

## **Attachment J.1: Accident Prevention and Emergency Response**

### **J.1.1 Accident Prevention**

#### **J.1.1.a Facility Design**

It is the policy of Indaver Ireland to attach the greatest importance to the health and safety of all persons employed on and indirectly affected by site activities.

The proposed facility has been designed in accordance with the Safety Health and Welfare at Work Act, 2005, the Safety, Health and Welfare at Work (Construction) Regulations, 2001 and associated regulations. This design was carried out by skilled personnel according to internationally recognised standards, design codes, legislation, good practice and experience.

The following principles are incorporated into the overall design of the facility to minimise the risk of accidents or emergency situations:

- The design complies with Irish Building Regulations Part B Fire Safety and with Indaver's insurance company's requirements
- The installation will be validated as part of commissioning procedures and will be inspected by safety officers prior to start up
- The incineration process will be controlled manually and automatically by employees and a computerised control system in the control room
- A comprehensive interlock system will automatically shut down the plant in a safe manner in the event of equipment failure or dangerous situations arising (see Section 5.6.12 of the EIS)
- Fire detection and fighting systems will be installed (see Attachment D.1.o).
- Backup systems for pumps, control systems, power supply and instruments will be provided for critical situations. In the unlikely event of a failure of the plant, and a simultaneous failure of the supply from the electrical distribution system, the plant's un-interruptible power supply (UPS) will supply electricity to the critical systems, as outlined in Attachment D.2.8.
- The storage of all waste, consumables and residues will be designed to prevent fugitive emissions to air, surface water or ground, as outlined in Attachments E.1.2, E.2.2 and F.1.2. The drainage systems will be designed to divert and contain any possible contamination as outlined in Attachments D.1.k and E.2.2.

#### **J.1.1.b Facility Operation**

Indaver Ireland conducts all its activities in accordance with its Quality, Environmental, Safety and Health (QESH) system which is accredited to the quality standard ISO 9001, the environmental standard ISO 14001 and the safety standard OHSAS 18001. In compliance with the Safety, Health and Welfare at Work Act, 2005, Indaver Ireland will draw up a safety statement covering the operation of the plant and appoint safety representatives from the plant workforce.

The operation of the waste-to-energy plant will involve hazards associated with the handling of combustible materials, chemicals and high-pressure steam. During the

design phase of the plant, hazard and operability (HAZOP) studies will be carried out. These will systematically assess hazards that could arise during both steady and non-steady state operations and will identify mitigation measures. Indaver's experience of successfully operating similar plants in Belgium will allow potential hazards to be easily identified.

Based on the HAZOP studies, a comprehensive set of standard operating procedures will be drawn up for the operation of the plant, which will minimise the risk of accident or emergency situations arising. These and other measures will be managed by the company's QESH team, which has specific responsibility for quality, environment, safety and health at the facility. Further details are provided on the QESH system in Attachment C.2. Specific QESH team activities that will contribute to accident prevention include:

- Maintaining a register of environmental aspects and health and safety risk assessments
- Constantly seeking to improve on those aspects posing an environmental, health or safety risk through the Indaver Improvement Plan
- Maintaining and updating operational procedures outlining the important environmental, health and safety issues in each area of operation. These procedures specify safe working methods for all process activities including good housekeeping practices.
- Coordinating external and internal audits and incident investigation
- Ensuring information on incident reports, non-conformances, observations or suggestions from employees are fed back into QESH procedures or the Indaver Improvement Plan for the continual improvement of systems and operations

An example of a procedure in response to an emergency call for Indaver Ireland's hazardous waste activities is given in Appendix J1<sup>1</sup>.

Wherever possible, Indaver strives to minimise human interaction in safety critical operations in order to eliminate the potential for "human factors" to initiate or exacerbate major accidents at the site. Through recruitment, training, performance management, employee development and succession planning, Indaver Ireland aims to ensure that all members of staff are in possession of the knowledge, skills and experience necessary to perform their jobs to a satisfactory standard. This will include adhering to strict rules on safety such as a working permit system, training and provision and use of personal protection equipment.

The facility will be well maintained and cleaned at all times. A preventative maintenance system (see Attachment D.2.9) will also be put in place, which will incorporate routine checks and maintenance of key equipment to ensure they remain in good working order.

### **J.1.2      *Emergency Response***

A Site Emergency Plan will be prepared before the plant is commissioned. This will set out the response measures to be taken by personnel in the event of an emergency. Measures will be designed to ensure maximum protection for site employees, visitors and people in other premises near the site to limit damage to property and minimise the impact of site operations on the environment.

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<sup>1</sup> Names and phone numbers have been omitted.

The Site Emergency Plan will have four basic components as outlined below.

### **J.1.2.a Prevention**

Prevention involves identifying potential hazards and taking measures to remove the hazard or reduce the potential for the hazard and its adverse effects. Some of these operating hazards are identified in Section 5.17.4 of the EIS and under the *Abnormal Operations* heading for each section of the plant in Attachment D.2. These are typically identified through hazard and operability studies, which feed into the register of environmental aspects and the health and safety risk assessments maintained by the QESH team. They are also identified through internal audits and incident investigations conducted by the QESH team.

Pollution prevention measures incorporated into the design of the facility have been outlined in Section F.1 and under the *Process Control* and *Abnormal Conditions* headings in Attachment D.2.

### **J.1.2.b Preparedness**

Emergency planning, training programmes, emergency drill and exercise programmes are integral components of an effective preparedness programme. Evacuation routes will be defined and all personnel will be aware of them.

The site will have a dedicated "emergency response team", which will be trained and equipped to respond to an emergency onsite. This team will be onsite during normal working hours and will be on call at all times outside these hours. At night and on weekends the facility shift operators will be responsible for initiating the first response to an incident anywhere in the facility. In the event of a fire or smoke alarm, the shift operators will contact the emergency services immediately and then make contact with the emergency response team on call.

### **J.1.2.c Response**

Response activities address the immediate and short term effects of an emergency. The waste-to-energy plant will be manned 24 hours per day including during shutdown periods where there will be maintenance and security personnel present. Emergency contact numbers for staff with responsibility for the site will form part of the Site Emergency Plan.

Responses to abnormal operating conditions have been included in the process descriptions in Attachment D.2. Typical furnace startup and shutdown procedures are given in Appendix 5.1 of the EIS.

An emergency shutdown will be triggered by situations such as an electric power failure, plant interlock triggers or a manual alarm. Over-pressure in the furnace is the most common reason for an emergency shutdown. From experience at Indaver NV facilities in Belgium, an emergency shutdown is not a frequent occurrence. The facility's emergency shutdown procedure is automatically executed in two steps. The full procedure is outlined in Appendix 5.3 of the EIS.

### **J.1.2.d Recovery**

Recovery activities and programmes involve restoration of site services and systems to normal status. As an example of recovery activities, the furnace startup sequence is outlined in Appendix 5.3 of the EIS.

### **J.1.3 Public Liability Insurance**

Indaver NV has a global insurance policy, which includes public liability, product liability, legal expense, environmental liability and on-site cleanup costs. Please refer to Attachment L.2.3 for more information.

### **J.1.4 Modifications to Accident and Emergency Measures**

The principle modifications to accident and emergency measures approved in Waste Licence 167-1 are outlined in Table J.1.a below.

**Table J.1.a: Modifications to Accident and Emergency Measures**

<b>Aspect</b>	<b>Difference</b>
J.1.1	Up to date regulations will be taken into account in determining measures for the safe and operation design of the facility

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