



Kilcatherine, Eyeries, County Cork
<http://www.friendsoftheirishenvironment.org>

Jean-Francois Brakeland,
Compliance promotion, governance, and legal issues,
European Commission,
1049 Brussels,
15 December, 2011

Re: Waste issues at Haulbowline Island, County Cork

Dear Sirs;

On 7 May 2009 we wrote to yourselves out of concern that the European law relating to the storage of hazardous waste was not being adhered to at the site of a former steelworks on Haulbowline Island, County Cork.

We drew your attention to the grounding affidavit Geraldine Tallon, Secretary General of the Department of the Environment, provided as part of the Irish State's legal action against the liquidators of ISPAT Steel which had ceased trading in 2001. This stated that there

"is serious environmental pollution at the site in Haulbowline as a result of holding, recovering or disposing of waste by the respondents and that there are a number of steps that must be taken in order to ensure discontinuance of, and remediation and mitigation of, environmental pollution at Haulbowline".

We drew your attention to the Government decision of June 17, 2003 which gave a mandate requiring the Department of the Environment to

'coordinate all legal actions in relation to the site, to carry out a suitable site investigation to determine the levels of contamination and remediation/development options at the site, and to report back to Government when such an investigation was complete'.

As this had not transpired, in 2009 we sought your intervention and as a result as you know the Local Authority is now in the process of preparing an application to the Environmental Protection Agency for a licence to hold waste at this location.

We attended a progress meeting with representatives from the Local Authority, the Department of the Environment, and yourselves on November 22, 2011.

We were concerned at this meeting to find that the licensing application for the storage of waste on Haulbowline Ireland was to be limited to the East Tip, and that the earlier South Tip (and before that the East Camber) where waste had been previously dumped was not to be addressed, and nor was the contamination from the deposition of hazardous dust and other materials on the main steel site to be included in the assessment or licensing process.

We were informed at this meeting that this was because the wastes accumulated in these earlier areas arose previous to the Waste Directive of 15 July 1975 (COUNCIL DIRECTIVE 75/442/EC] entering into force 24 months later). As to the presence of waste on the steelworks site itself and particularly the continuing accumulation of contaminated liquid at the 5 metre deep "cistern" or "soakage pit", we received no clarification.

Waste accumulated on the site of the Steel Mill and adjacent South Tip and East Camber after the date of 15 July 1997, directly and through four Annex I (COUNCIL DIRECTIVE 75/442/EC] listed activities

- Materials spilled and materials were contaminated as a result of mishap
- Materials contaminated or soiled as a result of planned actions (cleaning operations, etc),
- Residues of an industrial process,
- Residues from pollution abatement processes (baghouse dust, etc).

Because of the infill nature of the land that underlies the entire 20 hectares, leached contaminated hazardous materials travel freely across the island and must be subject to assessment and subsequent terms of any license considered for the hazardous waste on Haulbowline Island.

The clear identification of contaminated waste at the site of the steelworks which we quote in our Supplementary Submission from the Government's consultants' White Young Green Report in 2005 was entirely ignored in their subsequent 2008 Report on which the authorities are basing their response.

We would be grateful for your consideration of the issue and we are copying this letter to the Minister for the Environment and Cork County Council for their consideration in the context of the Local Authority's application to the Environmental Protection Agency.

Respectfully yours,

Tony Lowes



Kilcatherine, Eyeries, County Cork
<http://www.friendsoftheirishenvironment.org>

December 15, 2011

Haulbowline Island: Extent of waste *Supplementary information from complainant* **(C-494/01)**

Background

The industrial developments on Haulbowline Island were built on infilled foreshore extending out from the original rocky island in a number of stages after the establishment of the Naval Dockyard in the late 19th century.

The Mid and East Island were developed for a dockyard and Crude Oil Refinery in the mid 1920s. From 1938 Steelworks were established on the Mid and East island, as was a galvanising plant. Given that the bridge to the mainland was not built until the 1960s, the original steelworks and galvanising plants were demolished on site and used as infill for the expansion.

The steel plant was modernised and expanded in the 1970s and 1980s with major refurbishments of the steel plant in 1960 and 1980.

An air emission abatement system comprising a filtration system located in the bag house was installed to control the air emission. This was introduced in 1981 and upgraded in 1992. Previous to 1981, the residue material was unabated.¹

Extent of the licensed activities

It has been recognised for some time that the East Tip of Haulbowline Island is an unauthorised infilled repository for hazardous waste created before and during the lease of the site to ISPAT Steel in 1996. The European Commission has requested that Ireland address the issue and the local authority is now preparing an application to the EPA for a waste licence for the East Tip.

The area covered by the Licence to ISPAT is shown in Figure 1 below. The East Tip is 9 hectares in extent and the Steel Site, East Camber, and South Tip comprise a further 11.3 hectares.

¹ *Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork, O'Callaghan Moran & Associates, 12*



Figure 1: Total areas of IPCC Licence 20.3 hectares²

The Steelworks, the South Tip, and the East Camber are shown in relation to the East Tip on the following cross section in Figure 2.

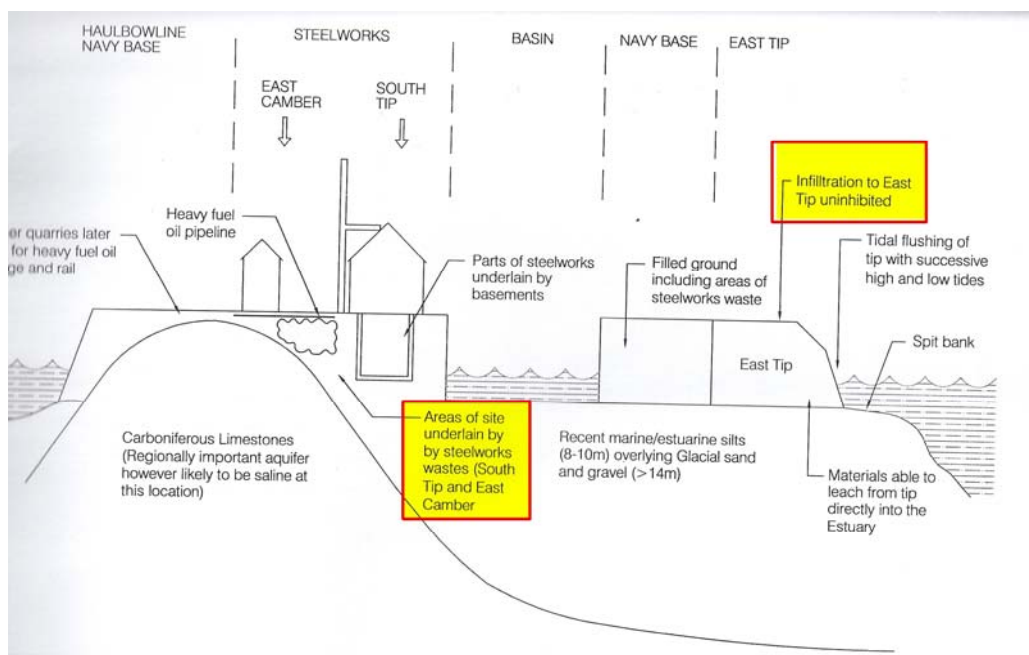


Figure 2: Cross Section, Haulbowline Island. Note that the 'Basin' is contained within a contiguous area of infilled land that runs between the East Tip and the Steel Works³.

The main Steelworks, East Camber, and South Tip are - like the East Tip - infilled ground and contain hazardous waste. With the onset of significant steel making

² Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork, Enviros Aspinwall, Figure 4: Past Industrial activity

³ Ibid Figure 5: Conceptual model Haulbowline Island

activities, waste materials from these processes were disposed of in two areas. The East Camber was completely filled in and the later part of the estuary to the south of the site – the South Tip - was subsequently filled in. Records indicate that the Naval Base area in between the East Tip and the Basin were also composed of steelwork's waste.

The 1975 Waste Directive⁴ included 2 specific subsections in its Annex defining relevant to steel works waste:

- Q8 Residues of industrial processes (e.g. slags, still bottoms, etc.)
- Q9 Residues from pollution abatement processes (e.g. scrubber sludges, baghouse dusts, spent filters, etc.)

Steel works waste were further defined in EU 2000/532/EC:

10 02	Wastes from the iron and steel industry
10 02 01	Waste from the processing of slag
10 02 02	Unprocessed slag
10 02 05	Other sludges
10 02 06	Spent linings and refractories
10 02 07*	Solid waste from gas treatment of electrical arc furnaces containing dangerous substances
10 02 08	Solid waste from gas treatment of electrical arc furnaces other than those mentioned in 10 02 07
10 02 09	Solid waste from gas treatment of other iron and steel processes
10 02 10	Mill scales
10 02 11*	Waste from cooling water treatment containing oil
10 02 12	Other waste from cooling water treatment
10 02 13*	Sludges from gas treatment containing dangerous substances
10 02 14	Sludges from gas treatment other than those mentioned in 10 02 13
10 02 99	Wastes not otherwise specified

Figure 3: Definition of waste from Commission Decision of 3 May, 2000

The sworn grounding affidavit Geraldine Tallon, now the Secretary General of the Department of the Environment, provided as part of the Irish State's legal action against the holder of the liquidators of ISPAT Steel which had ceased trading in 2001 stated that there

is serious environmental pollution at the site in Haulbowline as a result of holding, recovering or disposing of waste by the respondents and that there are a number of steps that must be taken in order to ensure discontinuance of, and remediation and mitigation of, environmental pollution at Haulbowline'.⁵

A further affidavit sworn for the High Court on 19 December 2002, by the EPA Inspector stated that 'hazardous waste material is apparently stored on site. There is also an extensive on site landfill with known deposits of hazardous waste dust. The buildings and plant are contaminated with hazardous waste dust'.⁶

⁴ COUNCIL DIRECTIVE 75/442/EC

⁵ Affidavit of Gerald Tallon, Secretary General of the Department of the Environment, December 2002

⁶ Affidavit of Kieran O'Brien, Inspector of the Environmental Protection Agency, December 2002.

East Camber and South Tip

The East Camber of South Tip amounts to an area of 2.4 ha containing in the region of 140,000 cubic metres to 170,000 cubic metres of waste materials."⁷

O'Callaghan Moran reported that the South Tip was used from ca. 1960 to the mid 1970's to dispose of production wastes. They concluded 'There is no record of any site investigations in the South Tip to establish the extent of the fill, the waste types or assess the environmental impact of waste disposal operations.'⁸

"These areas largely contain pre EAF steel production wastes which as well as slag, furnace debris and mill scale are likely to contain:

- Deposition of coal carbonisation wastes in East Camber
- Steel Skulls (solid furnace bottoms) buried in the East Camber⁹

O'Callaghan Moran in their 2002 Report to the Minister for Communications, Marine, and Natural Resources record that "There is documentary evidence confirming or strongly suggesting disposal at the South and East Tips of furnace dust, waste oils, organic solvents and PCBs. It is probably that given that similar wastes were disposed of at the dock and waterways."

The Report continues: "While the most expensive and widespread remedial requirement is likely to be on the East Tip... in other areas on the steelworks site there are several areas likely to require remediation. These are identified as 'areas on and around the East Camber of South Tip, including the existing electricity transformer station and former oil storage area are likely to contain hot spots."¹⁰

Yet as late as 2002, O'Callaghan Moran observed 205 litre drums of waste oil, waste glycol and waste soluble stored in unpaved areas at the South Tip. Facility personnel informed O'Callaghan Moran that it was probably that there were additional drums of waste oils mixed in the scrap and miscellaneous waste stockpiled at the South Tippi¹¹.

A pelletizing plant was installed in 1981 to form the dust into pellets. Before 1981 the furnace dust had been disposed of at the South and East Tips.¹²

It was not until 1986 that the majority of the waste oils were collected for treatment.

In 1998 a modelling assessment by the EPA to predict the lead in the ground level concentrations generated by the Bag House emissions predicted maximum ground levels of 21 ug/m cubed within 100m of the Bag House. This is ten times the legal limit of 2 ug/m cubic.¹³

The argument that no waste was accumulated at the South Tip and on the steelworks site after the coming into the force of the Waste Directive in 1997 can not be sustained.

⁷ *Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork*, Envirosp, Aspinwall, 4.2

⁸ *Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork*, O'Callaghan Moran & Associates, 23

⁹ *Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork*, Envirosp, Aspinwall, 5.6

¹⁰ Ibid 8.19 Remediation & IPC License Register 498 Condition 14, Residuals Management

¹¹ Ibid., 21

¹² Ibid., 20

¹³ Ibid., 17

White Young Green themselves when examining the waste on the South Tip itself for their 2005 Report made special note of the legal requirement to address this waste.

"Please note that all waste will have to be disposed of in accordance with the Waste Management Act 1996, as amended in 2001.¹⁴

This requirement was absent from their 2008 Report and is not reflected in the current application to the EPA by the Local Authority.

Transport of contaminated material

On the main steelworks site there is an extensive drainage system with 19 separate current outlets recorded in 2002.

"These drainage installations are likely to be in a variable state of repair (due to the continued use of very heavy plant) and constitute fast pathways into the marine and groundwater environment for transport of any contaminating material which may be released on site. As such they must be considered a liability."

A Cork County Council Report from 2004 reports that 'One of the buildings contains a large cistern, approximately 5 metres deep, which regularly accumulates water.'¹⁵ During the 2006-2007 clean up operations, contaminated water was removed from this cistern on a weekly basis and shipped to Dublin for decontamination. Its location is shown in Figure 5. No contaminated water has been removed from this cistern since the termination of the clean up contract in 2008.

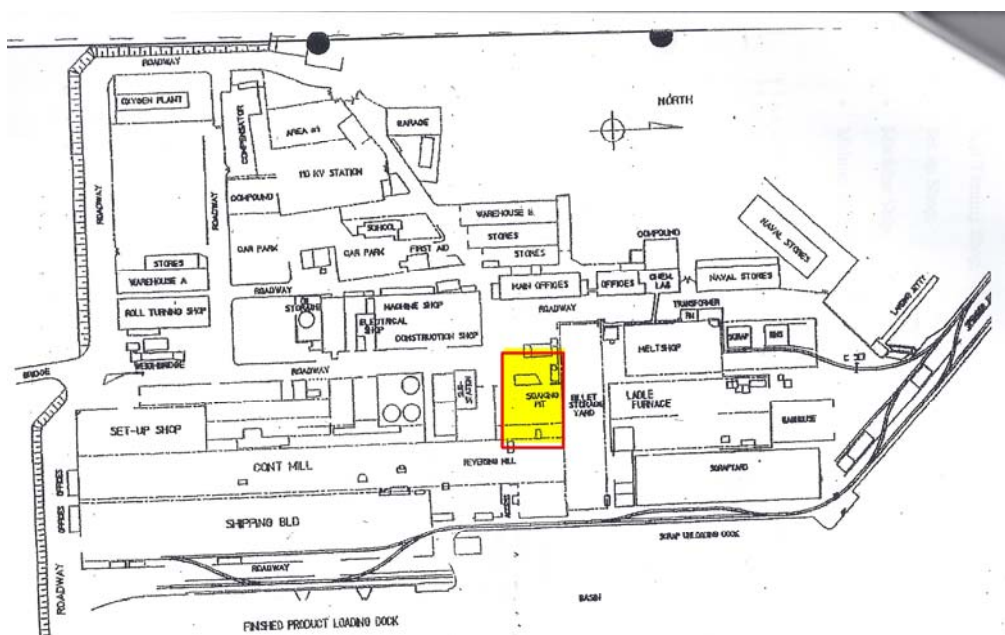


Figure 4: Location of the drainage cistern on the Steel Works Site. Legend reads 'soakage pit'. Since the end of the cleanup, this cistern has not been maintained

¹⁴ *Interpretative Geo-Environmental Report Contamination and Geotechnical Assessment, Former Irish Steel Site, Haulbowline Island, White Young Green, p. 16*

¹⁵ *Brief for Provision of Professional Environmental Technical Advice & Services for Contaminated Land Site Investigation & Assessment t Haulbowline Iskland, Corjk Harbour, Cork, Ireland, Cork County Council 19 February 2004.*

and the contaminated water is no longer removed, a cause of ongoing pollution through contaminated waste.

The cost estimate prepared for the Government assumes that in order to manage these liabilities, drainage and basement rectification will comprise the 'stopping up' of drainage pipes 'in the vicinity of the discharge points or areas of potential ponding or sensitivity, infilling of access drains in part of the site, as well as some removal of identified hazards or contaminated materials and the unblocking of drainage pipes in other areas.'¹⁶

The cost estimates showed that the remediation of the East Tip 9 ha would be €3,000,000 with 'other areas' given as €750,000 and drainage installation remediation and rectifications given as €750,000, making the required work to bring the site outside of the East Tip to a standard where it would no longer pollute the environment and could be used for industrial purposes (only) to €1500,000.¹⁷

Hazardous leachate can infiltrate unimpeded between these areas, both on the surface and through the subsurface fill and waste. As O'Callaghan Moran concluded, 'While a sea wall was constructed around the steel works site which "may inhibit the migration of free-phase products and locally influenced discharge points, however it is likely that dissolved contaminants will be readily flushed through the site."¹⁸

The Main Site

O'Callaghan Moran conclude about the main steelworks site: "Deposition of steelworks waste and the loss of fuels, oils and other chemicals will have impacted the ground and underlying groundwater at the site."¹⁹

"There is the probably of significant contamination of soil and ground water contamination in the area of the main plant and Rocky island.... Prior to the installation of the furnace dust system [in 1981], dust emissions from the furnaces containing high levels of zinc and lead and lower levels of other metals would have been deposited on the ground in the vicinity of the main plant. This dust is readily susceptible to leaching out of lead and zinc by rainwater, which could have resulted in elevated metal levels in the soils in unpaved areas of the site"²⁰

This is confirmed by the terms of the IPC License where Condition 7.3 refers to furnace dust on site, noting that 'substantial dust remains' and 7.14 to the 'removal of soil and subsoil and waste materials' on the steelworks site.²¹

The continuing extent of the contamination by mining waste on the areas outside the East Tip was confirmed when 7 samples were taken from the steelwork's site on 6 November 2007 as part of the validation procedures following the site clean up operation. These were restricted to accessible areas of open soil and do not include trial pits, underground systems, under buildings, or areas of hard standing.

¹⁶ *Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork*, 8.12, Drainage and basements

¹⁷ *Ibid*, Table 8.1

¹⁸ *Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork*, 4.1 Hazardous Waste Disposal

¹⁹ *Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork*, 6.13

²⁰ *Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork*, O'Callahan Moran & Associates, v.i

²¹ Integrated Pollution Control Licence, Register 498

These showed elevated levels of metals – particularly lead – which were more than double the TSV/Defra CLEA permitted levels even for industrial future use. The test result for cadmium near the waste water cistern (see Figure 4 above) were higher than any recorded on the East Tip in samples taken by this company.²²

In fact, it was well established that the South Tip and East Camber held contaminated waste. The 2002 Enviros Aspinwall Report to the Minister for Communications, Marine, and Natural Resources concluded that "from the South Tip and East Camber there is a high risk to humans and groundwater from metals and hydrocarbons and a moderate risk to surface waters from metals and hydrocarbons and coal gasification wastes."²³

This Report states that 'From the Main Site and Rocky Island, particularly during clearance operations and until institutional control of the site is gained:

- High risk to humans from PCBs spills
- High risk to marine ecosystems from metals and dust
- High to moderate risks to human intruders from radioactive contamination [Rocky Island only]
- Moderate risk to site workers from metals in building interiors
- High risks to groundwater from hydrocarbon processes and storage spills

This Report compares the contamination on the Steel Site with the contamination on the East Tip. Note that 'Existing potentially contaminated land', 'history of ground reclamation with contaminated materials' and 'remediation requirements to render risk from toxic substances to end users' are all equally weighted between the Steel Works and the East Tip.

Table 10.1: Constraints and Assets to Redevelopment

CONSTRAINTS AND ASSETS	Steelworks	Dock Basin	East Tip	Paddy's Point
Constraints				
Existing massive derelict buildings	√√√	None	None	None
Existing potentially contaminated land	√√√	√	√√√	None identified
Massive foundations (including skulls etc)	√√√	None	√	None
History of ground reclamation with contaminated materials	√√√	√	√√√	None identified
Remediation requirements to render risk from toxic substances to end users	√√√	√	√√√	None identified
Need for sea wall construction	None	None	√√√	None
Assets				
Existing useable and historical structures	√	√√√	None	None
Navigable access, jetties etc.	√√√	√√√	None	N/A
Spit	N/A	N/A	√√√	N/A

N/A = not applicable; √√√ = major; √ = minor 24

Figure 5, showing the constraints to development being equal between the East Tip and the Steelworks.

²² Bodycote Consultkus, 7 March, 2008, Chemistry Laboratory Certificate, File 07/3013/50, Interim Safety File

²³ Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork, Enviros Aspinwall, October, 2002, 6.21

²⁴ Ibid, Table 10.1

White Young Green's Report in 2005 confirmed that 'Arsenic, lead, cadmium, and nickel were all identified at concentrations above their respective TSV's [Tier 1 Screening values – the levels of contamination permitted for future industrial use only] in numerous samples from all areas across the site (East Tip and Main Site)." The most elevated copper exceedences were recorded not at the East Tip but at the East Camber.'²⁵

It is inexplicable that in the White Young Green 2008 Report which was commissioned by the Government to guide their actions – entitled 'Former Irish Steel Plant, Haulbowline Island, County Cork' - ignores entirely the contamination that they had revealed three years previously at the site of the steelworks.

This is the full text of the White Young Green 2008 Report in relation to any areas outside the East Tip:

"The 2008 investigation focused on the East Tip area of Haulbowline Island which contains the waste materials from the former steelworks. There are areas of the main steelworks site that have not been investigated such as beneath the former steelworks buildings. These areas would need to be investigated at an appropriate time to determine potential environmental issues".²⁶

Yet in 2005 White Young Green had reported

"On the main site there were selected elevated copper and PAHs leached at elevated concentrations. In addition, chromium, lead, zinc and benzo(a)pyrene were leached at elevated levels in localised areas".²⁷

There is no mention in the 2008 Report of these contaminated wastes outside the East Tip. The Peer Review of this 2008 Report itself emphasises that scope of the work "which was developed following discussion with a range of regulatory authorities and organisations" and was confined to "environmental and health impacts from the East Tip in its current condition".²⁸

The authorities' current response which is based on this 2008 Report is therefore inevitably flawed.

Conclusion

The Government action against the liquidator of the steelworks sought to have the company

'discontinue engaging in the holding, recovery or disposal of waste on the lands comprised in the lease, to carry out remediation works to mitigate or remedy any effects of the holding, recovery or disposal of waste and to put in place an effective ongoing monitoring and inspection system, following remediation.'

This is what we wish done. The IPC Licence imposed obligations not only on the holder of the licence but on the freehold owner of the site, i.e. the Irish State²⁹.

²⁵ *Interpretative Geo-Environmental Report Contamination and Geotechnical Assessment, Former Irish Steel Site, Haulbowline Island*

²⁶ *Former Irish Steel Plant, Haulbowline Island, Cork. Environmental Report, Vol. 1, 1.1 Introduction*

²⁷ *Ibid.*, 3.3.6. Summary

²⁸ *Ibid.*, Attachment 1, Peer Review, Non-technical summary

²⁹ *Ibid.* 8.2

The Licensee stated that: "Following termination the licensee shall decommission, render safe, remove for disposal any soil, subsoil, buildings, plant, equipment, any waste materials, or substances that may result in environmental pollution."³⁰

This license did not solely apply to the East Tip but to the entire 21 hectares. Any license to regularize the holding of waste at Haulbowline must recognize the extent of the waste materials and ensure that appropriate remediation works address the issues fully.

On the basis of the recent review meeting, we are concerned that this is not happening and that even after the management of the East Tip, Haulbowline Island will continue to be a cause of potentially serious pollution across the entire 20 ha of the site from the waste deposited there during the operations of the Steel Plant subsequent to the coming into force of The Waste Directive in 1977.

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Tony Lowes,
Friends of the Irish Environment
15 December, 2011

³⁰ *Integrated Pollution Control Licence*, Register 498, Condition 14, Residuals Management

FIE Supplementary information on Haulbowline Island Waste

Studies and Reports used in this submission.

Phase One Investigation and Assessment at Haulbowline Island, Cork Harbour, Cork, Envirospine, October, 2002. for the Minister for Communications, Marine, and Natural Resources

Environmental Assessment of Irish Ispat Ltd., Haulbowline, County Cork, O'Callaghan Moran & Associates for KPMG Corporate Recovery, 24 January, 2002.

Interpretative Geo-Environmental Report Contamination and Geotechnical Assessment, Former Irish Steel Site, Haulbowline Island, White Young Green, December 2005, for Cork County Council

Former Irish Steel Plant, Haulbowline Island, Cork. Environmental Report, Vol. 1, White Young Green, 2008

Quantification of Contaminated Materials on the East Tip Head and former Steelworks Site at Haulbowline, Ringaskiddy, County Cork, Interim Report, NREG, 2 July 2008

Integrated Pollution Control Licence, Register 498, 2nd June, 2001, Environmental Protection Agency (EPA).

Interim Safety File, 18 August 2008, Campion Ryan Risk Management for the Department of the Environment