PLANTS AND PREP OF WASTE INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 12	**wastes from the mechanical treatment of wastes**
19 12 05	glass (for BOS slag add.)
20	**MUNICIPAL WASTES**
20 01	**separately collected fractions**
20 01 02	glass (for BOS slag add.)

Table S2.7 Permitted waste types for Loading/unloading coal and coke 3.5 B (b) (iii) Activities AR9 and AR15	
Waste hazardous properties	**HP7, HP10, HP11, HP13, HP14**
Waste code	**Description**
05	**WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL**
05 06	**wastes from the pyrolytic treatment of coal**
05 06 03*	other tars – residues from off-site coal tar processing (from third-party processing of wastes originally generated on-site)

Table S2.8 Permitted waste types for Biological Effluent Treatment Plant 5.4 A(1) (a) Activities AR11 and AR12	
Waste code	**Description**
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITEWASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER WASTE WATER TREATMENT PLANTS AND PREP OF WASTE INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 07	**landfill leachate**
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 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11

Table S2.9 Permitted waste types for Mill scale Handling and Treatment Activity 5.3 A(1)(a) Activity AR13	
Maximum quantity	**Waste hazardous properties HP10, HP14** **Annual tonnage shall not exceed 8,000 tonnes per year**
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 11*	wastes from cooling-water treatment containing oil

Table S2.10 Permitted waste types for mill scale hazardous waste storage S5.6 A(1)(a) Activity AR15	
Maximum quantity	**Waste hazardous properties HP10, HP14** **Annual tonnage shall not exceed 8,000 tonnes per year**
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 11*	wastes from cooling-water treatment containing oil

Table S2.11 Permitted waste types for processing at the site. Transport, handling and tipping of molten slag Activities AR17 and AR21	
Waste code	**Description**
10	**WASTES FROM THERMAL PROCESSES**
10 02	**Wastes from the iron and steel industry**
10 02 01	Wastes from the processing of slags
10 02 02	Unprocessed slag

Table S2.11 Permitted waste types for processing at the site. Transport, handling and tipping of molten slag **Activities AR17 and AR21**	
Waste code	**Description**
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITEWASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER WASTE WATER TREATMENT PLANTS AND PREP OF WASTE INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 12	**wastes from the mechanical treatment of wastes**
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 – waste from the processing of slags

Schedule 3 – Emissions and monitoring

Table S3.0 Emission points		
Emission point description	**Source**	**Location**
Sinter Plant		
A1 Sinter Plant main stack	Sinter Plant	SE92050966
A2 Sinter Plant Dedust stack	Sinter Plant	SE92010979
Coal Preparation Plant		
A3 Coal Preparation Plant (1) Main Stack	Coal Preparation Plant	SE91950974
A4 Coal Preparation Plant (1) Warm Up Stack	Coal Preparation Plant	SE91950974
A5 Coal Preparation Plant (1) Oversize Filter	Coal Preparation Plant	SE91950974
A6 Coal Preparation Plant (1) Dedust Filter	Coal Preparation Plant	SE91950974
A7 Coal Preparation Plant (1) Product Silo Filter	Coal Preparation Plant	SE91950974
A8 Coal Preparation Plant (1) Tanker Dedust Filter	Coal Preparation Plant	SE91950974
A9 Coal Preparation Plant (2) Main Stack	Coal Preparation Plant	SE91980974
A10 Coal Preparation Plant (2) Warm Up Stack	Coal Preparation Plant	SE91980974
A11 Coal Preparation Plant (2) Oversize Filter	Coal Preparation Plant	SE91980974
A12 Coal Preparation Plant (2) Product Silo Filter	Coal Preparation Plant	SE91980974
A13 Coal Preparation Plant (2) Tanker Dedust Filter	Coal Preparation Plant	SE91980974
A13a Coal Preparation Plant (2) Constant Rate Feeder Dedust Filter	Coal Preparation Plant	SE91980974
Blast Furnaces		
A14a Queen Bess Coal Silo Filter	Blast Furnaces	SE91561052
A 14b Queen Anne Coal Silo Filter (1)	Blast Furnaces	SE91711035
A 14c Queen Anne Coal Silo Filter (2)	Blast Furnaces	SE91711035
A14d Queen Victoria Coal Silo Filter (1)	Blast Furnaces	SE91711022
A14e Queen Victoria Coal Silo Filter (2)	Blast Furnaces	SE91711022
No release point has been allocated with reference A15		
A16 Queen Bess Hot Blast Stoves	Blast Furnaces	SE91611038
A17 Queen Anne Hot Blast Stoves 1 and 2	Blast Furnaces	SE91621033
A18 Queen Anne Hot Blast Stoves 3 and 4	Blast Furnaces	SE91631034
A19 Queen Victoria Hot Blast Stoves 1 and 2	Blast Furnaces	SE91621016
A20 Queen Victoria Hot Blast Stoves 3 and 4	Blast Furnaces	SE91641015
A21a Queen Bess Hot Gas Stoves, Blast Furnace Gas Supply Main (1)	Blast Furnaces	SE91611038
A21b Queen Bess Hot Gas Stoves, Blast Furnace Gas Supply Main (2)	Blast Furnaces	SE91611038
A21c Queen Bess Hot Gas Stoves, Blast Furnace Gas Supply Main (3)	Blast Furnaces	SE91611038
A21d Queen Bess Hot Gas Stoves, Blast Furnace Gas Supply Main (4)	Blast Furnaces	SE91611038

Table S3.0 Emission points		
Emission point description	**Source**	**Location**
A21e Queen Anne Hot Gas Stoves, Blast Furnace Gas Supply Main (1)	Blast Furnaces	SE91621033
A21f Queen Anne Hot Gas Stoves, Blast Furnace Gas Supply Main (2)	Blast Furnaces	SE91621033
A21g Queen Anne Hot Gas Stoves, Blast Furnace Gas Supply Main (3)	Blast Furnaces	SE91621033
A21h Queen Anne Hot Gas Stoves, Blast Furnace Gas Supply Main (4)	Blast Furnaces	SE91621033
A21i Queen Victoria Hot Gas Stoves, Blast Furnace Gas Supply Main (1)	Blast Furnaces	SE91641015
A21j Queen Victoria Hot Gas Stoves, Blast Furnace Gas Supply Main (2)	Blast Furnaces	SE91641015
A21k Queen Victoria Hot Gas Stoves, Blast Furnace Gas Supply Main (3)	Blast Furnaces	SE91641015
A21l Queen Victoria Hot Gas Stoves, Blast Furnace Gas Supply Main (4)	Blast Furnaces	SE91641015
A22a Queen Bess Hot Gas Stove Bustle Main	Blast Furnaces	SE91631043
A22b Queen Victoria Hot Gas Stove Bustle Main	Blast Furnaces	SE91631022
A22c Queen Anne Backdraught Chimney	Blast Furnaces	SE91631029
A23 Blast Furnace Gas Flare	Blast Furnaces	SE91601057
A24 Gas Holder, associated plant and pressure relief vents A-H	Blast Furnaces	SE91731063
A25 Queen Bess Furnace Top Bleeders (2)	Blast Furnaces	SE91631043
A26 Queen Anne Furnace Top Bleeders (2)	Blast Furnaces	SE91631029
A27 Queen Victoria Furnace Top Bleeders (2)	Blast Furnaces	SE91631022
A28 QM Revolving Hopper Equalisation	Blast Furnaces	SE91631049
A29 QM Throat Armour Plates	Blast Furnaces	SE91631049
A30 QB Material Hoppers Vent (2)	Blast Furnaces	SE91631043
A32 QB Material Hoppers Vent (2)	Blast Furnaces	SE91631029
A33 QV Lock Hopper	Blast Furnaces	SE91631022
A34 QM Semi Clean BFG Bleeder	Blast Furnaces	SE91631049
A36 QA Semi Clean BFG Bleeder	Blast Furnaces	SE91631029
A37 QV Semi Clean BFG Bleeder	Blast Furnaces	SE91631022
A38 QM Gas Plant Purge	Blast Furnaces	SE91561046
A39 QB Gas Plant Purge	Blast Furnaces	SE91611045
A40 QA Gas Plant Purge	Blast Furnaces	SE91581025
A41 QV Gas Plant Purge	Blast Furnaces	SE91581024
A42 QA Conditioning Tower	Blast Furnaces	SE91581025
A43 QA Davy Cone Scrubber	Blast Furnaces	SE91581025
A44 QV Conditioning Tower	Blast Furnaces	SE91581024
A45 QV Davy Cone Scrubber	Blast Furnaces	SE91581025
A46 20m High Casthouse Ventilation Bag Filter Stack	Blast Furnaces	SE91561039

Table S3.0 Emission points		
Emission point description	**Source**	**Location**
A47 22m High Casthouse Ventilation Bag Filter Stack	Blast Furnaces	SE91511037
A48 QA/QV Slag Granulator	Blast Furnaces	SE91601025
A48b QB Slag Granulator	Blast Furnaces	SE91521042
Basic Oxygen Steelmaking (BOS)		
A49 Raw Materials Handling Dust Plant Number 1	Steelmaking	SE92350874
A50 Raw Materials Handling Dust Plant Number 2	Steelmaking	SE92440881
Release point A51 has been decommissioned.		
Release point A52 has been decommissioned.	Steelmaking	
Release point A53 has been decommissioned.	Steelmaking	
A54 Primary Gas Cleaning (OG) Number 1	Steelmaking	SE92990861
A55 Primary Gas Cleaning (OG) Number 2	Steelmaking	SE92990861
A56 Primary Gas Cleaning (OG) Number 3	Steelmaking	SE92990861
A57/1-4 Secondary Ventilation (ESP Zone A) (4 Vents)	Steelmaking	SE93050865
A57/5-8 Secondary Ventilation (ESP Zone B) (4 Vents)	Steelmaking	SE93050865
A58 Secondary Ventilation (Wet)	Steelmaking	SE92920864
A59 Ladle Arc Furnaces (LAF1 & LAF2)	Steelmaking	SE93190877
A60 Vacuum Degasser (VDG1)	Steelmaking	SE92910881
A61 Desulphurisation and Hot Metal Pour	Steelmaking	SE92860851
A62 Gas Holder, associated plant and pressure relief vents	Steelmaking (BOS)	SE92640865
A78 Steel/Slag Ladle Decant Fume Extraction	Steelmaking	SE93300870
A81 Ladle Arc Furnace (LAF3)	Steelmaking	SE92790874
A82 Vacuum Degasser (VDG2)	Steelmaking	SE92960879
Concast		
A63 Slab Spray Extraction Chamber	Concast	SE93020880
A64 Slab Spray Extraction Chamber	Concast	SE93050879
A65 Bloom Spray Extraction Chamber	Concast	SE92950879
A66 Bloom Spray Extraction Chamber	Concast	SE92950879
A67 Billet Spray Extraction Chamber	Concast	SE92960880
A68 Billet Spray Extraction Chamber	Concast	SE92990880
A69 Slab Scarfer	Concast	SE92890901
A70 Leaded Steel Plant	Concast	SE92810891
A79 Bloom Spray Extraction Chamber (4th Caster)	Concast	SE92730881
A80 Bloom Spray Extraction Chamber (4th Caster)	Concast	SE92750880
A83 Leaded Steel (5th Caster)	Concast	SE93270878
A84 Slab Scarfer	Concast	SE92880902
Steel Mills		
A71 – A76 No longer in use	Rolling Mill	-
A77 No. 5 Grinder	Rolling Mill	SE92500929

Table S3.0 Emission points		
Emission point description	**Source**	**Location**
A101 – A125 No longer in use	Bloom and Billet Mill	-
No release point has been allocated with reference A126		
A127 No longer in use	Medium Section Mill	-
No release point has been allocated with reference A128		
A129, A130, A131 – decommissioned		
A132 Tunnel Furnace	Rod Mill	SE91101056
No release point has been allocated with references A133 – A136		
A137 Walking Beam Reheat Furnace 3	Rail and Section Mill.	SE92830933
A138 Reheat Walking Beam Furnace	Rod Mill	SE91051066
A139	Yarborough metal recovery dust abatement unit	SE92901110
A140 – decommissioned		
No release point has been allocated with references A141 - A200		
Power Station and Turbo Blower Plant		
A201 Central Power Station Stack (Boilers 1 & 2 combined) – LCP341	Power Plant Boilers	SE91361092
A201/1 Central Power Station Boiler 1 Outlet Duct	Power Plant Boilers	
A201/2 Central Power Station Boiler 2 Outlet Duct	Power Plant Boilers	
A201/3 – decommissioned		
A202 Turbo Blower House Stack (Boilers 1, 2, 3 & 4 combined) – LCP342	Power Plant Boilers	SE91581016
A202/1 Turbo Blower House Boiler 1 Outlet Duct	Power Plant Boilers	
A202/2 Turbo Blower House Boiler 2 Outlet Duct	Power Plant Boilers	
A202/3 Turbo Blower House Boiler 3 Outlet Duct	Power Plant Boilers	
A202/4 Turbo Blower House Boiler 4 Outlet Duct	Power Plant Boilers	
A203 Turbo Blower House (Boilers 5 & 6 combined) LCP342	Power Plant Boilers	SE91581008
A203/5 Turbo Blower House Boiler 5 Outlet Duct	Power Plant Boilers	
A203/6 Turbo Blower House Boiler 6 Outlet Duct	Power Plant Boilers	
No release point has been allocated reference A204 – 300		
Coke Oven Batteries Appleby (ACO)		
A301 – decommissioned		
A302 Appleby Coke Oven 1 & 2 Stack	Appleby Coke Oven	SE91591087
A303 Appleby Coke Oven 3 & 4 Stack	Appleby Coke Oven	SE91721108
A304 – decommissioned		
A305 Appleby Coke Oven 1 – 4 Bleeders (8)	Appleby Coke Oven	SE91641095
A306 – decommissioned		
A307 Appleby Coke Oven (ACO) gas Flare Stack **Note1**	Appleby Coke Oven	SE91771082
A307A Appleby Coke Oven (ACO) gas Flare Stack **Note 1**	Appleby Coke Oven	SE91771082

Table S3.0 Emission points		
Emission point description	**Source**	**Location**
A308 – A313, A315 – decommissioned		
A314 Gas Holder, associated plant and pressure relief vents	Dawes Lane Coke Oven	SE91821171
A324 Appleby coke Quenching Tower for Battery 1-2	Appleby Coke Oven	SE92201167
A325 Appleby coke Quenching Tower for Battery 3-4	Appleby Coke Oven	SE92221162
Appleby By-Products		
A317 Saturators	Appleby Coke Oven	SE91641087
A318 Exhausters	Appleby Coke Oven	SE91681091
A319 Primary Coolers	Appleby Coke Oven	SE91711095
A320 Decant System	Appleby Coke Oven	SE91711095
A322 Storage Tank Farm	Appleby Coke Oven	SE91721088
A323 Gas Holder, associated plant and pressure relief vents	Appleby Coke Oven	SE9172510639
Note 1 - A307A (ACO New Flare Stack) will replace A307 (ACO old Flare Stack) once A307A has been constructed. The two emission points must not operate at the same time		

Table S3.1 Point source emissions to air – emission limits and monitoring requirements for the Ore Sintering and Associated Processes						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1	Sinter Plant Main stack	Dioxins as polychlorinated dibenzodioxins/furans (PCDD/F) Dioxins I – TEQ	0.4 ng I-TEQ/Nm^3 will apply until completion of improvement condition IC11a and IC11b at which point 0.2 ng I-TEQ/Nm3 will apply	Periodic over minimum 6 hours, maximum 8 hour period	Quarterly Or as agreed with Environment Agency in line with improvement condition IC13	BS EN1948: Parts 1, 2 and 3
		Sulphur Dioxide (SO_2)	500 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
		Nitrogen oxides NO_x expressed as the sum of nitrogen oxide (NO) and nitrogen dioxide (NO_2)	500 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
		Particulate matter Note 1	100 mg/Nm^3 shall apply until the derogation for BATc 20 listed in Permit Annex expires. From 01/10/2024 a limit of either 40 mg/Nm^3 as per the BAT AEL or as agreed in line with IC11a and IC11b	Daily mean	Continuous measurement	BS EN 14181
		Mercury	0.05 mg/Nm^3	Periodic Sample	Annual	BS EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements for the Ore Sintering and Associated Processes						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		PAH (polycyclic aromatic hydrocarbons) in respect to emissions into air as specified in Schedule 6.	No limit set	Periodic Sample	6 monthly unless otherwise agreed in writing by the Agency	BS ISO 11338-1,2.
A2	Sinter Plant Dedust	Particulate matter	30 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
A3	Coal preparation plant main stack (1)	Particulate matter	20 mg/Nm^3	Periodic Sample	Annual	BS EN 13284-1
A9	Coal preparation plant main stack (2)	Particulate matter	20 mg/Nm^3	Periodic Sample	Annual	BS EN 13284-1
Notes 1 - No limit applies for the hourly periods that coincide with a 30 minute period before a shutdown or a 120 minute period after a start-up. Interruptions to start-ups shall be included in the 120 minute period. Shutdown periods are also excluded.						

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** [Note 1]	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
Appleby Coke Ovens	Coke Oven Battery 1	DLCF (Door Leakage Control Factor) – visible emissions from all doors (levelling and ovens)	Maximum of 8.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		TLCF (Top Leakage Control Factor) – visible emissions	Maximum of 4.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		PEF (Coke Pushing Emission Factor)	0.2 (max)	Quarterly (13 week) reporting period mean	Minimum of 20 oven observations, at random on a representative day, each week.	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the
			0.6 (max)	Weekly mean		

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
					across Coke Oven Batteries 1 -4	existing method for visual assessment of leakage from coke ovens
		Coke Pushing	No limit shall apply until the derogation for BATc 50 listed in Permit Annex expires. From 01/01/2027 a limit of 10 mg/Nm^3 will apply	Periodic samples for at least half an hour	Six monthly (minimum of 2 months between monitoring)	BS EN 13284-1
		Visible Emissions from Charging	< 30 seconds per charge	Monthly mean	Minimum of 20 oven observations, at random on a representative day, each week.	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
Appleby Coke Ovens	Coke Oven Battery 2	DLCF (Door Leakage Control Factor) – visible emissions from all doors (levelling and ovens)	Maximum of 8.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
						of leakage from coke ovens
		TLCF (Top Leakage Control Factor) – visible emissions	Maximum of 4.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		PEF (Coke Pushing Emission Factor)	0.2 (max)	Quarterly (13 week) reporting period mean	Minimum of 20 oven observations, at random on a representative day each week across Coke Oven Batteries 1-4	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
			0.6 (max)	Weekly mean		
		Coke Pushing	No limit shall apply until the derogation for BATc 50 listed in Permit Annex expires. From 01/01/2027 a limit of 10 mg/Nm^3 will apply.	Periodic samples for at least half an hour	Six monthly (minimum of 2 months between monitoring)	BS EN 13284-1

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		Visible Emissions from Charging	< 30 seconds per charge	Monthly mean	Minimum of 20 oven observations, at random on a representative day, each week.	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
Appleby Coke Ovens	Coke Oven Battery 3	DLCF (Door Leakage Control Factor) – visible emissions from all doors (levelling and ovens)	Maximum of 8.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		TLCF (Top Leakage Control Factor) – visible emissions	Maximum of 4.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** [Note 1]	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
						of leakage from coke ovens
		PEF (Coke Pushing Emission Factor)	0.2 (max)	Quarterly (13 week) reporting period mean	Minimum of 20 oven observations, at random on a representative day each week across Coke Oven Batteries 1-4	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
			0.6 (max)	Weekly mean		
		Coke Pushing	No limit shall apply until the derogation for BATc 50 listed in Permit Annex expires. From 01/01/2027 a limit of 10 mg/Nm^3 will apply.	Periodic samples for at least half an hour	Six monthly (minimum of 2 months between monitoring)	BS EN 13284-1
		Visible Emissions from Charging	< 30 seconds per charge	Monthly mean	Minimum of 20 oven observations, at random on a representative day, each week.	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
Appleby Coke Ovens	Coke Oven Battery 4	DLCF (Door Leakage Control Factor) – visible emissions from all doors (levelling and ovens)	Maximum of 8.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		TLCF (Top Leakage Control Factor) – visible emissions	Maximum of 4.0%	Monthly mean	Three days per week, at least one day between monitoring days where possible	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		PEF (Coke Pushing Emission Factor)	0.2 (max)	Quarterly (13 week) reporting period mean	Minimum of 20 oven observations, at random on a	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing
			0.6 (max)	Weekly mean		

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
					representative day each week across Coke Oven Batteries 1-4	Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
		Coke Pushing	No limit shall apply until the derogation for BATc 50 listed in Permit Annex expires. From 01/01/2027 a limit of 10 mg/Nm^3 will apply.	Periodic samples for at least half an hour	Six monthly (minimum of 2 months between monitoring)	BS EN 13284-1
		Visible Emissions from Charging	< 30 seconds per charge	Monthly mean	Minimum of 20 oven observations, at random on a representative day, each week.	Method based on BCRA to meet BAT Conclusion 46 as agreed by completing Improvement Condition IC17 reviewing the existing method for visual assessment of leakage from coke ovens
A302	ACO 1&2 Battery Stack	Obscuration Monitoring method and limit shall apply until	50% Note 2 Limit does not apply for invalid monitoring days	Daily mean obscuration (discrete 24 hour period, 06.00	Continuous measurement	BS2742:1969 and Note 2

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		IC12a, IC12b and IC12c are completed at which point an approved monitoring method and Particulate Matter daily mean Emission Limit of 200 mg/Nm^3 shall apply	during planned shutdown for preventative maintenance of the Benzole scrubbers and/or Benzole distillation plant aiming for 100% utilisation. However, limit applies to abnormal operation, reactive maintenance, unplanned outage or unplanned shutdown as not applicable to invalidate a monitoring day	hours to 06.00 hours)		
		Particulate matter (Under-firing emissions)	200 mg/Nm^3 shall apply until the derogation for BATc 49 listed in Permit Annex expires. From 01/01/2027 a limit of 20 mg/Nm^3 at 5% oxygen (dry) shall apply.	Daily mean	Continuous Measurement	Monitoring as agreed with Environment Agency under Improvement Condition IC12a
		Sulphur oxides (SO_x) expressed as sulphur dioxide (SO_2)	5000 mg/Nm^3 as controlled by hydrogen sulphide in coke oven gas and the maximum sulphur content of the blended coking coal shall apply until the derogation for BATc 48 (desulphurisation of coke oven gas) expires. From	-	-	-

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
			01/01/2027 a limit of 1000 mg/Nm^3 will apply.			
		Sulphur oxides (SO_x) expressed as sulphur dioxide (SO_2) with a 5% oxygen (dry) correction (Schedule 6)	5000 mg/Nm^3 as controlled by hydrogen sulphide in coke oven gas and the maximum sulphur content of the blended coking coal shall apply until the derogation for BATc 49 listed in Permit Annex expires. From 01/01/2027 a limit of 500 mg/Nm^3 will apply.	Daily mean	Continuous measurement	BS EN 14181
		Nitrogen oxides NOx expressed as nitrogen dioxide (NO_2) with a 5% oxygen (dry) correction (Schedule 6)	650 mg/Nm^3	Periodic Sample	6 monthly	BS EN 14792 or AM for BS EN 14792* or TGN M22 (Extractive Sampling and FTIR analyser) M22 (Extractive Sampling and FTIR analyser)
		PAH (Polycyclic Aromatic Hydrocarbons) in respect to emissions into air as specified in Schedule 6.	No limit set	Periodic Sample	6 monthly initially then as agreed with Environment Agency in line with Improvement	BS ISO 11338-1, 2.

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
					Condition IC10a	
		Dioxins as polychlorinated dibenzodioxins/furans (PCDD/F) Dioxins I – TEQ	No limit set	Periodic over minimum 6 hours, maximum 8 hour period	6 monthly initially then as agreed with Environment Agency in line with Improvement Condition IC10a	BS EN1948: Parts 1,2 and 3
A303	ACO Battery 3&4 Stack	Obscuration Monitoring method and limit shall apply until IC12a, IC12b and IC12c are completed at which point an approved monitoring method and Particulate Matter daily mean Emission Limit of 200 mg/Nm^3 shall apply	50% Note 2 Limit does not apply for invalid monitoring days during planned shutdown for preventative maintenance of the Benzole scrubbers and/or Benzole distillation plant aiming for 100% utilisation. However, limit applies to abnormal operation, reactive maintenance, unplanned outage or unplanned shutdown as not applicable to invalidate a monitoring day	Daily mean obscuration (discrete 24 hour period, 06.00 hours to 06.00 hours)	Continuous measurement	BS2742:1969 and Note 2
		Particulate matter (Under-firing emissions)	200 mg/Nm^3 shall apply until the derogation for BATc 49 listed in Permit	Daily mean	Continuous Measurement	Monitoring as agreed with Environment

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
			Annex expires. From 01/01/2027 a limit of 20 mg/Nm^3 at 5% oxygen (dry) shall apply.			Agency under Improvement Condition IC12a
		Sulphur oxides (SO_x) expressed as sulphur dioxide (SO_2)	5000 mg/Nm^3 as controlled by hydrogen sulphide in coke oven gas and the maximum sulphur content of the blended coking coal shall apply until the derogation for BATc 48 (desulphurisation of coke oven gas) expires. From 01/01/2027 a limit of 1000 mg/Nm^3 will apply.	-	-	-
		Sulphur oxides (SOx) expressed as sulphur dioxide (SO_2) with a 5% oxygen (dry) correction (Schedule 6)	5000 mg/Nm^3 as controlled by hydrogen sulphide in coke oven gas and the maximum sulphur content of the blended coking coal shall apply until the derogation for BATc 49 listed in Permit Annex expires. From 01/01/2027 a limit of 500 mg/Nm^3 will apply.	Daily mean	Continuous measurement	BS EN 14181
		Nitrogen oxides NOx expressed as nitrogen dioxide (NO_2) with a	650 mg/Nm^3	Periodic Sample	6 monthly	BS EN 14792 or AM for BS EN 14792* or TGN

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		5% oxygen (dry) correction (Schedule 6)				M22 (Extractive Sampling and FTIR analyser) M22 (Extractive Sampling and FTIR analyser)
		PAH (Polycyclic Aromatic Hydrocarbons) in respect to emissions into air as specified in Schedule 6.	No limit set	Periodic Sample	6 monthly initially then as agreed with Environment Agency in line with Improvement Condition IC10a	BS ISO 11338-1, 2.
		Dioxins as polychlorinated dibenzodioxins/furans (PCDD/F) Dioxins I – TEQ	No limit set	Periodic over minimum 6 hours, maximum 8 hour period	6 monthly initially then as agreed with Environment Agency in line with Improvement Condition IC10a	BS EN1948: Parts 1,2 and 3
A324	Appleby Coke Quenching Tower for Battery 1-2	Particulate matter	No limit shall apply until the derogation for BATc 51 listed in Permit Annex expires. From 01/01/2027 a limit of 25 g/t coke will apply.	Average over the sampling period	Monitoring as agreed in writing with the Environment Agency.	Mohrhauer methods (non-iso-kinetic former VDI 2303 or iso-kinetic VDI 2066)

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for the coke oven plants						
Emission point ref. & location	**Source**	**Parameter:** Note 1	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A325	Appleby Coke Quenching Tower for Battery 3-4	Particulate matter	No limit Shall apply until the derogation for BATc 51 listed in Permit Annex expires. From 01/01/2027 a limit of 25 g/t coke will apply.	Average over the sampling period	Monitoring as agreed in writing with the Environment Agency.	Mohrhauer methods (non-iso-kinetic former VDI 2303 or iso-kinetic VDI 2066)
A305	ACO 1-4 Bleeders (8)	Crude Coke Oven Gas vented or flared	No limit set	-	-	-
A307, A307A Note 3	ACO Flare Stack	Coke Oven Gas flared	No limit set	-	-	-

Notes

1 All operating ovens shall be monitored at least once in every quarter for DLCFs, TLCFs, PEFs and Visible Emissions from charging (formerly MEFs) unless carbonising times prevent daylight assessment. If the results indicate exceedance of a limit, then efforts shall be made to monitor that same oven at the next opportunity and thereafter until compliance is attained.

2 A calibration check of the continuous obscuration monitors shall be made at least once a year, unless otherwise agreed in writing by the Environment Agency. Unless these instrument specific calibration checks show otherwise, 20% obscuration is deemed to be equivalent to Ringlemann shade 1, 40% obscuration is deemed to be equivalent to Ringlemann shade 2 and 60% obscuration is deemed to be equivalent to Ringlemann shade 3.

3 A307A (ACO New Flare Stack) will replace A307 (ACO old Flare Stack) once A307A has been constructed. The two emission points must not operate at the same time.

Table S3.3 Point source emissions to air – emission limits and monitoring requirements for the Blast Furnaces						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A18	QA Hot Blast Stoves 3 & 4	Sulphur oxides (SO_x) expressed as sulphur dioxide (SO_2)	200 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
		Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	100 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
		Particulate matter	10 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
A19	QV Hot Blast Stoves 1 & 2	Sulphur oxides (SO_x) expressed as sulphur dioxide (SO_2)	200 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
		Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	100 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
		Particulate matter	10 mg/Nm^3	Daily mean	Continuous measurement or as agreed under IC1	BS EN 14181
A46	Cast House Ventilation – bag filter stack	Particulate matter	15 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
A47	Cast House Ventilation – bag filter stack	Particulate matter	15 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
A48	QA/QV slag granulator	Particulate matter	150 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A48b	QB Slag granulator	No parameter set	No limit set	-	-	-

Table S3.4 Point source emissions to air – emission limits and monitoring requirements for Basic oxygen steelmaking and casting						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A49	Raw materials handling dust plant 1	Particulate matter	50 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A50	Raw materials handling dust plant 2	Particulate matter	50 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A54	BOS primary gas cleaning (OG) Number 1	None set	-	-	-	-
A55	BOS primary gas cleaning (OG) Number 2	None set	-	-	-	-
A56	BOS primary gas cleaning (OG) Number 3	None set	-	-	-	-
A57/1-4	Secondary fume extraction (ESP Zone A) (4 vents)	Particulate matter	20 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
A57/5-8	Secondary fume extraction (ESP Zone B) (4 vents)	Particulate matter	20 mg/Nm^3	Daily mean	Continuous measurement	BS EN 14181
A58	Secondary ventilation (wet)	Particulate matter	50 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A59	Ladle arc furnaces LAF 1 & 2	Particulate matter	10 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A61	Hot metal pour/desulphurisation	Particulate matter	15 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A78	Steel/slag ladle decant	Particulate matter	10 mg/Nm^3	Periodic	Annually	BS EN 13284-1
A81	Ladle Arc Furnace, LAF3	Particulate matter	10 mg/Nm^3	Periodic	Annually	BS EN 13284-1
Concast						
A70	Leaded steel plant	Particulate matter	5 mg/Nm^3	Periodic	Annually	BS EN 13284-1 and MID

Table S3.4 Point source emissions to air – emission limits and monitoring requirements for Basic oxygen steelmaking and casting						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		Lead	2 mg/Nm^3	Periodic	6 monthly if leaded steel/slag is processed (otherwise annual)	BS EN 14385
A83	Leaded Steel (5th caster)	Particulate matter	5 mg/Nm^3	Periodic	Annually	BS EN 13284-1 and MID
		Lead	2 mg/Nm^3	Periodic	Annually	BS EN 14385
A84	Slab scarfer	Particulate matter	20 mg/Nm^3	Periodic	Annually	BS EN 13284-1 and MID

Table S3.5 Point source emissions to air – emission limits and monitoring requirements for Rolling Mills						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A77	No 5 Grinder	Particulate	50 mg/Nm^3	Periodic	Annually	BS EN 13284-1 and MID
A132	Tunnel Furnace	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	650 mg/Nm^3 (a)	Periodic	Annually	BS EN 14792 or AM for BS EN 14792* or TGN M22 (Extractive Sampling and FTIR analyser)

Table S3.5 Point source emissions to air – emission limits and monitoring requirements for Rolling Mills						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A137	Walking Beam Reheat Furnace 3	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	650 mg/Nm^3 (a) 900 mg/Nm^3 (b) 1800 mg/Nm^3 (c) 3000 mg/Nm^3 (d)	Periodic	Annually	BS EN 14792 or AM for BS EN 14792* or TGN M22 (Extractive Sampling and FTIR analyser)
A138	Reheat Walking Beam Furnace	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	650 mg/Nm^3 (a) 900 mg/Nm^3 (b) 1800 mg/Nm^3 (c) 3000 mg/Nm^3 (d)	Periodic	Annually	BS EN 14792 or AM for BS EN 14792* or TGN M22 (Extractive Sampling and FTIR analyser)

Notes

(a) Applies to release from furnaces with air preheat temperatures < 400^{O}C
(b) Applies to release from furnaces with air preheat temperatures 400 - 600^{O}C
(c) Applies to release from furnaces with air preheat temperatures 600 -1000^{O}C
(d) Applies to release from furnaces with air preheat temperatures >1000^{O}C

Table S3.6 Point source emissions to air – emission limits and monitoring requirements for Energy Generation						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
LCP341 A201/1 & 2	Central Power Station Boiler 1 & 2 Outlet Duct 1 & 2, burning coke oven gas	Sulphur dioxide (SO_2)	400 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			440 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			800 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP341 A201/1& 2	Central Power Station Boiler 1 & 2 Outlet Duct 1& 2, burning coke oven gas	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	300 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			363 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			600 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP341 A201/1 & 2		Dust	30 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181

Table S3.6 Point source emissions to air – emission limits and monitoring requirements for Energy Generation						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
	Central Power Station Boiler 1 & 2 Outlet Duct 1 & 2, burning coke oven gas		33 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			60 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP342 A202/1-4	Turbo Blower House Boilers 1-4 Outlet Ducts 1-4	Sulphur dioxide (SO_2)	400 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			440 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			800 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP342 A202/1-4	Turbo Blower House Boilers 1-4 Outlet Ducts 1-4	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	300 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			363 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181

Table S3.6 Point source emissions to air – emission limits and monitoring requirements for Energy Generation						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
			600 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP342 A202/1-4	Turbo Blower House Boilers 1-4 Outlet Ducts 1-4	Dust	30 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			33 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			60 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP343 A203/5-6	Turbo Blower House Boiler 5 - 6 Outlet Ducts 5-6	Sulphur dioxide (SO_2)	400 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			440 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			800mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181

Table S3.6 Point source emissions to air – emission limits and monitoring requirements for Energy Generation						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
LCP343 A203/5-6	Turbo Blower House Boiler 5 - 6 Outlet Ducts 5-6	Nitrogen oxides (NO_x), expressed as nitrogen dioxide (NO_2)	300 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			363 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			600 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181
LCP343 A203/5-6	Turbo Blower House Boilers 5-6 6 Outlet Ducts 5-6	Dust	30 mg/Nm^3	Monthly mean	Continuous Measurement	BS EN 14181
			33 mg/Nm^3	95% of validated daily means within a calendar year	Continuous Measurement	BS EN 14181
			60 mg/Nm^3	95% of validated hourly averages within a calendar year	Continuous Measurement	BS EN 14181

Table S3.7 Point source emissions to air – emission limits and monitoring requirements for metal processing						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method Note 1**
A139 SE 9290 1110	Yarborough metal recovery dust abatement unit	Particulate	20 mg/Nm^3	Periodic over minimum 30 minute, maximum 8 hour period	Annual	BS EN 13284-1 and MID
Note 1: Or other technique as agreed with the Environment Agency						

Table S3.8 Energy Generation LCP Annual limits (Excluding start up and shut down except where otherwise stated)			
Substance	**Medium**	**Limit (including unit)**	**Emission Points**
Dust, Sulphur dioxide and Oxides of nitrogen	Air	No annual limits set	A201 (Central Power Station, LCP341) A202 (Turbo Blower House Boilers 1 – 4, LCP342) A203 (Turbo Blower House Boilers 5 & 6, LCP343).

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
W1 on site plan in Drawing No. 5530/32.01/033; Emission to the Brumby Beck	Blast Furnace and BOS, Caparo Merchant Bar, Rod Mill, Turbo Blower House and Central Power Station process water with local site drainage to and from the Seraphim Lagoon.	Flow	18800 m^3/d	24-hour total	Continuous	MCERTS Standards scheme: 'Minimum requirements for the self-monitoring of effluent flow'
		Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random Sample	Weekly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		pH	5.0 – 9.0	Daily Mean	Continuous emission monitor	BS ISO 10523
		Suspended solids	30.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN 872
		Ammoniacal Nitrogen (expressed as N)	3.5 mg/l Or as otherwise agreed under improvement condition IC15c	Random Sample	Monthly	BS EN ISO 11732
		Mercury and its compounds, expressed as mercury (Total Hg)	0.0006 mg/l	Random sample or qualified random sample	Quarterly	BS EN ISO 17852

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Cadmium and its compounds, expressed as cadmium (Total Cd)	0.002 mg/l	Random sample or qualified random sample	Quarterly	BS EN ISO 5961
		Copper	0.025 mg/l	Random sample or qualified random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Total Chromium	0.05 mg/l	Random sample or qualified random sample	Monthly	BS EN 1233
		Nickel	0.1 mg/l	Random sample or qualified random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Lead	0.08 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Zinc	0.7 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Iron	5.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Cyanide (CN^-); easily released	0.4 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS 6068-2.18
		Heavy Metals as the sum of As, Cd, Cr, Cu, Hg, Ni, Pb, Zn and their compounds expressed as metal.	1.0 mg/l	Random sample or qualified random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Total Hydrocarbons	5.0 mg/l	Random Sample	Monthly	BS EN ISO 9377-2
W2 on site plan in Drawing No. 5530/32.01/033; Emission to the Bottesford Beck	Local site drainage from the North area of Scunthorpe Steel Rail Section Mill and ex Bloom & Billet Mill (BBM)	Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random Sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		Suspended solids	30.0 mg/l	Random Sample	Quarterly	BS EN 872
		pH	>5.0	Random Sample	Monthly	BS ISO 10523
		Total Hydrocarbons	5.0 mg/l	Random Sample	Monthly	BS EN ISO 9377-2
		Suspended solids	30.0 mg/l	Random Sample	Quarterly	BS EN 872

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
W3 on site plan in Drawing No. 5530/32.01/033; Emission to the Bottesford Beck	Scunthorpe Rail Section Mill (SRSM) process water. Local site drainage from SRSM middle + south ends, south end of ex BBM and ore blending area.	Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random Sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		pH	5.0 – 10.0	Daily Mean	Continuous emission monitor	BS ISO 10523
		Chlorine (free chlorine and total chlorine)	0.5 mg/l	Daily Mean	Continuous emission monitor	'Performance standards and test procedures for continuous water monitoring equipment'. Check or calibration random samples to BS EN ISO 7393-part 1, 2 or 3
		Total Hydrocarbons	5.0 mg/l	Random Sample	Monthly	BS EN ISO 9377-2
W4 on site plan in Drawing No. 5530/32.01/033 Emission to Bottesford Beck	Concast process water and local site drainage with Concast water softener unit and regeneration waste water	Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random Sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		Suspended solids	20.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Quarterly	BS EN 872
		pH	5.0 – 10.0	Daily Mean	Continuous emission monitor	BS ISO 10523

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Chlorine (free chlorine and total chlorine)	0.5 mg/l	Daily Mean	Continuous emission monitor	'Performance standards and test procedures for continuous water monitoring equipment'. Check or calibration random samples to BS EN ISO 7393-part 1, 2 or 3
		Total Hydrocarbons	5.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN ISO 9377-2
		Iron	5.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Zinc	2.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Nickel	0.5 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Total Chromium	0.5 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN 1233
		Suspended solids	50.0 mg/l	Random Sample	During any discharge	BS EN 872
W5 on site plan in Drawing No. 5530/32.01/033 Emission to the Bottesford Beck	Emergency Discharge only. BOS and Concast plant site drainage Recycled surface water to BOS plant. Emergency discharge only	None	-	-	-	-
W6 on site plan in Drawing No. 5530/32.01/033 Emission to the Bottesford Beck	Concast 4 process water and site drainage. Site drainage from the soaking pits, material off-loading area and the Briquetting plant area	Suspended solids	20.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Quarterly	BS EN 872
		Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		pH	5.0 – 10.0	Daily Mean	Continuous emission monitor	BS ISO 10523

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Total Hydrocarbons	5.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN ISO 9377-2
		Chlorine (free chlorine and total chlorine)	0.5 mg/l	Daily Mean	Continuous emission monitor	'Performance standards and test procedures for continuous water monitoring equipment'. Check or calibration random samples to BS EN ISO 7393-part 1, 2 or 3
		Iron	5.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Zinc	2.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Nickel	0.5 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Total Chromium	0.5 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN 1233
W7 on site plan in Drawing No. 5530/32.01/033 Emission to the Bottesford Beck	Site drainage from the area of the former Redbourn works and north end Scunthorpe Plate Mill (SPM) to and from 'Goosehole' (ground water lagoon)	Biochemical Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		Suspended Solids	30.0 mg/l	Random sample	Quarterly	BS EN 872
		pH	5.0 – 9.0	Daily Mean	Continuous emission monitor	BS ISO 10523
		Copper	0.025 mg/l	Random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Chromium	0.08 mg/l	Random sample	Monthly	BS EN 1233
		Nickel	0.1 mg/l	Random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Lead	0.08 mg/l	Random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Zinc	0.7 mg/l	Random sample	Monthly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Heavy Metals as the sum of As, Cd, Cr, Cu, Hg, Ni, Pb, Zn and their compounds expressed as metal.	1.0 mg/l	Random sample	Quarterly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Total Hydrocarbons	5.0 mg/l	Random sample	Monthly	BS EN ISO 9377-2
		Cyanide (CN^-); easily released	0.1 mg/l	Random sample	Monthly	BS 6068-2.18
		Phenols as Phenol Index (reported as mg/l phenol)	3.0 mg/l	Random sample	Monthly	BS 6068-2.12:1990
W8 on site plan in Drawing No. 5530/32.01/033 Emission to Bottesford Beck	Site drainage from Dawes Lane Coke Oven Stores area	None	-	-	-	-
W9 on site plan in Drawing No. 5530/32.01/033 Emission to the Bottesford Beck	Site drainage from part of the Rail Service Centre, the Structural Workshops and local Iron	Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Random sample	Monthly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		Suspended Solids	30.0 mg/l	Random sample	Quarterly	BS EN 872
		pH	5.0 - 9.0	Daily Mean	Continuous emission monitor	BS ISO 10523

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
	Foundry facility areas	Total Hydrocarbons	5.0 mg/l	Random sample	Monthly	BS EN ISO 9377-2
		Cyanide (CN^-); easily released	0.1 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly or as agreed in line with improvement condition IC16	BS 6068-2.18
W10 on site plan in Drawing No. 5530 / 32.01 / 033 Emission to River Trent	Biological Effluent Treatment Plant (BETP) treated effluent from Coke making, contaminated ground water and landfill leachate	Flow	5000 m^3/d	24-hour total	Continuous	MCERTS Standards scheme: 'Minimum requirements for the self-monitoring of effluent flow'
		Biological Oxygen Demand for 5 days (BOD_5)	20.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS EN 1899-1 BS EN 1899-2 BS EN 25814:1992
		Chemical Oxygen Demand (COD)	220.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS 6068-2.34 (same as ISO 6060) BS ISO 15705
		Suspended Solids	150.0 mg/l	Random sample	Weekly	BS EN 872
		pH	5.0 - 9.0	Daily Mean	Continuous emission monitor	BS ISO 10523

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Sum of Ammonia-nitrogen (NH_4^+-as N), Nitrate-nitrogen (NO_3^--as N) and Nitrite-nitrogen (NO_2^- - as N)	50.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS EN ISO 11732
		Heavy Metals as the sum of As, Cd, Cr, Cu, Hg, Ni, Pb, Zn and their compounds expressed as metal.	1.0 mg/l	Random sample	Quarterly	BS ISO 17294-1 BS EN ISO 17294-2 BS EN ISO 15586
		Total Hydrocarbons	5.0 mg/l	Random sample	Weekly	BS EN ISO 9377-2
		Cyanide (CN^-); easily released	0.1 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS 6068-2.18
		PAH (poly-cyclic aromatic hydrocarbons) in respect to emissions into water as specified in Schedule 6	0.05 mg/l	Qualified random sample (or a 24-hour composite sample)	Monthly	BS EN ISO 17993
		Phenols as Phenol Index (reported as mg/l phenol)	0.5 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS 6068-2.12:1990

Table S3.9 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period or as agreed with the Environment Agency**	**Monitoring frequency**	**Monitoring standard or method**
		Sulphides, easily released	0.1 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	Ref 228 (Blue book) or DIN38105 D 27
		Thiocyanate (as CNS)	4.0 mg/l	Qualified random sample (or a 24-hour composite sample)	Weekly	BS EN ISO 10304-3
T1 on site plan in schedule 7	Dewatering Plant	Supernatant water	No limit set	-	-	-

Table S3.10 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
A302 and A303 Note 1	Particulates Note 1	Continuous measurement Note 1	Obscuration Note 1	BS 2742:2009 Use of the Ringelmann and miniature smoke charts supporting a calibration check of the continuous obscuration monitors. This shall be made at least once a year, unless otherwise agreed in writing by the Agency. Unless these instrument specific calibration checks show otherwise, 20% obscuration is deemed to be equivalent to Ringlemann shade 1, 40% obscuration is deemed to be equivalent to Ringlemann shade 2, 60% obscuration is deemed to be equivalent to Ringlemann shade 3 and 80% obscuration is deemed to be equivalent to Ringlemann shade 4.
A1	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	-
A302 and A303	Battery under-firing visible emissions monitoring by Obscuration. Number of affected monitoring days due to planned shutdown from preventative maintenance of the Benzole scrubbers and/or Benzole distillation plant aiming for 100% utilisation.	Monthly	-	-

Table S3.10 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
A302 and A303	Battery under-firing visible emissions monitoring by Obscuration. Number of affected monitoring days due to shutdown from abnormal operation, reactive maintenance, unplanned outage or unplanned shutdown.	Monthly	-	-
Note 1 – Process monitoring for particulates via Obscuration shall not commence until IC12a, IC12b and IC12c have been completed				

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter as required by condition 3.5.1.	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air (Iron Ore Sintering and Associated Processes) - Particulates	A1, A2	Every 3 months	1 January, 1 April, 1 July, 1 October
Particulates	A3, A9	Annual	1 January
Dioxins	A1	Every 3 months Or as agreed with Environment Agency in line with improvement condition IC13	1 January, 1 April, 1 July, 1 October
	A302 and A303.	Every 3 months Or as agreed with Environment Agency in line with improvement condition IC13	1 January, 1 April, 1 July, 1 October
PAH's	A1	Every 6 months or as agreed with Environment Agency in line with improvement condition IC13	1 January, 1 July
	A302 and A303.	Every 6 months monthly initially then as agreed with Environment Agency in line with Improvement Condition IC10a	1 January, 1 July
Mercury	A1	Annual	1 January
Emissions to air (Coke Oven batteries)	ACO 1-2, ACO 3-4, A302 and A303.	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to air (Coke Ovens) - Sulphur Oxides	A302 and A303	Every 6 months	1 January, 1 July
Emissions to air (Coke Ovens) - particulates	A302 and A303, A324, A325	Annual	1 January
Emissions to air (Blast Furnaces)	A46 & A47	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to air (Blast Furnaces)	A18, A19, A48	Annual	1 January

Table S4.1 Reporting of monitoring data			
Parameter as required by condition 3.5.1.	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air (Basic Oxygen steel making and casting) Furnaces)	A57/1-4, A57/5-8, A78	Every 3 months	1 January, 1 April, 1 July, 1 October
	A49, A50, A57/1-4, A57/5-8, A58, A59, A61, A70, A78, A83, A84	Annual	1 January
Emissions to air (Rolling Mills)	A77, A132, A137, A138	Annual	1 January
Emissions to air (LCP Energy Generation)	A201/1-2 (LCP341), A202/1-4 (LCP342), A203/5-6 (LCP343)	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to air Yarborough metal recovery dust abatement unit and Semi-static fume booth extraction unit.	A139 and A140	Every 12 months	1 January
Emissions to water	W1, W2, W3, W4, W6, W7, W9, W10	Every 3 months	1 January, 1 April, 1 July, 1 October
Process monitoring requirements	A1, A302 and A303	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Annual production/treatment	
Parameter	**Units**
Sinter production	tonnes
Coke produced	tonnes
Liquid Iron Produced	tonnes
Liquid Steel produced (BOS)	tonnes
Steel products produced	tonnes
Scrap metal melted	tonnes
Dewatered Sludge (Activity AR16 only)	tonnes
Filter Cake (Activity AR16 only)	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage (potable water)	Annually	Tonnes
Total Effluent discharges and by each emission point	Annually	m^3
Natural Gas usage	Annually	MJ
HFO usage	Annually	tonnes
Energy efficiency for each LCP	Annually	%
Energy usage (Activity AR16 only)	Annually	MWs

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Process down time (Activity AR16 only)	Annually	Hours
Sinter plant		
Sinter strand stoppages more than 15 minutes.	Quarterly	Time/date
		Time (duration)
		Planned
		Unplanned
Appleby Coke Oven plant		
Coke Oven Battery venting unabated (not ignited) raw coke oven gas from the pressure relief Bleeders A305 for more than 15 minutes.	Monthly	Time/date
		Time (duration)
		Raw gas volume and mass
		Planned
		Unplanned
Coke Oven Battery venting abated flared (ignited) raw coke oven gas from the pressure relief Bleeders A305 for more than 1 hour.	Monthly	Time/date
		Time (duration)
		Raw gas volume and mass
		Planned
		Unplanned
Coke Oven gas holder flare stack operations.	Quarterly	Time/date
		Time (duration)
		Gas volume and mass
		Planned
		Unplanned
CO gas under-firing; mass releases of SO_x and NO_x from release points A302 and A303. SO_x by calculation from the mean continuous monitoring of hydrogen sulphide in Coke Oven fuel gas and NO_x by monitoring	Quarterly	Mass
Blast Furnace (BF) plant		
BF secondary ventilation system non-operation.	Quarterly	Time/date
		Time (duration)

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
		Planned
		Unplanned
BF gas holder flare stack operations	Quarterly	Time/date
		Time (duration)
		Gas volume and mass
		Planned
		Unplanned
BF Slag granulated as a percentage of total BF slag production.	Monthly	Percentage
Blast Furnace bleeders openings for greater than 120 seconds.	Monthly	Time/date
		Time (duration)
		Planned
		Unplanned
Iron plating operations	Monthly	Tonnage and reason(s)
Basic Oxygen Steelmaking (BOS) plants		
BOS secondary vent system non-operation.	Quarterly	Time/date
		Time (duration)
		Planned
		Unplanned
All BOS gas venting (or flaring) operations, which does not include that released from the initial and final blowing stages of steelmaking.	Quarterly	Time/date
		Time (duration)
		Planned
		Unplanned
BOS gas production (make during steelmaking), which does not include that produced from the initial and final blowing stages, venting and export.	Quarterly	Mass
BOS gas holder flare stack operations,	Quarterly	Time/date
		Time (duration)
		Gas volume and mass
		Planned
		Unplanned
Installation process operations		
Environmental/operational parameters related to throughput.	Quarterly	-

Table S4.4 Reporting requirements		
Media/parameter	**Reporting format**	**Date of form**
Air [1]	Emissions to Air Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
LCP [2]	Form IED HR1 – operating hours	31/12/15
LCP Air [2]	Form IED CON1 – continuous monitoring	31/12/15
LCP Air & Energy	Form IED AR1 – SO_2, NO_x and dust mass emission and energy, or other form as agreed in writing by the Environment Agency.	Version 1.2, Dec 2017
LCP CEMs [2]	Form IED CEM1 – Invalidation Log	31/12/15
Water	Emissions to Water Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Process Monitoring	Process Monitoring Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Water usage	Water Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Waste Return	E-waste Return Form or other form as agreed in writing by the Environment Agency	-
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Other performance indicators	Other Performance Parameters Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Environmental/operational parameters related to throughput.	Performance 1	Date of permit issue

Note [1]: Forms relating to non-LCP operation.

Note [2]: Forms relating to LCP operation; these are standardised forms and not all parameters may be applicable to this permit.

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“Air Quality Risk Assessment” has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“BFG” means Blast Furnace Gas.

“BOS” means Basic Oxygen Steelmaking.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“Carbonising time” means the time between coal being charged into an oven and the time when coke is then discharged from the same oven;

“CEN” means Commité Européen de Normalisation

“combustion technical guidance note” means IPPC Sector guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by The Environment Agency.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“DLN” means dry, low NOx burners.

“DLCF” and “BCRA: Agreed Uniform Technique of assessment of smoke leakage” means; Door Leakage Control Factor which is a relative measure of the visible fugitive releases from around the seal on the coke oven doors and is used to assess fugitive releases from the coke oven doors. This assessment technique is described in the Agreed Uniform Technique, British Carbonisation Research Association (BCRA) Special Publication No.19 April 1977.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended)

“Hazardous property” has the meaning in Annex lll of the Waste Framework Directive

“Industrial Emissions Directive” means Directive 2010/75/EU of The European Parliament and of The Council of 24 November 2010 on industrial emissions.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MWth or more, based on gross calorific value.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“low polluting fuels” means biomass or coal with an average as-received sulphur content of less than 0.4% by mass as described in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines

“malfunction” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“MEG” means Mixed Enhance Gas; combustion fuel.

“mcr” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“National Emission Reduction Plan” (NERP) is the plan issued by Defra in accordance with Article 4.6 of the Large Combustion Plants Directive and associated guidance.

“ncv” means net calorific value.

“PAH in respect to emissions into air” means Anthracene, Fluorene, Napthalene, Phenanthrene, Benzo[ghi]perylene, Acenaphthylene, Acenaphthene, Fluoranthene, Pyrene, Chrysene, Benz[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[a]pyrene, Dibenz[ah]anthracene, Indeno [1,2,3-cd] pyrene in any combination or singly, expressed as Benzo[a]pyrene.

“PAH in respect to emissions into water” means the sum of Fluoranthene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[a]pyrene, Indeno[1,2,3-cd]pyrene and Benzo[g,h,i]perylene).

“PEF” and “BCRA; Agreed Uniform Technique of assessment of fugitive emissions” means; the Pushing Emission Factor that is used to assess releases to air from emptying (pushing) a coke oven and is a relative measure of the visible fugitive releases that may occur while coke is being pushed out of an oven into the coke car and taken to be quenched. This assessment technique is described in the Agreed Uniform Technique, British Carbonisation Research Association (BCRA).

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“operational hours” of an LCP is the time spent between start up and shut down of the LCP.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Ringlemann Shade numbers for visible smoke emissions” means reference to an assessment made with either the Ringlemann Chart or associated miniature smoke charts, in accordance with BS 2742:2009, as amended (previously BS2742:1969). These charts compare the darkness of smoke with standard shades of grey placed in a suitable position. The charts are placed at such a distance from the observer that the black lines merge into the white background and produce for each shade a uniform grey. The numbers of the

shades (the Ringelmann numbers) ranged from 0 (white) to 5 (black), the stages being by changes of 20% in obscuration of the background.

“SI” means Site Inspector

“Standby fuel” means alternative liquid fuels that are used in emergency situations when the gas fuel which is normally used, is not available.

“TLCF” and “BCRA; Agreed Uniform Technique of assessment of smoke leakage” means; the Top Leakage Control Factor which is a relative measure of the visible fugitive releases from all potential release points on top of the coke oven battery and is used to assess fugitive releases from the coke oven battery charging lids. This assessment technique is described in the Agreed Uniform Technique, British Carbonisation Research association (BCRA) Special Publication No. 19 April 1977.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

a. in relation to emissions from combustion sources not subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K, at a pressure of 101.3 kPa, with correction for water vapour content and correction for an oxygen content of 3% dry for liquid and gaseous fuels and 6% dry for solid fuels; and/or

b. in relation to emissions from non-combustion sources and not subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K and at a pressure of 101.3 kPa, with no correction for water vapour content; and/or

c. in relation to emissions from non-combustion sources subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K and at a pressure of 101.3 kPa, with correction for water vapour content; and/or

d. in relation to emissions from combustion sources subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K and at a pressure of 101.3 kPa, with correction for water vapour content and correction for an oxygen content of 3% for blast furnace hot blast stoves and 5% for coke oven underfiring.

e. “BS EN 14181” will include the requirements of BS EN 15267-3 through QAL1. MCERTS certification for the appropriate ranges and determinands is a way of demonstrating of compliance with the requirements of BS EN 15267-3.

When the following terms appear in the waste code list in Schedule 2, table 2.2 and 2.3 for those tables they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

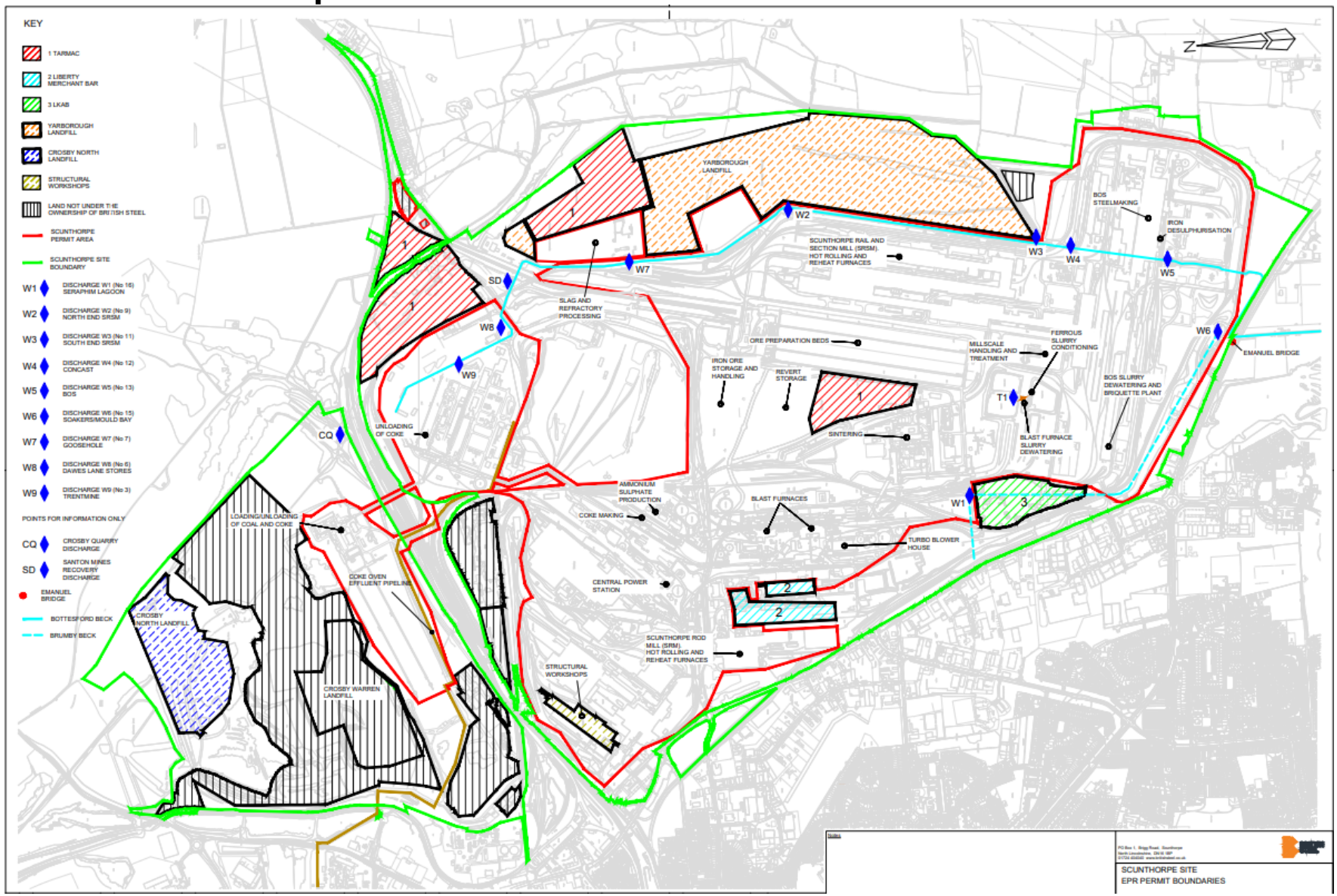
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

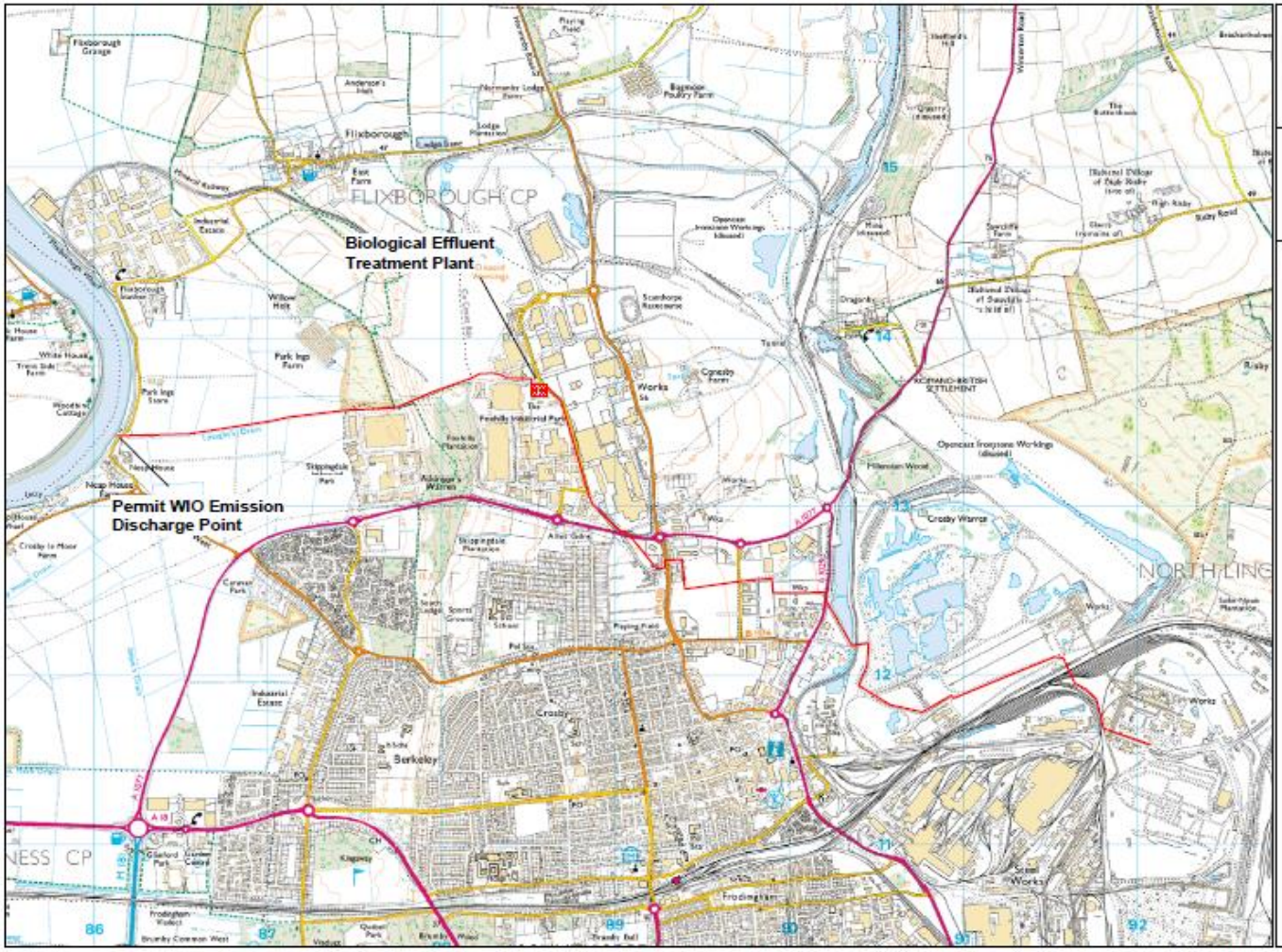
‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term

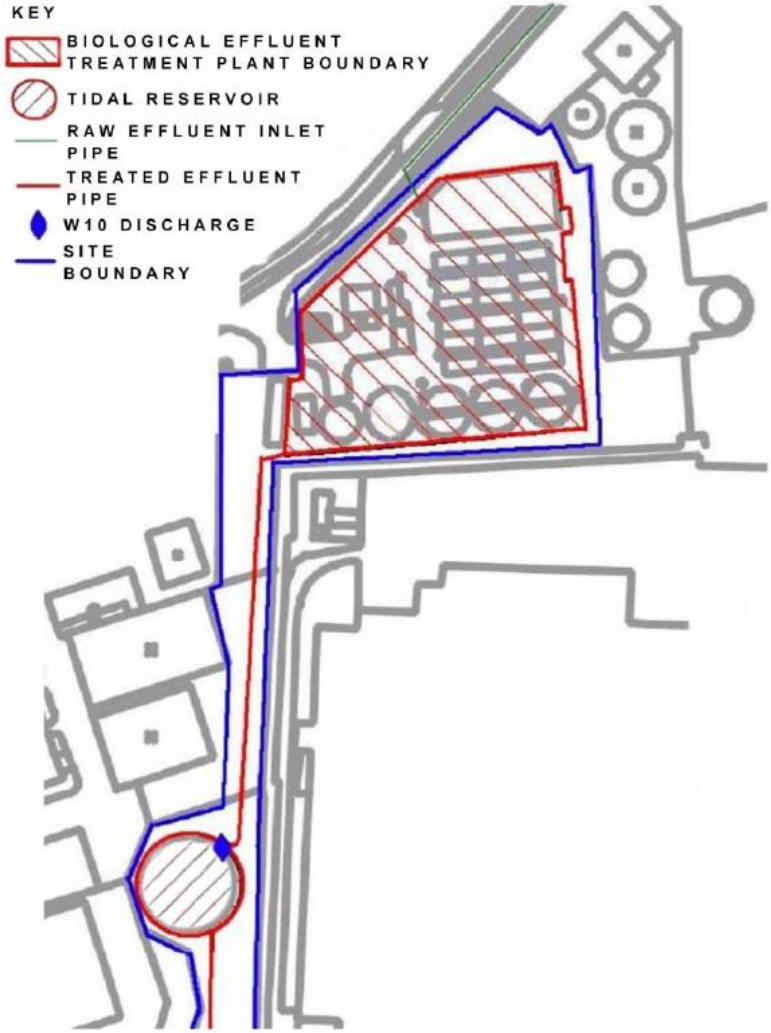
Schedule 7 – Site plan



Scunthorpe Steelworks, Coke Making Effluent Pipeline



Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk



END OF PERMIT

Annex to conditions – Derogation under Industrial Emissions Directive

Derogation under Article 15(4) of Industrial Emissions Directive

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

Operating techniques	We have considered the operator's proposed techniques and their comparison against other relevant techniques by the European Commission establishing best available techniques (BAT) conclusions ('BAT Conclusions') for Iron and Steel Production as detailed in document reference 2012/135/EU published on 8th March 2012. Our full reasoning is given in our decision document that accompanies this permit variation determination. The operator has requested derogations from a number of BAT AELs based on the technical characteristics of the installation. The proposed techniques will result in emissions for which the appropriate emission limits are less stringent than those associated with the best available techniques as described in BAT Conclusions. We have considered the operator's justification for departure from the BAT Conclusions and accept it in the following respects and for the following reasons: **Sinter plant (BAT Conclusion 20)** 1) The derogation is time limited to allow for the design, build and commissioning of a new fabric (bag) filter as it was determined that the current abatement installed cannot achieve required emission limit values. Installation is not technically feasible within the time constraints considering the scale of the plant. This would, therefore, meet the requirements for a derogation under Article 15(4) of the Industrial Emissions Directive (IED) on technical grounds. 2) We have assessed the costs of meeting the BAT-AEL by 30/09/2024 and agree that they are significantly higher than the benefits that could be achieved. The cost benefit analysis utilised the higher values for damage costs in the sensitivity analysis, which has the effect of increasing the benefits greatly leading to a positive net present value (NPV). These higher damage cost values are however significantly higher than the central value and the costs are based on a worst-case. As the central and the low damage costs are both negative with the central NPV being a minus value of tens of millions, taking into account the assessment of a worst-case scenario, we agree with the conclusions of the operator. 3) The derogated emissions of dust (including PM_{10} and $PM_{2.5}$) from the sinter plant have a negligible impact on local air quality and there is no risk that they will cause a breach of the Environmental Standards (ES) and objectives. There are currently no emission limits for Polycyclic Aromatic Hydrocarbons (PAHs) in the permit, however, measures to monitor them have been included in the varied permit. 4) The derogated emission limit value in the permit for particulates will be maintained throughout the period of the derogation. This has been set to ensure protection of the environment and human health.

Coke ovens (BAT Conclusion 48, 49, 50 and 51)

5) The derogations are time limited until the closure of the coke ovens by 31/12/2026. The technical characteristic of the coke ovens, the timescales to install the abatement equipment prior to closure and "the practicability .... of interrupting the activity so as to install improved emission control upon the pollutant(s)", which is highlighted as an example of a technical characteristic in Defra guidance [note 1], are such that it would not be technically feasible to install the abatement plant in order to meet the BAT AELs before closure of the plant by 31/12/2026. This would, therefore, meet the requirements for a derogation under Article 15(4) of the IED on technical grounds.

6) We have assessed the costs of meeting BAT-AELs by 31/12/2026 and agree that they are significantly higher than the benefits that could be achieved. The cost benefit analysis utilised the higher values for damage costs in the sensitivity analysis, which has the effect of increasing the benefits greatly leading to a positive NPV. These higher damage cost values are however significantly higher than the central value and the costs are based on a worst-case. As the central and the low damage costs are both negative with the central NPV being minus £61.6M, taking into account the assessment of a worst-case scenario, we agree with the conclusions of the operator.

7) The derogated emissions of SO_2 and dust (including PM_{10} and $PM_{2.5}$) from the coke ovens have a negligible impact on local air quality and there is no risk that they will cause a breach of the AQS and objectives.

8) The derogated emission limit values will be maintained throughout the period of the derogations. These have been set to ensure protection of the environment and human health.

9) The achievement of emission levels associated with the best available techniques as described in BAT Conclusions would lead to disproportionately higher costs compared to the environmental benefits due to the technical characteristics of the installation concerned.

Emission limits

BAT conclusion	**Associated BAT-AEL**	**Derogation until**	**Limit during derogation period**
20	40 mg/Nm³ for dust with advanced electrostatic precipitator abatement system	30/09/2024	100 mg/m³ for dust with advanced electrostatic precipitator abatement system
48	1000 mg/Nm³ For hydrogen sulphide (H_2S) (residual H_2S in Coke Oven gas fuel)	31/12/2026	5000 mg/Nm³ for sulphur oxides expressed as sulphur dioxide
49	500 mg/Nm³ for sulphur oxides (SO_X) expressed as sulphur dioxide (SO_2 from underfiring)	31/12/2026	5000 mg/m³ controlled by H_2S in the coke oven gas as above

	49	< 1 – 20 mg/Nm^3 dust emissions arising from underfiring	31/12/2026	200 mg/Nm^3
	50	<10 mg/Nm^3 of dust from coke pushing	31/12/2026	No limit set, controlled via PEF (Coke Pushing Emission Factor)
	51	< 25g/t coke emissions controlled by wet quenching	31/12/2026	No limit set

Note 1 Defra and Welsh Government Guidance on Industrial emissions directive EPR for Part A installations (Section 4) http://www.defra.gov.uk/publications/files/pb13898-epr-guidance-part-a-130222.pdf