

## WITNESS STATEMENT

### 1. EXPERIENCE AND QUALIFICATIONS

My name is Ria Lyden. I am an Associate Director of Arup Consulting Engineers.

I have a Bachelor of Engineering Degree in Civil Engineering and a Master of Business Administration Degree. Both degrees are from University College Cork. I am a Chartered Engineer. I am a Fellow of the Institution of Engineers of Ireland and a member of the Institution of Structural Engineers. I have worked as a civil and environmental engineer for 26 years.

Since 1992 I have prepared, or supervised the preparation of numerous environmental impact statements for a wide range of industrial, infrastructure, institutional, commercial and residential projects.

### 2. INTRODUCTION

Arup Consulting Engineers were the main consultants to Elsam Dublin Waste to Energy Ltd (Elsam), now DONG Energy, for the preparation of the EIS and waste licence application on behalf of Dublin City council for the Dublin waste to energy project.

Arup prepared chapter 18 of the EIS, Construction and Decommissioning Activities, based on information provided by DONG Energy.

The purpose of my evidence today is to provide a brief summary of the construction and decommissioning activities proposed for the project. Details of potential impacts and proposed mitigation measures will be provided by other witnesses, with regard to their particular field of expertise.

#### 2.1 Main Activities

At start of construction, a construction site will be established and the area immediately south of the site will be taken into possession, temporarily. A 20m strip at the eastern side of this area, adjacent to the grassland area which lies to the south of the Ringsend Waste Water Treatment Plant, will be excluded from the construction compound. The area southwest of the site will be used for temporary storage of construction materials and process parts. The area southeast of the site, excluding the 20m strip, will be used as a temporary pre-assembly area.

The Shellybanks Road area will be taken into possession, temporarily, for storage of portacabins and site offices. Access will be maintained for the Port Company to its lands to the south of the site, if necessary, for the duration of construction.

The next activity will be the site preparation works, which will include the following activities:

- Erection of a temporary construction compound on the site,
- Erection of perimeter fencing
- Demolition and removal of any existing tanks, structures and hard standings,
- Diversion and/ or disconnection of existing services,
- General levelling of the Site to a level of approximately 4.7 mOD (Malin Head),
- Construction of site roads and drainage systems to be used during the construction phase, and

- Connection to power, water and other services required for the construction phase.

Construction of foundations and superstructure will follow the site preparation works and include:

- Installation of sheet piling and either precast concrete piles or concrete cast in-situ piles.
- Construction of underground tanks,
- Construction of external roads and underground services,
- Construction of the waste bunker, reception hall, entrance ramp and floor slabs in in-situ reinforced concrete,
- Construction of the service building of in-situ reinforced concrete and/or in concrete elements,
- Construction of the lower part of the process buildings in reinforced concrete,
- Erection of structural steel frames to support the main process equipment,
- Erection of structural steel frames to support the roof and walls of the main process building,
- Installation of any pre-cast concrete elements and internal partitions, and
- Erection of roof and wall cladding panels.

The installation of mechanical and electrical equipment will overlap or follow the construction of the superstructure and will include:

- installation of process equipment including furnaces, boilers, flue gas cleaning systems, tanks, pipe work, pumps, fans, conveyors and air handling equipment,
- installation of cabling, instrumentation, control systems, power supply and electrical panels,
- installation of fire safety systems, and
- miscellaneous works, including external lighting, CCTV and security systems.

The final construction activities will include:

- completion of external drainage systems, roads, paving, hard and soft landscaping, fencing, and
- completion of internal and external architectural finishes and installation of furniture and fittings.

## 2.2 Working Hours

Work will take place 24 hours per day, 7 days per week during the construction phase. However piling operations will be restricted to daytime hours, 07.00 to 22.00. The construction programme will be planned in such a way that other heavy or noisy construction activities will be limited outside normal hours, where possible, and will be strictly monitored.

## 2.3 Excavation And Disposal Of Dredge Spoil

Circa 240m<sup>3</sup> of material will be removed from the bed of the cooling water channel. This operation will be carried out by using a long reach excavator on shore or by a dredger, in combination with measures, to be agreed with the Eastern Regional Fisheries Board, to reduce dispersal of silt. The timing of the work will also be agreed with the Fisheries Board. It is unlikely that the excavated

material will be suitable for reuse. It will be disposed off to landfill or at sea. Sea disposal would require a 'dumping at sea licence' from the Department of Communications, Marine and Natural Resources. The sea disposal location would be that used for disposal of spoil from capital and maintenance dredging in Dublin Port. There will be a temporary increase in the level of suspended solids in the water while the work in the channel is underway.

## 2.4 Implementation Of Mitigation Measures

A Construction Environmental Management Plan will be prepared which will specify mitigation measures for the construction phase including:

- dust control measures,
- noise control measures,
- control measures for general nuisance, litter and debris,
- a construction traffic management plan,
- control measures to prevent soil, surface water and groundwater pollution and to prevent polluted run-off from the site, and
- a construction waste management plan.

The Construction Environmental Management Plan is an undertaking given in the EIS and will be a requirement of the construction contractor. In addition, specific mitigation measures will be presented by the expert witnesses with regard to their areas of expertise.

## 2.5 Decommissioning

The Dublin WtE facility's project lifespan is 30 years. This may be extended by renewal of equipment and systems.

When it becomes necessary to shut down the facility, the owner and the operator will ensure that any negative environmental impact will be minimised. At a minimum, the following main actions will be performed:

- Removal of any chemicals or wastes stored on site. Any oils, lubricants or fuels on site at the time of decommissioning will be disposed of or recycled through appropriate registered waste disposal contractors.
- After final operation, all plant and equipment will be adequately cleaned, dismantled and stored under suitable conditions until it can be sold, disposed of or recycled through appropriate licensed waste disposal contractors.
- The site and buildings will be secured in the event that the site will be vacant for an extended period of time.
- If the buildings cannot be reused, the structures will be dismantled and disposed of or recycled through appropriate licensed waste disposal contractors. The site will be returned to its present state, except for any deep piling, which may be left in position without any significant impact on the environment.
- There will be no asbestos used in the construction of the Facility.
- A detailed decommissioning plan and residuals management plan is expected to be a condition of the waste licence.

### **2.5.1 Impacts And Mitigation Measures From The Decommissioning Phase**

The main impact from the decommissioning phase will be the generation of waste. Relatively small quantities of waste will arise from the site and equipment cleaning phase of the decommissioning plan. If a reuse option cannot be found for the plant and buildings their constituent materials will also be waste. The materials arising in this situation will be recycled if feasible.