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Environmental Permitting (England and Wales) Regulations 2010 (as amended) Permit Review

Review of permit, following the publication of the revised Best Available Techniques (BAT) Reference Document for the Non-Ferrous Metals Industries.

The relevant sections of the Non-ferrous BAT reference document have been reviewed as listed below:

1.1.1. Environmental management systems (EMS)

BAT 1. In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features: EN 30.6.2016 Official Journal of the European Union L 174/35

(a) commitment of the management, including senior management;

Befesa: Currently comply and listed in group integrated policy.

(b) definition of an environmental policy that includes the continuous improvement of the installation by the management;

Befesa: Currently comply and listed in group integrated policy.

(c) planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;

Befesa: Currently comply, with annual objectives and targets published and reviewed.

(d) implementation of procedures paying particular attention to:

(i) structure and responsibility,

Befesa: Currently comply, with the site accredited to ISO14001

(ii) recruitment, training, awareness and competence,

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Befesa: Currently comply and listed in group integrated policy. Full annual training plans published, with skills matrices for personnel to establish training needs.

(iii) communication,

Befesa: Currently comply. Procedures detail all internal and external communications as part of the site's ISO 14001 accreditation.

(iv) employee involvement,

Befesa: Currently comply. Listed with in the group integrated policy and site procedures.

(v) documentation,

Befesa: Currently comply. Full documented systems and procedures as per the site's ISO 14001 accreditation.

(vi) effective process control,

Befesa: Currently comply. The site has a full process SCADA system, which incorporates the outcomes of the site's HAZOP study. All process changes are controlled via the site's process plant change authorisation procedure (PPCA).

(vii) maintenance programmes,

Befesa: Currently comply. The site has a full computerised preventative and break down request / logging maintenance system, with everything documented in the site's procedures.

(viii) emergency preparedness and response,

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001.

(ix) safeguarding compliance with environmental legislation;

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. Internal and external audits are used are to ensure and demonstrate compliance.

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(e) checking performance and taking corrective action, paying particular attention to:

(i) monitoring and measurement (see also the Reference Report on Monitoring of emissions to Air and Water from IED installations-ROM),

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. MCERTs emission monitoring in conducted as part of the site's IED permit requirements. Regular documented monitoring is carried out by the site as part of the site procedures.

(ii) corrective and preventive action,

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. All corrective, preventative and opportunities for improvement are recorded and actioned.

(iii) maintenance of records,

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001.

(iv) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. The site has a documented system of internal audits. The site has external audits as part of the site's ISO 14001 accreditation.

(f) review of the EMS and its continuing suitability, adequacy and effectiveness by senior management;

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. The systems and procedures are reviewed as part of the site's regular HSQE review and also considered as part of the site's monthly management.

(g) following the development of cleaner technologies;

Befesa: Currently comply. New technologies are reviewed as part of the group technical meetings and actioned if required as part of the site's capital programme.

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(h) consideration for the environmental impacts from the eventual decommissioning of the installation at the stage of designing a new plant, and throughout its operating life;

Befesa: Currently comply. The site has a modular system which ensures easy dismantling and reuse of equipment.

(i) application of sectoral benchmarking on a regular basis.

Befesa: Currently comply. The Befesa process is currently listed in the Non-ferrous BAT document as BAT. Befesa is the leader in the world of salt slags processing.

The establishment and implementation of an action plan on diffuse dust emissions (see BAT 6) and the application of a maintenance management system which especially addresses the performance of dust abatement systems (see BAT 4) are also a part of the EMS.

Befesa: Currently comply. Procedures exist as part of the site's ISO 140001. The site also maintains an odour management plan, which is reviewed every six months. Dust abatement systems are checked weekly by the site maintenance department, with monthly extraction checks carried out by an external contractor. MCERTS emission monitoring checks are also conducted every 3 months.

1.1.2. Energy management

BAT 2. In order to use energy efficiently, BAT is to use a combination of the techniques given below.

Befesa: Currently comply. The site has energy management procedures in place. The company expected to have ISO 50001 in place by the end of 1st quarter 2017.

Befesa reuses steam from the crystallisation process within a multi stage crystallisation unit, ensuring a high level of energy efficiency.

Energy efficient motor are used.

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Energy is efficient LED lighting is being installed across the site.

1.1.3. Process control

BAT 3. In order to improve overall environmental performance, BAT is to ensure stable process operation by using a process control system together with a combination of the techniques given below.

Befesa: Currently comply. The site has a SCADA system with various alarm systems to ensure efficiency process control.

BAT 4. In order to reduce channelled dust and metal emissions to air, BAT is to apply a maintenance management system which especially addresses the performance of dust abatement systems as part of the environmental management system (see BAT 1).

Befesa: Currently comply. The site has a weekly check of the bag filters using a coloured dye method to ensure efficient running of the dust abatement system.

1.1.4. Diffuse emissions

1.1.4.1. General approach for the prevention of diffuse emissions

BAT 5. In order to prevent or, where this is not practicable, to reduce diffuse emissions to air and water, BAT is to collect diffuse emissions as much as possible nearest to the source and treat them.

Befesa: Currently comply. The site uses best available technology with sulphuric acid scrubbers for all ammonia emissions. All areas of the process have LEV extraction points to minimise diffuse emissions.

The loading of oxide to vehicles could be improved by loading within a contained area, as identified as part of the site's odour management plan.

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BAT 6. In order to prevent or, where this is not practicable, to reduce diffuse dust emissions to air, BAT is to set up and implement an action plan on diffuse dust emissions, as part of the environmental management system (see BAT 1), that incorporates both of the following measures:

- a. identify the most relevant diffuse dust emission sources (using e.g. EN 15445);
- b. define and implement appropriate actions and techniques to prevent or reduce diffuse emissions over a given time frame.

Befesa: Currently comply. The site uses dust abatement systems with LEV extraction at all process emission points.

All materials are stored in stored within bunded fully contained buildings.

Road sweeper used several times per week to reduce any fugitive dust.

Wheel wash in place.

Diffuse emission points listed as per site procedures.

1.1.4.2. Diffuse emissions from the storage, handling and transport of raw materials

BAT 7. In order to prevent diffuse emissions from the storage of raw materials, BAT is to use a combination of the techniques given below.EN L 174/38 Official Journal of the European Union 30.6.2016

Befesa: Currently comply. The site uses dust abatement systems with LEV extraction at all process emission points.

All materials are stored in stored within bunded fully contained buildings.

Road sweeper used several times per week to reduce any fugitive dust.

Wheel wash in place.

Regular site inspections and strict housekeeping measures applied.

Diffuse emission points listed as per site procedures.

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BAT 8. In order to prevent diffuse emissions from the handling and transport of raw materials, BAT is to use a combination of the techniques given below.

Befesa: Currently comply. All raw materials are discharged and stored in fully enclosed bunded buildings. The buildings have external doors to minimise fugitive dust emissions.

Road sweeper used several times per week to reduce any fugitive dust.

Wheel wash in place.

Regular site inspections and strict housekeeping measures applied.

Diffuse emission points listed as per site procedures.

1.1.4.3. Diffuse emissions from metal production

BAT 9. In order to prevent or, where this is not practicable, to reduce diffuse emissions from metal production, BAT is to optimise the efficiency of off-gas collection and treatment by using a combination of the techniques given below.

Befesa: Not applicable, no thermal metal processing.

1.1.5. Monitoring of emissions to air

BAT 10. BAT is to monitor the stack emissions to air with at least the frequency given below and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

Befesa: Currently comply.

All emissions are tested and monitored in line with the site's IED permit.

1.1.6. Mercury emissions

BAT 11. In order to reduce mercury emissions to air (other than those that are routed to the sulphuric acid plant) from a pyrometallurgical process, BAT is to use one or

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both of the techniques given below.EN 30.6.2016 Official Journal of the European Union L 174/45

Befesa: Not applicable

1.1.7. Sulphur dioxide emissions

BAT 12. In order to reduce emissions of SO₂ from off-gases with a high SO₂ content and to avoid the generation of waste from the flue-gas cleaning system, BAT is to recover sulphur by producing sulphuric acid or liquid SO₂.

Befesa: Not applicable

1.1.8. NO_x emissions

BAT 13. In order to prevent NO_x emissions to air from a pyrometallurgical process, BAT is to use one of the techniques given below.

Befesa: Not applicable

1.1.9. Emissions to water, including their monitoring

BAT 14. In order to prevent or reduce the generation of waste water, BAT is to use one or a combination of the techniques given below.EN L 174/46 Official Journal of the European Union 30.6.2016

Befesa: Not applicable. No off site discharge.

BAT 15. In order to prevent the contamination of water and to reduce emissions to water, BAT is to segregate uncontaminated waste water streams from waste water streams requiring treatment.

Befesa: Not applicable. All water streams recycled.

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BAT 16. BAT is to use ISO 5667 for water sampling and to monitor the emissions to water at the point where the emission leaves the installation at least once per month (1) and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

Befesa: Not applicable. As listed previous.

BAT 17. In order to reduce emissions to water, BAT is to treat the leakages from the storage of liquids and the waste water from non-ferrous metals production, including from the washing stage in the Waelz kiln process, and to remove metals and sulphates by using a combination of the techniques given below.

Befesa: Not applicable. As listed previous.

1.1.10. Noise

BAT 18. In order to reduce noise emissions, BAT is to use one or a combination of the techniques given below.

Befesa: Currently complies.

The site uses embankments to screen the source of noise.

The site encloses noisy plants or components in sound-absorbing structures

Anti-vibration pads are used if as required.

1.1.11. Odour

BAT 19. In order to reduce odour emissions, BAT is to use one or a combination of the techniques given below.

Befesa: Currently complies. The oxide storage area has a sulphuric acid scrubber.

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BAT CONCLUSIONS

20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 and 86.

Befesa: Not applicable.

1.3.5.1. Diffuse emissions

BAT 87. In order to prevent or reduce diffuse emissions from the salt slag recycling process, BAT is to use one or both of the techniques given below.

Befesa: Currently complies. Sulphuric acid scrubbers are used with direct connections to process emission points. A bag filtration system is used, with direct connections to the milling process emission points.

1.3.5.2. Channelled dust emissions

BAT 88. In order to reduce dust and metal emissions to air from crushing and dry milling associated with the salt slag recovery process, BAT is to use a bag filter.

Befesa: Currently complies. Bag filter system is used.

BAT-associated emission levels: See Table 20.

Table 20

BAT-associated emission levels for dust emissions to air from crushing and dry milling associated with the salt slag recovery process Parameter

BAT- (1) Dust 2-5 AEL (mg/Nm³)

(1) As a daily average or as an average over the sampling period.

Befesa: Does not currently comply. Bag filter system is used but the results over the last 3 years have varied between 1.4mg/m³ and 11.2mg/m³.

1.3.5.3. Gaseous compounds

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BAT 89. In order to reduce gaseous emissions to air from wet milling and leaching from the salt slag recovery process, BAT is to use one or a combination of the techniques given below.

Befesa: Currently complies. Sulphuric acid scrubbers are used.

BAT-associated emission levels: See Table 21.

Table 21

BAT-associated emission levels for gaseous emissions to air from wet milling and leaching from the salt slag recovery process.

Befesa: Currently complies for the applicable ammonia levels. Sulphuric acid scrubbers are used, in conjunction with caustic scrubber and flare stack, with results below that of table 21.

BAT CONCLUSIONS

90 , 91, 92, 93, 94, 95, 96, 97, 98,99, 100, 101, 012, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 159, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184.

Befesa: Not applicable.