

Briefing Note

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Project WID Compliance Options

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Subject Planning Consenting Regime: DSIT and Oxidiser

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1. This note has been prepared to outline our views on the consenting process for two of the available options necessitated by changes required under the Waste Incineration Directive (WID) at INEOS Nitriles chemical manufacturing site at Seal Sands, Stockton on Tees.
 2. It has been prepared for the purposes of discussing the consenting regimes with the Environment Agency and the relevant decision making bodies.
 3. The Seal Sands site manufactures acrylonitrile and acetonitrile and is an existing operational plant dedicated to this purpose. The chemical production process creates water which contains a range of other compounds, known as process water. This water consists primarily of normal water (around 95%) but also contains ammonium sulphate (4.5%) and hydrocarbons (0.5%). It is hazardous liquid waste.
 4. Currently, the chemical plant annually generates around 2,000,000 m³ (16 MMbbl) of process water, from which all potentially useful products are removed. Following this, some of the water is processed through the site's effluent treatment plant and discharged to the River Tees, although this discharge still has ammonia content. This activity is controlled under an Environmental Permit (Reference FP3435GZ) issued by the Environment Agency. The remainder of the process water is evaporated so as to concentrate the organic content, which is then incinerated in the plant's existing boilers which also creates steam used in the manufacturing process.
 5. It is proposed to modify the current production process to make the management of the process water more efficient, significantly reduce the release of ammonia to water and specifically to remove the waste streams currently processed in the site boilers.
 6. One of the options under consideration is to install a new technology called Deep Strata Injection Technology (DSIT), in which the total process waste water stream from the chemical manufacturing process is injected deep underground, below strata which would restrict vertical movement of the liquid while it degrades to non-hazardous components over a period of time by the natural conditions of elevated pressure and temperature present at that great depth. In addition to taking the liquid waste streams away from the boilers, this option would also reduce ammonia releases to the Tees by 90%.
 7. One of the other options is to install a new Oxidiser to replace the "incineration" function, currently provided by the existing site boilers. In addition to taking the liquid waste streams away from the boilers this option would also take a stream away from the effluent treatment plant reducing ammonia releases to the Tees by 60%. The existing WID compliant AOG Oxidiser on site would not be affected by this change.
 8. The current operation only treats the process water generated by the INEOS Nitriles Seal Sands site. There is no intention under any future scenario to accept process water or any liquid wastes from third parties.

9. It is our view that both of these options fall within the definition of a Nationally Significant Infrastructure Project (NSIP) and as such, would be determined under The Planning Act 2008, (the 'Act'). Our reasoning is set out below.
10. However, discussions with the Environment Agency suggest that our conclusions should be reviewed by the Planning Inspectorate to offer a check that the requirements of the Act have been correctly interpreted for the two cases considered here. Our views on each technology option are set out below and questions to the Inspectorate follow thereafter.

11. DSIT:

- Section 30 of the Act includes a definition of a “*hazardous waste facility*” as being any “*facility*” whose “*main purpose*” is expected to be the “*final disposal*” of hazardous waste.
- Section 30 of the Act also distinguishes between the construction of new “*hazardous waste facilities*” and the alteration of an existing “*hazardous waste facility*”.
- DSIT would involve the construction of new waste disposal infrastructure.
- To operate DSIT the existing EPR installation permit would be varied. It would not need a new permit as it would be an integral part of the Seal Sands operation.
- DSIT would constitute final disposal of the process waste water, because there is no purpose to the DSIT operation other than disposing of the process waste water generated during the chemical manufacturing process.
- There is no plant or equipment on the Seal Sands chemical manufacturing site which is equivalent to DSIT technology at the present time and/or which has the *primary purpose* of disposing of hazardous waste. This would therefore be a new hazardous waste operation for the Seal Sands chemical manufacturing site that has the *primary purpose* of disposing of hazardous waste.
- Section 30(2) (b) states that if disposal is by way of anything other than landfill or deep storage facility and if the capacity of the new facility is more than 30,000 tonnes per year, then the facility is a NSIP.
- DSIT would not be landfill as it is a deep injection operation within category D3 of Annex I to the Waste Framework Directive and does not have the technical or legal characteristics of landfill. There is no defined containment that is being “filled”. Neither is it a deep storage facility, based on the definition at Section 30(6), as it would not utilise a deep geological cavity - a term which also implies both vertical and lateral containment. By definition the longer term operation of the DSIT system relies upon there not being any lateral containment, in order to allow the material to be treated by the natural conditions at the levels at which it would be injected.
- The waste to be disposed of would be in the region of 2 million tonnes per annum (2,000,000 m³) of process waste water, all of which would be injected, should DSIT be implemented.
- The 30,000 tonne limit set by Section 30(2) (b) of the Act would therefore be exceeded many times over.
- On this basis, we conclude that DSIT is an NSIP.
- The alternative view is that the Seal Sands site is a chemical production *facility* and therefore the modifications to that *facility*, which include the introduction of the DSIT infrastructure, do not

constitute the construction of a “*hazardous waste facility*”, but rather the modification of a wider plant which has as its *primary purpose* chemical manufacturing, and hence the modification does not fall under S30 or the 2008 Planning Act regime.

12. WID Oxidiser:

- This option would involve the construction of a new WID compliant Oxidiser, the sole purpose of which would be for disposing of liquid hazardous waste.
- The same definitions and thresholds from the Planning Act as set out above in the context of DSIT, also apply to a new Oxidiser.
- To operate the new Oxidiser the existing EPR installation permit would be varied. It would not need a new permit as it would be an integral part of the Seal Sands operation.
- The Oxidiser would constitute final disposal of the waste, as its function would be the incineration of on-site waste streams to achieve WID compliance. Any potential for heat recovery would be a by-product of the Oxidiser and not the *primary purpose* of its installation and function.
- The boilers have a dual purpose of raising steam and disposing of some of the liquid waste stream. The new Oxidiser would be a more efficient method of meeting the waste disposal function of the boilers, whilst meeting current legislative requirements.
- The existing AOG Oxidiser has the *primary purpose* of treating “off gas” emissions from the chemical production line, and has a secondary advantage of co-burning two other liquid waste streams. The liquid waste streams would continue to be processed through the AOGO whichever option is implemented, as they come from a separate area of the production line.
- The AOG Oxidiser was approved under the Town and Country Planning Act regime, (reference 01/1736/P), in November 2001. The application pre-dated the introduction of the NSIP regime. However, even if that regime had been in place at the time, the AOG Oxidiser does not fall within the definition of “*hazardous waste facility*”, (section 30 of the Act), as its *primary purpose* is the treatment of off gas emissions and not the final disposal of such waste. Also the quantities of waste used in the AOG Oxidiser do not exceed 30,000 tonnes per year.
- The existing site boilers that are currently used to treat the main liquid waste streams were designed and installed for a dual purpose. The dual purpose of the boilers is to both generate steam for use in the chemical production area of the site, as well as disposing of part of the liquid waste stream through co-burning. Whilst the boilers are currently the only means of disposing of liquid waste their steam generation function will continue to be required on the site whichever liquid waste disposal option is selected.
- Following on from this, if a new oxidiser was to be constructed, whose *primary purpose* was the final disposal of hazardous waste, that development would constitute the construction of a new operation dedicated to the disposal of hazardous waste.
- The new Oxidiser would dispose of significantly more waste than the 30,000 tonnes per annum threshold level set out in Section 30 of the Act, with recent annual quantities at around 40-50,000 tonnes per annum whilst the site is not operating at full capacity

- Whilst the Environmental Permit (EPR) envisages and provides for this liquid waste stream to be “incinerated” on site, the new Oxidiser would still be a new standalone development for an existing installation which would require planning consent under the appropriate regime.
- Whilst it is possible under environmental law to vary the existing EPR permit to allow the use of a new waste disposal operation, the same does not apply to the construction of that operation. The ability to vary an existing planning permission is restricted to the conditions imposed upon it. Once a planning permission has been implemented by carrying out the development it authorises, it cannot be varied to enable new or different development. The Oxidiser, (if constructed), would amount to new development which would require planning consent.
- For the reasons set out above, we conclude that the Oxidiser would be a new hazardous waste facility designed to process more than the 30,000 tpa threshold.
- On this basis we conclude that a new WID Oxidiser must be an NSIP.
- The alternative view is that the Seal Sands site is a chemical production *facility* and therefore the modifications to that *facility*, which include the introduction of the new oxidiser, do not constitute the construction of a “hazardous waste facility”, but rather the modification of a wider plant which has as its *primary purpose* chemical manufacturing, and hence the modification does not fall under S30 or the 2008 Planning Act regime.

Questions

13. Our analysis suggests that both the DSIT and the Oxidiser options, to achieve WID Compliance, would need to apply for Development Consent Orders, pursuant to the Act. The alternative view is that neither option requires a DCO, but rather planning permission, on the basis that they would modify a *facility* which has the *primary purpose* of manufacturing chemicals and not the disposal of hazardous waste.
 - *How does the Inspectorate interpret S30 (1) of the Act, in particular the meaning of the terms “facility” and “construction”?*
 - *Is the “facility” the seal sands site itself and taken as a whole, suggesting that the small modification to the existing process is not a “hazardous waste facility” as meant by the Act?*
 - *Does the Act apply to the “facility” which is being constructed – ie the DSIT or Oxidiser equipment in isolation, and for which a DCO or Planning Permission would need to be sought?*
 - *Was the intent of the Act to capture installations whose primary purpose is to dispose of third party hazardous waste, e.g. merchant incinerators, and not hazardous waste disposal operations that are within a wider installation whose main purpose is not hazardous waste disposal and which does not process third party waste?*
14. We accept that the Inspectorate is only able to offer an “officer view” on these questions but would appreciate such a view to ensure that the potential applicants and Environment Agency are well informed.

Matthew Sheppard