

INDAVER

Administration,
Environmental Licensing Programme,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters,
PO Box 3000,
Johnstown Castle Estate,
County Wexford

Reg. No. W0167-02

17/06/2010

Re: Response to Article 14 Compliance

Dear Aoife,

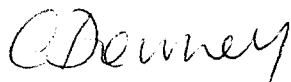
Please find herein our response to Article 14 compliance as per your letter of the 2nd June 2010.
All submissions are included as:

- 1 signed original plus 1 copy
- 16 copies in electronic searchable format on CD-ROM

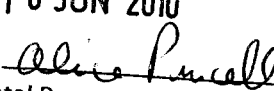
Indaver Ireland confirms that the content of the electronic files on the accompanying CD-ROMs are a true copy of the original application form.

If you have any queries relating to these submissions, please do not hesitate to contact me on 01-871 4610.

Yours sincerely,



Claire Downey
Waste and Energy Policy Advisor

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Time	1.30
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Signature	
Environmental Protection Agency HQ. P.O. Box 3000, Johnstown Castle Estate, Co. Wexford.	

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INDAVER

Waste Licence Review Application W0167-02 Response to Article 14 Compliance

June 2010

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C. Daney

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Article 14 Compliance

1. Expected Waste Types and Quantities

1.i Waste for Incineration

Question

1.i. With reference to Table 12.b Revised Table H.1(c) Showing Expected Waste Types and Quantities of the Article 12 response, please provide the following:

- (i) A list of wastes (by EWC code) to be accepted at the facility for incineration;

Response

Table 12.b has been revised below. A number of EWC codes relating to wastes from thermal processes were removed, since these were envisaged for the pre-treatment of flue gas treatment residue generated at the Meath facility. This is explained in further detail in Section 1.ii.

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Table 1.i: Revised Table H.1 (c) Showing Expected Waste Types and Quantities for Incineration

WASTE TYPE	EWC Codes	TONNES PER ANNUM (proposed)	Source
Non-Hazardous Residual Municipal Waste	20 03 01: Mixed Municipal Waste	0 – 200,000 ^a	Waste collectors sourcing household, commercial and similar industrial waste, local authorities, industrial customers, schools, hospitals, etc.
	20 03 02: Waste from Markets		
	20 03 03: Street Cleaning Residues		
	20 03 07: Bulky waste		
	20 03 99: Municipal wastes not otherwise specified		
Commercial and Industrial Non-Hazardous Waste^a	02 01 02, 02 01 03, 02 01 04, 02 01 06, 02 01 07, 02 01 09, 02 01 99, 02 02 02, 02 02 03, 02 02 99, 02 03 02, 02 03 03, 02 03 04, 02 03 99, 02 04 99, 02 05 01, 02 05 99, 02 06 01, 02 06 02, 02 06 99, 02 07 01, 02 07 02, 02 07 03, 02 07 04, 02 07 99	0 – 50,000	Rendering plants, Slaughterhouses, Veterinarians, Farms, Horse Stables, Food factories, Warehouse distributors, Manufacturers, Restaurants. NB: the acceptance of ABP waste will provide much needed capacity in the case of scares as per the pork crisis at the end of 2008
	03 01 01, 03 01 05, 03 01 99, 03 02 99, 03 03 01, 03 03 07, 03 03 08, 03 03 99		Furniture production, carpentry, forestry,
	04 01 01, 04 01 02, 04 01 05, 04 01 09, 04 01 99, 04 02 09, 04 02 10, 04 02 15, 04 02 17, 04 02 21, 04 02 22, 04 02 99		Leather, fur and textile industries
	05 01 99, 05 06 99, 05 07 02 ^b , 05 07 99		Petroleum refining, natural gas purification and pyrolysis of coal
	06 01 99, 06 02 99, 06 03 99, 06 04 99, 06 06 03 ^b , 06 06 99, 06 07 99, 06 08 99, 06 09 04, 06 09 99, 06 10 99, 06 11 01, 06 11 99, 06 13 03, 06 13 99		Wastes from inorganic chemical processes ^c
	07 01 99, 07 02 13, 07 02 15, 07 02 17 ^d , 07 02 99, 07 03 99, 07 04 99, 07 05 14, 07 05 99, 07 06 99, 07 07 99		Chemical process companies who produce non hazardous waste e.g. pharmaceutical, cosmetics, chemicals.
	08 01 12, 08 01 18, 08 01 99, 08 02 01, 08 02 99, 08 03 13, 08 03 18, 08 03 99, 08 04 10, 08 04 99		Paint/Varnish/Coating/Glue manufacturues, painting companies, householders, printers waste, general maintenance contractors.
	09 01 07, 09 01 08, 09 01 10, 09 01 99		Photographers, Pharamacists, Schools and colleges
	10 01 25, 10 01 99, 10 03 99, 10 04 99, 10 05 99, 10 06 99, 10 07 99, 10 08 99, 10 09 99, 10 10 99, 10 11 99, 10 12 99, 10 13 99		Wastes from thermal processes
	11 01 14, 11 01 99, 11 02 03, 11 02 06, 11 02 99, 11 05 99		Metal plating, Engineering firms
	12 01 01 ^e , 12 01 03 ^e , 12 01 05, 12 01 13, 12 01 99		Crane companies, Jewellers, Car manufacturers, Engineering firms

	15 01 01, 15 01 02, 15 01 03, 15 01 04 ^e , 15 01 05, 15 01 06, 15 01 07 ^e , 15 01 09, 15 02 03		Any manufacturing company who produced a product that has packaging, Schools, Hospitals, Chemical industry, Councils, householders ^f .
	16 01 03, 16 01 06, 16 01 15, 16 01 17 ^e , 16 01 18 ^e , 16 01 19, 16 01 20 ^e , 16 01 22, 16 01 99, 16 02 16, 16 03 04, 16 03 06, 16 05 09, 16 07 99, 16 11 02 ^d , 16 11 04 ^d , 16 11 06 ^d		Garages, Maintenance of vehicles, farming, warehouse distributors, any company who produces a product/batch e.g. pharmaceutical, chemical, food manufacturing(off spec), schools, universities, hospitals.
	18 01 01, 18 01 02, 18 01 04, 18 01 07, 18 01 09, 18 02 01, 18 02 03, 18 02 06, 18 02 08		Health care/hospitals, universities, veterinarians
	19 02 03, 19 02 10, 19 02 99, 19 05 01, 19 05 02, 19 05 03, 19 05 99, 19 06 04, 19 06 06, 19 06 99, 19 08 01, 19 08 02 ^e , 19 08 09, 19 08 99, 19 09 01, 19 09 04, 19 09 05, 19 09 99, 19 10 01 ^e , 19 10 02 ^e , 19 10 04, 19 10 06, 19 11 99, 19 12 01 ⁱ , 19 12 02 ^e , 19 12 03 ^e , 19 12 04 ⁱ , 19 12 05 ^e , 19 12 07 ⁱ , 19 12 08 ⁱ , 19 12 10, 19 12 12, 19 13 02		Waste facilities, transfer stations, Water treatment facilities(e.g. Councils, pharma industry), MBT plants, landfill waste
	20 01 01 ⁱ , 20 01 08 ⁱ , 20 01 10 ⁱ , 20 01 11 ⁱ , 20 01 25 ⁱ , 20 01 30, 20 01 32, 20 01 38 ⁱ , 20 01 39 ⁱ , 20 01 40 ⁱ , 20 01 41, 20 01 99, 20 02 01 ⁱ , 20 02 03, 20 03 06		Waste facilities, transfer stations, waste collectors, local authorities, septic tank companies
Aqueous wastes^g	08 01 20, 08 02 03, 08 03 08, 08 04 16, 11 01 12, 16 10 02, 16 10 04, 19 04 04, 19 06 03 ^h , 19 06 05 ^j , 19 07 03, 19 13 08	0 – 10,000	Pharmaceutical industry, Paint / Varnish / Coating / Glue manufacturers, painting companies, engineering firms, printers waste, general maintenance contractors, metal plating
Sewage and Industrial Sludges	02 01 01, 02 02 01, 02 02 04, 02 03 01, 02 03 05, 02 04 03, 02 05 02, 02 06 03, 02 07 05, 03 03 02, 03 03 05, 03 03 10, 03 03 11, 04 01 07, 04 02 20, 05 01 10, 05 01 13, 06 05 03, 07 01 12, 07 02 12, 07 03 12, 07 04 12, 07 05 12, 07 06 12, 07 07 12, 08 01 14, 08 01 16, 08 02 02, 08 03 07, 08 03 15, 08 04 12, 08 04 14, 10 01 21, 10 02 15, 10 11 18, 10 12 13, 11 01 10, 12 01 15, 19 02 06, 19 08 05, 19 08 12, 19 08 14, 19 09 02, 19 09 03, 19 09 06, 19 11 06, 19 13 04, 19 13 06, 20 03 04	0 – 20,000	Industrial & municipal wastewater treatment plants, washing and cleaning at commercial and industrial sites including those sources listed above.
Construction and Demolition Waste	17 02 01 ⁱ , 17 02 02 ^e , 17 02 03 ⁱ , 17 03 02, 17 05 04 ^e , 17 05 08, 17 06 04	0 – 50,000	
Hazardous			Not accepted

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*(Specify detail in Table H 1.2)			
Inert Waste imported for restoration purposes			

- ^a Where this material cannot be otherwise recycled or composted i.e. residual waste
- ^b Sulphur-containing waste can help balance the effects of chlorine from other wastes in the furnace
- ^c The availability and quantities of these waste streams is likely to be very limited but such wastes may require cleaning in a waste-to-energy plant e.g. 06 13 03 (carbon black).
- ^d Acceptable in small quantities only for e.g. cleaning
- ^e May be accepted for cleaning purposes or where contaminated for landfill purposes. NB Fe metals will be recovered from bottom ash and non-Fe metals may be recovered through a recovery plant.
- ^f Non-contaminated and separately collected recyclable waste would only be processed in the waste-to-energy plant if recycling outlets are not available e.g. during a collapse in the recycling market.
- ^g Aqueous wastes would be used instead of groundwater to cool the grate where high CV wastes are also processed. The method of introducing aqueous wastes to the furnace is described in the response to Article 13 Compliance Appendix 13.e.
- ⁱ Where these are unsuitable for landspread or other recycling applications

1.ii Waste for Treatment other than Incineration

Question

- 1.i. With reference to Table 12.b Revised Table H.1(c) Showing Expected Waste Types and Quantities of the Article 12 response, please provide the following:
 - (ii) A separate list of wastes (by EWC code) to be accepted at the facility for treatment other than incineration.

Response

A number of EWC codes were included in Revised Table H.1(c) with a view to accept them for waste-to-waste applications in a residue pre-treatment facility. As noted in Section 1.a of the Article 12 response, it is a requirement that Indaver Ireland retains the option to install residues pre-treatment equipment at the Meath facility in the future. This is due to the uncertainties around the development of hazardous landfill capacity in Ireland.

If a residues pre-treatment facility were developed at the Meath plant, from experience in Belgium and elsewhere, it may be possible to use materials like fly ash from other combustion processes as a substitute for cement in the solidification of the facility's flue gas treatment residues. This is because they typically possess excellent pozzolanic properties.

The residues that could be used in this manner are set out in Table 1.ii below.

Table 1.ii: Revised Table H.1 (c) Showing Expected Waste Types and Quantities for treatment other than Incineration

WASTE TYPE	EWC Codes	TONNES PER ANNUM (proposed)	Source
Industrial Non-Hazardous Waste ^a	10 01 01, 10 01 02, 10 01 03, 10 01 15, 10 01 17, 10 01 19	2,000	Wastes from thermal processes

1.iii Explanation of Footnotes**Question**

1.i. With reference to Table 12.b Revised Table H.1(c) Showing Expected Waste Types and Quantities of the Article 12 response, please provide the following:

(iii) Please explain footnotes c, d and e to the table

Response

Footnotes c, d and e all relate to the potential for incineration to destroy or “clean” organic contamination from bulk inorganic materials.

While such wastes may not have an energy value, there may be situations in which they become contaminated with organic materials e.g. soils contaminated with oil and cannot be suitably managed in landfill. In such circumstances, processing the waste stream in the incinerator would remove any contamination and enable the safe recovery or disposal to landfill of residues via the bottom ash.

It is not envisaged that significant volumes of waste would arise for this treatment.

In the context of this treatment process, the explanation for each footnote is given in Table 1.iii below.

Table 1.iii: Explanation of footnotes

Footnote	Waste types	Comments
C	Inorganic chemical processes	The availability and quantities of these waste streams is likely to be very limited
D	MFSU of plastics / rubber / manmade fibre containing silicones, carbon-based linings and refractories	These are wastes that may only be accepted in very small quantities for this purpose
E	Ferrous and non-ferrous metal filings and turnings Metallic packaging Glass packaging (potentially recovered as aggregate) Ferrous and non-ferrous metal from end of life vehicles Glass from end of life vehicles (potentially recovered as aggregate) C&D waste glass and soil and stones (potentially recovered as aggregate) Waste from wastewater treatment plant desanding (potentially recovered as aggregate) Iron, steel and non-ferrous metals from shredding of metal containing waste Ferrous and non-ferrous metals from the mechanical treatment of waste Glass from the mechanical treatment of waste (potentially recovered as aggregate)	These include bulk waste streams that could be recovered from bottom ash through post-combustion mechanical treatment.

1.iv Clarification regarding C&D Waste

Question

1.i. With reference to Table 12.b Revised Table H.1(c) Showing Expected Waste Types and Quantities of the Article 12 response, please provide the following:

- (iv) Clarify whether construction and demolition waste is to be accepted at the facility and if so, for what purpose.

Response

The revised Table H.1 (c) has been adjusted in Section 1.i to show EWC codes for C&D waste in the correct section.

As denoted in footnote f, non-contaminated and separately collected recyclable waste would only be processed in the waste-to-energy plant if recycling outlets are not available e.g. during a collapse in the recycling market. This includes, for example, construction and demolition waste streams like wood and plastics.

Following the market collapse in 2008 for a number of recyclate streams, it was considered acceptable for some of the lower grade recyclable materials to be sent to co-firing or waste-to-energy plants. One of the recommendations of the Bacon report¹ commissioned by REPAK at the time of the collapse was that:

“As waste to energy is preferable from the point of view of the environment and its cost effectiveness the Minister should announce a programme of assistance for

¹ Peter Bacon & Associates Economic Consultants (2008), *Examination of Impact of Recent Price Collapse in Markets for Recyclate Materials and Required Intervention*, available at <http://www.repak.ie/reports.html>

segregated mixed paper that cannot be placed on recycle markets to allow this material to access waste to energy markets in the UK.”

For these reasons, such waste streams have been included in the list of EWC codes. It is noted that the maximum volume included for acceptance (50,000tpa) is less than 15% of the total C&D waste stream arising in the North East Region as indicated in the Plan (450,000tpa in 2003) in line with recycling targets of 85%.

Contaminated but non-hazardous C&D waste unsuitable for recycling would also be a suitable waste stream for the facility. Other inert C&D waste streams (glass, bitumous mixtures, soil and stones) are included in Table 1.i for the reasons explained in Section 1.iii (i.e. removal of organic contamination).

The quantity of C&D waste included in Table 1.i is designed to cater for the large once-off volumes of contaminated or non-recyclable waste that often arise from cleanup projects.

2.0 Fire Water Retention

Question

2.0 *With reference to Chapter 11 of the 2009 EIS, please clarify the fire-water retention facility sizing calculations. Drawing No. 18081\WL\006 Proposed Site Drainage Layout shows a 600m³ fire-water retention tank, while section 11.5 of the EIS refers to 300m³ fire-water retention volume. Please clarify.*

Response

Section 11.5 of the EIS is correct and states that a 300m³ tank will be in place for fire-water retention. Drawing No. 18081\WL\006 had incorrectly stated a 600m³ tank. This has been noted and rectified and new drawings are currently being produced. Please see attached Figure D.1.b: Site Draining Plan with correction to the size of the contaminated water tank.

3.0 Proposed Storage Capacity (m³) for Bottom Ash

Question

3.0 *Clarify the proposed storage capacity (m³) for bottom ash in the ash handling building*

Response

The proposed bottom ash storage and handling building has a floor area approximately 1100m² and will have the capacity to store a minimum of 1,600m³ of bottom ash.

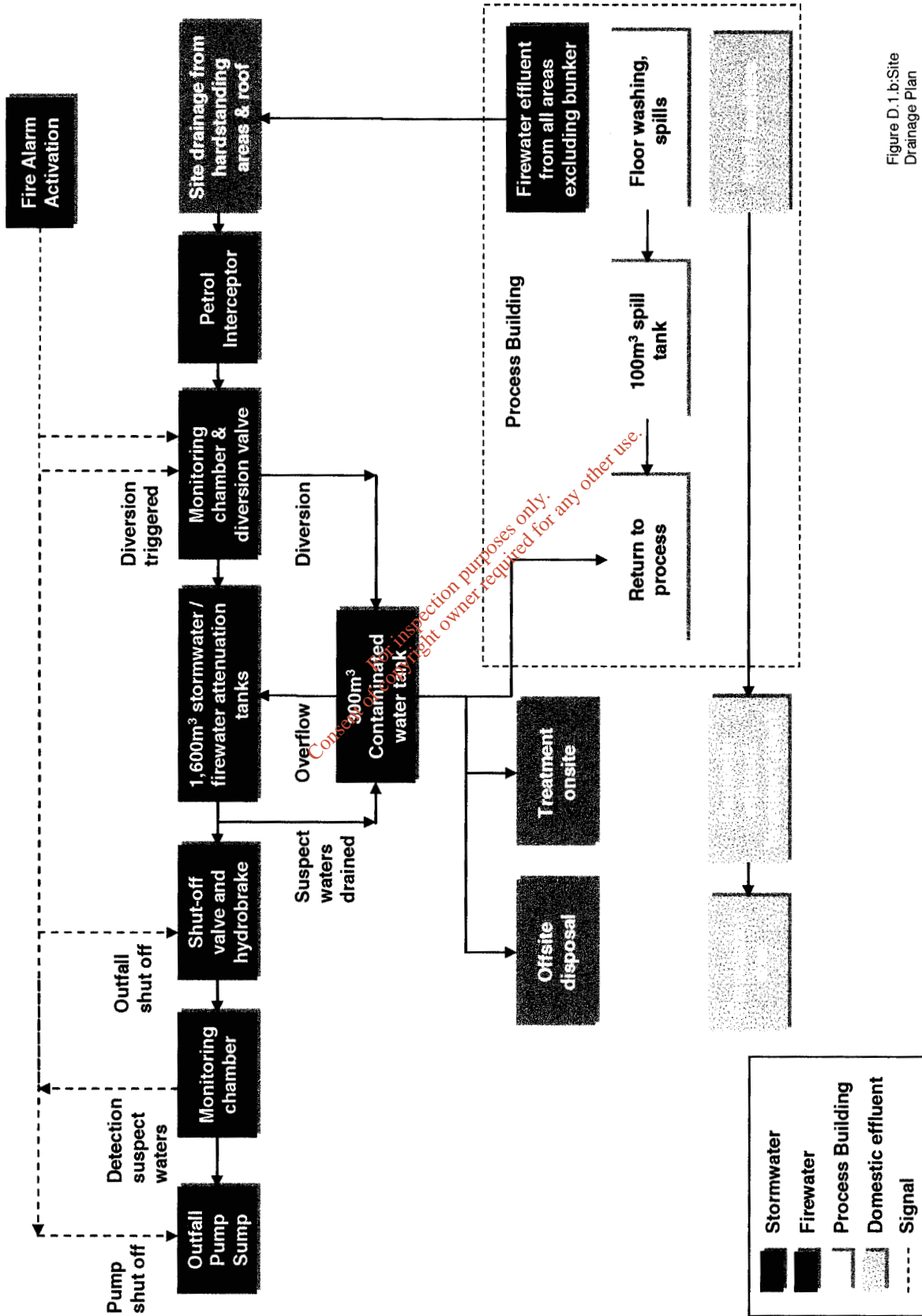


Figure D.1.b:Site Drainage Plan

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