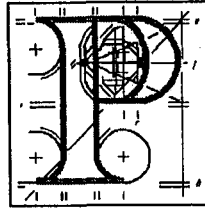


An Bord Pleanála



Environmental Protection Agency

17 APR 2008

ORAL HEARING
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Inspector's Report OH Sub No. 21

Recd From: ^{Joe} McCarthy

Applications by Dublin City Council for confirmation of a compulsory purchase order and for approval for the development of a waste-to-energy facility at Pigeon House Road/Shellybanks Road, Poolbeg. (Section 226 of Planning and Development Act.)

Inspector

Padraic Thornton

Consultants

Dr. Brian Broderick

Dr. Dan Murphy

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INTRODUCTION

Two separate applications were made to An Bord Pleanála by Dublin City Council relating to a waste facility proposed in Poolbeg. The first application was for the confirmation of a compulsory purchase order. This application was lodged in 2002. It was decided that this application would not be dealt with until the application for the development accompanied by an Environmental Impact Statement had been submitted to the Board. The application for the proposed development under Section 226 of the Planning and Development Act 2000 was lodged with the Board in June 2006.

The compulsory purchase order submitted by Dublin City Council is entitled Pigeon House, Pigeon House Road/Shellybanks Road Area Compulsory Purchase (Waste Management Facility) Order 2002. The purpose of the order as stated is to acquire compulsorily for the provision of a waste management facility the lands described in the schedule and indicated on the map attached to the CPO. The schedule and map indicate seven plots of land with a total area of 6.239 hectares or 15.415 acres.

The CPO Schedule indicated the owners or reputed owners of all plots referred to as the Dublin Port Company. Plot No. 2 is indicated as being leased and occupied by Clearway Disposals Limited. Samuel Davis Limited is also indicated as an occupier of the lands. Plot No. 3 is indicated to be leased and occupied by Hibernian Molasses Company Limited.

Three objections to the CPO were lodged with An Bord Pleanála during the prescribed period for making objections. An objection on behalf of the Dublin Port Company was lodged by Arthur Cox Solicitors. An objection on behalf of Hibernian Molasses Company Limited was made by Matheson Ormsby Prentice Solicitors. An objection on behalf of Clearway Disposals Limited and Others was made by O'Donnell Sweeney Solicitors. The objection by Hibernian Molasses Company Ltd was withdrawn on 20th April 2007.

By letter dated 28th August 2002 Dublin City Council applied to An Bord Pleanála for an amendment to the Schedule to the CPO. The amendment requested that additional names should be inserted as occupiers of plot number 7. The names listed by Dublin City Council in the application for a modification are names which had already been included as leasees, reputed leasees or occupiers of some of the other plots.

The application for the approval of the project which was accompanied by an Environmental Impact Statement was received by An Bord Pleanála on 30th June 2006. It was stated that the application was made to the Board in accordance with the provisions of Section 175 and Section 226 of the Planning and Development Acts 2000-2004. The project is described in the public notice as a waste to energy facility with a capacity for the thermal treatment of 600,000 tonnes of household and non-hazardous commercial and industrial waste per annum.

By letter dated 26th September 2006, An Bord Pleanála sought advice on the application from the National Authority for Occupational Health and Safety under Article 27 of the European Communities Control of Major Accident Hazards Involving Dangerous Substances Regulations 2000-2004. On the 26th September 2006 also Dublin City Council submitted to the Board copies of some correspondence between it and the Health and Safety Authority. The documentation received from Dublin City Council included a document entitled Major Accident Hazard Assessment August 2006. By letter dated 2nd November 2006 the Health and Safety Authority indicated that it had sought further information from Dublin City Council and that when it received this information it would be in a position to furnish full technical advice to the Board.

Additional information including a revised report entitled Major Accident Hazard Assessment dated February 2007 was submitted to the Health and Safety Authority and to the Board. This additional information was received by An Bord Pleanála on 9th February 2007. On the 5th March 2007 a sketch which had been omitted from the document received on 9th February was submitted.

On the 20th October 2006, An Bord Pleanála requested Dublin City Council to submit copies of plans and drawings to a specified scale and some photomontages to a revised format from the ones contained in the EIS. These documents were received by An Bord Pleanála on the 10th November 2006. On the 2nd March 2007, Dublin City Council submitted revised plans and drawings to the Board. It was stated in the submission of the 2nd March 2007 that the revised plans and drawings then submitted superseded those dated November 2006. A letter accompanying the revised plans stated that the revised plans involved moving the building approximately 8 metres to the north.

On the 8th March 2007, Dublin City Council submitted a document entitled Traffic Noise Impact Assessment to An Bord Pleanála. This had been referred to in Appendix 9.3 to the EIS, but had not been previously submitted to the Board.

All of the additional documents referred to above were notified to the public and to the statutory bodies. Notices were published on the 2nd March 2007 and on the 14th March 2007 referring to the additional information and indicating that observations could be submitted to An Bord Pleanála in relation to this additional information within a specified period.

On the 12th April 2007, the Health and Safety Authority submitted its advice to the Board. The Inspector quoted the letter from the Health and Safety Authority in full at the commencement of the oral hearing. Copies of the Health and Safety Authority submission were available and circulated at the oral hearing.

A large number of submissions and observations were received by An Bord Pleanála in relation to the proposed development and the application for approval. There were 165 separate submissions and 2,591 signed observations which were submitted as part of an organised campaign. The bulk of the submissions/observations are in the form of objections to the proposed development. Some submissions from statutory bodies were in the form of observations without either supporting or objecting to the proposal. A couple of the submissions/observations were in support of the proposed development.

There is a wide range of issues covered in the submissions made in relation to the proposed development. These range from considerations of European Union and National Policies to details in relation to the specific development and detailed objections to the site. The following bullet points indicate the major objections as indicated in the observations which were submitted.

- Conflict with European Union and National Policies in relation to waste management.
- Conflict with European Union and National Policies in relation to nature conservation and climate change.
- Conflict with Dublin City Development Plan.
- Conflict with likely future development pattern of the area.
- Injury to public health.
- Generation of air pollution.
- Danger of water pollution due to discharge of pollutants and heated water.
- Traffic hazard and the inadequacy of the road network.
- Injury to visual and recreational amenities.
- Problems likely to arise due to contamination of existing soils, some of which have to be excavated.
- Possible flooding of the site, particularly bearing in mind rising sea levels due to climate change.

- Inadequate information submitted and no detailed design of the proposal.
- Injury to residential amenity due to noise, traffic, air pollution, etc.
- Danger of accidents occurring. The location of the methane storage tank in the adjoining wastewater treatment plant was referred to in this regard.
- Conflict with the desirable objective of preventing or minimising waste generation.
- The EIS and information submitted are inadequate.
- Public consultation in relation to the project is inadequate.
- Site selection process was flawed and is now out of date.
- Lack of detail in relation to several aspects of the proposal, e.g. the disposal of bottom mash and fly ash and proposals in relation to a district heating system which had been referred to as one of the potential benefits of the development.

An oral hearing in relation to the development extending over a period of 18 days, including one evening session was conducted on the application between 19th April 2007 and 7th June 2007. Transcripts for each day of the oral hearing are attached to the file. Appendix 3 to this report contains a relatively detailed account of the submissions made and arguments put forward at the oral hearing. The entirety of the written submissions are taken into account in this report in addition to the submissions made at the oral hearing.

Two consultants were engaged by An Bord Pleanála to assist the Inspector in his report on the application. The consultants attended relevant sections of the oral hearing and reviewed the documentation. The report of Dr. Brian Broderick who was engaged to advise in relation to air emissions from the development including greenhouse gas emissions is contained as Appendix 1 to this report. The report of Dr.

Dan Murphy, (a medical doctor who specialises in occupational and environmental health), who was engaged to advise in relation to any potential health hazards likely to arise as a result of the development is attached as Appendix 2 to this report. Appendix No. 4 contains a list of submissions in the form of documents submitted at the oral hearing.

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DESCRIPTION OF PROPOSED DEVELOPMENT

Chapter 5 of the EIS contains a description of the proposed development. This was modified to some extent in later submissions. Of particular relevance in relation to the description of the proposed development are the revised drawings dated March 2007 which were received by An Bord Pleanála on the 2nd March 2007. It was stated that these plans and drawings superseded those dated November 2006. Issues arising from the revised drawings would be discussed in the assessment.

The proposed development involves the construction of three buildings. These are the main processing building, a cooling water pump house and a security building. The main processing building and the security building would be located on the main site on the south side of Pigeon House Road. The cooling water pump house would be located beside the cooling water channel on the north side of Pigeon House Road.

The main building would be approximately 200 metres long by 130 metres wide, by 52 metres in height at the highest point. The ground floor level would be approximately 5 metres OD. The waste bunker floor level would be at approximately 0. OD and the reception hall would have a floor level at approximately 12 metres OD. Two stacks would be located at the north-eastern corner of the main building. The stacks would each be approximately 3 metres in diameter and approximately 100 metres in height above ground level.

It is stated in Paragraph 5.5.13 of the EIS that the pump house would be approximately 8 metres in length by approximately 7 metres in width by approximately 5 metres in height. No detailed plans of the pump house were submitted with the application. Drawings indicating the pump house were submitted at the oral hearing. The drawings submitted at the oral hearing indicate a building 10-12 metres long, 7-8 metres wide and 11.8 metres high. Drawing No. BE041C indicates that the pump house would be partially below water level.

There were no drawings indicating the security building submitted with the application. Drawings were submitted near the end of the oral hearing in conjunction

with the drawings of the pump house. The drawings indicate a flat roofed structure measuring 6.85 metres long by 4.04 metres wide by 3.21 metres high.

It is stated in Paragraph 1.6.3 of the EIS that the main building would be approximately 52 metres in height. It was clarified at the oral hearing that this was the correct height and not the 55 metres referred in Paragraph 5.5.5.

The proposed development would comprise the construction of a waste to energy facility with an annual capacity of 600,000 tonnes per annum. It is stated that the facility would cater for household, commercial and non-hazardous industrial waste. The facility would incorporate two separate boiler lines, each with a capacity of 35 tonnes per hour. There would be one turbine and generator.

The entrance to the main site on the south side of Pigeon House Road would be from Pigeon House Road near the north-eastern corner of the site. The main building would be located towards the southern end of the site. (It was relocated somewhat further to the north in the revised drawings). There would be a green landscaped area between the main building and Pigeon House Road. A service road would be provided around the perimeter of the main building. There would be weighbridges and a ramp to the waste reception hall located to the south of the entrance gate. There would be a service yard on the western side of the main building for trucks supplying process materials and removing ash and residues. Staff parking would be located in the southern part of the site.

Cooling water for the proposed development would be obtained from the River Liffey. An inlet channel would be dredged on the western side of the existing cooling channel to the cooling pump house. The water would be pumped from the pump house to the plant. The cooling water would be returned from the plant to the cooling water channel via a pipeline. The inlet and outlet cooling water pipes would be taken in a bridge like structure above Pigeon House Road. The inlet and outlet cooling water pipes would each have a diameter of 1.2 metres.

The principle part of the site would be enclosed by security fencing. The main gate would be open during waste acceptance and normal working hours. Vehicle access would be controlled by barriers which would be supervised by security personnel. The site would be equipped with a CCTV system. The site would also have external night lighting on standard lighting poles. It is stated that the lighting system would be designed to minimise light spill and light pollution. The stacks would be provided with obstacle warning lights in compliance with the requirements of the Irish Aviation Authority.

Sanitary effluent from the facility, i.e. from kitchens, toilets, etc., would be discharged into the main combined storm water and foul sewer which runs along the northern site boundary and links into the Ringsend Wastewater Treatment Plant. Surface water from the roofs of the buildings and from parking areas and capped landscape areas would be collected and stored in a rainwater storage tank in order to enable use of the collected rainwater in the facility process. There would be an overflow connection from this tank to the main combined sewer pipeline. The underground rainwater tank or reservoir would have a volume of approximately 750 cubic metres. The runoff from paved areas would be discharged via a silt trap or grid trap and an oil separator.

Water would be consumed in the process at a rate of approximately 32 cubic metres per hour. Water would be used in the flue gas treatment system, bottom ash humidification and cooling and boiler make up water. Some water would also be required for non-process use. It is estimated that there would be approximately 22,000 cubic metres of rainwater available per annum. This would leave a deficit of approximately 253,500 cubic metres of water per annum required from the water mains supply. It is also proposed to establish a "grey" water connection from the Ringsend Waste Water Treatment Plant so that treated effluent can be used in the process, instead of potable water.

An underground cable is proposed to link the facility to the national electricity grid. It is proposed that the cable would follow the extension of South Bank Road running east-west south of the Synergen Electricity Generating Plant located on lands to the

west. It is stated that the connection would also be used as a power supply to the facility. A separate 10Kv service line is also proposed.

It is stated in Paragraph 5.5.39 of the EIS that in the event of land spreading of sludge being no longer an option due to environmental constraints, it is possible to pump sludge directly to the facility for thermal treatment. It is intended to provide a sludge pipeline from the Ringsend Wastewater Treatment Works.

The furnace and flue gas treatment lines and the electrical generator are proposed to operate for 24 hours per day and for seven days per week. Maintenance intervals are intended to be 18 months. Each line will accordingly potentially be in operation for 8,760 hours per year. Due to the buffer capacity of the waste bunker, waste deliveries would continue, while one line was shut down. It is intended that waste would be accepted between 08:00 a.m. and 10:00 p.m., six days per week. (It is stated that waste acceptance times would be subject to conditions in the EPA License.) It is expected that there would be employment for about 64 people in the operational phase. There would be three shifts per day: 07:00 – 3:15 p.m., 3:00 p.m. – 11:15 p.m. 11:00 p.m. – 07:15 a.m. Non-shift workers would work from 08:00 – 05:00 p.m.

It is stated that the facility would have a design life of 30 years that this could be extended by equipment upgrade and replacement. It is anticipated that there would be a three-year construction period. Allowing a period for commissioning, operations would commence in early 2012.

The plans submitted indicate the waste reception hall being located at the southern end of the building. The boilers and generator would be located towards the centre of the building and the flue gas cleaning equipment would be located in the northern part of the building. The flue gas treatment system would consist of two stages. Activated carbon and lime would be added prior to a fabric filter in the first part of the cleaning system. The second part consists of a two-stage wet scrubber system. After the flue gas cooling system, there would be an extract fan fitted with a silencer and emission monitoring facilities.

It is stated in the submissions that the facility would be designed and equipped to handle at least 50 vehicles per hour. The average number of waste vehicles per hour is expected to be much lower. Incoming and outgoing vehicles would be weighed. It is stated that the typical turn-around time for waste vehicles would be less than 15 minutes. It is stated that the reception hall will have a concrete floor and be fully enclosed. The reception hall will be maintained under negative air pressure. The bunker which will also be fully enclosed would also be maintained under negative air pressure. It is stated that the bunker would have sufficient capacity to store one week's normal throughput of waste. In the event of a shutdown, waste deliveries will be controlled so that no waste for incineration would be delivered to the plant if it cannot be placed in the bunker.

The furnace to be used would have a moving grate type. There would be a slope away from the waste feed chute. The residence time of waste in the furnace will be approximately one hour. The main sections of the grate would be water-cooled. The resultant ash at the lower end of the grate would be discharged into a water bath and from there to the bottom ash bunker.

It is stated in Paragraph 5.6.31 of the EIS that the two furnace lines will supply steam to a single turbine/generator set which will generate electricity. The electrical output from the facility is expected to be approximately 60 megawatts of electricity which is stated to be the equivalent to the typical power requirement of about 50,000 homes.

The documentation indicates that the first part of the boiler would be constructed integrally with the final part of the grate furnace. It is stated that this would be large enough to provide the two second residence time at the minimum temperature of 850 degrees Celsius required by the European Union Waste Incineration Directive 2000/76/EC. Residues from the second and third passes of the boiler which is known as boiler ash and residue from the fourth pass which is known as fly ash will be collected separately. Ammonia would be injected into the first pass of the boiler in order to reduce the level of nitrogen oxides (NO_x).

It is stated in Paragraph 5.6.44 of the EIS that the design of the turbine will allow for production of district heating for a future district-heating network. It is stated in Paragraph 5.6.46 that the turbine is designed to optimise the power output and thus the electricity supply. The net power output is stated to be about 60 megawatts of electricity.

It is stated in Section 5.6.61 of the EIS that continuous monitoring would be undertaken for NO_x, SO₂, particulates, HCL, HF, total organic carbon (TOC), CO, temperature, oxygen content and flue gas flow. It is stated in Paragraph 5.6.62 that emission monitoring will include the measurement of dioxin emissions from the stack on a fortnightly basis. It is noted that such monitoring is not a requirement of EU or Irish legislation. It is also stated in Paragraph 5.6.63 that regular monitoring would be undertaken for various heavy metals, including arsenic, cadmium, lead and vanadium. It is stated that the monitoring system will meet the requirements of the European Union Waste Incineration Directive 2000/76/EC and the EPA Waste License.

The documentation indicates that the end products of the process are fly ash and flue gas treatment residues, boiler ash and bottom ash. It is stated in Paragraph 5.11.18 that the weight of the residues is approximately 20-30% of the weight of the waste input. The volume of the residues is approximately 5-10% of the volume of the waste input. The proposal involves the export of both the bottom ash and flue gas treatment residues. Boiler ash would initially be treated similar to flue gas treatment residues. Following monitoring and testing if the boiler ash is proven to be non-hazardous, it would be treated similar to the bottom ash. The documentation including the evidence submitted at the oral hearing indicates that the bottom ash would be stored internally in the building where provision would be made for the storage of one month's production. The bottom ash would be taken to the port area, as indicated in Mr. Norgaard's evidence at the oral hearing for export for recovery and reuse. The flue gas treatment residues would be taken in an enclosed container to the container terminal as indicated in Mr. Norgaard's evidence. These residues which are accepted to be hazardous would be disposed of to facilities in Europe.

Section 5.11 of the EIS deals with the main alternatives considered. This refers to Chapter 4 which deals with site selection which also considered alternative sites. Other alternatives considered included different site layouts and different site level and building options. Also considered in the alternative studies were different types of grate and alternative types of thermal treatment, pyrolysis and gasification. Three different cooling methods were considered, these including a once-through water cooling treatment as proposed, water cooling by evaporation which would require the use of large concrete towers up to 100 metres high and air cooled condensers. Various alternative flue gas treatment systems were also considered.

Paragraph 5.11.45 of the EIS deals with the issue of plume suppression. This involves the reheating of flue gases or the removal of moisture from flue gases to prevent the stack emissions appearing as a visible plume in most weather conditions. Plume suppression would reduce the visual impact of the facility. It is stated that plume suppression is not proposed, as this would require significant energy and reduce the amount of power being exported from the facility. It is stated that plume suppression is only used for aesthetic reasons and therefore plume suppression is not considered best available techniques (BAT).

The plans submitted indicate temporary storage areas and temporary construction areas to the south of the site of the proposed development. The combined area of these two facilities would be 184 metres by 149.5 metres. A proposal to reduce the size of this area by omitting the most-easterly 20 metres strip was presented at the oral hearing in order to prevent or limit any interference with Brent geese grazing area to the south of the wastewater treatment plant to the east. This issue is discussed in more detail in the assessment. The plans also indicate Shelleybanks Road as a "construction compound". This issue was discussed in detail at the oral hearing and will be referred to in the assessment. A temporary parking area is indicated along the northern edge of the main site. Shelleybanks Road is indicated as a secondary construction site access with the proposed long-term access towards the eastern end of the site frontage being indicated as the construction site access.

The plans submitted indicate a proposed traffic light at the vehicular access from the ramp on the east side of the proposed building to the waste reception hall. Visitor parking is indicated to the south of the proposed building in the revised drawings and a temporary truck parking area is indicated at the western edge of the site opposite the doorways from the building to the hall/service area. The plans indicate the 110Kv proposed underground line exiting the western side of the building towards the northern end of the building and running along Shelleybanks Road before turning westwards at the southern end of Shellybanks Road. A number of existing underground electricity cables are indicated to the south of the building.

The plans submitted indicate the roof surface water reservoir which is stated in the EIS to be underground, located in the area to the north of the proposed building. (Drawing No. MDR0358/BE040C). This drawing also indicates the overflow from the surface water reservoir and the sewage connection for the development.

The plans submitted indicate that the entirety of the processing of the waste would take place within one large building. The sidewalls of this building would slope inwards towards the top. The rear part of the building where the waste reception hall would be located would be lower at approximately 24-25 metres. The lower section would wrap around the sides of the higher building to give an upward spiralling effect. The base of the building which would be 7 metres in height. This would be of solid concrete construction and coloured in dark grey. The cladding of the upper sections would be light coloured metal facades with rounded corners and the sidewalls would slope inwards towards the top. It was indicated at the oral hearing that the cladding would be of lacquered aluminium. The two stacks which would have diameters of 3 metres externally would according to the evidence at the oral hearing be finished externally in steel.

Drawing No. MDR0358/BFOO1b indicates four berms located in the open area to the north of the building and between same and Pigeon House Road. It is stated in Paragraph 6.7.5 of the EIS that it is proposed to establish a strong visual evergreen screen along the eastern, southern and western boundaries of the site. It is stated that this includes dense hedgerow planting of escolonias and olearias backed by pine trees

in feature locations. It is also stated that a new line of sycamore trees will be established along the line of Shellybanks Road to replace those existing trees which will be lost during the course of construction. No detailed landscaping scheme was submitted with the application or with the revised drawings.

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SYNOPSIS OF EIS (EXCEPT DESCRIPTION OF DEVELOPMENT)

Need For The Project (Chapter 3)

This issue is dealt with in Chapter 3 of the EIS. In this chapter, the EIS deals with European and national waste policy. It refers to various policy documents including the European Union Landfill Directive and the Waste Incineration Directive and National Policy Documents, including Changing our Ways 1998, Taking Stock and Moving Forward 2004, the National Strategy for Biodegradable Waste 2006, the National Climate Change Strategy and Sustainable Development Strategy for Ireland. References are taken from various documents to support the thermal treatment of waste and waste to energy facilities. Reference is made to the European Union waste hierarchy pyramid which is a downward pyramid from prevention through minimisation, reuse, recycling and energy recovery to disposal.

The EIS refers to the Dublin Waste Management Strategy of 1997 which informed the policy of the first Statutory Waste Management Plan for the Dublin region which was adopted in 1998. This has now been replaced by the Waste Management Plan for the Dublin Region 2005-2010. The targets adopted in this plan provide for the thermal treatment of 39% of household waste, 37% of commercial and industrial (non-hazardous waste), a total of 25% of all waste. The policy objective as set out in 18.8 of the Plan is to develop a waste to energy (incineration) plant at the preferred location on Poolbeg Peninsula Dublin 4. It is stated that this will have capacity of approximately 400,000 – 600,000 tonnes per annum and will treat non-hazardous and municipal or similar waste. It is also stated that the region had adopted a policy to become self-reliant aiming to manage in Dublin waste generated in Dublin. It is argued in the EIS that waste to energy as a residual treatment technology will provide the region with a long-term sustainable solution for residual waste and it fits into the integrated approach adopted in the Waste Management Plan.

Chapter 3 of the EIS also deals with land use planning policies and issues relating to the Dublin City Development Plan. Reference is made to the Regional Planning Guidelines which were published in 2004. These recommend that a regional

approach to waste management should be adopted which would, inter alia, permit in the regional transfer of waste to give appropriate economies of scale to new waste management facilities and provide for growth in capacity to mitigate escalating costs of waste disposal. It is also a recommendation to develop biological treatment facilities for organic waste, further recycling and waste to energy facilities to serve the needs of the Greater Dublin Area. It is also stated that in its Development Plan 2005 – 2012, Dublin City Council sets out a list of priority policies, including recycling and recovery of waste and the recovery of energy from waste.

Reference is made to Policy U4 of the Development Plan which states that it is the policy of the City Council in conjunction and cooperation with the adjoining local authorities to implement the waste management plan for the Dublin region. It is the policy of the elected members of Dublin City Council to oppose the siting of an incinerator on the Poolbeg Peninsula. Reference is also made to the land use-zoning objective, i.e. Z7A, where it is stated that although the lands are zoned as suitable for heavy industry, waste to energy and incineration is expressly excluded from the list of suitable activities. It is noted that in the Z7 zoning, the uses permitted includes incinerator/waste to energy facilities. It is submitted that the distinction in the two zonings was an artificial differentiation introduced due to the opposition of elected members to the siting of an incinerator, as referred to in Policy U4. It is submitted that when the site was selected, the land was zoned Z7. Reference is made in the EIS to Section 22 (10A) of the Waste Management Acts 1996 – 2003 which provides that the Development Plan shall be deemed to include the objectives of the Waste Management Plan and in the event of there being a conflict between the Waste Plan Objective and the Development Plan, the Waste Plan Objective shall over-ride the Development Plan objective. It is submitted that the policy objective of the Waste Management Plan of 2005 must take priority and override any conflicting objectives of the Development Plan.

Chapter 3 of the EIS indicates waste projections to 2020 for commercial and industrial and household waste. A total of 1,570,000 tonnes is indicated. It is argued that the reliance on landfill is currently too high. The aim is to recycle 59% of the region's waste and to landfill only 16% by 2013. It is argued that the proposed

capacity of 600,000 tonnes is sized to manage the residual waste arising after recyclables are removed from the waste stream. It is submitted that the waste to energy facility will be treating just a subset of the waste arising and will not counteract the pursuit of ambitious recycling policies.

Chapter 3 of the EIS also deals with the alternatives considered. It refers to the waste management strategy of 1997 on which the 1998 plan was based and the strategies then considered. When the plan was being reviewed in 2004/2005, an assessment was made to determine if any new approaches were available. Mechanical biological treatment (MBT) was considered and the plan found that this did not offer any significant advantages for the Dublin region. It was stated that the policy of employing thermal treatment of residual waste was not changed. The EIS also refers to the consideration of alternative technologies carried out in 1999 when gasification and pyrolysis were considered in addition to waste to energy. It is stated in the EIS that procurement of the current facility did not specify any technology type. It is stated that further information on the alternative technologies is considered in Chapter 5 of the EIS.

It is argued in Section 3.10 of the EIS that the proposal to develop a waste to energy facility is fully in keeping with European, Irish and regional environmental and planning policy and the current Dublin Waste Management Plan sets out to achieve an integrated waste management system, including waste prevention, reuse, recycling, energy recovery and minimum reliance on landfill disposal in accordance with the European Union waste hierarchy. It is submitted that the waste to energy facility is an important aspect of the overall strategy. It is argued that the facility would provide a robust waste management solution at an appropriate scale.

Site Selection (Chapter 4)

Chapter 4 of the EIS deals essentially with the site selection which took place in 1999 and the review of the selection process which took place for the purposes of the EIS. The chapter sets out the site selection methodology used in the report on siting and environmental issues published in November 1999. It refers to and lists the ten short-

listed sites and it lists the advantages and disadvantages of the four most suitable sites, i.e. Cherrywood, Newlands, Poolbeg and Robinhood.

The advantages and disadvantages of the four sites are listed in Table 4.2. Amongst the advantages listed for Poolbeg are industrial zoning, central in terms of proximity to waste production centre of gravity, road access will be good upon completion of several current projects, no houses within 1 kilometre, would fit in well with existing chimneyscape in an industrial setting and prevailing south-westerly wind. Disadvantages are listed as traffic and probable negative perception by the local residents due to increase in existing industrial infrastructure. The sites were ranked with Poolbeg being first, Robinhood second, Cherrywood third and Newlands fourth.

The EIS states that the Poolbeg site was identified as the preferred site through a systematic assessment of areas suitable in the Dublin region. It is stated that the site offers potential for end use market, is not in close proximity to residential areas and new road developments will make the area quite accessible. It is also argued that its location within the waste production centre of gravity for the region supports the proximity principle.

In the course of the EIS preparation, the site selection was reviewed, having regard to various documents, including the European Commission's advice reference on site selection and incineration and the World Health Organisations' working group on site selection for new hazardous waste management facilities. It is submitted that the Poolbeg site enjoys a favourable rating, having regard to the World Health Organisation's criteria.

Paragraph 4.2.42 of the EIS lists the major factors to be considered during site selection in accordance with the European Commissions' advice. These include air quality status of the locality, the proximity to local communities, proximity to sensitive areas, impacts on existing and potential economic activities, such as tourism, availability of facilities for ash disposal or reuse, the adequacy of transport links and site specific conditions, e.g. prevailing wind direction. It is stated that the European Commission highlight as important avoiding locating an incinerator upwind of

residential areas in enclosed air basins or in areas where air quality is already poor. It is also stated that the European Commission recommends paying attention to potential impacts on human health. It is stated in Paragraph 4.2.25 that all of the factors mentioned were taken account of in the original site selection.

It is stated in the EIS that three of the alternative sites, i.e. Robinhood, Cherrywood and Newlands were revisited by the engineers as part of the EIS. The three alternatives are still vacant and still possess suitable zonings. In the case of Cherrywood and Newlands, there has been an intensification of residential and commercial uses in the vicinity. There is also a new hotel under construction on the southern side and suburban housing on the western side of the Newlands site. There has also been an intensification of use around the Robinhood site and traffic movements in the area have increased. It is argued that the Poolbeg site has several additional advantages which were not taken account of in 1999. These include proximity to the Ringsend Wastewater Treatment Works (this provides a possibility of pumping sludge if it is to be incinerated, and also of using 'grey water' and so reducing the potable water requirement). The close proximity to the existing cooling water channel and close proximity to the electricity grid are also listed. It will also be possible when the district-heating infrastructure is developed to use the district heating in new residential and commercial developments nearby. The proximity to the port will minimise transport journeys for residues to be exported and facilitate the importation of large prefabricated components for the facility.

It is submitted in relation to site selection that the 1999 selection process identified Poolbeg as the preferred site. The Poolbeg site meets the criteria set out in various guidelines and no major constraints were identified. Additional project synergies had also been identified which enhanced the suitability of the Poolbeg site.

Landscape And Visual Impact (Chapter 6)

In Chapter 6 of the EIS the landscape impacts of the development are assessed. The chapter sets out the methodology used and gives the context for the development having regard to various development plans which are relevant to the area. The

landmark feature of the existing Poolbeg Power Station stacks is referred to. The Poolbeg Peninsula is described as being of significant landscape/seascape character, as well as of visual character within Dublin city. By contrast the site which is centrally located on the peninsula is described as being visually indistinct and its character consistent with the core industrial nature of its surroundings. It is noted that there are no specific landscape or visual-related designations applicable. The peninsula is recognised as an important amenity and recreational resource in association with Dublin Bay.

Chapter 6 contains a number of images or photomontages of the proposed development. On Figure 6.2, 6.4 and 6.5, the plume from the stacks is included (this plume is not included in the bulk of the photomontages contained in Appendix 6.1 of the EIS and this point was emphasised by objectors to the proposal).

It is stated in Paragraph 6.6.9 that the proposed waste to energy facility will be visible from many areas, both on the peninsula and from the wider setting of Dublin Bay. It is considered that only the main building has potential for appreciable landscape or visual impact in the wider context. It is submitted that the building would have a strong visual presence in contrast with the more dispersed visual nature of its industrial surroundings. It is submitted that the proposed stacks will not have the visual dominance or presence of the existing stacks. It is stated that the degree of visibility of the plume will vary, depending greatly on climatic factors, including temperature and wind speed. It is stated in Paragraph 6.6.14 that appreciable visual impact will arise in two distinct locations, i.e. from areas within the peninsula and from nearby areas in Sandymount, Irishtown, Dublin Port and Clontarf.

It is submitted in Paragraph 6.6.16 that the development would have no direct impact on any surrounding landscape, amenity or recreational designation, although the main building would be an imposing structure in views from Ringsend Nature Park, the South Shore Walk, portions of Sean Moore Park and Sandymount Bay and its associated promenade. It is submitted that given its strong architectural presentation, the building may act as a catalyst for the envisaged rejuvenation and redevelopment of the industrial landscape of the peninsula. It is submitted that whilst many viewers

will see the significant impact as being negative, others may consider its architectural styling to be a positive impact. It is submitted that as the viewer moves away from the coast, the impact of the building would quickly reduce, and the development would become an increasingly small part of the wider developed context.

It is stated in the EIS that the site would be illuminated for normal operations during the nighttime. The peninsula however is already an area of high illumination and as such, the lighting would not give rise to any additional adverse effect. It is stated that a feature of the development is the proposal to have a large glazing area on the north elevation which would give an added interest and a positive visual experience for viewers from Pigeon House Road and from port areas on the north side of the Liffey.

In summary it is argued that the proposed building constitutes a significant individualistic development to be located on a visually prominent peninsula within Dublin Bay. It is submitted that the development would have a significant landscape and visual influence on the setting and views from areas such as Irishtown Nature Park and the south shore of the peninsula. Significant visual impact would also extend across Sandymount Bay to the promenade from Sandymount to Irishtown. From the wider bay area, the development would not result in significant landscape or visual impact.

It is stated that the development is to be sited within an area of established hardcore industrial development and the site itself has a visually degraded appearance with little or no landscape or visual sensitivity. It is submitted that in mitigation for its visual impact, the design proposes a main building of significant architectural merit. It is submitted that the building is a new departure in terms of recent developments on the peninsula and in conjunction with provisions in the Poolbeg Master Plan would set a trend for the rejuvenation of the architectural quality of the industrial elements on the peninsula. The building proposed would have an openness to reveal its function and with its sculpted simplicity, the building would have landmark qualities. Landscaping is proposed along the edges of the site to visually anchor the development and screen low-level traffic movements.

Traffic And Transportation (Chapter 7)

Section 7.2 of the EIS sets out the methodology used for the Traffic Impact Assessment. The predicted traffic generated was assessed in the context of future year traffic flows to ascertain the impact of the facility on the local and strategic network. Comparisons were made for both the a.m. peak hour traffic and the average annual daily traffic. Traffic counts were carried out on various roads in the location to establish baseline traffic flows. The percentage of heavy goods vehicles was also taken into account. At the time of the survey works, the site was occupied in part by two enterprises, i.e. Clearway Disposals Limited and Hibernian Molasses Limited. Table 7.3 of the EIS contains figures for the existing trip generation of the two facilities on the site. The total trip generation (presumably daily) is indicated as a total of 204 vehicles of which 65 or 32% were heavy goods vehicles.

Chapter 7 contains details of existing public transport in the vicinity. It is indicated that there is only one bus route on Pigeon House Road with one bus in the morning and one in the evening.

Paragraphs 7.3.7 to 7.3.30 of the EIS refer to the then proposed transport strategy of Dublin City Council in relation to heavy goods vehicles. In Paragraph 7.3.31, reference is made to future public transport improvements in the area, including the LUAS line C1 and the Dodder Bridge. Additional pedestrian footpaths across the River Liffey are also referred to. Future road improvements are listed in Paragraph 7.3.34. Listed amongst these is the Dublin Port Tunnel which was expected to be open to traffic at the end of 2006 (this is now open), the East Wall road improvement scheme, the Macken Street Bridge which is anticipated to be open in 2008 and the M50 waterway upgrade scheme. The entirety of the M50 upgrade is expected to be completed by 2010.

The Traffic Impact Assessment was carried out on the basis of waste being accepted 312 days per year, i.e. Mondays to Saturdays between the hours of 08:00 a.m. and 10:00 p.m. The traffic generation was assessed on the basis of the bulk of the deliveries coming from the transfer stations at Ballyogan, Ballymount and Kilshane

Cross in loads of 20 tonnes and the remaining coming from the central area in refuse collection vehicles carrying an average of 10 tonnes. The bottom ash would be delivered to a dockside location approximately 750 metres from the facility and the flue gas treatment residues would be brought to a site off South Bank Road approximately 1.3 kilometres from the facility where it would be stored to await shipping.

In the traffic assessment, two scenarios, i.e. worst-case scenario for the strategic road network by which all waste would be delivered through the transfer stations and a worst-case scenario for the local road network which assumed that all waste would come directly to the waste to energy facility without accessing the waste transfer stations.

The assessment is based on there being approximately 121 truck movements to and from the facility daily, or at an average of nine truck movements per hour. The assessment for the waste residue trip generation is on the basis of bottom ash being removed in vehicles with a capacity for 30 tonnes and flue gas treatment residues being removed in vehicles with a capacity of 20 tonnes. The flue gas treatment residue is indicated to be 18 truck trips per week, or an average three truck trips per day and the bottom ash removal is indicated to be 333 truck trips per month which would occur over a 24-hour period once a month. Employee trip generation is estimated at a total of 76 daily vehicle trips with a.m. peak hour vehicle trip generation of 32 and p.m. peak hour vehicle trip generation of 20. The assessment is based on all bulk transfer vehicles being constrained to travel via the M50 motorway and the Dublin Port Tunnel to and from the waste to energy facility. Various assumptions contained in Paragraph 7.5.25 were made in relation to the waste collection vehicles coming directly to the facility. The assessment was also carried out on the basis of 64% of the waste from the transfer stations coming from Ballymount, 24% from Ballyogan and 12% from Kilshane Cross. Some waste would be brought to the facility from private waste facilities. It is stated in Paragraph 7.5.28, that the majority of these are located close to the M50.

For the purposes of the traffic impact assessment, the eastern bypass which is only at feasibility stage was not included. The Dublin transportation model was used to assess the impact on the strategic and local networks.

Table 7.7 of the EIS indicates the daily impacts on the strategic road network of the proposed strategy, i.e. transfer stations and direct deliveries. Traffic to and from the waste to energy facility is indicated as passenger car units. Maximum impacts for the strategic network are indicated to be in the Dublin Port Tunnel with .72% increases indicated for both the year 2012 and 2027. The maximum increases indicated for the M50 are percentage increases of .28% for 2012 and .27% increase for 2027. The maximum percentage increase indicated on the local road network is for 2012 is a 4.53% on the South Bank Road and a 2.3% increase in 2027. (The percentages increases for Sean Moore Road are indicated to be .62% in 2012 and .47% in 2027).

Table 7.9 indicates the peak hour impacts on the strategic road network and Table 7.10 indicates the a.m. peak hour impact on the local road network. The percentage increases are given for both directions on the networks. The maximum increases for the strategic road network are in the Dublin Port Tunnel where percentage increases of .82% and .61% are indicated for the year 2012 and .61% and .73% increases are indicated for 2027 for the northbound and southbound lanes respectively. Maximum increases on the local road network are indicated to be eastwards on South Bank Road with a 9.54% increase in 2012 and 7.28% increase in 2027. It is submitted that the flow forecast for South Bank Road are relatively low and even with the waste to energy facility remain within the capacity of the road. In the two alternative scenarios considered, i.e. all waste been taken to the transfer stations and the impact being on the strategic road network and all waste been taken directly to the facility in refuse collection vehicles, the peak hour impact on the strategic road network is indicated to be an increase of 1.15% on the northbound carriageway of the Dublin Port Tunnel for the year 2012 and a 1.01% increase in 2027 on the southbound carriageway of the Port Tunnel, with the peak impact on the local road network being a 7.58% increase on the eastbound carriageway of South Bank Road in 2012 and a 5.75% increase in 2027 for the scenario of transfer station deliveries only. The a.m. peak hour impacts on the local road network for the direct delivery scenario only would indicate a 14.9%

increase in the a.m. peak or flow eastwards on South Bank Road and a 10.88% increase on the eastbound lane of South Bank Road in 2027. This scenario also indicated a.m. peak increases of 11.9% on the eastbound carriageway of North Wall Quay and 10.64% increase on the westbound carriageway of North Wall Quay for the year 2027. It is stated in Paragraph 7.6.32 that the road capacity on North Wall Quay can be expected to cater for the increased traffic flows and this flow could be accommodated.

The conclusions of the Traffic Impact Assessment are contained in Section 7.6.40 of the EIS. It was concluded that there would be minimal traffic impacts on the M50 or the Dublin Port Tunnel at peak times on a daily basis with the implementation of the proposed strategy. It was also concluded that there would be minimal traffic impacts on the local road network during peak times and on a daily basis from the proposed strategy. It was considered that the heavy goods vehicle management strategy would reduce truck movements throughout the area. It was concluded that the traffic impacts of the proposed facility are low and could be accommodated on the road network. A number of mitigating measures are outlined. These are contained in Section 7.8 of the EIS.

References to alternative transportation modes are contained in Paragraph 7.6.35 to Paragraph 7.6.39 of the EIS. Rail and sea options are referred to. It is concluded that the logistics, costs and extended environmental impacts would render the rail option unfeasible, having regard to the absence of a rail link to the south side of the port. The sea option is considered not to be feasible, due to the need to provide a number of transfer stations along the coast which would have environmental, logistical and financial implications.

The Traffic Impact Assessment considered the possibility of restrictions on waste deliveries during peak hours. It was considered that concentration of truck movements to specific hours would not offer significant benefits.

The capacity of the Sean Moore Roundabout was considered, having regard to the traffic flows which would be generated. Table 7.19 and 7.20 of the EIS indicates the

comparison between the ratio of flow to capacity and number of vehicles queuing lanes with and without the proposed facility at the roundabout. It is argued that the effects of the facility on the roundabout are negligible in the a.m. peak hour.

The impact of construction traffic is examined in Section 7.7 of the EIS. Some mitigating measures arising from the assessment are contained in Section 7.8.3 of the EIS.

Amongst the mitigating measures recommended for the operational phase are the requirements that bulk transfer vehicles from the waste transfer stations should use the M50 and Port Tunnel, the provision of a right-turn lane on Pigeon House Road into the facility and the provision of two weighbridges in each direction at a sufficient distance from the entrance with a car access separate from the weighbridge to allow the segregation of cars and trucks and to maintain a free flow of traffic in the vicinity of the entrance. Amongst the construction mitigation recommended are, where possible materials to be delivered by boat at a nearby dockside location and where possible, wide load movements to be restricted to evening or nighttime to minimise disruption to traffic on the strategic and local road networks. It is also stated that the operator will be required to prepare and submit a construction traffic management plan to be approved by the Roads Authority.

It is concluded that the overall impact of the facility in terms of traffic impact would be imperceptible and there would be no residual impacts. The overall impact of the construction stage is considered to be slight.

Air Quality And Climate (Chapter 8)

Chapter 8 on air quality and climate refers to the various pollutants which are regulated by European Union Directive on waste incineration (2000/76/EEC). It also sets out the scope of the study which had been carried out. This involved identifying the substances of significance which are released from the development, a review of background ambient air quality in the vicinity of the site, air dispersion modelling of the significant substances, modelling of particulate deposition for dioxins and furans

etc., and identification of potential ground level concentrations of released substances at the site boundary and at sensitive receptors. An accumulative assessment was also carried out taking account of other significant industry in the area. An assessment of the impact of greenhouse gas emissions from the facility was also carried out.

Section 8.2 of the EIS deals with the existing air quality and with existing regulations and protocols in relation to climate. It states that a baseline survey of air quality was carried out over the period of July 2003 to December 2005. Sampling was carried out at a monitoring station located on the Irish Glass Bottle Company site at Ringsend. The monitoring station was located approximately 12 metres east of Sean Moore Road. There was also some additional monitoring at other stations for nitrogen dioxide and sulphur dioxide.

A summary of the baseline results is contained in Figure 8.1 of the EIS. This compares the results with the relevant ambient air quality standards. The results indicate that levels of most compounds including sulphur dioxide, hydrogen fluoride, hydrogen chloride etc., are all significantly below respective limit values. It is stated in paragraph 8.2.5 that levels of NO₂, PM₁₀ and PM_{2.5} approach the limit values. The maximum 24-hour PM₁₀ levels exceed the 24-hour limit values of 50 micrograms per cubic metre which is not to be exceeded on more than 35 days per annum with 48 exceedances over the 320 monitoring days. It is stated in Paragraph 8.2.8 that the 90th percentile of daily PM₁₀ concentrations for the complete monitoring period is 57 micrograms per cubic metre which exceeds the limit value of 50 micrograms per cubic metre. The measurements indicate that exceedances of the 24-hour limit value are more likely in the winter and spring months. It is noted in Paragraph 8.2.10 that PM_{2.5} concentrations were measured over a 60-day period and the average measured was 11 micrograms per cubic metre which is significantly lower than the proposed concentration cap of 25 micrograms per cubic metre.

Levels of dioxins/furans (PCDDs and PCDFs) were measured over two one-month periods; There are no ambient air quality concentrations or deposition standards for dioxins or furans. It is stated in Paragraph 8.2.13 that the results indicated slightly higher measurements than measurements elsewhere in Ireland. Measured average

levels are similar to those measured recently at an urban site in Middlesborough and significantly lower than ones measured in Manchester in the 2000 – 2003 period.

Chapter 8 refers to Ireland's commitments under the Kyoto protocol in relation to climate change and greenhouse gas emissions. It also refers to the detailed guidelines from the Inter-governmental Panel on Climate Change in relation to the estimation and reporting of anthropogenic greenhouse gas emissions in order to ensure compliance with the Kyoto protocol. According to the guidelines, emissions of carbon dioxide from the carbon in waste derived from biomass raw materials are not considered as anthropogenic CO² emissions.

Section 8.3 of the EIS deals with emissions from the facility. It sets out in Table 8.6, the emission limit values which have to be complied with in accordance with Council Directive 2000/76/EEC. It is stated that Elsam Engineering is committed at a minimum to meeting all the requirements of the Directive. It is stated that due to the advanced post-combustion flue gas cleaning employed, expected average emission values will be lower than the maximum values used in the study. Table 8.7 of the EIS sets out the European Union maximum emission concentrations and the annual average daily emission concentrations which are used in the assessment. Emissions are assessed for typical maximum and abnormal operating conditions. The maximum operation conditions are stated to be based on the facility operating at 600,000 tonnes per annum with the emission limits and the limits defined in the European Union Directive. Abnormal operating conditions refer to short-term periods in which the limits detailed in the European Union Directive 2000/76/EEC are exceeded. Table 8.5 of the EIS indicates the process emission design details. This indicates two stacks, each of 2.4 metres in diameter. It is stated in Paragraph 8.3.4 that in order to assess the possible impact of the facility under maximum and abnormal operations, a conservative approach was adopted which was designed to over-predict ground level concentrations. The assumptions included using the worst-case meteorological conditions of the period 1993 – 2005.

It is stated in Paragraph 8.3.8 of the EIS that the model used was a US EPA model known as AERMOD. It is stated that this model is applicable in both simple and

complex terrain, urban or rural locations and for all averaging periods. It is stated that AERMOD is capable of modelling most meteorological conditions likely to be encountered in the region. It is not capable however of modelling adequately some meteorological conditions. One such condition is fumigation. An additional consideration at the current location is shoreline fumigation. This condition can be assessed by modelling known as Screen 3.

Chapter 8 sets out the bases for the meteorological considerations inputted into the model for the air quality assessment. Meteorological data was collected on site for two full years, i.e. 2004 and 2005. This indicated a greater frequency of westerly and north-westerly winds than south-easterly winds when compared with Dublin Airport.

Table 8.9 of the EIS sets out ambient air quality standards or limit guidelines against which the maximum predicted concentrations derived by adding background levels to predicted levels derived from the facility are compared. Table 8.10 contains the modelling results under maximum operations and these are compared to the ambient air quality standards. The predictions are done for the year 2012. The table indicates compliance for all of the compounds modelled. In the case of PM₁₀, the predicted environmental concentration for the 90th percentile of 24-hour averages is given as 30.6 which compares to the ambient air quality standard of 50 milligrams per cubic metre. The annual average predicted concentration is indicated to be 30.2 which compares with an ambient air quality standard of 40. The predicted environmental concentration for the annual average NO_x level is indicated as 23.5 against an ambient air quality standard of 30. (The annual background (taking account of cumulative impact and site traffic concentration for the year 2012) is given as an average of annual averages of NO₂ levels for Bull Island and Irishtown Nature Reserve in the table for NO_x.)

It is stated in Paragraph 8.4.6 that the annual average NO_x concentration (including background concentration) is below the limit level for the protection of vegetation accounting for 78% of the annual limit value at the worst case receptor in the region of the SAC's, SPA's and NHA's. It is stated in the discussion on SO₂, CO, PM₁₀ and PM_{2.5} in Paragraph 8.4.7 that having regard to the results, no adverse impact on

public health or the environment is envisaged to occur at or beyond this site boundary. It is stated that emissions at maximum operation equate to ambient concentrations ranging from 13 – 76% of the respective limit values at the worst-case receptors. In the discussion on dioxins, it is stated that the contribution from the facility would be minor with levels at the worst-case receptor to the south-west of the site under typical maximum and abnormal operation accounting for only a small fraction of existing levels. It is stated that levels at the nearest residential receptor would be minor with the annual contribution from the proposed facility accounting for less than 2% of the existing background concentration under maximum operating conditions. It is also stated that modelled total dioxin particulate deposition flux indicates that deposition levels under the various modelling scenario operations would be significantly less than that experienced in urban background locations.

The issue of shoreline fumigation is dealt with in more detail in Appendix 8.3 of Appendix 8 of the EIS. A revised table for this appendix was submitted by Dr. Porter at the oral hearing. This is referred to in the report on the oral hearing. This issue is referred to in more detail in the assessment and in Dr. Broderick's report which is attached as Appendix 3 to this report.

The potential impact on climate is dealt with in Paragraphs 8.4.22 – 8.4.36 of the EIS with a summary contained between 8.4.37 and 8.4.39. This issue is also dealt with in more detail in Annex 1 of Appendix 8.

In the climate change assessment, the incineration of 600,000 tonnes of waste is compared to two scenarios. The first scenario is with landfilling of a similar amount with a landfill gas recovery system which has a collection efficiency of 75% for methane. In the second scenario it is assumed that all non-recyclable putrescible waste will be anaerobically digested. In this scenario, 242,220 tonnes of the 600,000 tonnes is anaerobically digested over a 25-year period and the other 357,780 tonnes is landfilled under the same conditions as applied for scenario 1.

In the assessment of climate change, allowance is made for the export of 60 megawatts of electricity net from the plant to the national grid. It is stated in Paragraph 8.4.29 that the total electrical output would be about 66 megawatts.

The assessment for Scenario 1 indicates that over a 25-year period, the contribution of the waste to energy facility to total greenhouse gas emissions in the country would be equivalent to a net positive impact of .11% of total emissions in 2012, when energy recovery is taken into account. The contribution to the total greenhouse gas emissions from landfilling 600,000 tonnes of waste also allowing for the generation of power, but excluding carbon sequestration, when condensed to a 25-year period is equivalent to .23% of the total greenhouse emissions in Ireland in 2012. It is stated in the EIS accordingly that the waste to energy facility in comparison to landfilling produces a net benefit of approximately 0.34% of the total greenhouse gas emissions in Ireland in 2012 and thus would be of minor positive beneficial impact in terms of Ireland's obligations under the Kyoto Protocol. When diversion of biodegradable waste to anaerobic digestion is allowed for as Scenario No. 2, the overall annual impact of the proposed waste to energy facility on climate would be positive by approximately 0.16% of the total greenhouse gas emissions in Ireland in 2012. (These calculations ignore carbon sequestering in a landfill which is not currently considered in the IPCC recommended methodology). If carbon sequestering is taken into account, the EIS indicates at Paragraph 8.439 that incineration with energy recovery still offers a net saving over landfilling of the order of 0.3% of the total greenhouse gas emissions in Ireland in 2012. When landfilling in conjunction with anaerobic digestion is taken account of, there is a small saving from the landfilling anaerobic digestion option over incineration in the order of 0.3% of the total greenhouse emissions in Ireland in 2012. Figure 8.6 of the EIS indicates in graphic form, the comparison between the various scenarios.

In the air quality assessment, reference is made to the possibility of dust being emitted during the construction phase of the development. It is stated that the majority of dust produced would be deposited close to the generated source. It is stated that a dust minimisation plan would be formulated for the construction phase. In Paragraph 8.5.3, a series of measures which would be implemented are set out. This provides

for wheel wash facilities to be provided for vehicles exiting the site, covering of vehicles carrying materials on and off the site and regular inspection and cleaning of public roads as necessary etc.

Mitigating measures for the operational phase are set in Paragraphs 8.5.5 to 8.5.9. These mitigation measures include the flue gas cleaning system and the injection of ammonium hydroxide into the first pass of the boiler to reduce NO_x levels. It is stated in Paragraph 8.5.12 that based on the results of the air dispersion modelling, the air quality impact of the proposed facility will be insignificant. It is stated in Paragraph 8.5.18 that based on the climate assessment, the climate impact of the proposed facility will be positive.

Revised and more detailed modelling in relation to climate change was submitted by Dr. Porter at the oral hearing. Two separate presentations were made with modifications to the details of the methodology used. Dr. Porter stated at the oral hearing that his final presentation referred to as Poolbeg Modelling 3 was the final one on which he was relying. These presentations are outlined in detail in the report on the oral hearing and are also discussed in detail in the report of Dr. Brian Broderick i.e. Appendix No. 1 to this report.

Noise And Vibration (Chapter 9)

In Chapter 9 of the EIS, the noise and vibration levels in the vicinity of the site are referred to and the predicted impact of noise and vibration from the facility during construction and operation is assessed. Mitigating measures are set out in Section 9.4.

For the noise impact assessment, background noise levels at 8 locations, including five at the site boundaries and 3 at noise sensitive locations were monitored. Predictions were made for 10 locations. Figures 9.1 and 9.2 indicate the locations of the noise monitoring stations. It is stated in Paragraph 9.2.5 that no baseline monitoring was performed at locations N108 and N110. These locations are on Beach Avenue and at the Coastguard Cottages. The overall results of the other eight stations are given in the EIS in Section 9.2. The results are summarised in Paragraph 9.3.19.

It is stated that the noise level at the site boundary is dominated by noise from the scrap yard to the north of Pigeon House Road, the scrap yard in the northern part of the site, fans in the Ringsend Wastewater Treatment Works and trucks from the Molasses factory in part of the site. It is stated that the noise level at the noise sensitive locations, i.e. those away from the site boundary is dominated by noise from the city.

The noise impact of the development was calculated on the basis of sound power levels provided by calculations, experience from similar incineration facilities and standard values taken from acoustic tables. Figure 9.3 sets out the sound power level from various noise sources in the facility. Allowance is made in the calculations for the noise reduction due to the façade. It is noted that the lower part of the walls in the building are made of concrete which has a very high noise reduction value. Calculations are also made of noise sources during construction. The noise sources are indicated in Figure 9.8 of the EIS.

In Paragraph 9.3.15 of the EIS, it is stated that having regard to various guidelines which are referred to and in order to prevent further increases in noise levels in the surrounding environment, it was proposed that the operational noise levels for the facility should be limited to 50 dBL_{aeq} during daytime hours 40 dBL_{aeq} during nighttime hours with no tonal or impulsive noise audible at the noise sensitive locations. Construction noise levels recommended by the National Road Authority are considered reasonable targets for construction noise. These levels are referred to in Paragraph 9.3.17. It is further stated that where nighttime construction is required, it is proposed that noise levels will be limited to 45 dBL_{aeq} at the nearest noise sensitive location.

Figure 9.10 sets out the calculated sound pressure level during operation for day and night at the 10 noise locations assessed. The table indicates daytime levels between 23.9 dBL_{aeq} and 31 dB(A) for the noise sensitive locations with nighttime levels between 21.8 and 27.8 also for the noise sensitive locations. Daytime site boundary levels range from 50 – 70.8 dBA for daytime and 49.5 to 67.8 for nighttime. The sound pressure levels for the construction phase are indicated in Figure 9.11. In this

case the day and night figures are similar, as 24-hour construction is proposed. The levels indicated for the noise sensitive locations range from 35.5 to 50.4 and the range for the site boundaries is from 66.2 to 71.7.

Figures 9.12, 9.13 and 9.14 consist of drawings indicating the various noise levels calculated for day and night periods for the operational and the construction phases of the development.

Part 9.4 of the EIS contains an assessment of off-site traffic noise. The change in traffic noise levels for the opening year of 2012 arising from off-site traffic noise indicated on Table 9.2 ranges from 0.1 dB to 0.3 dB, with the latter being on South Bank Road. It is stated that this change in noise level would be imperceptible. A similar calculation for the year 2027 indicates changes in noise levels due to off-site traffic from 0.2 dB to 0.1 dB which again is indicated as being imperceptible.

In Figure 9.15 of the EIS some corrections are made to the predicted noise levels in order to take account of audible tones, impulses etc. In two cases, both of which are at the site boundary an additional 5 dB is added to give higher rating levels. Figure 9.16 indicates rating levels for construction and in all cases; a correction of 5 dB is added to the calculated levels.

The EIS considers the likelihood of complaints being made due to noise levels, both for the construction and operational phases of the development. This calculation is made on the basis of comparing the background noise level with the specific noise from the facility, taking account of the rated calculations for both day and night periods. The calculations are done for the noise sensitive locations. The results contained in Tables 9.17, 9.18, 9.19 and 9.20 indicate complaints being unlikely during the operational phase and generally either marginal or unlikely for the construction phase, except for two locations identified as N106 which is on walkway to Irishtown Nature Park and N107 which is a Seafort Avenue location where complaints are likely during construction, when piling is taking place in the nighttime period. (The additional 5 dB was added to the construction phases essentially to allow for the tonal impacts of piling). In the absence of nighttime piling, it was

calculated that the likelihood of complaints at the Seafort Avenue location, i.e. N107 was from marginal to unlikely.

In order to assess vibration levels in the area, measurements were taken at the noise monitoring location close to the site boundaries. It is stated in Paragraph 9.4.19 that all measurement results show insignificant values. It is not envisaged that on-site operations would cause significant vibration during construction when piling would take place. This would be monitored and simultaneous measurements of the vibration levels at the site boundaries would be made to ensure that no significant adverse effects would occur.

Section 9.5 of the EIS sets out mitigating measures relating noise. It is stated that the piling method to be used would be optimised to avoid impulses and to ensure that noise emissions during construction in the night period are reduced. (It was submitted at the oral hearing that nighttime piling would not take place). Other mitigating measures referred to include quality cladding with good noise damping properties to ensure that noise emissions from trucks inside the reception hall would be avoided. It is also stated that the building will shield most of the noise sensitive areas to the south from the noise from trucks. Silencers would be installed after the fans to lower the sound power level from the top of the stacks. The fans would also be placed inside the building and will therefore not emit noise to the surroundings. It is also stated that all activities related to the operation, for example, the collection of bottom ash would take place inside the building in order to prevent unnecessary noise emissions.

In commenting on residual impact, it is stated that there is potential for residual noise impact if piling takes place during nighttime. It is stated that subject to complying with conditions of the EPA License, there would be no residual significant noise impact at the nearest noise sensitive location.

Residues And Consumables (Chapter 10)

Chapter 10 provides details of the ash and solid residues that will arise during the operation of the facility. Also contained, is a description of the consumable materials which will be used in the process.

The main solid residues from the facility are identified as bottom ash, boiler ash and flue gas treatment residues. It is estimated in Table 10.1 that bottom ash would comprise approximately 20% by mass of the input waste. This would amount to 120,000 tonnes per annum. Boiler ash would comprise .5% by mass of the input or 3,000 tonnes per annum and the flue gas treatment residues would comprise 4% by mass or 24,000 tonnes per annum. This would give a total of 147,000 tonnes of residue. A description of the three categories of residues are contained between Paragraphs 10.2.3 and 10.2.8 of the EIS.

It is stated in the EIS that there will also be small quantities of other materials which would be likely to be disposed of off-site including fabric filters for the flue gas treatment system which will be replaced every 36 months and other consumables used in the day-to-day operation and in the maintenance of the plant, for example, machinery oils and chemical cleaning solutions.

Section 10.3 of the EIS sets out the methodology for handling residues. It is stated that the bottom ash will be stored in a bottom ash bunker which has a capacity to store approximately 10,000 tonnes which is equivalent to 30 days normal operation. The bunker would be constructed of reinforced waterproof concrete. The bottom ash would be stored temporarily in the bunker until exported from the site. The boiler ash would arise from the second and third passes of the boiler and would be collected in hoppers installed at the bottom of the passes. This would be discharged to either the bottom ash or to the flue gas treatment residues, depending on the characteristics of the waste input. In the initial phase, it would be mixed with the flue gas treatment residues for disposal. The level of contaminants would determine whether it was appropriate to dispose of it with the bottom ash or the flue gas treatment residues. The flue gas treatment residues which would also contain the fly ash from the fourth

pass of the boiler would be transported to enclosed flue gas treatment residues silos. Two such silos are proposed each having a gross volume of 350 cubic metres. The residues would be transported off-site in sealed containers.

It is stated in Paragraph 10.3.12 that the residues handling, storage and loading areas would be enclosed eliminating the potential for wind blown ash. Bottom ash will be removed from the plant in closed containers.

The EIS refers to the classification of the different residues, having regard to the European Waste Catalogue and Hazardous Waste List. It is stated that it is expected that the bottom ash will be non-hazardous. It is expected that the flue gas treatment residues will be classified as suitable for disposal in a hazardous waste landfill. It is stated in Paragraph 10.4.8 that a leachate test will be carried out on the different types of residues and that this will determine if the residue is suitable for disposal to a non-hazardous landfill.

Section 10.5 of the EIS deals with the issue of the disposal or reuse of the solid residues. It is stated that the bottom ash will be transported by truck from the facility to a suitable port, for example, the South Deep Water Berth 46/47 immediately north of the site and loaded onto a ship. The loading may take place over a 24-hour period. Bottom ash will be pre-treated off-site for reuse. This will not be undertaken at the Dublin Waste to Energy Facility. It is also expected that the boiler ash will be non-hazardous. The flue gas treatment residues will be transported in sealed containers to a suitable container terminal and loaded onto a ship.

Section 10.6 of the EIS lists the other consumable products which will be stored on the site. This includes activated carbon, ammonia solution, sodium hydroxide, diesel and LPG. The ammonia solution will be transported to the site by road tanker and pumped to a bunded bulk fuel tank. It will be injected into the first pass of the boiler. The sodium hydroxide will be used in the scrubber system. It is anticipated that 1,000 tonnes will be used per annum. The anticipated use of lime is 4,650 tonnes per annum. It is anticipated that 350 tonnes of activated carbon will be used per annum. The diesel storage tank will have a capacity of 100 cubic metres and the annual usage

is estimated at 1,500 cubic metres. Up to 2 tonnes of LPG will be stored on site in two banks of cylinders. It is anticipated that 250,000 cubic metres (tonnes) of water will be used per annum.

Soils And Geology (Chapter 11)

This chapter of the EIS gives details of the desk studies and field investigations carried out in order to ascertain information in relation to the geology, hydrogeology and level of contamination in the fill material.

The bedrock in the area comprises fine-grained limestones with inter-bedded shale which are assigned to the Calp formation.

There are extensive deposits of quaternary drift and fill above the bedrock. Investigations indicate the bedrock between 36 and 45 metres below ground level. The lower drift deposits consist of possible glacio/marine clay/silt deposits and the upper horizon is of fluvio glacial sands and gravels. Above the glacial deposits there are some recent marine deposits beneath the fill which was deposited in the early 1970s. The fill is generally between 1.6 and 5.6 metres in thickness across the site. This is a mixture of gravels, sands, silts and clays, including rubble, bricks, concrete, glass, timber and cinders. The composition of the material is variable. There is some hard surfacing of tarmac above the fill in places.

The ground investigations indicate the presence of some hydrocarbon contamination in the fill material. Levels of contaminants are mostly below Dutch "Intervention" values. Some concentrations above Dutch "Intervention" levels are stated to be likely associated with localised hotspots of contaminated soils. Elevated concentrations of metals (lead, copper and zinc) were detected within the fill material in a number of locations above Dutch "Intervention" levels. Some high sulphate concentrations were also measured. These were above the threshold for the protection of ordinary concrete. Some elevated concentrations of carbon dioxide were also detected. Methane was not detected.

It is stated in Paragraph 11.3.41 of the EIS that the Lower Carboniferous rocks which underlie the region are classified by the Geological Survey of Ireland as poor aquifers. Water levels in the upper surface of the natural ground were indicated in the investigations at depths of approximately 3-4 metres below ground level. This is close to mean sea level. It is expected that the ground water levels beneath the site will remain close to sea level and may exhibit tidal variation. The groundwater is expected to be brackish/saline and unsuitable for potable supply. The investigations indicated a general groundwater flow from west to east. There was evidence of hydrocarbon contamination in groundwater during investigations, as well as a deep orange liquid in one of the wells within the Hibernian Molasses site. Trace concentrations of other contaminants were also found. It is stated in the EIS that groundwater beneath the site does not represent a drinking water source, given the history of the area and the close proximity to the sea.

Table 11.5 of the EIS indicates the estimated cut and fill volumes likely to arise in the development. The volumes indicate total cuttings of 20,000 cubic metres and total filling of 25,500 cubic metres. These volumes exclude some items such as topsoil required for landscaping areas. Overall it is anticipated that in the region of 13,000 cubic metres of material will need to be imported to the site, as it is likely that a large proportion of the cut material will not be suitable for reuse as an engineering material.

The potential impacts of the facility are discussed in Section 11.5. It is stated that the construction activities have the potential to impact on soil and groundwater quality.

It is stated in Paragraph 11.5.5 that the soils produced in the excavation works within the fill are likely to have contaminants present, but are generally classified as non-hazardous waste, for disposal. Some contaminated hotspots are likely to be encountered. It is stated that subject to further sampling and testing of soils, the preferred option is to retain the excavated soils on site as landscaping. Construction phase dewatering will also be required to construct the waste bunker. Paragraph 11.5.12 discusses problems which may arise due to the dredging of the cooling water intake channel.

Section 11.6 of the EIS deals with potential impacts of the facility. It is stated that the facility will have an overall neutral long-term impact on soil and water quality. No operational impacts on the geology or the hydrogeology of the area are predicted from the cooling water structures. It is stated that the retention of contaminated soils on site would be subject to risk assessment to ascertain the long-term human health or environmental impact of such materials being retained.

Mitigating measures designed to avoid, reduce or offset any adverse impacts predicted are set out in Section 11.7. The bulk of these refer to the construction phase of the development. Amongst the mitigation measures listed are discharge of groundwater extracted during construction to sewer in accordance with the requirements stipulated by Dublin City Council. The runoff during construction will be controlled through silt/sediment traps as appropriate to minimise the turbidity of water in outfall areas. It is stated that dredging and underwater excavation techniques will follow appropriate guidelines, for example, the Environmental Protection Agency State of Victoria Best Practice Environmental Guidelines for Dredging.

Paragraph 11.7.13 deals with the issue of excavated fill material which will be reused on site where possible. It is stated that a Quantative Risk Assessment will be carried out to take account of all human and environmental receptors on site and off site that could be affected by the retained soils. The assessment will include the short-term risk to construction workers. Specific target levels will be generated for the soils to be retained on the site and only soils with concentrations below these target levels will be retained within the landscaped areas. Excavated soils with concentrations above the target levels will be transported off-site for disposal or recovery at appropriately licensed or permitted waste facilities. Capping material will be placed on all fill materials to prevent dust generation and thermal contact.

Amongst the mitigating measures for the operational phase of the development are carrying out of a Quantative Risk Assessment during detailed design to assess any impact on human health in relation to insitu contaminated soils and groundwater.

It is stated in Paragraph 11.8.1 that if the recommended mitigation is followed, there would be no significant residual negative impacts on the soils or geological environment.

Water Emissions (Chapter 12)

This chapter deals with the impact of discharges to the Liffey Estuary and Dublin Bay.

It is noted in Paragraph 12.1.3 that the navigation channel runs close to the South Wall and the navigation channel is maintained at a depth of 7 – 8 metres below chart datum by dredging and natural scouring.

Paragraph 12.1.10 indicates that the water surface temperature along the coastline of Dublin fluctuates on an annual basis from between approximately 8 degrees Celsius during the winter and 15 degrees Celsius during the summer. The water from the estuary is used for cooling the Synergen and Poolbeg Power Plants. The outlets are also to the Liffey. Table 12.3 indicates the discharge from Synergen at 7.6 cubic metres per second on average for 2004 – 2005 and the discharge from Poolbeg being 18.7 metres per second on average for the years 2002 – 2004. The planned emission of cooling water from the waste to energy facility is 3.9 cubic metres per second during normal operation and 6.6 during abnormal operation. (Table 12.5)

(It is noted that there is a slight difference between the operating conditions given in Table 12.5 and Table 12.8 in relation to the abnormal operation of the waste to energy facility where a flow of 6.6 cubic metres per second is given in Table 12.5, whilst the flow of 6.3 cubic metres per second is given on Table 12.8.)

The two major issues addressed in Chapter 12 are the impact of the increased temperature in the discharge water to the River Liffey and the impact of the biocide to be used. An assessment was made of the use of two different biocides, i.e. hypochlorite/chlorine and chlorine dioxide.

The study methodology is contained in Section 13 of the EIS. A three-dimensional model, taking account of the water movements in the port was used as a basis for the study.

The biocide assessment was carried out by comparing predicted environmental concentrations (PEC) with predicted no effect concentrations (PNEC). The persistency of the inorganic chemicals was assessed on the basis of the chemical degradation pathways. The persistence of organic chemicals was assessed by interpreting reported bio-degradation tests.

In commenting on the water quality in Dublin Bay, it is stated in Paragraph 12.1.21 that the water quality of the estuary is of significance to salmonid fish during the migration of salmon smolt from freshwater to the sea and during the upstream migration of the adult salmon to the freshwater reaches. It is stated that to date the interruption of the upstream migration patterns of adult salmon has not been a problem in the estuary. It is stated that this indicates that the adult fish avoid the thermal discharges by moving outside or below the region of excess temperature.

Paragraph 12.1.25 refers to the fact that Dublin Bay is an important habitat for fish. Reference is made to the various types of fish found in the Bay.

Paragraph 12.2.13 sets out the reasons why having regard to the BREF document in relation to Best Available Techniques (BAT) for industrial cooling systems ozone was not included in the assessment of the appropriate biocide.

Chapter 12 of the EIS contains a number of figures indicating the extent to which the Liffey Estuary would be impacted by increased temperatures above certain levels both for the surface layer and in cross section. There are also a number of figures indicating locations at which the predicted environmental concentration of biocides would be above the predicted no effect concentration for the biocide when using both hypochlorite/chlorine and chlorine dioxide.

The impact on water quality from the thermal discharge is commented on between Paragraphs 12.4.25 to 12.4.29. The impact on the Liffey Estuary from the discharge of biocides is commented on between Paragraphs 12.4.30 and 12.4.41.

It is stated in Paragraph 12.4.26 that the maximum excess temperature towards the opposite side of the estuary from the outfall are predicted to be in the range of 2-3 degrees Celsius. Excess temperatures are predicted to occur in the subsurface layer to about half way across the estuary during normal operations. It is stated that there would always be a subsurface corridor unaffected by the temperature increases during normal operation. At abnormal operations, the behaviour of the plume is similar, however, the excess temperature disperses over a larger area. It is stated in Paragraph 12.4.28 that it is predicted that the thermal plume will expand the existing plume discharge from the Synergen Plant by 50%. However, the existing invertebrate and flora species diversity in the area is already low and the affects of the thermal discharge from the waste to energy plant may be limited to the area closest to the outfall from the facility.

It is stated in Paragraph 12.4.39 of the EIS that the modelled analysis indicates that chlorine dioxide and its degradation product may occur in a concentration which may have toxic effects on the Liffey Estuary, Tolka Estuary, the Bull Wall Sands, Sandymount Strand and the central part of the estuary. It is stated that the area possibly affected includes flora and fauna which is important as food for birds and fish in the bay. It is not accordingly proposed to use chlorine dioxide. It is stated in Paragraph 12.4.40 that the modelling also indicates that hypochlorite and its degradation product may also occur in a concentration which may have toxic effects on the Liffey Estuary. This however will occur very locally to the proposed cooling water outfall. It is also stated that concentrations of trihalomethanes (THM), which may be formed from the use of hypochlorite, were above the predicted no affect concentration only very close to the outfall. The use of hypochlorite is preferred for the prevention of bio fouling. It is also stated in Paragraph 12.4.41 that the accumulative affect of using hypochlorite taking account of its use in the Synergen and Poolbeg plants is considered negligible.

Section 12.5 of the EIS sets out mitigating measures in relation to water impact. The mitigating measures include the storage of biocides in a safe and secure manner and the continuous monitoring of the temperature and quantity of cooling water to ensure compliance with conditions of the waste license. The addition of biocides would also be monitored and optimised to ensure that excess biocides are not used to take account of the seasonal requirements.

It is stated in Section 12.6 that there will be very localised residual impact in the vicinity of the outlet from the cooling water system. It is stated in Paragraph 12.6.3 that in the vertical cross section at the position of the outfall in the warm season, the absolute average surface temperature increases from 15/17 degrees Celsius to 17/19 degrees Celsius up to a distance of 50 – 100 metres from the outfall during normal operating conditions. The maximum absolute surface temperatures will be up to and above 21 degrees Celsius for a distance of 150 metres from the outfall. It is stated that this only occurs for a short period of time and only in the surface layer of 2-4 metres.

Part 12.7 of the EIS assesses the flooding risk to the site. It is stated that studies indicate that the 1 in 200 year extreme water level will be in range of 2.95 – 3.2 metres OD. It is stated that having regard to estimates for sea level rise, a floor level + 4 metres OD would be sufficient to provide the necessary degree of protection against storm surges and sea level rises. The proposed floor level of the facility will be at 5 metres OD.

Impact On Human Beings (Chapter 13)

Section 3.1 of Chapter 13 is a repetition of Section 13.8 and appears properly to belong to Section 13.8, as it deals with residual impacts and refers to mitigation measures 'described above'.

Section 13.2 sets out the methodology by which community impacts were assessed. Reference is made in Paragraph 13.2.2 to the report by Mr. Trutz Haase who was appointed by Dublin City Council to conduct an audit of the social and community

infrastructure in the area in association with Brady, Shipman & Martin. (Mr. Haase's report was referred to in more detail at the oral hearing. Mr. Haase made submissions on behalf of the Combined Residents Against Incineration and his full report was submitted to the oral hearing). In commenting on background environmental data, it is stated that over a number of years, background monitoring had been carried out to determine ambient environmental conditions in the Poolbeg area. In addition, baseline health statistics were examined, based on existing data available. (Appendix 13.4 of the EIS contains data on existing health in the community; This baseline health status assessment for Ringsend was carried out by Dr. Anthony Staines of the Department of Public Health and Medicine and Epidemiology, UCD and others. Dr. Staines made a submission on behalf of the Combined Residents Against Incineration at the oral hearing).

In Chapter 13 of the EIS, reference is made to what is described in Paragraph 13.2.5 as a proactive approach by Dublin City Council with regard to a stakeholder involvement and participation. Reference is made to meetings held, a project office established in Ringsend and a project specific website. Reference is also made to Appendices 2.1 and 2.4 of the EIS in relation to a newsletter and a list of concerns derived from feedback from the local community.

Chapter 13 of the EIS refers to a dioxin uptake study undertaken using US EPA methodology. Appendix 13.1 contains a report prepared by Dr. Fergal Callaghan on modelling of baseline dioxin/furan intake and the predicted impact of emissions from the proposed Poolbeg Waste to Energy Plant. It is stated in the executive summary of this report that the model predicted that the dioxin/furan intake for both the maximum at risk individual and a typical at risk individual with the waste to energy facility operating at maximum license emission rates would be significantly less than recommended guideline values for dioxin/furan intake. What is described as an accident scenario was also modelled. This modelling predicted that intake levels would still be well below the recommended guideline values. It was concluded in the report that the proposed waste to energy facility would have no significant impact on dioxin/furan intake for the theoretical maximum at risk individual or the typical at risk individual.

Chapter 13 also refers to health and safety issues arising, having regard to the European Union Major Accident Hazards Directive, and the Irish Regulations implementing same. It is stated in Paragraph 13.2.9 that a preliminary risk assessment of major accidents which could arise had been undertaken. The rationale for the designation of the facility as a top tier site under the control of major accident hazard directive is set out in Paragraph 13.4.22 of the EIS. The EIS sets out the obligations on such establishments and also in Section 13.5 looks at the potential impacts on human beings arising from the various major accident hazard scenarios likely to arise. Prevention and mitigating measures for the various hazard scenarios are listed in the EIS. (The issues relating to the Major Accident Hazards Directive are dealt with in more detail in the report submitted to the Health and Safety Authority which are referred to in the introduction to this report. This issue was also dealt with in more detailed in the submission by Mr. Menzies at the oral hearing.)

Chapter 13 of the EIS contains a description of the existing environment in terms of population and socio-economic profile. It also contains information in relation to existing community facilities, schools, healthcare facilities and sports and recreational facilities. Commercial and retail facilities in the existing village centre of Ringsend are referred to in Paragraph 13.3.18. Various zoning provisions in the Development Plan relating to the Ringsend and Poolbeg area are also referred to.

Human health issues are referred to in Chapter 13 between Paragraphs 13.3.23 and 13.3.53. Amongst the issues discussed are the potential impacts on human health arising from dioxin/furan emissions from incinerators. Reference is made to various publications including a pamphlet issued by the World Health Organisation in 1996 entitled "Waste Incineration, Local Authorities Environmental Health Planning Pamphlet Series No. 6 (e) WHO 1996". Quotations from this pamphlet are included in the EIS, including quotations to the effect that incineration is one of a number of waste disposal strategies which can be used to ensure that wastes are handled in an environmentally sustainable manner. It also states that in general properly equipped and operated waste incineration need not pose a threat to human health and compared to direct landfilling of untreated waste, may have a smaller environmental impact. It

is further stated that the because of this, it is technically possible to site incinerators near densely populated areas. Reference is also made to the report by the Health Research Board of 2003. Some conclusions from this are quoted in Paragraph 13.3.34 of the EIS. It is stated in Paragraph 13.3.35 of the EIS that in summary the Health Research Board report notes that there is very little information available on the health affects of modern incinerators. The evidence of health affects is inconclusive for older incinerators with far higher emissions. It is stated that the Health Research Board found no reason to delay the implementation in Ireland of modern integrated waste management infrastructure including incineration of waste.

Chapter 13 also refers to the United Kingdom DEFRA (Department of the Environment, Food and Rural Affairs) Report of 2004 entitled "Review of Environmental and Health Affects of Waste Management Municipal Solid Waste and Similar Issues". There is a quotation from this report in Paragraph 13.3.39 of the EIS where it is stated that the authors looked in detail at studies of incineration facilities and found no consistent or convincing evidence of a link between cancer and incineration. It is also stated that there is little evidence that emissions from incinerators make respiratory problems worse. It is stated that in most cases the incinerator contributes only a small proportion of local levels of pollutants. The overall conclusion of the study was as stated in Paragraph 13.3.41 that the authors found no evidence of significantly elevated levels of ill-health in populations potentially affected by emissions from municipal solid waste incineration.

Chapter 13 of the EIS refers to the sixth environmental action programme of the European Union, entitled "An Action Programme for Environment in Europe at the beginning of the 21st Century". There are comments on incineration from this document quoted in Paragraph 13.3.46 of the EIS. These quotations are to the affect that new waste treatment facilities meet extremely high operating standards that reduce emissions and risks significantly. It is also stated that the community's approach to waste management policy is based on the guiding principle of the waste hierarchy that gives preference first to waste prevention, then to waste recovery which would include reuse, recycling and energy recovery with preference being given to

material recovery and lastly to waste disposal which includes incineration without energy recovery and landfilling.

The conclusions of the health report (Appendix 13.4) on the existing health in the community are referred to Paragraph 13.3.53 of the EIS. This report notes higher incidences of lung cancer and respiratory disease in particular in the Pembroke East A, North Docks B, and Pembroke West A wards. It is stated that this is likely a reflection of the higher deprivation scores for these areas and possibly higher incidences of smoking. It is stated that it should be noted that the data presented relates to the period up to 2000 and these areas have experienced much social change in the past 5 years. It is stated that it is likely that more recent data, when available, may present a very different picture.

In addition to referring to the dioxin uptake study, Chapter 13 contains a commentary on various reports on dioxin levels in the Irish environment. Table 13.10 contains a summary of emissions of dioxins and furans to air, land and water in Ireland in 2000 with the various sources of emissions identified. The bulk of the emissions are indicated to be from uncontrolled combustion processes. Table 13.11 contains a summary of predicted emissions for 2010 in percentage terms from various sources. The percentage contributions from waste incineration to total air emissions for 2010 is indicated to be 1.81% in comparison to 8% from power generation and heating and 84.13% from uncontrolled combustion processes. The 2010 calculations are on the basis of the incineration of 1 million tonnes per annum of municipal waste and 0.085 million tonnes per annum of hazardous waste.

It is stated in Paragraph 13.4.4 of the EIS that the environmental pathways by which the waste to energy facility could potentially directly or indirectly affect human health are emissions to air, water or soil. It is stated in Paragraph 13.4.5 that there will not be any direct emissions to water which could affect human health. It is stated in Paragraph 13.4.6 that the health risk due to air emissions are addressed in Chapter 8 which deals with air quality and climate. This demonstrates conformity with recognised international and national standards.

Chapter 13 of the EIS contains a synopsis of the modelling carried out for the uptake of dioxins. It is concluded in Paragraph 13.4.16 that the proposed facility would have no significant impact on dioxin or furan intake for the theoretical maximum at risk individual or the typical at risk individual.

Paragraph 13.7.25 of the EIS deals with the community gain proposal. Three elements are listed, i.e. a community gain fund which will be used to finance facilities/services for the benefit of the local community, district heating to be generated by the waste to energy facility and the refurbishment/redevelopment of the former Pigeon House Power Station, hotel and adjacent site of approximately 5 acres which is to be developed for appropriate uses in partnership with the local community. This issue is dealt with in more detail in Appendix 13.2 of the EIS.

Section 13.8 of the EIS deals with the residual impacts arising. It is stated that the residual risk to humans and the environment is extremely low. The residual impact on human health is assessed to be negligible. It is submitted that there would be a positive impact in employment terms with the creation of 500 jobs in the construction phase and 64 jobs in the operational phase. The three elements previously referred to in relation community gain are again referred to.

Terrestrial Ecology (Chapter 14)

Chapter 14 contains a baseline assessment of the flora and fauna species within and around the site. It is stated that a specific assessment was made of the Irishtown Nature Reserve due to its close proximity to the site. It is stated that whilst important areas of conservation value exist in the immediate vicinity, these are estuarine and/or ornithological in character and are described and evaluated in Chapter 15 dealing with estuarine ecology.

It stated in Paragraph 14.2.1 that two visits were made to the site, one in late May 2003 and one in mid-August of 2003. These were timed to provide maximum information on plants and breeding birds. An additional visit was made to the site in early April 2006 to assess any significant changes since the work carried out in 2003.

Chapter 14 contains information in relation to the flora and fauna encountered and noted on the site during the site visits. In the assessment of the scientific importance of the survey area, it is stated that the site represents ground that has been entirely modified by man for industrial purposes. All habitats present within and immediately around the site are classified in the broad category of built land and disturbed ground and such habitats are not of conservation value. It is stated that there are no flora or fauna species of significant conservation value in the area. It is stated in Paragraph 14.3.26 that the presence of skylarks on waste ground to the south of the site is of some note, as the skylark is listed as a species of moderate conservation concern. It is also stated that the occurrence in winter of Brent Geese in the grasslands associated with the Ringsend Wastewater Treatment Plant is of note, as these are part of the Dublin Bay internationally important population. The Irishtown Nature Park to the south-east has local ecological interest.

In Paragraph 14.3.28 of the EIS, the nearest designated sites of terrestrial ecological significance are noted. These are the dolphins in Dublin Bay, Booterstown Marsh and the Grand Canal.

In dealing with the impacts on the site and its immediate surroundings in Section 14.4 of the EIS, it is stated that overall the replacement of the existing habitats by further highly modified and artificial habitats is rated of neutral impact. It is stated in Paragraph 14.4.2 that the construction activities could have a disturbance effect on the Brent Geese which feed during winter on the grassland to the southeast of the site. It is noted however that the geese are well used to high levels of disturbance and background noise and are unlikely to be much affected by construction activities. It is considered that such disturbance, if it occurred, would be temporary and there are many other sites in the Dublin Bay area for them to retreat to. It is stated that the construction activities would not be expected to have any adverse impacts on the flora and fauna of the Irishtown Nature Park. It is further concluded that the development would not have any impacts, direct or indirect, on the nearest designated sites of terrestrial ecological interest. It is noted in Paragraph 14.5.3 in commenting on potential impacts on the areas of marine and estuarine significance that none of the

other wetland birds, other than the Brent Geese frequent the area of the proposed development.

Mitigating measures relating to terrestrial ecology include the clearance of flora in order to avoid the nesting season. The landscaping plan would include planting trees and shrubs which will be appropriate to the local environment and would provide wildlife habitat. It is concluded that the redevelopment of the site would not have any residual ecological impacts on ecological interests in the site or in the surroundings.

Marine And Estuarine Ecology (Chapter 15)

A baseline study of the marine and estuarine ecology was carried out for the purposes of the assessment. It is stated that sampling locations were selected so as to correspond to these areas likely to be affected by any cooling water discharge from the proposed development and taking into consideration existing data available. The chapter contains details of the findings of the baseline survey and the method by which the survey was carried out. Both littoral and sub-littoral areas were surveyed.

Section 15.4 contains an assessment of the scientific importance of the survey area. It is noted that Dublin Bay contains a number of designated conservation sites, including Special Areas of Conservation, as designated under the European Union Habitats Directive 92/43/EEC and Special Protection Areas as designated under the European Union Wild Birds Directive 79/409/EEC. It is stated that whilst the littoral habitats, including flora and fauna in particular make up part of many of these conservation sites, they are not necessarily the primary reason for the designation. It is stated particularly with regard to the SPA that the reason for the designation is the important bird flocks that utilise the areas. The birds utilise the sand flats for feeding and as such, the infauna and zostera species are important. It is also stated that there are a number of protected species present in the survey area. The EIS gives a brief commentary on the North Dublin Bay and South Dublin Bay Special Areas of Conservation and on the Bull Island and the Sandymount Strand/Tolka Estuary Special Protection Areas. (The North Dublin Bay and South Dublin Bay SAC's are referred in the EIS as Candidate Special Areas of Conservation). It is stated that the

North Dublin Bay area contains good examples of 10 habitats listed in Annex 1 of the European Union Habitats Directive, one of which has priority status. It is also stated that several bird species have populations of international importance, while some invertebrates are of national importance and there are a number of rare and scarce plants in the area which are legally protected. It is noted that North Bull Island has been designated a Special Protection Area and is also a Wildlife Sanctuary and Ramsar Convention Site. South Dublin Bay is a Candidate Special Area of Conservation and a Proposed Natural Heritage Area because of its extensive inter-tidal sand and mudflats. This is a habitat which is listed in Annex 1 of the European Union Directive. Sandymount Strand and the Tolka Estuary is a Special Protection Area under the European Union Birds Directive and is also a Ramsar Convention Site. It is noted that the mooring dolphins in Dublin Docks are used by arctic and common terns and are a proposed Natural Heritage Area. (Ms. Mayes stated at the oral hearing that North Dublin Bay and South Dublin Bay are now Special Areas of Conservation rather than candidate areas)

It is noted in Paragraph 15.4.7 that the River Liffey is not designated as a salmonid water under the freshwater fish directive. It does however support salmon and sea trout and as such must be conserved. Atlantic salmon is listed as an Annex 2 species in the EU Habitats Directive. Eels, which are also migratory fish, are also present in the Liffey catchments.

It is noted in Paragraph 15.4.13 that no invertebrates of specific nature conservation importance were recorded during the survey or are known to occupy the survey areas. It is pointed out however that particularly in the inter-tidal sand flats that form part of the Special Protection Areas for birds, polychaete and bivalve species form an important food source for the birds.

Potential impacts on the marine and estuarine environment are identified through loss of habitats and species, sedimentation and pollution and/or the contamination of water sediment and biota. It is noted that estuaries due to their variations including salinity variations and turbidity etc., are naturally stress environments. The discharge of

cooling water at high temperatures and biocides is recognised as having the potential to pollute the receiving environment.

In considering the impact of the cooling water discharge, it is stated that the modelling shows that a corridor of water affected by less than one degree of existing background temperature remains in the channel. Examples of worst-case differential temperatures for two different scenarios are contained in Figures 15.1 and 15.2 of the EIS. (The scenario modelled in Figure 15.1 does not indicate a temperature difference of one degree extending across the full width of the channel. This is indicated in the scenario modelled in Figure 15.2 and it is only at the deeper levels that the one-degree temperature exceedance is not indicated). (The scenarios are indicated in Table 12.11 of Chapter 12)

Paragraphs 15.5.9 to 15.5.19 deal with the potential impacts on the marine and estuarine ecology of the development during the construction and operational phases of the development. Issues such as noise are dealt with in Paragraph 15.5.13. It is stated that impacts from noise are likely to be minimal and short-term and mainly restricted to the construction phase.

In discussing increased suspended solids likely to arise during the construction phase, it is stated that the impacts of increased turbidity are likely to be minimal in the overall context, as there is already a high concentration of suspended solids in the area.

In commenting in Paragraph 15.5.22 on the potential impact of thermal discharges on sub-tidal algae, it is noted that due to the high turbidity in the estuary, light is limited to such an extent that algae do not extend beyond a metre into the sub-tidal. Algae growing inter-tidally would be temperature tolerant. It is argued in Paragraph 15.5.23 that a drop in dissolved oxygen due to the rise in temperature of the water is not likely to have a significant adverse impact on the benthos. It is stated that fish would be able to avoid any areas they consider undesirable, provided that the plume does not cover the entire width and depth of the estuary. It is stated in paragraph 15.5.24 that the discharge would be at the same location as the existing Synergen Power Plant

discharge. The existing invertebrate and flora species diversity in the area is already low and should not be significantly impacted upon by the thermal discharge.

Paragraphs 15.5.28 to 15.5.30 deal with the possibility of impingement and entrainment at the cooling water intake point. It is stated that intake points have the potential to take in fish and other life from the water. This is known as entrainment. Screens are often located around the intake, so as to avoid entrainment. This however can result in problems for fish which may get pressed against the screens. This is known as impingement. It is noted in Paragraph 15.5.30 that the water velocity in the intake channel is to be below 0.5 metres per second during normal conditions. It is stated however that the significance of the impingement risk is difficult to predict for fish.

It is stated in Paragraph 15.5.31 that it is not predicted that there would be any significant impacts on the sites of conservation importance in Dublin Bay as a result of the proposed cooling water discharge. It is submitted that the thermal plume would have lost much of its energy by the time it reaches these sites. It is also submitted that the biocides could be diluted and deactivated at this stage. It is stated however that there would be potential absorption effects which could lead to bioaccumulation and subsequent adverse effects in some higher trophic level species including birds.

It is stated in Paragraph 15.5.33 of the EIS that provided a corridor of water unaffected by energy discharges always exists across the Liffey, the impact of thermal discharges on fish should not be significant.

It is stated in Paragraph 15.5.38 that the impact of the proposed development on commercial fishing should be insignificant. Commercial fishing activity in the bay is limited and should be outside the range of the area directly impacted. It is stated that depending on the type and quantity of biocides used absorption and bioaccumulation could be a problem, but this is not expected to be a significant impact.

Section 15.6 of the EIS contains proposed mitigating measures relating to the marine and estuarine ecology. The measures proposed are generally of a generic and best

practice nature. It is stated in Paragraph 15.6.9 that procedures should be put in place to monitor the temperature and quantity of cooling waters being discharged to ensure they are within licensed conditions and will not have an adverse impact on marine ecology. It is stated in Paragraph 15.6.13 that the impact of impingement and entrainment at the cooling water intake is unknown. It is stated however that as the abundance and species diversity of invertebrate fauna and flora is low, it is unlikely that they will be significantly impacted upon. The impact on fish could be more significant. It is stated that consideration should be given to the installation of fish deterrents during the design and construction stage. Procedures should also be put in place to monitor impingements with additional inspections during the salmon migration season. If impingement rates are unacceptable to the Fisheries Board, suitable deterrents should be installed within an agreed timescale.

Section 15.7 deals with predicted and combined residual impacts. It is stated that consideration should be given to existing discharges when setting conditions for the proposed development to ensure that there will not be significant adverse impacts on marine ecology. It is stated that provided the license conditions take combined effects into account and the proposed development is operated within licensed conditions, the residual impact of heat and biocides on the marine environment will not be as significant.

Architectural, Archaeological And Cultural Heritage (Chapter 16)

Chapter 16 sets out the methodology used for the assessment of architectural, archaeological and cultural heritage. It is stated that consultation had taken place with the Underwater Archaeological Unit of the National Monument Section of the Department of the Environment, Heritage and Local Government.

It is stated in Paragraph 16.3.3 that no protected structure or structures of architectural heritage of merit are located within the proposed facility site. It is stated that the northern edge of Pigeon House Road is bounded by a footpath and low rubble stonewall, approximately 80 centimetres in height. This wall is a recorded monument i.e. the seawall (RMP No. DUO19-029-01). This according to historic and

cartographic sources correlates approximately with the location of an earlier seawall (RMP No. DUO19-029-02) which was constructed along the line at the Pigeon House Road. It is stated in Paragraph 16.3.4 that the cooling water channel to the north appears to correlate with the western extent of the harbour wall shown on the 1912 edition of the ordnance survey. It is stated in Paragraph 16.3.5 that no features of cultural heritage were noted within the proposed site during the course of site inspection.

It is noted that although the two recorded monuments are on the north side of Pigeon House Road, the northern section of the site is located within the constraints area of the monuments. It is noted that the cooling water intake and outlet pipes would bridge the recorded monuments with two pipe supports on each side of the road. The base of the pipe supports would be located within the constraints area of the monument.

It is stated that there are no protected structures within or adjacent to the proposed facility and no features of architectural heritage merit were noted during field inspection. There would be no impact on architectural heritage. It is also stated that there are no features of cultural heritage merit within the proposed site and the proposed facility would have no impact on cultural heritage.

Mitigating measures are referred to in Section 16.6. In relation to archaeology, it is recommended that all ground breaking and earth moving activity within the site should be archaeologically monitored under license. A full written report should be submitted to the Department of the Environment, Heritage and Local Government, the City Archaeologist and the planning authority. It is also recommended that all ground breaking and earth-moving activities related to the provision of the supports for the pipelines crossing Pigeon House Road should be monitored. It is also recommended that if any sections of the watercourse revetments are impact upon by the proposed development, they should be adequately assessed prior to the construction phase to establish their nature and the possible impact on same. It is advised that further consultation take place with the underwater archaeological unit of the Department of

the Environment, Heritage and Local Government, in respect of the final construction programme to assess the suitability of an inter-tidal archaeological survey.

Material Assets (Chapter 17)

Issues dealt with in the chapter include land use, including land take requirements, property values, utilities, natural resources and the transport network.

In Paragraph 17.3.9 of the EIS, it is stated that as part of the baseline studies carried out in 2004, GVA Donal O' Buchalla estimated average house prices for a range of property types in the immediate vicinity of Poolbeg Peninsula. Section 17.3.10 to Section 17.3.13 gives a general description of existing developments in the Irishtown and Ringsend area. Section 17.3.14 to Section 17.3.16 gives a similar description of the Sandymount area.

Paragraph 17.3.18 to 17.3.23 gives a description of the various utilities located, both on the site and in the vicinity. It is stated that the existing subsurface installations are shown on Drawing No. UZT/BE007. Existing gas pipelines and electricity cables are referred to.

In commenting on the transport network, reference is made to a number of road improvement schemes, referred to as then being under construction, including the Dublin Port Tunnel, East Wall Road Widening Scheme and the proposed Macken Street Bridge. Table 17.1 contains a current schedule of ferry services to and from Dublin Port at April 2006.

In commenting on impacts in Section 17.4 of the EIS, it is stated that there would be no residential properties, community facilities or agricultural land acquired to facilitate the development. It is stated in Paragraph 17.4.6 that research was carried out by C. B. Richard Ellis (2005) into house prices impacts associated with thermal treatment plants treating non-hazardous waste in Europe. This indicated that there is no measurable impact on property values, the volume of transactions or the desirability of property in urban locations. It is stated that Dublin City Council

identified the Poolbeg Peninsula as the preferred site for the waste to energy facility in 2001 and that there was no measurable negative impact on residential property prices in surrounding neighbourhoods since that time. House prices in the neighbourhoods of Ballsbridge, Clontarf, Fairview, Ringsend, Sandymount and East Wall had all increased at a faster pace than the Dublin average since the first quarter of 2002 and there had been no notable impact on the volume of sales in the area. It is stated that whilst there may be a temporary impact on liquidity in local residential neighbourhoods when construction commences, the experience in other countries is that this would not be the case in the longer term. It is stated that the areas surrounding the peninsula are well established residential areas, where demand is expected to remain strong.

In commenting on the impact on existing utilities, it is stated that two 110kV cables traversing the southern part of the site and the 220kV cable adjacent to the southern façade of the proposed building would have to be relocated. The existing pipeline to the Hibernian Molasses Plant would be removed.

It is stated in Paragraph 17.4.19 of the EIS that the volume of 600,000 tonnes per annum of waste would be reduced by approximately 90%. This would result in a considerable reduction in the volume of waste being landfilled, thus conserving landfill capacity.

It is stated in Paragraph 17.4.24 that the facility would recover energy from the waste being treated. It is stated that approximately 60 megawatts of electricity would be exported to the power grid and that this would replace power being generated by fossil fuels, thus reducing the consumption of these fuels.

Section 17.5 of the EIS sets out mitigating measures relevant to the issues dealt with in Chapter 17. Included in the mitigation measures are that a comprehensive traffic management plan will be developed as part of the proposal to ensure that negative impacts to local traffic are minimised. Service providers who are likely to experience temporary interruption of service during construction would be contacted prior to commencement of activities likely to impact on their utility. A plan outlining the

dates of interruption etc., would be submitted to the service provider for their consideration and discussion.

Amongst the residual impacts referred to in Chapter 17 are the provision of heating to selected residential and commercial properties in the area when district heating is developed.

Construction And Decommissioning Activities (Chapter 18)

In Chapter 18, a description is given of the construction activities including site preparation works, construction of foundations and superstructures, mechanical and electrical installations and completion of the development. It is stated that the area immediately west of the site, i.e. Shellybanks Road (which will be re-established after construction of the facility), will be used as a contractor's compound without prejudice to those having wayleave rights. It is stated that an area south-west of the site will be used for the temporary storage of construction materials and processing parts and the area south-east of the site will be used as a temporary pre-assembly area. Reference is made to Drawing No. UZO/BE 001 in this regard.

It is stated in Paragraph 18.3.2 that about 250 cubic metres of material will have to be removed from the bed of the proposed cooling water channel. It is stated that it is unlikely that the excavated material will be suitable for use and it will be disposed of to landfill or at sea. Sea disposal would require a dumping at sea license. The sea disposal location would be that used for the spoil from the capital and maintenance dredging of Dublin Port. It is stated that there would be a temporary increase in the level of suspended solids in the water, whilst the excavation in the channel is underway.

In Section 18.4, it is stated that the selection and specification of construction materials will be based on local availability of these materials and that within the necessary constraints of performance, durability and cost construction materials would be sourced from local suppliers and manufacturers where feasible. In Paragraph 18.4.2 it is stated that some of the process equipment and structural

elements would arrive as complete units or as sub-assemblies which would be larger than normal construction loads. It is anticipated that most of these units would be delivered by ship at Dublin Port or another port and then transported to the site by road. The timing of the transport to the site would be chosen to minimise disruption to road users.

It is anticipated that construction work would commence in late 2008 and that construction and commissioning of the facility would take approximately 36 months. It is estimated that the peak workforce would reach about 500 which is expected to occur about 14 months after the start of construction. The typical workforce on site would average 275. It is stated that temporary office accommodation and welfare facilities would be provided in the western part of the site. A minimum number of parking spaces would be provided for construction management and visitors on site. Construction workers will be encouraged to use public transport. All the contractors will be required to provide transport to the site for the workers.

It is stated in Paragraph 18.7.5 that it is proposed that work would take place 24 hours per day during the construction phase. The construction programme will be planned in such a way that heavy or noisy construction activities would be limited outside normal hours where possible and would be strictly monitored. A health and safety plan would be formulated to address health and safety issues. Proposals in relation to the utility requirements during construction are given in Part 18.9 of the EIS.

The potential construction phase impacts and mitigation are discussed in Section 18.10. Issues referred to are dust, noise and vibration, construction access and traffic and soil and storm water runoff. Protection measures are listed in Paragraph 18.10.9. These are of a general or generic nature. Paragraph 18.10.11 contains a list of measures which will be taken to ensure that the site and its surroundings are maintained to a high standard of cleanliness. It is stated in Paragraph 18.10.13 that as part of contract requirements, contractors will be required to develop and implement and maintain a waste management plan during the construction works. Contractors will be required to minimise waste and segregate waste at source.

Section 18.14 of the EIS deals with the commissioning phase of the development. It is stated in Paragraph 18.14.6 that the impacts on the environment from the installation compliance and pre-commissioning tests will be insignificant.

Section 18.15 of the EIS deals with the decommissioning phase. It is stated that the facilities projected lifespan is at least 30 years. This may however be extended by renewal of equipment and systems. Paragraph 18.15.2 sets out actions which will be performed on decommissioning. It is stated in Paragraph 18.15.3 that the main impact from the decommissioning phase will be the generation of waste. A relatively small quantity of waste would arise from the site and equipment cleaning phase of the decommissioning plan. If a reuse option could not be found for the plant and buildings, their constituent materials would be classed as waste. The materials arising would be recycled if feasible.

Sustainability (Chapter 19)

This chapter contains a definition of sustainability. It is stated that the sustainability is about three main issues, i.e. environment, economy and community.

Issues dealt with under the heading of environment include climate change, habitats and eco systems, fossil fuel depletion, air pollution, water pollution, traffic pollution and congestion, waste recycling and waste disposal, water usage and light pollution.

In commenting on climate change, reference is made to the calculations contained in Chapter 8 in relation to greenhouse gas emissions from incineration in comparison to other methods of waste disposal. In dealing with the fossil fuel depletion, it is stated in Paragraph 19.2.8 that the combustion of 600,000 tonnes of waste would generate a net power output of approximately 60 megawatts which would be supplied to the national grid. It is stated that this is equivalent to the typical power requirements of about 50,000 homes. This would give a direct benefit in terms of greenhouse gas emissions. It is stated in Paragraph 19.2.10 that Dublin is at the development stage in terms of district heating networks. The facility has been primarily designed to optimise power output. It is stated that the site however is close to the proposed

location for district heating systems in the docklands of Dublin. The facility would be constructed with provision for the supply of district heating to the city of Dublin, when a future district heating system comes into the place. Measures proposed to minimise energy and maximise energy recovery are listed in Paragraph 19.2.11.

It is stated in Paragraph 19.2.21 that the facility will recover and recycle ferrous materials during the bottom ash treatment process and that the recycling of metals will require less energy than processing virgin materials and thus would lead to a direct saving in energy and greenhouse gas emissions. (It was clarified at the oral hearing that the recovery of the ferrous materials would take place at a location other than site of the incinerator).

Paragraph 19.2.22 deals with the issue of the water requirement for the proposed development. It is stated that the facility would be equipped with a rainwater collection system to reduce the consumption of potable water and 'grey water' from the adjacent Ringsend Wastewater Treatment Plant would also be used.

Under the heading of economy and sustainability, the issues discussed are employment, construction materials, infrastructure, building stock and property values. In the discussion on building stock, it is submitted that the building has been designed to a high architectural standard as a landmark building to improve the general appearance and ambience of the peninsula. It is also stated that the construction materials, methods and designs which are proposed are such that it will have a relatively long useful life.

In Section 19.4 in discussing the sustainability aspects arising from community issues, it is stated that the City Council recognises the need and importance of public involvement and has been involved in a continuous community information process for the past six years. The City Council is proposing to implement community gain initiatives, if granted approval. The three aspects of the community gain previously referred to are again listed.

Cumulative Impacts And Interactions (Chapter 20)

The Planning and Development Regulations 2001 – 2005 specifies the information to be contained in an EIS. This includes information relating to the interaction between aspects of the environment likely to be significantly affected by a development. Chapter 20 contains a table, i.e. Table 21 in which cumulative impacts and interactions are indicated in matrix form. The interactions are identified as to whether they occur during the construction or operational phases. Table 20 indicates interactions between impacts on human beings and all of the other aspects listed.

Summary Of Mitigating Measures And Residual Impacts (Chapter 21)

Chapter 21 contains a summary of all mitigating measures and residual impacts. It would appear that the heading “Residual Impacts” in the first part commencing at Table Page 21/3 of 21/19 should read “Mitigating Measures”. The residual impacts are listed in the second part of the table commencing at Page 21/17 of 21/19.

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SITE LOCATION AND SITE DESCRIPTION

The site is located in the central part of the Poolbeg Peninsula which juts eastwards from the Irishtown/Ringsend area. The site is located to the south of Pigeon House Road and to the east of a cul-de-sac road called Shellybanks Road. Shellybanks Road which ends in a cul-de-sac at its southern end, runs along the eastern boundary of the site.

There is a difference in the names of roads in the area between the Development Plan and the O.S. Dublin City Street Map. The Development Plan indicates Whitebank Road extending to the roundabout at the north-eastern end of Sean Moore Road (see attached copy). The Dublin City Street Map however indicates South Bank Road extending to the roundabout. The documentation submitted appears to use the names from the street map and accordingly I also refer to South Bank Road as extending to the roundabout.

Access to the site is via South Bank Road, Whitebank Road and Pigeon House Road. South Bank Road ends in a roundabout at its north-western end. Sean Moore Road runs south-westwards from the roundabout alongside the former Irish Glass Bottle Company site and Sean Moore Park which is located at the junction of Sean Moore Road and Beach Road. The road leading to the East Link Toll Bridge runs in a north-westerly direction from the roundabout serving South Bank Road to the East Link Toll Bridge and links the northern and southern port areas via the East Link Toll Bridge. The Toll Plaza is located to the south-east of the bridge. Having regard to the road network, all vehicular access to the site would be through the roundabout at the north-eastern end of Sean Moore Road.

The site of the proposed development is located to the west of the newly developed Ringsend Wastewater Treatment Plant. On the western side of Shellybanks Road, there is an electricity substation and a number of oil storage tanks. Immediately to the west of these is the relatively recently constructed Synergen electricity generating plant. To the south of the oil storage site and the Synergen site, there is an open area of land which was previously used as a pitch and putt course. These lands do not

appear to have been used for pitch and putt purposes for some time. At its southern end, the site of the proposed development abuts open lands located to the west of Irishtown Nature Park. These lands which extend westwards to the eastern end of South Bank Road are presently unused, but appear to have been used at least in part for pipe assembly etc., during the period when the Ringsend Wastewater Treatment Plant was being constructed. The lands also appear to have been used for some time as a storage area for sand and gravel material. Currently the lands are a mixture of some rough grass areas with areas of bare soil. Some low-lying areas in these lands appear to be subjected to periodic flooding.

To the south-east of the site of the proposed development and to the south of the Ringsend Wastewater Treatment Plant there is an open space area known as the Irishtown Nature Park. The southern part of the park contains an elevated planted area. The northern section of the park is lower-lying, relatively level and has been planted as grassland. These grasslands extend along the southern boundary of the Ringsend Wastewater Treatment Plant site. They are separated from same by a palisade type fence. There is no fence at the western end of the planted grassland area separating it from the open lands which extend westwards to the eastern end of South Bank Road. A pedestrian pathway leads from Sean Moore Park along the edge of Sandymount Strand to the Irishtown Nature Park. There is an embankment located on the northern side of this pathway separating the pathway from the open lands located to the south of the site of the proposed development and to the south of the former pitch and putt course previously referred to.

Pigeon House Road which runs along the northern edge of the site of the proposed development continues eastwards to end in a cul-de-sac, at the wall defining the southern edge of the navigable channel of the Liffey. This wall, which is known as the Great South Wall, provides a pedestrian path to a lighthouse located some distance away to the east. The Poolbeg Generating Station is located off Pigeon House Road to the east of the site of the proposed development. The remains of a former generating station also known as Poolbeg Generating Station and a former hotel known as Poolbeg House Hotel are also located off Pigeon House Road to the east of the site of the proposed development. Pigeon House Road also leads to a small beach

area located on the south side of the road close to the eastern end of Irishtown Nature Park.

Apart from the amenity uses referred to above, land uses in the immediate vicinity of the site of the proposed development are generally of an industrial type nature. Immediately to the north of Pigeon House Road, opposite the site frontage, there is a cooling water channel which leads to Dublin Harbour from the Synergen Electricity Generating Station to the west. On the northern side of the cooling channel, there are number of industrial type developments. The developments to the north of the cooling water channel include a coal yard and a relatively large scrap yard which appears to be operated by the company which operates a scrap yard in the northern part of the site of the proposed development. Also located to the north of the cooling channel and to the west of the cooling channel outlet, it is an industrial type process operated by the Ecocem Company. This enterprise appears to involve the importing of materials for mixing into various forms of cement. There is a relatively high silo located in these lands. To the south of the site, there is a storage area which is separated from the cooling channel by concrete panels. As the times of various inspections, stored material was visible both inside and outside the concrete panels which appear to define the site of the development. (File 29S224819 refers to a current appeal relating to the development of this site – an additional silo is proposed). Further to the west along the edge of the southern port area, the main Dublin container terminal is located. There is another part of the cement enterprise located to the west of the coal yard and to the east of the access road to the quays.

On the south-west side of South Bank Road and to the east of Sean Moore Road, there is a large site with several large buildings. This site is currently unused and was previously occupied by the Irish Glass Bottle Company. To the east of this site and also to the south-west of South Bank Road there is an open site which has recently been the subject matter of an application for planning permission for a mixed high density development. (File Ref. 29S217742 refers). To the east of this site and off a cul-de-sac road which leads off South Bank Road, there are two concrete batching plants. The lands between Whitebank Road and South Bank Road are occupied by containers which appear to be related to the load-on/load-off harbour facilities. The

lands to the east side of Whitebank Road appeared to be used for the storage and sale of containers. New storage tanks for the Hibernian Molasses Company have recently been constructed in lands near the junction of the South Bank and Whitebank Roads.

To the south of Pigeon House Road to the west of the junction with Shellybanks Road there is a vehicle maintenance depot. West of this there is a depot used by a waste collection company. The vehicle maintenance business is located in the site where there was an application previously for an incinerator for healthcare and confidential waste (File Ref. 29S095890).

The site of the proposed development is in three separate sub-divisions. The northern part of the site which contains a relatively large building is occupied by Hammond Lane/Clearway Disposals Limited and is used as a materials recovery waste facility. At the time of inspection, there were large quantities of various metal material on site. This part of the site is surrounded by a high metal fence. The central part of the site is occupied by the Hibernian Molasses Company. This part of the site contains a relatively small service building and a number of storage tanks. There was a small landscaped area on the Shellybanks Road to the side of this site. There is also an open area to the east of the tanks. The southern part of the site of the proposed development which has a post and wire fence along its western and southern boundaries appears to have been used by Dublin City Council for parking etc., during the period when the Ringsend Wastewater Treatment facility was being constructed. At the time of my earlier inspections, it was used as a storage area for some portacabins and transport trailers. I noted in my most recent inspection that these items had been removed from the site and the site was then used as a storage area for a grey coloured gravel type material.

There are double gates at the northern end of Shellybanks Road. These gates are generally open. I noted in my most recent inspection that there were some occupied caravans located at the southern end of Shellybanks Road. There are also some occupied caravans located on the side of South Bank Road. There is a narrow strip of unused overgrown land separating the site from the effluent treatment plant to the

east. This strip is located in Plot No. 6 as identified in the Compulsory Purchase Order.

The nearest houses to the west i.e. in the Ringsend direction are the former coastguard cottages and a halting site located near the road leading to the East Link Toll Bridge. These houses are located approximately 820 metres to the west of the north-western end of the site of the proposed development. The nearest houses in the Sandymount direction to the south-west are located approximately 840 metres from the southern boundary of the site of the proposed development.

I noted on inspection that roads in the area are generally in an untidy and dirty condition. There is a considerable amount of soil, sand and gravel at the road sides. The quay area to the north also hid a considerable amount of loose material on its surface at the time of inspection. I noted a number of granite blocks some of which at least appeared to have once been part of a building at the sides of Pigeon House Road and Shellybanks Road.

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DEVELOPMENT PLAN CONSIDERATIONS

There is a more detailed discussion on the Development Plan contained in the assessment. This section merely refers to the overall zoning objectives etc., contained in the plan.

The current plan is the Dublin City Development Plan 2005-2011.

The bulk of the site of the proposed development has a zoning objective Z7A. This is defined as to provide for the protection and creation of industrial uses and facilitate opportunities for employment creation. In the list of uses identified as being permitted or open to consideration, incinerators or waste to energy facilities are not listed.

A small part of the eastern edge of the site and the surrounding lands have a land use zoning objective Z7 in the Development Plan. The objective here is also stated to be to provide for the protection and creation of industrial uses and facilitate opportunities for employment creation. Incinerator/waste to energy facilities are listed as being permitted uses within the areas with this zoning objective in the Development Plan.

Policy No. U4 of the Development Plan states that it is the policy of Dublin City Council in conjunction and cooperation with the adjoining Local Authorities in the Dublin Region to implement the Waste Management Plan for the Dublin Region. The policy states that it is the policy of the elected members of Dublin City Council to oppose the siting of an incinerator on the Poolbeg Peninsula.

It is an objective in the Dublin Development Plan at Paragraph 11.3.0 to continue to develop a number of parks and open spaces including Irishtown Nature Park, unless and until protected by a Special Amenity Area Order.

Policy U44 of the Development Plan states that it is the policy of Dublin City Council to support a wide range of energy solutions to meet consumption needs, including encouraging renewable energy sources. It is stated that in this respect, energy

recovery could play an increasingly important role. Policy U1 of the Development Plan states that it is the policy of Dublin City Council to have various priorities in relation to waste management, including preventing and minimising the harmful effects of waste, encouraging and supporting the recycling and recovery of waste, including green, organic and construction and demolition waste and the recovery of energy from waste and ensuring that waste which cannot be prevented, recycled or recovered is disposed without causing environmental pollution.

It is stated in Policy RO14 of the Development Plan that it is policy to maintain beaches at Dollymount, Sandymount, Merrion and Poolbeg – Shellybanks to a high standard and to develop their recreational potential as a seaside amenity, in order to bring them to a blue flag standard within the Development Plan timeframe.

Policy H42 of the Development Plan states that it is the policy of the City Council to protect flora, fauna and habitats which have been identified by the Habitats Directive, Birds Directive, Wildlife Act 1976 and the Flora Protection Order (SI84 of 1999). Policy H43 states that it is the policy of the City Council to maintain the conservation value of all Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas identified and designated by the Department of the Environment, Heritage and Local Government.

Policy H47 of the Development Plan deals with Dublin Bay. It is stated that it is an objective of the City Council to prepare a plan for that part of Dublin Bay from and including North Bull Island and the South Wall and up to and including Sandymount, Merrion Strand and Booterstown and also concentrated on the port area.

The lands to the south of the site including most of the lands where the temporary construction compound would be located have a zoning objective Z6 i.e. To provide for the creation and protection of enterprise and facilitate opportunities for employment creation in the current Development Plan. A small part of this area (at the eastern end) has a zoning objective Z9 i.e. To preserve, provide and improve recreational amenity and open space. Lands to the south-east including the Irishtown

Nature Park are also zoned Z9. (A very small part of the south-eastern corner of the site of the development is zoned Z9.)

The former Irish Glass Bottle Company site and some adjoining lands which are part of the lands of the 'Fabrizia' development (File Ref. 29S217742) are zoned Z14 for the most part. Z14 is defined as "to seek the social, economic and physical development or rejuvenation of an area with mixed use of which residential and Z6 would be the predominant uses". Part of the lands are zoned Z6 (the Z14 zone is located approximately 520 metres from the south-western corner of the site of the proposed development at the nearest point).

General principles for the South Bank/Poolbeg Framework Development Area (FDA 13) are set out in the Development Plan. These were discussed at length in submissions made at the oral hearing. Principle No. 5 is to allow for utilities operation and expansion within an overall environmental improvement strategy and landscape plan.

Section 15.6.0 of the plan refers to building height. It is stated that the potential siting of higher buildings in the city will be planned using the criteria and principles set out in the document 'Managing Intensification and Change – A Strategy for Dublin Building Height' DEGW 2000.

Section 6.11.0 of the Development Plan deals with the issue of Dublin Port. It is stated that Dublin City Council recognises the importance of Dublin Port to the national, regional and metropolitan economy. It is stated in Policy E24 that it is policy to support the continued development of Dublin Port subject to the highest environmental standards etc. subject to objective CUF6 (CUF6 refers to an objective to prepare a plan for the inner part of Dublin Bay including the port area).

REPORT ON ORAL HEARING

The oral hearing in this case commenced on Thursday, the 19th April 2007. The hearing extended over a total of 18 days between the 19th April and 7th June. The hearing was adjourned at the end of day six (i.e. Thursday, 26th April) until Tuesday 15th May. Submissions on behalf of Dublin City Council were completed prior to the adjournment on Thursday, 26th April. Four of the witnesses on behalf of Dublin City Council had also been questioned on their evidence prior to the adjournment. These witnesses were also available and answered some questions later in the hearing after it was resumed on the 15th May. The hearing was also adjourned from the end of day 17, i.e. Wednesday, 30th May until Thursday, the 7th June in order to facilitate the completion of submissions by Mr. Joe McCarthy made on behalf of Mr. McCarthy and Ms. Valerie Jennings.

At the commencement of the oral hearing, reference was made by a number of individuals and representatives on behalf of various parties to the volume of documentation which had been presented and to the piecemeal nature in which it was alleged this had been presented. There was also a request for an adjournment until such time as briefs of evidence on behalf of Dublin City Council had been made available and circulated. There was also a complaint that members of the public would not be in a position to attend the oral hearing, due to the times at which the hearing was being conducted. Submissions were also made requesting a direction that costs should be paid for the representation of the objectors to the proposed development. The Inspector pointed out to Mr. Mac Eochaidh who represented the Combined Residents Against Incineration group and who had applied for costs on behalf of that group that he had no power to direct payment of his costs. The Inspector also stated that he intended to continue with the oral hearing and to hear the evidence from the parties. The Inspector stated that in the event of some particular document which required detailed consideration being presented he would consider a request for an adjournment.

At the commencement of the hearing, Councillor Dermot Lacey, a member of Dublin City Council refuted the statement made by Mr. Shipsey, Senior Counsel that he

represented Dublin City Council. Councillor Lacy stated that Dublin City Council consisted of 52 people elected by the people of Dublin. He stated that Mr. Shipsey did not represent the city councillors. Councillor Lacy submitted that Mr. Shipsey was speaking on behalf of the Department of the Environment, the Minister for the Environment and his Cabinet Colleagues and the Executive of Dublin City Council. In response to a request by Mr. Mac Eochaidh that Dublin City Council should consent to the payment of the costs of the persons he represented, Mr. Shipsey on behalf of Dublin City Council stated that the position in relation to costs was set out in the legislation. He stated that it was the function of the Board to determine if costs should be awarded and Dublin City Council would comply with any direction that the Board may make in relation to costs.

The following indicates the representation and witnesses on behalf of the various parties. The subject matter of the issues dealt with by the Dublin City Council witnesses is indicated.

For Dublin City Council

Mr. Bill Shipsey, Senior Counsel, instructed by Ms. Alice Whittaker of Philip Lee Solicitors.

Mr. Niall Steen, Barrister at Law.

Mr. Matt Twomey, Assistant City Manager - (Waste Management Issues).

Mr. John Murphy, Deputy Planning Officer, Dublin City Council. (CPO objections).

Mr. Bernard McHugh, Planning Consultant. - Government Policy and Planning Issues.

Mr. P. J. Rudden of RPS Consulting Engineers - Waste Management Issues and Site Selection Study.

Mr. Claus Norgaard of Dong Energy. (Design)

Mr. Oliver Gaillot of RPS Consulting. (District Heating).

Mr. Jan Fritzdal of Friis and Moltke. (Architectural Design)

Ms. Ria Lyden of Arup Consulting. (EIS issues, interactions and cumulative impact, sustainability, construction and de-commissioning).

Mr. Con Coll of Dublin City Council - Community Gain.

Ms. Marie Hunt, Valuer of CBRA. (Property Values).

Mr. Thomas Burns of Brady, Shipman & Martin, Landscape Architects. (Landscape and visual impact).

Mr. Christy O'Sullivan, Traffic Engineer of TTLP Consulting. (Traffic and transport systems).

Dr. Edward Porter of AWN Consulting. (Air emissions and climate change issues).

Dr. Fergal Callaghan, AWN Consulting. (Dioxin uptake issues).

Dr. Dieter Schrenk, Toxicologist. (Health related issues).

Ms. Jennifer Harmon of AWN Consulting. (Noise).

Mr. Don Menzies of Arup Consulting Engineers. (Major Accident Directive issues).

Mr. Colm Traynor of Dublin City Council Fire Services Department. (Fire Safety)

Mr. Andrew Bironi of RPS Consulting. (Public Health).

Mr. Jacob Vested of DHI Consulting Engineers. (Water emissions Thermal).

Dr. Dorte Rasmussen of DHI Consulting Engineers. (Water emissions Biocides)

Mr. Chris Emblow of EcoServe. (Marine Ecology).

Mr. John Brophy of EcoServe. (Marine Ecology).

Ms. Eleanor Mayes (Ecology-Impact on SAC/SPA).

Dr. Brian Madden of Biosphere Environmental Services. (Terrestrial Ecology).

Mr. Sean Mason, ARUP Consulting Engineers. (Soils and Geology).

Mr. Wayne Bedford of Margaret Gowen & Company Limited. (Architecture, Archaeology and Cultural Heritage).

For Combined Residents Against Incineration

Mr. Colm Mac Eochaidh, Barrister instructed by Michael Campion & Company Solicitors.

Ms. Frances Corr, Chairperson of Combined Residents Against Incineration.

Mr. Maurice Bryan, Advisor to Combined Residents Against Incineration who also made observations on his own behalf.

Dr. Anthony Staines made a submission on behalf of the Combined Residents Against Incineration and who had made submissions on his own behalf.

Mr. Joe McCarthy represented himself and Ms. Valerie Jennings and also made submissions on behalf of the CRAI Group.

Mr. Tratz Haase (Community gain and public consultation)

For Sandymount and Merrion Residents Association

Ms. Lorna Kelly represented herself in addition to the Sandymount and Merrion Residents Association.

Ms. Karen Dubsky made a submission on behalf of the Sandymount and Merrion Residents association.

For Ringsend, Irishtown and Sandymount Environment Group

Mr. Damien Cassidy, Solicitor.

Ms. Siobhan Windle, Secretary.

For Dublin Port Company

Mr. Gavin Lawlor, Town Planner, Director of Tom Phillips and Associates.

Mr. Liam Murphy, Town Planner (Tom Phillips And Associates).

Dr. Imelda Shanahan, Managing Director of TMS Environmental gave evidence on behalf of the Dublin Port Company.

Other Representatives

Mr. Brendan Burgess made a submission on his own behalf in support of the proposed development.

Ms. Claire Wheeler, Observer.

Mr. James Rountree made a submission on his own behalf.

Mr. Jim O'Callaghan on behalf of himself and Mr. Eoin Ryan.

Mr. Norman Spendlove was stated not to be in a position to attend for health reasons. A written submission on his behalf was submitted by Mr. Joe McCarthy.

Councillor Lucinda Creighton was represented by Mr. Colm Mac Eochaidh.

Mr. Owen Hardiman, Barrister represented Councillor Wendy Hederman and Mr. Michael McDowell, T.D.

Mr. John Gormley, T.D. made a submission on his own behalf and on behalf of the Green Party.

Councillors Dermot Lacey and Kevin Humphries spoke on behalf of Ruairi Quinn, T.D./Councillor Oisín Quinn/Councillor Mary Feehal/Councillor Dermot Lacey/Councillor Kevin Humphries.

Ms. Catherine Cavendish made a submission on her own behalf.

Mr. T. Plunkett made submissions asked questions on his own behalf.

A number of the 165 people who had made submission, including Councillor Daithí Doolan, Ms. Mary Kane, Mr. Brendan Burns, Ms. Aideen Byrne, Mr. Owen Dunne, were also present on the opening day of the oral hearing, but did not make submissions, apart from some speaking at the open evening session held on Tuesday, 24th April. The persons speaking at this session are referred to in the report on the oral hearing.

Details of the submissions are contained in Volumes 1 and 2 of Appendix number 3.

ASSESSMENT

In my assessment I take account of the wide range of documentation submitted with the application and in particular the EIS including its appendices and the plans and drawings indicating the proposed development. I also take account of all of the submissions and observations made in writing to An Bord Pleanála together with the submissions made on behalf of Dublin City Council and by and on behalf of the observers at the eighteen day oral hearing which was held in relation to the application.

This report is accompanied by appendices containing a report on the submissions made at the oral hearing which is in two volumes and a list of the documents submitted at the oral hearing. The report is also accompanied by an appendix containing a report by Dr. Brian Broderick who was engaged by the Bord to advise in relation to the air emissions and climate change issues arising from the proposed development and an appendix containing a report by Dr. Dan Murphy in relation to the potential health implications of the proposed development. I have had regard to the reports of Dr. Broderick and Dr. Murphy in my assessment. I do not intend to elaborate in detail in relation to the issues covered in these two reports.

In my assessment I have regard to the items referred to in the two preceding paragraphs and also to the functions of An Bord Pleanála under Section 226 of the Planning and Development Act 2000. As the powers and functions of the Bord under Section 226 are elaborated on in more detail in Section 175 of the Act I also have regard to the provisions of Section 175. In my assessment I have regard in particular to the likely effects of the development on the environment and the likely implications of the development for proper planning and sustainable development in the area. I have had regard to the restriction on the Board when dealing with an application for proposed development which comprises or is for the purposes of an activity for which an Integrated Pollution Control Licence or a waste licence is required. The Board is prohibited from imposing conditions which are for the purposes of controlling emissions from the operation of the activity including the presentation limitation, elimination, abatement or reduction of these emissions or controlling emissions

relating to or following the cessation of the operation of the activity. I have regard to the fact that the Board may however in accordance with subsection 175(10)(b) of the Planning and Development Act 2000 decide to refuse approval for a proposed development where the Board considers that the development notwithstanding the licensing of the activity, is unacceptable on environmental grounds having regard to the proper planning and sustainable development of the area in which the development is or will be situated. In my assessment I have regard to the observations received from the Environmental Protection Agency dated the 27th September, 2006. I have regard to restrictions imposed on the Environmental Protection Agency under subsection 40(4) of the Waste Management Act from granting a licence unless it is satisfied that emissions from the activity will not result in the contravention of any relevant standard, including any standard for an environmental medium or any relevant emission limit value prescribed under any other enactment and that the activity concerned carried out in accordance with any conditions which may be attached to the licence will not cause environmental pollution. I note the statement in the submission from the Environmental Protection Agency that construction related impacts, manifested prior to the commencement of waste activities at the site, would not be addressed in the waste licence.

For the purposes of clarity I intend to deal with the issues arising under a number of headings. These headings are not necessarily set out in any order of priority.

Legal And Procedural Issues

A number of issues arise under this heading from submissions and observations made. Dublin City Council responded to the issues raised in its closing submissions delivered by Mr. Shipsey.

A number of submissions questioned the adequacy of the detailing of the development as set out in the documentation submitted. It is argued that only a preliminary or conceptual design has been carried out to date and that this is not adequate for the purposes of determining whether or not approval should be granted.

Having regard to the powers and functions of An Bord Pleanála and the issues to which it must have regard and to the requirements of the European Union Directive on Environmental Impact Assessment I consider that an adequate level of detail has been submitted in order to allow the Bord to determine whether approval or consent should be granted for the proposed development. I do not consider it necessary to have the full detailed design of the proposed plant at this stage I do not consider it necessary in particular for the details of the various mechanical and technical components of the plant to have been designed at this stage of the process. I am satisfied that in general adequate information has been submitted in order to allow the Bord to comply with its legal functions. I will refer in my assessment of individual topics to some areas in which further detailing or modelling of various scenarios would have been of benefit.

In considering the level of detail required for an application it must be borne in mind that the application is not an application for planning permission under Section 34 of the Planning and Development Act 2000. The detailed requirements of the Planning Regulations in relation to planning applications do not accordingly apply.

I consider that issues in relation to the detailed design of the monitoring and the control systems for the plant are not appropriate issues for consideration at the An Bord Pleanála approval stage of the project. In this regard I would note the wide range of exempted development for industrial purposes which applies in Class 21 of Part 1 of Schedule 2 to the Planning and Development Regulations 2001. I also note the comment in the submission from the Environmental Protection Agency to the effect that an evaluation of the suitability of the technology proposed for the development would be undertaken against the national BAT note for this type of development which is being drafted and which would replace the current BATNEEC note and the European Union BREF for the sector published by the European Union Commission and the Stockholm Convention BEF for Persistent Organic Pollutants in the Environmental Protection Agency's consideration of the licence application.

It is clear from the submissions and from the discussions at the oral hearing that it is intended that the proposed development will be undertaken as a public private

partnership between the local authority and a private operator. Since the coming into effect of various sections of the Planning and Development Act 2000 An Bord Pleanála has dealt with a number of applications from local authorities for PPP projects. The level of detail submitted in general for such projects was in the nature of preliminary designs. I also consider that case law on the matter of the level of detail required does not require that a detailed design of the project should be completed prior to the application for permission or approval under the legislation implementing the European Union Directive on Environmental Impact Assessment.

Having regard to the level of detail and the level of information submitted both in the EIS and subsequently at the oral hearing, to the details on the information to be contained in an EIS as set out in Schedule 6 to the Planning and Development Regulations 2001 and to the requirements as contained in the European Union Directive as amended, I consider that the requirements of the European Union legislation and the Irish regulations have been complied with in this case. In my consideration I have also taken account of the written opinion of An Bord Pleanála to Dublin City Council dated the 20th June, 2006 in relation to the information to be contained and the issues to be addressed in the EIS. I will comment in more detail in the detailed assessment in relation to some areas where some further elaboration or clarification on the information and assessments would have been beneficial if available. (File reference 29SES2022 refers to the application by Dublin City Council for a written opinion on the information to be contained in the EIS).

Since the submission of the EIS to An Bord Pleanála with the application for approval additional information was submitted on a number of occasions. Some of this information was submitted in response to requests from An Bord Pleanála. Revised public notices were published and observers were given an opportunity of commenting on the additional information as referred to in the introduction to this report.

I consider that in general adequate information is contained in the EIS or has subsequently been submitted as part of the Environmental Impact Assessment procedure. I consider that the procedures which have been followed have allowed

ample opportunity for persons wishing to make observations to do so. In the circumstances I consider that the requirements of the European Union Directive on Environmental Impact Assessment and the Irish regulations implementing same have been satisfactorily complied with.

The plans and drawings submitted in March 2007 differ to an extent from the earlier drawings etc., submitted. The modifications involved re-locating the building approximately 8 metres to the north of the proposed location as described in the EIS. It is stated in the letter submitted with the revised plans that it was necessary to re-locate the building in order to minimise possible disruption to ESB services. Reference is made to confirmation of the exact location of two 110kv and two 220kv underground cables traversing the southern section of the site. I note that it is stated in paragraph 17.4.10 of the EIS that cables traversing the southern end of the site would have to be re-located. It would appear that the re-location of the building is now proposed in order to avoid this re-location. I do not however consider that the re-location of the building is significant in terms of the environmental effects of the development or the implications of the development for proper planning and sustainable development in the area. It could be argued that the re-location would be of some benefit in moving the building and its associated activity further from Irishtown Nature Park to the southeast.

There was some discussion at the oral hearing in relation to the height of the proposed building. Paragraphs 1.6.3 and 5.5.5 of the EIS give conflicting information. It was clarified that the building would be approximately 52 metres in height rather than 55 as stated in paragraph 5.5.5. Drawing number MDR0358/BH002f prepared by RPS-COWIJV received on the 2nd March 2007 clearly indicates 52 metres.

In his submission on behalf of Dublin Port Company, Mr. Lawlor stated that the height of the southern parapet of the waste reception hall was inconsistent on a number of drawings. He referred to the height as being indicated as 20 metres on drawing numbers BH002f and BF003c. It appears to me that an incorrect dimension i.e. 20 metres has been written on the longitudinal section A-A indicated on drawing BF003c. Scaling from the drawing indicates a height of approximately 24 metres.

Drawing number BH002f indicates the height as being 24 metres. I do not consider that any discrepancy which arises from the dimension of 20 metres being written on cross-sectional drawing A-A on Drawing BFO03c is significant.

Plans indicating the security building and pump house was submitted towards the end of the oral hearing. In his closing submission Mr. Shipsey on behalf of Dublin City Council stated that these drawings had been requested by the Inspector. The Inspector had requested clarification as to whether such drawings had been submitted and if so that they might be identified in the documentation. He did not specifically request that such drawings be submitted. I accept the submissions made by Mr. McHugh and Mr. Murphy to the effect that these buildings per se would not have significant implications in terms of effects on the environment or the proper planning and sustainable development of the area. The drawings were made available at the oral hearing and persons present had an opportunity of viewing the documentation and commenting thereon.

It has been argued that the entirety of the lands which would be required for construction have not been included within the lands identified in the compulsory purchase order. Reference has been made in this regard in particular to lands to the south of the site and lands to the north of Pigeon House Road. The lands in question are required in part as a construction compound, i.e. the lands to the south and in order to provide the cooling water system. It could be argued that there would be more logic in including the lands to the south in particular, than the existing Shellybanks Road which is included. Having regard however to the arguments made by Mr. Shipsey and as in the event of agreement not being reached in relation to the lands in question, the local authority has compulsory purchase powers to which it may revert, I consider that the applications and in particular the compulsory purchase order application for confirmation is not significantly flawed by virtue of the fact that these lands are not included. By not including the lands to the south, it would appear to me that there is greater scope for the Dublin Port Company to negotiate with Dublin City Council in relation to a short-term lease of the lands, rather than what the situation would be if the lands had been included in the CPO.

An argument has been made to the effect that the CPO is flawed on its face by virtue of the fact that the purposes for which the lands are to be acquired, i.e. a waste management facility, does not adequately describe the development proposed. Having regard to the extent of the documentation submitted, I do not consider that any relevant person would not at this stage fully understand the purposes for which it is proposed to acquire the lands. Having regard to the Court decisions in the Clinton vs. An Bord Pleanála case, I consider that the compulsory purchase order is not flawed on its face by virtue of the description of the purposes for which the lands are to be acquired, as stated in the compulsory purchase order. There is a more detailed discussion in relation to the compulsory purchase order contained later in this assessment.

The question of a contract between the Dublin local authorities and the private partner who would design, build and operate the facility was raised in submissions and at the oral hearing. At the time of the oral hearing, there was no contract in place with the private partner in relation to detailed design, construction and operation. I do not consider that the details of this contract are matters for consideration by the Board and I do not consider that it is necessary for the Board to have details of any such contract available to it prior to determining the application.

In submissions made and in particular submissions by Mr. McCarthy, the basis for the 1998/2001 Waste Management Plan was questioned. A study completed in 1997, i.e. the Waste Management Strategy for the Dublin region formed the basis on which this plan was drafted. Mr. McCarthy questioned the basis on which the strategy was determined and in particular questioned some of the assumptions and costings and in some cases lack of costings incorporated into the strategy. The strategy document was prepared over 10 years ago and whilst it formed the basis for the original waste management plan, it is not within the Board's remit to review the strategy in its totality on the basis of the submissions. It is conceivable that in a new review of the strategy then adopted various other issues would arise apart from those raised by Mr. McCarthy. In any event, waste management plans were legally adopted on the basis of the strategy. These waste management plans and in particular, the latest waste management plan of 2005 are documents which have legal status. An Bord Pleanála

has no role in reviewing, amending, modifying or otherwise altering such plans. I do not accordingly consider that it would be reasonable to hold that the proposed development in this case is premature pending the completion of another review of the waste management plan on the basis of new strategy considerations. I consider that if waste management strategies are to be constantly reviewed every time there is an application for consent for part of the facilities recommended in the strategy or plan, no coherent integrated waste management strategy could ever be put in place with facilities to allow for the operation of the strategy.

Some submissions made in relation to the proposed development questioned the financial or economic sustainability of the project. An Bord Pleanála has limited functions in relation to applications made under Sections 175 or Section 226 of the Planning and Development Act 2000. It does not have a function in ensuring that projects are financially viable or that local authorities do not expose themselves to unacceptable financial risk. As previously stated, I do not consider that the details of the contract between the local authorities and the private partner are matters for consideration by An Bord Pleanála.

Need For Facility

I consider that the most relevant submissions in relation to this issue were those given by Mr. Twomey and Mr. Rudden at the oral hearing. Table 1 of the presentation of Mr. Rudden is particularly useful in terms of estimating the quantity of waste likely to arise in the Dublin region up to 2020. Factors for recycling for both household and commercial and industrial waste are included in the calculations. The table indicates that for the year 2012, the total municipal waste arising is predicted at 1,392,132 tonnes allowing for recycling of 41.3% of household waste and 48% commercial and industrial waste. The total residual waste arising would be 793,172 tonnes, whilst 604,909 tonnes would be recycled. The residual waste for the year 2020 is indicated to be 846,547 tonnes. The figures used in Table 1 for projected waste are similar to those contained in Table 16.3 of the current Waste Management Plan for the Dublin Region, i.e. the Waste Management Plan 2005 – 2010 which was made on the 11th November 2005. The total residual figure for the year 2020 allowing for 46.9%

recycling of household waste and 49% recycling of commercial and industrial waste would be 846,547 tonnes. If this waste is to be disposed of within the Dublin region, as provided for in the Waste Management Plan, facilities either in the form of additional landfill facilities, waste to energy or other facilities will be necessary. Policy issues in relation to the preferred method of disposal/recovery will be discussed in the next section of the assessment. In his submission, Mr. Rudden stated that the figures consistently indicated 800,000 per annum available for residual treatment, whether incineration or landfill, allowing for the regions' commitments to recycling, including the proposed biological treatment plants. Mr. Rudden calculated that allowing for the Fingal Landfill to come on stream and commence operating in 2009, if the waste to energy facility came on stream in 2012, there would initially be a slight over-capacity, but this would level off by 2020. (It is noted that at the time of writing this assessment, the Fingal Landfill referred is still under consideration by An Bord Pleanála file 06FEL2051 refers).

Arguments were made at the oral hearing and in submissions to the effect that the scenario to be adopted or least aimed for should be that of zero waste. This is clearly an ideal to be aimed at, but I have serious reservations as to whether it will be possible to achieve either zero waste or something closely corresponding to same in a relatively short time scale. The issue of zero waste is discussed in Section 4 of the Policy Document entitled "Waste Management Taking Stock and Moving Forward", published by the Department of the Environment, Heritage and Local Government in April 2004. It is stated in the document that no country has shown the zero waste aspiration in its purest sense to be an achievable objective. It is stated further that even at the limited number of localised situations where zero waste has been pursued, it has still not been proven as an effective approach to waste management. It is stated in the document that it has to be recognised that the reality is that even with a more concerted focus on waste prevention and the achievement of ambitious reuse and recycling objectives, there will still be waste remaining which must be managed in the most environmentally appropriate way.

Having regard to the submissions made and the provisions of the Waste Management Plan for Dublin Area to which the Board must have regard, I consider that waste

disposal/recovery facilities for residual waste approaching the scale of that proposed must be put in place to cater for waste arising in the Dublin region.

The proposed incinerator with a maximum through put of 600,000 tonnes per annum would appear be one of the biggest incinerators in Europe. The throughput proposed would indicate that the two lines which would each have a maximum capacity of 35 tonnes per hour (which apparently is the maximum per line used in such facilities at present) would be working close to full capacity at all times. The figures submitted at the oral hearing, in the EIS and those contained in the Waste Management Plan indicate that the proposal is at the upper level of estimated requirements. The capacity referred to in Section 18.8 of the Waste Management Plan is approximately 400,000 – 600,000 tonnes per annum. (The 1998 Plan had proposed thermal treatment with energy recovery for 500,000 – 70,000 tonnes). Mr. Rudden's submissions indicates some over-capacity at least in the early years. Having regard to the figures given in relation to waste arisings, the proximity of the facility to another waste to energy facility permitted at Carranstown in County Meath and to the argument that over capacity would to some extent discourage recycling, reuse and other more sustainable forms of waste management, I consider that consideration should be given to reducing the capacity, unless it can be shown that the capacity proposed would clearly not give rise to any environmental or adverse planning problems in the local area. (The figures given at the oral hearing in response to a question from the Inspector suggest that in 2012, 43% of municipal waste would be burnt in the plant rather than 40.3% as stated if it is used to maximum capacity).

Waste Management Policy Issues

Section 143 of the Planning and Development Act 2000 requires that the Board shall in performing its function have regard to the policies and objectives for the time being of the Government, a State Authority, the Minister, planning authorities and any other body which is a public authority whose function have or may have a bearing on the proper planning and sustainable development of cities, towns or other areas whether urban or rural. (Public authorities referred to are ones declared by Regulation made by the Minister to be public authorities for the purposes of the Section).

Relevant policy documents in relation to waste to which the Board must have regard are the initial policy statement on waste management entitled "Changing our Ways" issued in September 1998, the document "Waste Management – Taking Stock and Moving Forward", issued in April 2004, Circular Letter 04/05 of the 3rd May 2005 which deals with the issue of movement of waste between regions and the document entitled "National Strategy on Biodegradable Waste", dated April 2006. National Policy must of course be considered in the context of European Union Directives and their implementation. Of relevance are Directive 2006/12/EEC on waste which replaced the original Framework Directive on Waste from 1975, Council Directive 1999/31/EEC on the Landfill of Waste and Directive 2000/76/EEC on the Incineration of Waste.

Figure 1 of the document "Changing our Ways" contains a pyramid which has become known as the waste management hierarchy. This is graduated downward from the most favoured option of prevention to the least favoured option of disposal. Energy recovery is listed above disposal in the hierarchy. One of the central tenets of the policy document is the need to reduce Ireland's reliance on landfill. In Part 4 of the document, various targets are set out which include the diversion of 50% of overall household waste away from landfill and a minimum of 65% reduction in the biodegradable fraction consigned to landfills. The recycling of 35% of municipal waste is also a target, as is an 80% reduction in methane emissions from landfills. The regional approach to waste management is advocated in the document. It is also stated that there is considerable scope for increased participation by the private sector in all areas of waste management. Amongst key considerations in meeting objectives set out in the document is the recognition of the importance of economies of scale. It is stated that waste infrastructure should be planned to a scale that facilitates various cost effective alternatives to landfill.

In discussing solutions to the waste management problem, it is stated that no one solution can address all waste management requirements, consequently the emphasis of the policy is on integrated waste management. In discussing waste to energy/incineration, it is stated that waste to energy facilities play a major part in municipal

waste management in many European countries. It is stated that in general, materials recycling and waste to energy/incineration are fully compatible with an integrated approach to waste management. It is also stated that mass burn waste to energy is effective in diverting over 70% of municipal waste away from landfill, and if properly controlled, has a considerably lower environmental impact than landfill.

In the waste management document "Taking Stock and Moving Forward" (April 2004), it is noted that most of the waste management plans envisaged a role of some form for waste to energy or thermal treatment technology in the overall package of waste management measures to be put in place. A table in the document indicated progress made at that time towards the establishment of waste to energy facilities in regions where thermal treatment was proposed in the waste management plan. Dublin is listed as having a PPP Procurement Process well underway. It is stated in the document that those regions which had yet to show progress, needed to initiate action in the shorter term. Key Point No. 2 of the document is that waste management planning would continue to be delivered through local authorities in their generally regional groupings. In Key Point No. 10, it is stated that thermal treatment with energy recovery has a role to play as one element in an integrated approach to waste management. Part 4.14 and Key point 20 of the document enshrines the concept of 'Community gain' into national policy in relation to the provision of waste infrastructural facilities.

The Circular Letter 04/05 dated the 3rd May 2005, deals with the issue of movement of waste. It is stated that policy recognises that an unnecessarily restrictive approach may not be in keeping with the philosophy underpinning the regional approach to waste management planning and by implication, the rational use of waste management infrastructure. It is noted that the Environmental Protection Agency had stated that inter-regional movement and treatment of waste should be provided for in appropriate circumstances.

In the National Strategy for Biodegradable Waste, a series of actions are referred to in order to meet mandatory targets for organic waste diversion from landfills. It is stated in Section 5.3 of the document that there is an urgent need to commence

establishment of the necessary recycling, biological and thermal treatment facilities. It is stated that meeting targets which are set out in Table 5.1 of the document will require that a certain proportion of residual bio waste which is not suitable for recycling or biological treatment or is not collected separately, is pre-treated prior to landfill. It is stated that two broad categories of treatment are available, i.e. thermal treatment with energy recovery and mechanical biological treatment with thermal treatment or landfill of the stabilised residue. (Table 5.1 indicates a diversion of about 80% of biological municipal waste from landfill planned for 2016. A total of 58% is planned to be recycled (including biological treatment). This would leave 22% for residual treatment).

The treatment of residual waste is dealt with in Part 9 of the National Strategy on Biodegradable Waste. It is stated that despite reaching high levels of recycling and biological treatment, significant quantities of residual waste will continue to be generated. It is stated that a large proportion of this material will be biodegradable and will need to be diverted from landfill in order to meet the landfill directive targets. It is stated in Paragraph 9.5.1 that thermal treatment with energy recovery in accordance with the internationally accepted waste management hierarchy is a key element of Irish Waste Management Policy.

Chapter 8 of the National Climate Change Strategy 2007 – 2012 deals with the issue of waste. It is stated in this document in discussing landfill gas capture that the government is working to expedite the installation of landfill gas recovery and flaring/use at all existing sites under EPA licensing control. It also refers to initiatives to increase the gas capture rate and utilise the gas for electricity generation which is supported by the Renewable Energy Feed-In Tariff (REFIT). Under the heading of Waste to Energy it is stated that to assist in the development of waste to energy projects, the government is extending REFIT to allow support for the renewable portion of mixed renewable and non-renewable generation. It is stated that this will allow waste to energy projects to obtain support for the renewable portion of the generated electricity. It is stated that this type of hybrid support mechanism is fully consistent with the overall 'hierarchy of waste' treatment approach.

Under the heading “Looking Forward” in Chapter 8, it is stated that in accordance with methodologies developed by the Inter-governmental Panel on Climate Control (IPCC) CO₂ emissions resulting from the combustion of biodegradable wastes are considered carbon neutral and are not counted for the purposes of Kyoto obligations. In addition, the generation of heat and electricity from waste and thermal treatment plants reduces the need to produce this energy from fossil fuels and will therefore displace CO₂ emissions from these sources. It is stated that by exploiting an indigenous energy source, waste to energy plants make a contribution to national security of energy supply.

The policy documents referred to above have not been rescinded and still form part of government policy. It is clear from the documents that waste to energy facilities form an integral part of an integrated waste management system as envisaged in the various policy documents. It also appears from the thrust of the documents and the hierarchy indicated therein that thermal treatment with energy recovery ranks above landfill. I note in this regard that Figure 5.1 of National Strategy on Biodegradable Waste contains a numbering system with No. 1 being prevention, reduction and reuse, No. 2 being material recycling, No. 3 being biological treatment, No. 4 being thermal treatment and mechanical biological treatment (MBT) and No. 5 being landfill.

I note that Article 3 of the Directive 2006/12/EEC on Waste requires Member States to take appropriate measures to encourage firstly the prevention or reduction of waste production and its harmfulness by various measures, and secondly, the recovery of waste by means of recycling, reuse or reclamation, or any other process with a view to extracting secondary raw material or the use of waste as a source of energy. This would appear to rank waste to energy facilities with the recovery and reuse of the bottom ash above landfill, although this is not clear from the Directive where incineration on land is listed as a disposal operation in Annex 2A. I am aware of a discussion in Europe in relation to the possible classification of waste to energy facilities as recovery operations, subject to, and as yet undefined energy efficiency. I note that in the current Directive, ‘use principally as a fuel or other means to generate energy’ is defined as a recovery operation. I consider that there is a strong argument for ranking the development proposed in the current case and in particular if it is used

to supply a district heating system, higher in the waste hierarchy than landfill. (The issue will be discussed in more detail at a later stage in terms of climate change impact).

It is argued in one of the observations submitted that the proposed development was contrary to government policy in that government policy only allows for incineration of segregated waste and that as there was no proposal to segregate the waste being brought to the facility, it is accordingly in conflict with the Government policy. (This argument was based on the Programme for Government of the last Government). I consider that when viewed as part of a waste management strategy which includes source segregation of waste, this argument has little validity. I consider that if the collection system etc., is designed to ensure that residual waste only is taken to the facility and the house owner is adequately encouraged to comply with the segregation requirements, the waste can reasonably be considered to be segregated and residual waste.

I note that the current programme for government states that the government is strongly committed to a waste management hierarchy based on the corner stones of reduction, reuse, recycling and marketing of recycled products. It is stated that the government is also committed to meeting targets to divert biodegradable waste from landfill under the 1999 EU Landfill Directive. It is stated that to achieve this, the government is committed to the introduction to mechanical biological treatment (MBT) facilities as one of a range of technologies. It is stated that the government will undertake an immediate review of waste management plans and practices and procedures and act on its conclusions. It is stated that in the meantime, in order to reach targets under European Union legislation, the government will ensure that for any future projects, neither the State nor local authorities will be exposed to financial risk or 'put or pay' clauses in waste facilities and the government will not alter the landfill levy in such a way as to give a competitive advantage to incineration. Amongst objectives listed are that only 10% of waste or less is consigned to landfill and to ensure that landfills as currently provided for under waste management plans should be the last to be constructed for a generation. Various other measures towards preventing, reusing and recycling waste are listed, together with the establishment of

community monitoring arrangements of major waste management facilities, including on-line monitoring where appropriate, with specific powers/rights to information.

Recent statements from the Minister for the Environment and a circular letter from the Department of 26th July 2007 are geared towards ensuring that incineration or waste to energy facilities should not be the corner stone of waste management policies. (Circular letter number WIR 09/07 refers to an intended policy direction under Section 60 of the Waste Management Act).

The relevant Regional Planning Guidelines and the National Development Plan 2007 – 2013 are referred to in detail in Mr. McHugh's submission. These documents generally support the proposed facility. It is specifically stated in the National Development Plan (page 145) that in line with national policy on the integrated approach to waste management, thermal treatment with energy recovery will be the preferred option for dealing with residual waste after achieving ambitious target in respect of waste prevention, recycling and recovery. The Dublin facility is specifically referred to in the Plan.

Although there appears to a shift in government policy away from incineration and waste to energy facilities, the various policy documents referred to have not been rescinded and the waste management plans of the various authorities have not been reviewed. Having regard to the apparent urgency in providing waste management infrastructure in the relative short term and the length of time in which major projects are in gestation, I consider that it would be unreasonable to consider that the development proposed in the current case is premature pending a review of national waste management policy and the waste management plans adopted under these policies.

Waste Management Plan And Development Plan Policies

Having regard to the inter-relationship between the objectives in the Waste Management Plan and the Development Plan as discussed at length at the oral hearing and in the evidence of Mr. McHugh and Mr. Murphy, I intend to deal with both waste

management plans and land use development plans together. I do not intend however to repeat the arguments already submitted, but to highlight the major points of significance.

I have already discussed the projections for waste arising under the heading of Need as set out in the Waste Management Plan.

It is stated on Page 144 of the Waste Management Plan in Section 18.8 that the combined Dublin local authorities will develop a waste to energy (incineration) plant at the preferred location on Poolbeg Peninsula Dublin 4. It is stated that this will have a capacity of approximately 400,000 to 600,000 tonnes per annum and will treat non-hazardous municipal or similar waste. It is stated further that the local authorities are receptive to the inclusion of a monitoring committee being put in place to represent the public interest as regards the operation of the waste to energy facility. It is stated that such a group could include the local community, objective national experts and environmentalists. Under the heading of landfill disposal capacity, it is stated that it is an objective to provide a landfill (of up to 10 million tonne capacity) in accordance with the Dublin Landfill Siting Study of 2004. It is stated that Fingal County Council was then currently carrying out an EIS for the preferred site at Nevitt. It was also an objective to provide for the use of other available landfills within the Greater Dublin Region in the event of a lack of capacity within the Dublin region.

Section 18.9 of the Waste Management Plan refers to a critical shortage of municipal landfill capacity being eminent with the closure of Ballyogan landfill in 2005, Arthurstown landfill at the end of 2007 and Balleally landfill in 2008 approximately. Some proposals were contained in the plan to manage a short-term waste disposal requirement. Table 18.4 of the Plan indicates that from 2010 onwards when the Dublin Waste to Energy facility was anticipated to be operational, the demand for landfill would be reduced.

It is stated in Paragraph 18.10 of the Plan that the Dublin region will aim to become self-reliant in terms of waste management infrastructure and that waste generated in Dublin should be managed in Dublin as far as possible.

The current Waste Management Plan for the Dublin region was adopted in 2005. This was well after the completion of the site selection study and the submission of the compulsory purchase order for the specific site to An Bord Pleanála for confirmation. It is clear accordingly that the reference to the preferred site in Poolbeg is a clear reference to the site of the development for which approval is sought in the current application.

The current zoning for the bulk of the site as indicated in the Dublin City Development Plan 2005 – 2011 is Z7A. Waste to energy or incineration facilities are not listed as either being permissible nor open for consideration uses. They are listed as being permissible uses in areas with the zoning objective Z7. The only location in Dublin City with an Z7A zoning appears to be part of the site of the proposed development. The logic of the specific zoning given to the site in comparison to the adjoining lands is not apparent from the Development Plan. (This issue was discussed at the oral hearing). It appears clear from Policy U4 in Section 12.1.1 of the Plan where it is stated that it is the policy of the elected members of Dublin City Council to oppose the siting of an incinerator on the Poolbeg Peninsula, that the specific zoning Z7A was inserted by the councillors in order to give effect to their opposition to the siting of an incinerator on the Poolbeg Peninsula. It would appear however that there is some contradiction in the plan and that the consequences of what appears to have been intended by the elected members do not appear to have been carried over into Section 14.5.0 of the plan, where it is stated that uses not specified either in the category of being permissible or open for consideration in various zones including areas with a zoning objective Z7A would be dealt with on their merits. (There appears to be a typographical error in Section 14.5.0 which is headed permissible and non-permissible uses, as “non-permissible” uses are not listed in the Development Plan).

Under the heading Waste Management Policy, it is stated in Policy U4 that it is the policy of Dublin City Council in conjunction and cooperation with the adjoining local authorities in the Dublin region to implement the waste management plan for the Dublin region. The opposition of the elected members of the city council to the siting

of an incinerator on the Poolbeg Peninsula is also included in this policy. The issue has arisen in the submissions and at the oral hearing as to whether having regard to the various policies and objectives in the Development Plan, the proposed development would be a material contravention of the plan. As An Bord Pleanála is not restricted from granting approval under Sections 226 or Section 175 for a development which would be in material contravention of the Development Plan, I do not consider it necessary for the Board to determine whether or not it considers that the particular development proposed would be a material contravention of the Plan. It has also been held by the Courts that it is a matter for the Courts to determine whether or not a development is a material contravention of the plan. Having regard in particular to the provisions in Section 22(10A) of the Waste Management Act 1996, to the effect that the Development Plan for the time being in force in relation to the functional area of a local authority shall be deemed to include the objectives for the time being contained in the Waste Management Plan and that in the event of there being any conflict between an objective in the Waste Management Plan and the Development Plan, that the objective of the Waste Management Plan would override the objective in the Development Plan, I consider that there is a strong argument that the proposed development is not a material contravention of the Development Plan. This is particularly so having regard to the policy objective U4 to implement the Waste Management Plan for the Dublin region. I consider that this is a more compelling argument than the argument relating to Paragraph 14.5.0 of the Development Plan which indicates that the application should be dealt with on its merits. This however adds to the argument that the proposed development is not a material contravention of the Development Plan on the basis of zoning. (Mr. McHugh's evidence also referred to the provisions in the Regional Planning Guidelines to which planning authorities must have regard in making the Development Plan etc).

I do not consider that the fact that a very small part of the site i.e. at the south-eastern corner is zoned Z9 i.e. to preserve, provide and improve recreational amenity and open space is significant. The zoning of part of the site Z7 is an additional argument against the development being a material contravention of the Plan.

I do not consider that anything significant arises in terms of consideration of the application from the development principles set out in the Plan for the South Bank/Poolbeg Framework Development Area. I note the various principles including allowing for utilities operation and expansion within an overall environmental improvement strategy and landscape plan and to promote and protect the ecology of the area, while providing for recreational open space with public access and the provision of a pitch and putt course located on Poolbeg Peninsula within a consolidation framework for public utilities, including the reuse of historic structures. It is also a principle to ensure that all development is compatible with the nature conservation designations of the South Bay and to ensure that the unique landscape qualities of the Poolbeg Peninsula, river and bay area are recognised in any development proposals for the Poolbeg area and that the existing open character and nature of the views from Irishtown Nature Park are retained as far as practicable.

I do not consider that the more detailed plans for the area which are in the form of non-statutory or guidance documents are of major significance in terms of considering the application. These documents have no statutory base and it would appear from the submissions made that there is significant public opposition to some of the provisions contained in the documents. It would appear in any event that the authors of the documents were not requested to consider the appropriateness of the proposed waste to energy development in drafting the documents in question. Whilst the documents may be of some general guidance in terms of considering issues, such as landscape impact, I do not consider that they should be given particular weight in terms of determining the application. These documents together with the provisions of the Development Plan indicate that the peninsula is likely to be developed with mixed uses containing residential uses to the west, utilities in the centre and amenity/recreational uses to the east and south.

Having regard to the arguments set out above I do not consider that the proposed development should be refused on the basis of it being in material contravention of the Development Plan. In commenting on the individual issues later in this assessment, I will comment in more detail on some of the development plan

considerations which I have referred to under the heading of Development Plan considerations e.g., the protection of conservation areas etc.

Site Selection And Consideration Of Alternatives

The site selection study in this case was essentially carried out and completed in 1999. For the purposes of preparing the EIS a limited review of the site selection process was carried out.

The report on siting and environmental issues of the feasibility study for thermal treatment of waste for the Dublin region dated November 1999 contains details of the site selection process. The report contains details of the 10 initially short-listed sites and more details in relation to the four sites which were studied in more detail. I consider that a reasonable attempt was made to identify a suitable site. I note however that issues such as air quality at the various locations does not seem to have been factored into the site selection criteria (paragraph 4.2.42 of the EIS notes that in the European Commission's advice on site selection and incineration air quality status of the locality and impact on other pollutants in the area are major factors to be considered). I also note that in the description of potentially suitable sites given in Appendix C of the document, it is stated that there is currently a plan to improve the road network in the Poolbeg area. It is stated that the north Port Tunnel would connect the port area to the M50 in Santry and the Eastern Bypass tunnel is also proposed which will connect to the port to the Dun Laoghaire/Rathdown area. Under the heading of traffic, it is stated that traffic in the Poolbeg Peninsula area is considerable, due to the large amount of industrial/commercial activity, as well as commuter traffic over the toll bridge. It is stated in the description in Appendix C that the closest residential areas are located approximately 1 kilometre from the site. I note however that in the document itself, on Page 56, it is stated that there is a distance of 1.4 kilometres between the site and Ringsend, 1.5 kilometres between the site and Sandymount and 2.5 kilometres between the site and the beach in Clontarf.

I note that in the review of the site selection contained in the EIS, references are made to the close proximity of the site to the cooling water channel which would facilitate

the use of seawater for cooling and the closeness of the Ringsend Wastewater Treatment Plant which could facilitate the incineration of sludge in the facility and which could also facilitate the use of treated effluent as process water in the facility and thereby reducing the quantity of water required. It is also noted that the location within the port is convenient for the export of any residues and that it would be possible to use heat from the facility for district heating in new residential and commercial developments nearby. I accept that the closeness to the Liffey Estuary and the cooling water channel is of an advantage of the Poolbeg site. A similar advantage would not appear to apply to any of the other four sites studied in detail. Closeness of the port would obviously facilitate the export of residues, such as bottom ash, although the long-term sustainability of this element of the proposal must be open to question.

It could be argued that the site selection study should have been totally reviewed when the EIS was being prepared. This would however have given rise to its own difficulties in terms of the timescale required to complete a comprehensive review of the site selection study and difficulties which would arise in terms of attempting to factor all considerations, including if possible, public consultation into the overall process. The timescale from the 1999 Site Selection Study to the current stage of applying for approval indicates the extremely long timescale involved in progressing a project such as that in question.

Overall I consider that a reasonable site selection process has been engaged in. This does not however ensure that the most appropriate site or even an appropriate site has been identified when issues are looked at in detail. (The issue of air quality in the area is discussed in more detail later).

I note that in the EIS various other alternatives in relation to processes, including different grate types, different forms of thermal treatment and different cooling systems were examined. I consider that the issue of alternatives has been satisfactorily covered to ensure compliance with the European Union Directive which requires that the EIS should contain an outline of the main alternatives studied.

An argument was made in the submissions and at the oral hearing to the effect that Poolbeg is not the centre of gravity for waste in the Dublin region as claimed by Dublin City Council. It is extremely difficult to precisely identify the centre of waste for the Dublin region. To do so, one must clarify exactly what one means by the centre of waste. The centre of waste production may differ from what might be the centre of waste in terms of the nearest convenient location for processing this waste, having regard to the location of the various transfer stations in the overall network. I accept the argument put forward by Mr. McCarthy in particular in relation to the centre of gravity of waste having regard to the locations of the transfer stations and the quantities of waste likely to arise from each of the transfer stations in question. It would appear that if the site was to be selected purely on the basis of the lowest number of miles per tonne of waste transported, a location towards the west of the city in the vicinity of the M50 would be the preferred option. There is however, no conclusive evidence of a suitable site being available in this area. I consider that this conclusion in relation to the 'centre of gravity' of waste applies in particular in the absence of an Eastern Bypass which would facilitate easier access to Poolbeg from the Ballyogan transfer station.

Alternative strategies including MBT (Mechanical Biological Treatment) were discussed at the oral hearing. Mr. Rudden in particular was questioned in relation to considerations which had been given to different technologies etc. He submitted the basis on which the waste-to-energy option was chosen. This is now incorporated into the Waste Management Plan. The issue of MBT was also dealt with in Mr. Twomey's submission. The possibility of using an MBT solution is also considered on page 127 of the Waste Management Plan 2005 – 2010. This option was rejected.

I consider that it would be unreasonable to refuse approval on the basis of MBT proving a better solution from environmental and planning perspectives. No evidence to the effect that there is a realistic sustainable alternative to waste-to-energy based on MBT which can be delivered in the required timescale and which would be more suitable and have less adverse effects on the environment was submitted at the oral hearing. Having regard to the timescale required to provide facilities for any alternative strategy I consider that it would be unreasonable to require Dublin City

Council and the other Dublin Local Authorities to alter the strategy which has been pursued for the last ten years.

Landscape And Visual Impacts

This issue is dealt with in Chapter 6 of the EIS. Mr. Jan Fritzdal and Mr. Thomas Burns addressed the issue at the oral hearing on behalf of Dublin City Council. Conflicting views were put forward by Mr. Lawlor on behalf of the Dublin Port Authority. The issue is raised in a number of the submissions made, both in writing and at the oral hearing. John Reid & Associate Planners also dealt with the issue in their written submission to the Board on behalf of Fabrizia Development.

Dublin Bay and the landmark Poolbeg chimneys which are located further to the east in the Poolbeg Peninsula are important visual features of Dublin City. There are views of high amenity value available from the coast roads on both sides of the bay over and across the bay. The Poolbeg chimneys are landmark features in approaching the city either by sea or by air.

The site of the proposed development is located between a large effluent treatment plant and an electricity generating plant. There are some existing molasses storage tanks located in the central part of the site. There are a number of other industrial type developments located to the north and west of the site of the proposed development. The site is however located close to the amenity area which has become known as the Irishtown Nature Park and to the amenity area of Sandymount Bay and the pedestrian path along the southern edge of the Poolbeg Peninsula which leads to the nature park.

The site of the proposed development does not have any specific landscape designation in the current Dublin City Development Plan. It is located within a complex of existing industrial, port and storage-type developments. There are no views of particular amenity value available across the site from any amenity areas, although there are views available across the site from the Irishtown Nature Park.

The proposed building which would be an extremely large building by Dublin standards, being 200 metres long by 130 metres wide and 52 metres high would have a significant visual impact when viewed from the local area. I consider that the visual impact would be significant in views from Irishtown Nature Park, the amenity walk along the northern side of Sandymount Bay and from Beach Road and Strand Road to the south-west. I do not consider that the visual impact would be significant in the more distant views referred to in the EIS, e.g., views from Killiney, Mount Merrion, etc., although the buildings and stacks would be seen in some of these views.

I consider that some of the initial photomontages presented and in particular, Nos. 7 and 17 which are also reproduced in the main copy of the EIS, understate the visual impact of the proposed development. I consider that the views given in Figure 6.4 and 6.5 of the EIS present a better visual appreciation of the nature and scale of the proposed development. It is noted that the plume from the stacks which I consider would be an almost permanent feature of the development proposed, are indicated on the figures in questions, although not indicated on the photomontages. The larger display poster of the proposed development on display at the oral hearing also give a better appreciation of the nature and scale of the proposed development.

As stated I consider that the proposed development would have significant visual impact on the local area. I do not however consider that the development would significantly detract from the visual amenities of the area. The existing area where the development is proposed consists of a mixture of industrial type developments of various forms with several storage tanks, chimneystacks and industrial plant without any coherent order or design. I accept that one might dispute the architectural quality of the design. I note the comparisons made in relation to whether the proposal has resonance with a spiral seashell, sardine tins or a large bunker. Having regard to the quality of the existing architecture in the area, I consider that the design proposed is of some architectural merit and it would be a new departure in terms of industrial development on the peninsula. I consider that it is reasonable to argue that it would (hopefully) set a trend for the rejuvenation of the architectural quality of the industrial elements on the peninsula. I accept Mr. Lawlor's argument that the building would not be a landmark feature such as the Sydney Opera House. I do not however

consider it necessary or reasonable to expect that a waste to energy facility should be of such unique architectural quality.

There were discussions at the oral hearing and observations have been made in relation to the external cladding of the proposed building. I consider that the greyish colour external cladding above a darker coloured concrete plinth will help to blend the building into the landscape. I consider that it is desirable that if permission is granted, most, if not all plant should be fitted beneath the roof construction, as proposed. I consider also that it is desirable that the external cladding should be in a matt finish rather than of a gloss or shiny nature.

I consider that in general the architectural treatment proposed for the building is acceptable and I do not consider that it would be reasonable to refuse approval on the basis of the building being significantly injurious to the visual amenities of the area. I consider that one of the strongest arguments against the development is that the exhaust plume would significantly emphasise the industrial character of the area. I do not however consider it appropriate for the Board to attempt to modify the potential visual impact of the plume by way of a condition requiring plume attenuation for visual amenity reasons. Having regard to the definition of "emission" as contained in the Environmental Protection Agency Act and the Waste Management Act, as amended in the Protection of the Environment Act 2003, I consider that this emission falls within the remit of the Environment Protection Agency and the Board is excluded from imposing conditions controlling such emissions, by virtue of Sub-Section(10)(a) of Section 175 of the Planning and Development Act 2000.

I accept the arguments put forward to the effect that having regard to the size and scale of the proposed building, the development cannot be screened. I consider however that it is desirable that a landscaping scheme be implemented in order to anchor the development into the physical landscape of the area and also to provide some screening for the onsite ground level activities. I note the statement in 5.5.14 of the EIS that the principle part of the site will be enclosed by security fencing. The landscaping would help to soften the impact of such fencing in views from the local

area. I note that no landscaping scheme has been submitted with the application. Section 6.7.5 and 6.7.6 of the EIS referred to some landscaping proposals.

There was some discussion at the oral hearing as to whether the building should be considered in the context of the Dublin City Policy for high buildings. I accept that the building would be a very large one by Dublin standards. Having regard to its overall massing and to the nature of the existing developments in the area I do not consider that it would be reasonable to refuse approval on the basis that it is not located at any of the locations suggested as suitable for high buildings in the study carried by DEGW in 2000 (at a maximum height of 52 metres I do not consider the building significantly higher than the new Lansdowne Road Stadium which was recently granted planning permission by the Board in a more built up area – max height 47/48 metres). The highest part of the older Poolbeg power station building (near the 210 metre chimney stacks) is also approximately 50 metres high.

I note the proposal to provide a large glazed area on the northern elevation of the proposed building. It is argued that views to the internal workings of the plant would be available from Pigeon House Road and that these would be of some interest. Whilst I accept that there may be some interest in the views in question and the glazing may be of some benefit in terms of the architectural treatment of the building, I do not consider that the proposed waste to energy plant will become a tourist attraction in its own right, or that significant numbers of people will be attracted to Pigeon House Road in order to view the internal workings of the plant through the glazed area.

Traffic And Transportation

This issue is dealt with in Chapter 7 of the EIS. Mr. Christy O'Sullivan presented evidence on behalf of the City Council at the oral hearing. Several of the objectors raised the issue of traffic and inadequate road network as reasons for their objection to the proposed development.

No detailed technical assessment opposing the development from a traffic point of view was presented either in the witness submission or at the oral hearing. I noted that in the review of the traffic and transportation element of the EIS by Faber Maunsell on behalf of Dublin Port Company, it is stated that the consultants confirmed that the assessment carried out on behalf of Dublin City Council had been carried out in a robust manner with no significant shortcomings in scope, content or methodology. It was further stated that Faber Maunsell generally concurred with the findings, in that the traffic impact of the proposed facility would be slight in the immediate area of Dublin Port and due to the reduced heavy goods vehicular traffic resulting from the opening of the Dublin Port Tunnel and further public transport improvements the traffic flows in the area will be lower in the future than they then were.

The assessment carried out indicates a total of 121 vehicles delivering waste per day on the basis of waste acceptance for 312 days per year. This would give rise to a total number of heavy vehicular trips per day of 242 for waste deliveries. This equates to 726 passenger car units. In the assessment, this is averaged out at 54 passenger car units per hour.

In the overall traffic assessment, a worst-case scenario for the strategic road network and a worst-case scenario for the local road network were considered. The scenarios involved having all waste being taken from the waste transfer stations or alternatively, directly to the facility by waste collection vehicles. The increased traffic flows on either the strategic road network for the worst-case for the strategic road network or the local network for the worst-case for the local road network are not significant. The traffic flows generated by the proposed development are not significant, having regard to the total flows on the network. Table 7.10 of the EIS indicates the a.m. peak impact on the local road network for both 2012 and 2027 with the proposed strategy, i.e. using the transfer stations and direct deliveries of approximately 25% of the waste. The maximum predicted increased traffic flows are on South Bank Road eastwards with an increase of 9.54% predicted for 2012 and 7.28% increase predicted for 2027. The a.m. peak impact on the strategic road network for the same two years with the proposed strategy is given in Table 7.9. The most significant increases listed are in

the Dublin Port Tunnel where a percentage increase of 0.82% is predicted for the northbound lane in 2012 and a percentage increase of 0.73% is predicted for the southbound lane for 2027.

In considering the operational capacity of the Sean Moore Roundabout which was referred to in many of the submission, the EIS in Table 7.19 and Table 7.20 does not indicate significant changes in the ratio of traffic to flow capacity for either 2012 or 2027. The highest ratio of flow to capacity for 2027 is indicated to be the South Bank Road arm of the junction with a ratio of 0.70. It is stated in Paragraph 7.6.52 that anything below 0.85 is within capacity.

Table 7.3 of the EIS indicates the traffic generation from the two existing businesses located on the site of the proposed development. This indicated a total vehicle trip generation for the two operational uses when the survey was carried out of 204 trips per day. At the oral hearing, Mr. O'Sullivan did an estimate of trips which would be generated by an alternative industrial use on the site of the proposed development. He submitted that a mixed industrial site at this location would typically generate approximately 140 trips during the a.m. peak and 690 daily trips. These figures are significantly higher than the traffic generation by the proposed development.

A weakness in the traffic assessment carried out is that the figures have been averaged over the entirety of the delivery times. Evidence at the oral hearing was to the effect that a significant proportion of deliveries would take place between 10.00 a.m. and 12:00 noon. The impact of this would be to increase the percentage of usage of the existing roads at those peak delivery periods. An advantage however would be that the peak flows would not coincide with the a.m. peak traffic flow. Even allowing for the bunching of traffic in the late morning likely delivery period, I do not consider that there are adequate grounds for refusal of approval on the basis of traffic generation.

The delivery of bottom ash to the quayside was not included in the general traffic assessment carried out for the purposes of the EIS. The EIS indicates that 10,000 tonnes of bottom ash would be delivered in 30 tonne vehicles on a monthly basis.

This would result in approximately 333 truck trips per month. The delivery vehicles in question would use a short section of Pigeon House Road before turning right into the quays area. There was some discussion in relation to the impact of this delivery operation at the oral hearing. Full details of the precise timing of deliveries are not available. The deliveries would depend on the availability of a ship and the speed at which the ship could be filled etc. Having regard to the low traffic volumes on Pigeon House Road, I do not consider that this delivery operation would give rise to significant problems in terms of either traffic flow or traffic safety. In the event of it proving necessary eventually, it is possible that a right-turning lane could also be provided at the right turn into the quays off Pigeon House Road for vehicles travelling westwards. (The proposed development involves the provision of a right-turning lane into the waste to energy site off Pigeon House Road for vehicles coming from the west).

Whilst the traffic impact assessment indicates that in general, the proposed development would not give rise to such levels of traffic, as could not be catered for by the road network in the area, there is very clear evidence from the submissions that significant traffic congestion occurs on occasion in the vicinity of and on the Sean Moore Road Roundabout, where Sean Moore Road, the Whitebank Road and the road leading to and from the East Link Bridge converge. Information was received at the oral hearing from Mr. Lawlor on behalf of the Dublin Port Company to indicate the frequency of openings of the East Link Bridge. The figures are from the 17th March to the 18th May 2007. These indicate 59 openings in a 63-day period. The duration of the bulk of the openings is from 3-5 minutes. One opening of 10 minutes and another of 8 minutes are recorded. The times of the openings as given are generally off peak.

I note that in its decision on the Fabrizia application which was referred to by many of the observers in written submissions and at the oral hearing, An Bord Pleanála referred to existing deficiencies in the capacity of the local road network serving the area of the proposed development. The development in question was located on South Bank Road, a short distance to the south-west of the site of the proposed development. I note that the development then proposed would have 783 apartments, approximately 21,804 square metres of office space, approximately 2,602 square

metres of retail space and 1,353 square metres of other uses. A total of 995 car parking spaces were proposed. I consider that the development then in question would generate a significantly greater volume of traffic than that now proposed. I also note that An Bord Pleanála was not satisfied that a viable sustainable quality public transport service could be provided within an appropriate timeframe to serve the development. (The Board did note that the site was generally suitable for development of the kind proposed). I consider that the development then proposed would have a significantly greater impact and would generate a considerable greater volume of traffic than that now proposed. I do not accordingly consider that the decision by An Bord Pleanála on that application is a direct precedent to be followed in the current case. It does however indicate concerns in relation to the road network. (The Board had not decided the appeal at the time of the oral hearing – file 29S.217742 refers).

Taking account of the fact that there is only one access to the site of the proposed development and the evidence in relation to traffic congestion and traffic problems in the area, I consider that some reduction in the scale of the development proposed, as referred to in my commentary on the need for the proposal would be of benefit in terms of alleviating any additional traffic congestion or traffic hazard problems which might arise. I do not however consider that there are sufficient grounds for refusing approval of the proposed development on the basis on an inadequate road network.

In my assessment of the traffic issues, I have taken account of the heavy goods vehicle strategy and the opening of the Port Tunnel referred to in the evidence of Mr. O'Sullivan. These initiatives have been beneficial to the road network in the Ringsend, Irishtown and Sandymount area generally, in terms particularly of the reduction of heavy goods vehicular traffic on the existing road network. If the ban on 5-axle trucks within the city centre is extended to 4-axle trucks in the future, the benefit will be even greater.

I consider that the road network in the area is adequate to cater for the proposed development. I do not consider that the development would be dependent on the construction of the Eastern Bypass Road. The assessments in the EIS have been done

without factoring this into the calculations. If approval is granted, I consider that it would be reasonable to restrict the transport of waste from the transfer stations to the facility to the strategic road network, i.e. the M50 and the Dublin Port Tunnel. Due to the ban on heavy commercial vehicles in accordance with the Dublin City Council Heavy Goods Vehicle Management Strategy, such a condition is not strictly necessary in any event.

Noise And Vibration Issues

This issue is dealt with in Chapter 9 of the EIS. Ms. Jennifer Harmon gave evidence on behalf of Dublin City Council at the oral hearing. For the purposes of the assessment, noise monitoring was carried out at a number of locations, both on periphery of the site and at noise sensitive locations in the area. Projections were made of noise levels, as the monitoring stations and also at two locations, i.e. Beach Avenue and the Coastguard Cottages at which ambient monitoring was not carried out.

Calculated sound pressure levels for the operational phase and the construction phase of the development are given in Figures 9.10 and 9.11 of the EIS. The figures are also given in 9.17, 18, 19 and 20 with corrections made for tonal and impulsive noises. The figures given indicate that the operational noise from the facility would not be significant in terms of the baseline noise level at the noise sensitive locations for which baseline noise levels were measured. The figures for construction noise indicate that with piling being carried out, there is a likelihood of complaints from some of the noise sensitive locations on the basis of the background level being exceeded by more than 10 decibels.

It is stated in the EIS that piling would take place during construction and that the piling would be optimised to avoid impulses to ensure that the noise emissions during construction in the night period are reduced. At the oral hearing, it was submitted that piling would not take place during the nighttime period.

I consider that noise levels from the operation of the facility would not be significant at existing noise sensitive locations as stated in the EIS. I consider that it is desirable to avoid piling at night during the period of construction. If approval is granted for the proposed development I consider that a condition to this effect should be incorporated into any approval. Subject to this amendment, I consider that the proposed development would not have significant adverse affects on the environment or have significant adverse implications for the proper planning and development of the area, from the point of view of noise and vibration. I note that 24-hour working is proposed in the construction phase. Subject to piling not being carried out during the nighttime period, I consider that this is acceptable, having regard to the location relatively removed from existing residential properties.

The noise sensitive locations considered in the EIS and by Ms. Harmon in her submission at the oral hearing are existing noise sensitive locations. I consider that it is likely that in the relative short term further residential development will take place in the western part of the Poolbeg Peninsula, and more particularly in some of the lands to the south-west of South Bank Road referred to in the documentation as the Fabrizia site and the Irish Glass Bottle Company site. These lands are reasonably well separated from the site of the proposed development by the Synergen Power Generating site and the oil storage tanks site, immediately to the east of same. Having regard to the projected noise levels for noise monitoring location N106, i.e. on the walkway to Irishtown Nature Park. I do not consider that the operational phase of the development would result in significant noise levels at locations likely to be developed in the future for residential purposes. I also do not consider that the development would have any significant impact on cruise liners in the port to the north due to noise emissions.

(There was some discussion at the oral hearing in relation to the projected noise levels at location N106 and an argument was made that the earth bank on the northern side of the walkway does not extend along the full length of the walkway. I noted on inspection that there are two separate banks along the majority of the length of the walkway and the northern bank only does not exist on the north side of the walkway

in the section to the west of Irishtown Nature Park. The southern embankment continues to the location where the walkway joins the park).

I consider that the enclosure of the entirety of the operations, apart from operations involving the export of the bottom ash, would be beneficial in terms of limiting noise emissions from the plant when in operation. I do not consider that the traffic element of the development would generate noise levels which would significantly impact on existing ambient noise levels in the area. I noted on inspection that there are relatively high noise levels from the wastewater treatment plant located to the east. These noise levels are clearly audible in the compensatory Brent geese grazing area located to the south of the effluent treatment plant. Irrespective of what development takes place on this site there would be some increased noise level from the construction phase of the development. In the future there is also likely to be construction noise arising from new mixed use developments planned and likely to take place in the western part of the Poolbeg Peninsula.

Archaeological, Architectural And Cultural Heritage

These issues are dealt with in Chapter 16 of the EIS. Mr. Wayne Bedford dealt with the issues in the submissions on behalf of Dublin City Council.

The only identified recorded monument likely to be impacted upon in any way is the original sea wall located on the northern side of Pigeon House Road. There would be no direct impact on the remains of Pigeon House Fort located further to the east. Similarly none of the buildings listed in the Development Plan e.g. Pigeon House Power Station or Pigeon House Hotel would be impacted upon. There is no evidence of there being any structure or item of archaeological significance in the main site of the proposed development. Any potential for the uncovering of archaeological material would more likely arise during the construction of the pump house and the excavations for the cooling water channel on the north side of Pigeon House Road. It is desirable that excavations particularly in relation to this element of the development should be monitored.

In the circumstances as set out above I do not consider that there is potential for any significant impact upon the archaeological, architectural or cultural heritage of the area. Mitigating measures proposed involve the pipelines for the cooling water system being bridged over Pigeon House Road. This is similar to the existing pipes serving the Hibernian Molasses Site. Subject to the mitigating measures proposed I consider that the proposed development is acceptable from an archaeological, architectural and cultural heritage perspective.

I note the submission dated 2nd October 2006 from the Department of the Environment, Heritage and Local Government under the heading of Archaeological Heritage. This states that the area of the proposed development is of high archaeological potential. Reference is made to the large number of shipwrecks reported for the area. The report stated that more detailed information was required in relation to certain aspects including the foundations of the proposed development, the depth etc, of the cooling water channel and more information in relation to the main sewer connection and underground rainwater tank. In a later submission dated the 4th April 2007 it is stated that all aspects of the development that impacted areas in the foreshore or underwater should be subject to an underwater archaeological assessment. The details of an underwater archaeological impact assessment which should be complied with are set out in the submission. The earlier report of the 2nd October 2006 had also stated that the Department agreed largely with the recommendations including in Chapter 16 of the Environmental Impact Statement. I consider that subject to compliance with conditions and mitigating measures the development would be acceptable from archaeological, architectural and cultural heritage perspectives.

Soils And Geology

This issue is dealt within in Chapter 11 of the EIS. Mr. Sean Mason made a submission on behalf of Dublin City Council on the issues at the oral hearing.

The documentation and assessment indicates that the bedrock of the area which is located a significant depth below ground level is a poor aquifer and generally

unproductive. It also appears from the assessment that the bedrock aquifer is relatively well protected by a silt/clay deposit of low permeability. Any groundwater present in the upper drift deposits would not have potential for use as a potable water supply.

The assessment indicates that the fill material deposited on the site which appears to vary in thickness from 1.6 to 5.6 metres contains some levels of contamination. Levels of contamination would appear to be generally low although there are some concentrations which exceed Dutch Intervention values. It is assessed that these are likely to be associated with localised hot spots of contaminated soils. Any development at this proposed site would encounter similar problems in relation to contamination of the fill material and topsoils. The proposed development, not being a residential or similar type development is not a particularly sensitive one in terms of requirements for de-contamination etc. In any redevelopment of the site ideally the bulk of the materials should if possible, and if contamination levels allows such, be retained on site for landscaping etc. I consider that the mitigation measures set out in Section 11.7 of the EIS are reasonable and adequate to cope with any problems which may arise from the contamination of the on-site fill and soils.

It is desirable that a quantitative risk assessment should be carried out to take account of human and environmental receptors which could be affected by retained soils. This mitigation measure is referred to in paragraph 11.7.13 of the EIS. Compliance with an established protocol should be certified by a suitably qualified person. In the event of a licence being required for a procedure involving the disposal of contaminated materials on site such licence should also be obtained and complied with. It is also desirable that retained material used on site should be covered by a layer of inert soil, top soiled and planted to ensure against possible surface exposure. It is noted that Mr. Mason told the Inspector at the oral hearing that the issue of sulphate resistant concrete and any membranes required for controlling gas would be dealt with at a detailed design stage of the development. He further stated that below ground level concrete would be sulphate resistant.

Material Assets And Property Values

The issue of material assets is dealt with in Chapter 17 of the EIS. The impact on house prices is referred to in Section 17.4. Ms. Marie Hunt presented evidence on behalf of Dublin City Council in relation to property values at the oral hearing.

The documentation indicates that there are a number of utility services including gas, electricity, water and sewage pipes and cables located in the vicinity or on the actual site. The main building proposed has been relocated further to the north apparently in an effort to avoid some of the cables in question. Any redevelopment of the site would involve consideration of the existing utilities in the area and these would have to be avoided or relocated in order to facilitate such development. Whilst clearly mitigating measures would be required in order to ensure no significant disruptions in supply there is no indication that there are any insurmountable problems arising from the relocation or interference with existing utilities.

The documentation indicates that Dublin City Council is attempting to accommodate two active existing uses on the lands at alternative locations. To a large extent however the relocation of the existing businesses is a matter to be determined between the City Council and the businesses in question or will be a matter for compensation to be determined in the event of the compulsory purchase order being confirmed (one of the companies has withdrawn its objection to the COO).

There are some material assets in the form of recreational facilities located in the area. The facilities in question include the Irishtown Nature Park which is a publicly available recreational area. From the evidence submitted and from my consideration of the various issues I do not consider that there would be significant interference with the amenity value of this area.

The question of impact on property values and in particular residential property values is discussed in some detail in Ms. Hunt's presentation and questioning at the oral hearing. The research carried out does not indicate any significant reduction in house prices in the area arising from the proposal to construct an incinerator at this location.

It is conceivable that house prices would have risen even higher in the absence of the proposal. Having regard however to the research and to international experience as discussed at the oral hearing I do not consider that there would be any significant adverse long-term impact on property values including house prices in locations relatively close to a modern incinerator or waste to energy facility operated to current best practice. I consider that it is reasonable to assume that a waste to energy facility if approved would be operated and managed on an ongoing basis in accordance with the licence obtained from the Environmental Protection Agency. I note in this regard that it is a recommendation in the UK Planning Policy Statement relating to Planning for Sustainable Waste Management that waste planning authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced.

I accept the argument being presented on behalf of Dublin City Council to the effect that there would not be a long-term reduction in residential property values particularly for existing residential properties having regard to the distance of these properties from the proposed development. I also accept that there may be some short-term reduction in what the property values would otherwise be. I am somewhat sceptical of the statement in Ms. Hunt's presentation that for a 4 – 8 week period property values might fall but would then quickly return to normal. I consider that in such a short period it is unlikely that there would be a drastic change in house prices. I accept however the general thrust of the presentations on behalf of Dublin City Council to the effect that in the longer term the development would not cause a significant reduction in property values. In coming to this conclusion I have regard to the existing land uses in the immediate vicinity of the site of the proposed development. These uses although somewhat analogous to that proposed do not appear to have had a significant impact on house prices in the area generally.

Mr. Lawlor on behalf of Dublin Port Company questioned the extent to which the fact of the development being an establishment for the purposes of Major Accidents Directive would have an impact on the development of lands in the vicinity. I would point out that apart from the Dublin Port Company lands to the south, most of the lands in the immediate vicinity have already been developed excluding the Irishtown

Nature Park, the use of which is unlikely to change in the future. As pointed out by Dr. Menzies at the oral hearing at least part if not all of the port lands to the south are already within the consultation distance for the Synergen electricity generating plants located to the west. I consider that if there is any question of depreciation in the value of the Dublin Port Company's lands as a result of the development this is essentially a matter for compensation as the Compulsory Purchase Order involves acquiring land from the Dublin Port Company. In his submissions on behalf of the Port Company Mr. Lawlor argued that the site of the proposed development together with the lands to the south are needed as backup facilities for the Port. This would appear to exclude the possibility of the Port wishing to develop the lands to the south for purposes other than those of an industrial/storage use. Having regard to the Health and Safety Authority's advice in the current case (that it would not recommend against granting planning permission for the development) in the context of existing developments to the east and to the west, it would appear possible at least that the Health and Safety Authority would have no objection to similar type developments on the lands to the south.

Water Emissions

This issue is dealt within in Chapter 12 of the EIS. Presentations were made by Mr. Jacob Vested and Dr. Dorte Rasmussen at the oral hearing on behalf of Dublin City Council. Mr. Vested dealt with the issue of the thermal plume and Dr. Rasmussen dealt with the issue of biocides.

I consider that the main issues which arise in relation to water emissions relate to the proposal to abstract and emit cooling water from the facility to the Liffey Estuary. I consider that the two points of greatest significance relate to the thermal impact of the cooling water as discharged to the estuary and the impacts which biocides in the discharge may have on the ecology of the estuary.

The detailed submissions indicate that there would be a relatively significant impact from the thermal discharge. The documentation however indicates that even in the maximum or worst situation arising from abnormal conditions the entire cross-section

of the estuary would not be impacted upon to a level to exceed the specifications referred to in the Regulations dealing with salmonid waters. Some confusion arises in relation to the Regulations which require that various criteria shall not be exceeded outside the mixing zone. The regulations state however that the mixing zone is to be determined by the Local Authority. As interpreted in Dublin City Council's submissions it appears that the mixing zone is being interpreted as any place within which there would be exceedances of the specified levels.

Consideration of the water discharges from the facility is interlinked to a large extent to the ecological considerations. Because the River Liffey catchment contains populations of salmon and sea trout which are listed in the European Union Habitats Directive it is important that the migration of these species should not be interfered with. The Liffey Catchment however is not designated as a salmonid river under the Irish Regulations and the catchment is not designated as a Special Area of Conservation for the protection of salmonid species. Figures 5.1 and 5.2 contained in Chapter 15 indicates the worst-case differential in the temperature in the cross-section of the Liffey at the outfall from the cooling water channel for two different scenarios. (Table 12.11 gives a definition of the two scenarios which are the abnormal scenarios modelled). Figure 15.2 indicates significant exceedence of ambient temperatures across the profile with the lower part of the cross-section only being outside a one-degree exceedence limit. Table 12.11 indicates that the ambient temperature for the second abnormal situation modelled was 16°. The figures indicate that having regard to the various discharges in abnormal situations that can be a relatively significant impact on the ambient temperatures of the waters across the estuary. I note that it is stated in paragraph 15.5.7 of the EIS that based on the models even if the Synergen power plant is operating towards the higher end of its temperature discharge limit it appears fish should be able to migrate up the river. I accept that migrating fish have the ability to avoid undesirable temperatures and if necessary to await a change in circumstances. I consider however that the assessment does indicate some cause for concern and enforces the argument that ideally a district heating system should be provided in conjunction with the waste to energy facility and so result in a reduced discharge of surplus heat into the river. I consider that the assessment also supports the argument that the facility proposed is at the upper limit of what is acceptable in

environmental terms for the location. I do not however consider that there are adequate grounds for refusing approval on the basis of the thermal discharge being likely to have a significant effect on the ecology of the River Liffey although it does support the argument for some reduction in the discharge load.

Whilst I consider that there is some concern in relation to the thermal discharge to the River Liffey I do not consider that the thermal discharge would have any significant impact upon the Special Areas of Conservation, the Special Protection Areas or the proposed Natural Heritage Areas in the wider Dublin Bay area. The impact on these areas will be discussed in more detail under the heading of ecology.

I consider that the assessment carried out in relation to the biocide to be used including the evidence submitted by Dr. Rasmussen at the oral hearing supports the decision to use hypochlorite/chlorine rather than chlorine dioxide. The assessment indicates that the impacts from the use of hypochlorite would be confined to a small area in the vicinity of the discharge.

I consider that any further consideration of the water discharges in terms of the thermal discharge or the impacts of biocides is a matter of detail to be determined by the Environmental Protection Agency when considering the application for a licence.

I accept that there is also potential for some impact on the river due to excavations involved in providing the cooling water inlet channel. Sediment levels in the estuary however are relatively high in any event and I do not consider that this operation of itself would have a significant adverse impact on the environment or justify a refusal of approval for the proposed development. I accept that best practice in relation to the removal of the dredged material is required as referred to in the mitigation measures outlined in Chapter 21 of the EIS.

I do not consider that the normal operations of the plant will give rise to any significant discharges of foul effluent. It is proposed to discharge to the adjoining effluent treatment plant. The provisions in relation to the discharge of groundwater abstracted during the construction of the facility as set out in the EIS also appears

reasonable. (It is proposed to discharge the groundwater to the public sewer subject to meeting the requirements stipulated by Dublin City Council).

The issue of potential flooding is also covered in Chapter 12 of the EIS. Having regard to the assessment in Chapters 12 and the submission by Mr. Vested on this issue of the oral hearing I consider that a ground floor level as proposed at 5 metres is reasonable and I do not consider there is a significant risk of flooding of the proposed development. I also consider that having regard to the extent of utilities and other developments in the area in the event of their being significantly greater flooding and a significantly greater rise of sea level than presently predicted it will be necessary to take more stringent measures in relation to flood protection in Dublin generally. I consider that any such measures which will be necessary in the long-term will also protect the development proposed in the current case.

Submissions in relation to the application were received from both the Department of Communications, Marine and Natural Resources, as it was then, and the Eastern Regional Fisheries Board. The submission from the Department of Communications, Marine and Natural Resources stated that the Minister's interest in the proposed project related only to the part constructed on the foreshore. Twenty conditions were recommended. Conditions 11 and 12 related to chemical analysis of sediments to be excavated and a dumping at sea permit. Condition 13 requires that the dosage of biocide shall be adjusted to take account of seasonal variances and the amount used should be minimised. Condition 14 requires monitoring to verify the modelling of the thermal plume. Conditions 15 and 16 deal with the issue of the entrainment of fish at the cooling water intake. Numbers 19, 20 and 21 are general comments rather than conditions. Condition 18 (a modification to which was subsequently submitted) states that permission shall not be granted until the applicant has satisfied An Bord Pleanála of their legal interest in the foreshore in question.

In a later submission from the Department of Communications, Marine and Natural Resources dated 4th April 2007 it is stated that it is not apparent that any specific fish sampling had been carried out. It is stated that specific data on fish biodiversity in the area of the discharged should be collected. The Department has also made a

submission on the 29th March 2007 referring to the presence of at least two Annex 2 species and the need to give serious attention to fish biodiversity and fisheries interests. The submission includes comments in relation to the facilities to be provided at the cooling water intake in order to protect fish. The modification to Condition 18 is to the effect that works on the foreshore consequent to a grant of permission shall not commence until the applicant has acquired a legal interest in the foreshore.

The submission from the Eastern Regional Fisheries Board was received on the 28th March 2007. In this submission the River Liffey is described as one of the foremost salmonid fisheries in the region. It is stated that the development has significant potential to impact on aquatic ecology in the area. Reference is made to data collected near the Poolbeg water intake where up to 28 species of estuarine fish had been recorded. The submission states that all measures necessary should be taken to ensure protection of local aquatic ecological integrity. Reference is made to the potential for pollution of the River Liffey and estuary during both the construction and operational phases. It is stated that on-site attenuation ponds should allow for the settlement of fine particulate materials. It is also recommended that the "Requirements for Protection of Fisheries Habitat during Construction and Development at River Sites" should be consulted when undertaking any works in the vicinity of surface water features. It is also recommended that should the development proceed local fish populations should be monitored and if remedial measures are necessary modification should be undertaken subsequent to consultation with the Easter Regional Fisheries Board.

Having regard to the submissions and to the information in the EIS etc., I consider that a condition should be imposed in any approval to the effect that facilities at the water intake to protect fish should be agreed with the Fisheries Board and the impact should be continuously monitored.

Air Pollution And Climate Change

These issues are dealt with in Chapter 8 of the Environmental Impact Statement. Dr. Edward Porter on behalf of Dublin City Council made a number of presentations in relation to the issues which are reported on in the report of the oral hearing. Dr. Imelda Shanahan on behalf of Dublin Port made detailed submissions particularly in relation to the air quality assessment at the oral hearing. Mr. John McCarthy made detailed submissions particularly in relation to the climate change issues. These are also reported on in the report on the oral hearing.

A thorough and detailed assessment of the air quality and climate issues is contained in the report prepared by Dr. Brian Broderick on behalf of An Bord Pleanála. In this report Dr. Broderick assesses in detail the arguments presented both on behalf of Dublin City Council and those presented by and on behalf of the observers. I consider Dr. Broderick's assessment to be well balanced and reasonable and I do not intend to reassess the issues in detail. My comments on the issue relate accordingly essentially to conclusions to be derived from Dr. Broderick's assessment and an assessment of the options open to the Board as a consequence of Dr. Broderick's assessment.

In my comments on air quality and climate change issues I am conscious of the role of An Bord Pleanála and the role of the Environmental Protection Agency in terms of considering the issues in question. I am also conscious of the observations received from the Environmental Protection Agency on the 28th September 2006. These observations draw attention to the legislation and in particular Section 40 of the Waste Management Act of 1996. It is stated that the Environmental Protection Agency will not grant a waste licence unless it is satisfied, inter alia, that any emissions from an activity will not result in the contravention of any relevant standard, including any standard for an environmental medium or any relevant emission value prescribed under any other enactment. The Environmental Protection Agency must also be satisfied that the best available techniques will be used to prevent or eliminate or where that is not practicable to limit, abate or reduce an emission from the activity concerned. I am also conscious of the fact that whilst An Bord Pleanála may refuse approval for the proposed development where it considers that the development

notwithstanding the licensing of the activity is unacceptable on environmental grounds having regard to the proper planning and sustainable development of the area it may not impose conditions which are for the purposes of controlling emissions from the activity. I also base my comments on the assumption that the relevant pollution control regime will be properly applied and enforced as advised for Planning Authorities in the UK Policy Statement, Planning for Sustainable Waste Management. This document also states that the planning system controls the development and use of land in the public interest and should focus on whether the development is an acceptable use of the land and the impacts of these uses on the development and use of land. I am conscious of the fact that the Environmental Protection Agency is the national body with specific responsibility for the control of pollution.

The submissions in relation to air quality and Dr. Broderick's assessment of these submissions indicates that air quality in the Poolbeg area is compromised and in some instances air quality limit values are exceeded. Dr. Broderick's assessment notes that the measured mean PM₁₀ concentration in the background monitoring indicates that the concentration is high compared to other locations in Ireland. The data presented indicates that the figure for the 90 percentile of 24-hour average PM₁₀ levels is in excess of the European Union limit value. Dr. Broderick's assessment also suggests that the level of No_x at various locations and including at least parts of the Special Areas of Conservation may be in excess of levels set out in the European Union Directive 1999/30/EEC for the protection of vegetation.

The reasons for the exceedences of some air quality limits were discussed at the oral hearing. The reasons however are not clear-cut. The possible presence of sea salt in the air was referred to as a possibility in relation to PM₁₀ concentrations. An inspection of the area and the evidence from the oral hearing indicates the presence of a number of industrial type developments with the potential for the emission of fugitive dust emissions e.g., two cement related premises and a coal yard in the harbour area, two concrete batching plants on South Bank Road and three scrapyards or metal waste facilities one of which is located on the site of the proposed development. Inspection indicates a significant amount of sand, soil and dust on the roads in the area. I consider that irrespective of the proposed development and

particularly if additional mixed use development with a significant portion of residential development is to be constructed in the vicinity efforts will have to be made in the future to improve the air quality in the area.

Having regard to the existing air quality any predictions to the effect that when the emissions from the plant are added to background levels air quality limits would not be exceeded, do not reflect reality, as indications are that the limits are exceeded in some cases when considering the background levels alone.

Dr. Broderick's conclusions in relation to air quality are to the effect that using the screening model referred to and applying more reasonable assumptions than used by Dr. Shanahan the screening allowing for shoreline fumigation would have indicated exceedances of the hourly concentration limit values for NO₂, the 24 hour limit value for PM₁₀ and the annual average concentration limit values for NO+NO₂ and cadmium. He concludes that the results indicate that an alternative model capable of the refined modelling of shoreline fumigations should have been used. He concludes that the predicted exceedances of the limit values for NO₂ and Cd are largely attributable to the process emissions but the exceedances of the limit values for PM₁₀ and NO_x are largely attributable to high existing concentrations in the vicinity. He suggests that more refined modelling may demonstrate that concentrations of NO₂ and cadmium would remain below their limit levels but this was unlikely to be the case with PM₁₀ and NO_x due to the existing high background concentrations of these pollutants in the area.

Arsing from Dr. Broderick's assessment some of the options open to An Bord Pleanála would be to refuse to approve the proposed development on the basis of it not having being adequately demonstrated that the proposed development could be operated without leading to exceedances of air quality standards or to require the applicant to carry out a refined modelling to take account of shoreline fumigation. Having regard to existing background levels it is unlikely that any realistic modelling could indicate that all air quality limit values would not be exceeded. A question arises accordingly as to the likely significance of the impact of the proposed development. I consider that this is an issue which requires more detailed assessment

and which ideally should be done in the context of considering the details of the air emission standards which could be imposed. I note the reference in the documentation to the BAT note recommending only one bag filter unless the need for a second bag filter is determined by some local driver. It could be argued that in this case there is a local driver in terms of the existing air quality conditions. Such considerations however are in my opinion essentially a matter for the Environmental Protection Agency in its licensing. It is also possible that the EPA could impose more stringent emission standards than set out in the EU Directive.

Having considered the arguments in relation to air quality and having considered Dr. Broderick's assessment I consider that insofar as the issue must be further pursued in terms of more refined modelling this can best be done, if considered necessary, by the Environmental Protection Agency in the process of considering the license application. The requirement for more refined modelling arises from the possibility of shoreline fumigation being a relevant factor. There is no conclusive evidence on this issue. I am not convinced from the evidence available that the impact of the proposed development subject to compliance with license conditions would be such as to render the location unsuitable per se having regard to the fact that I consider that from a number of points of view as referred to in this assessment the location is acceptable. I consider however that having regard to the existing environmental carrying capacity of the area including the assimilative capacity of the atmosphere a reduction in the scale of the development, as previously referred to, would be beneficial. Whilst it is unlikely that there would be a direct proportional reduction in air emissions to a reduction in the throughput of the plant it is likely that a reduction in throughput would result in some reduction in the overall load of pollutants emitted into the area.

I consider that some action will be necessary in the future to control dust levels in the area. I consider that if approval is granted the City Council should be requested to remove all sand, gravel and clay from all existing public roads on the peninsula to the west of the access proposed to the development and to put in place a maintenance programme to ensure that roads are maintained free of loose material during the entire construction and operational phases of the development. (There is some difficulty in

determining which roads are public and under the control of the City Council and which roads are the responsibility of the Dublin Port Company).

I note that in her submissions Dr. Shanahan argues that from her calculations in relation to air quality standards which would be exceeded there would be significant adverse effects on human health and on the environment. I also note her assertion in Paragraph 3.7.4 of her written brief of evidence to the effect that the emissions would clearly have an effect on the Special Areas of Conservation and Natural Heritage Areas. It is also suggested in Paragraph 3.4.8 that there would be an impact on protected structures. I am not convinced of the arguments made by Dr. Shanahan having regard to Dr. Broderick's assessment. Similarly I am not convinced that there would be significant impacts on elevated receptors as stated in conclusion number 4 of her submission.

The EIS did not include a specific modelling for odours likely to be emitted from the facility. Incinerators or waste-to-energy facilities are not noted odour emitters although I accept that there is the potential for a badly run facility to have odour problems. Odour is clearly an emission which can be controlled through the licensing. I note that, in questioning, Dr. Shanahan agreed that if this problem did exist it was a "fixable" problem. I do not consider that the proposed development would have significant adverse implications for the proper planning and development of the area due to odour emissions.

The assessments of the impact of the development on climate change and CO₂ emissions carried out by Dr. Porter and Mr. McCarthy and the assessment of same carried out by Dr. Broderick indicates that the result one obtains essentially depends on the assumptions one makes in the calculations. An essential difference in the calculations given by Dr. Porter and those given by Mr. McCarthy relates to the electrical output from the plant. I am sceptical whether the energy efficiency suggested by Dublin City Council can be obtained. Dr. Broderick in the concluding part of his assessment on the submissions in relation to climate change states that if one takes the lesser power output of 53.5 megawatts, the waste-to-energy facility and landfill options would have similar climate impacts. As the amount of biogenic

material sent to landfill is reduced as planned the greenhouse gas emissions associated with the landfilling option reduce to those associated with the incineration option. When the district heating potential for the waste-to-energy facility is factored into the equation Dr. Broderick concludes that the climate impact of the facility would be very similar to that of combined landfilling with anaerobic digestion assuming a 75% landfill gas capture rate. (This is an assumption which would be questioned by many).

The overall conclusion to be derived from the climate change assessments is that in effect there is little difference between waste-to-energy and landfilling with anaerobic digestion assuming a good landfill gas capture rate. The figures given indicated that the difference in terms of carbon dioxide emission reductions in order to comply with the Kyoto agreement is not very significant. The decision on whether to permit the facility or not would not accordingly be reasonably based on the best option in terms of less greenhouse gas emissions alone. A number of other issues must also be taken into account. The waste-to-energy option has clearly advantages over landfilling in terms of the amount of energy which can be produced from the waste and in terms of security of energy supply. This is of some significance although it is only a very small proportion of energy requirements.

In his assessment Dr. Broderick deals with the issue of concentrations at elevated receptors. He refers to Dr. Shanahan's modelled results for the concentrations and concludes that in accordance with the results given by Dr. Shanahan by applying an appropriate factor for converting to NO₂, the NO₂ levels at 100 metres at the location modelled would not exceed the limit levels at the maximum emission rate which is allowed for 97% of the time. He also indicates that the greatest impacts would occur at heights similar to stack heights. He indicates slight exceedances of limit values at the maximum or 3% emission rate according to the European Union Directive. Having regard to the assessment I do not consider it necessary to require the submission of additional monitoring for receptors at other elevations in the area.

Ecology

Issues in relation to territorial ecology are dealt with in Chapter 14 of the EIS. Chapter 15 deals with marine and estuarine ecology. Submissions were made at the oral hearing by Dr. Brian Madden in relation to terrestrial ecology and by Mr. Chris Emblow and Mr. John Brophy in relation to marine and estuarine ecology. Ms. Eleanor Mayes dealt with the issue of wintering water fowl and conservation designations in Dublin Bay.

Having regard to the assessments carried out I consider that no significant issue arises in relation to terrestrial ecology insofar as this relates to the site of the proposed development. The site is of little ecological or conservation value.

The amenity and educational value of the Irishtown Nature Park was emphasised by observers at the oral hearing. I accept that the nature park is of significant amenity, recreational and educational value for the area. I do not however consider that it is of particular conservation or scientific value from an ecological point of view. Neither do I consider that its amenity, recreational or educational value would be significantly interfered with by the proposed development. The significance of the Brent Geese feeding area between the higher part of the park and the effluent treatment plant was emphasised repeatedly at the oral hearing and will be referred to later.

Dublin Bay contains two Special Areas of Conservation i.e. North Dublin Bay and South Dublin Bay. The site of the proposed development is located in close proximity to the Special Area of Conservation identified as South Dublin Bay. Significant part of the bay are also designated as Special Protection Areas under the European Union Wild Birds Directive. The Special Protection Areas incorporate the lands contained in the Special Areas of Conservation. The Special Areas of Conservation and an additional area which is also contained within the Special Protection Area including the Tolka Estuary and the Bull Wall Sands are included in a proposed Natural Heritage Area. The Bay is accordingly of considerable ecological/scientific interest.

By virtue of the provisions of the Habitats Directive which have been incorporated into Irish legislation by the European Communities (Natural Habitats) Regulations 1997, a plan or project which is not directly connected with or necessary to the ecological management of a protected site can be approved only if it will not adversely affect the integrity of the site concerned. There is a qualification relating to plans which must proceed for imperative reasons of overriding public interest and if there are no alternatives to the plan. The Board accordingly must be satisfied that the development proposed in this case will not adversely affect the integrity of the designated sites as it has not been argued that the plan must proceed for imperative reasons of overriding public interest or that there are no alternatives to the plan.

There is a site synopsis for the two Special Areas of Conservation contained in the appendices to the EIS. These site synopsis were also contained with the submission received from the Department of the Environment, Heritage and Local Government on the 2nd October 2006.

The site synopsis for the South Dublin Bay Special Area of Conservation, states that this is an inter-tidal site with extensive areas of sand and mud flats which is a habitat listed in Annex 1 of the European Union Habitats Directive. This synopsis also refers to some vegetation including eelgrass and various algae to be found in the area. It is stated in this site synopsis that South Dublin Bay is an important site for wild fowl. The importance of the bay in general including South Dublin Bay as a wintering area for Brent Geese is emphasised in the documentation and in the submissions made. This issue is specifically addressed in relation to Brent Geese but also in relation to other wild fowl of international and national importance in the bay in the submission by Ms. Mayes at the oral hearing.

I consider that the main issue to be addressed in relation to the impact on the designated sites is the potential impact on the wintering water fowl and in particular the Brent Geese.

The various feeding areas for the Brent Geese were referred to in the submission by Ms. Mayes and also by Dr. Madden in response to some questions at the oral hearing. The fact that a two hectare feeding site had been provided as compensatory habitat in association with the effluent treatment plant in the adjoining lands was referred to several times at the oral hearing. Photographs were submitted indicating the Brent Geese feeding and this compensatory habitat. Ms. Mayes gave evidence in relation to the use of this feeding area during the period when the effluent treatment plant was being constructed and when the feeding habitat had only been provided in part. The feeding area in question is located immediately adjoining the effluent treatment plant. The noise levels in the feeding area close to the effluent treatment plant are quite high particularly at the western end of the grassed area. I consider that use of this feeding area by the Brent Geese indicates that the geese will use areas in close proximity to development and areas with relatively loud noise levels. On the basis of the evidence I consider that there is no reason to believe that the geese will not continue to use this area during both the construction and operational phases of the proposed development.

No evidence was presented to the effect that the site of the proposed development is either used by or is suitable for use by any of the birds of national or international importance for which Dublin Bay has been designated. There were some suggestions that the construction compound area proposed to the south of the site has in the past been used as a feeding ground or at least a nesting area by the geese. It appears that the lands in question were used at least in part as a pipe assembly area during the time when the effluent treatment plant was being constructed. There is a lot of bare ground in these lands which are not suitable as feeding areas. The evidence was stronger in relation to the lands at the western end of the open lands to the south being used at least on occasion by birds which are part of the Dublin Bay bird population of ecological importance.

One would expect that if a construction project of the size in question was to significantly impact upon the wintering water fowl in Dublin Bay and in particular the Brent Geese that the population would have declined in recent years when the effluent treatment plant was being constructed and when some of the lands to the south were

either not available as feeding areas or were used in conjunction with the construction of the effluent treatment plant. The evidence submitted by Ms. Mayes however does not indicate that this has been happening. The evidence submitted indicates that the highest peak count occurred in 2004/2005. (This figure refers to the entire Dublin Bay area).

I note the proposal submitted by Ms. Mayes to exclude a 20 metre wide strip of the proposed construction compound to the south in order to further protect the geese feeding area to the east. The site of the proposed development extends some distance to the south of the line of the southern fence of the effluent treatment plant. The slight relocation of the building to the north as indicated in the most recent drawings is of some benefit in terms of moving the development away from the compensatory grassland. On the basis of Ms. Mayes evidence I consider that the set back of 20 metres proposed is reasonable and would be beneficial in terms of avoiding interference with the winter-feeding Brent Geese.

Evidence submitted at the oral hearing and Dr. Broderick's assessment of the documentation in relation to air quality suggests that the limit level for NO_x's for vegetation specified in the relevant European Union Directive is likely to be exceeded at some locations. This could include some locations within the designated Natura 2000 sites. I would point out however that the South Bay site in particular has little vegetation and it appears to have been designated as a Special Area of Conservation because of the inter-tidal areas of sand and mudflats and the bird population. I accept that the eelgrass and some of the algae are important parts of the Brent Geese diet. It appears from the site synopsis that flora is of greater significance in terms of the North Dublin Bay Special Area of Conservation. The air quality assessment however indicates that NO_x levels are generally not as high in this area. In his report Dr. Broderick points out that the concentrations measured at Bull Island are significantly lower than those measures at other diffusion tube survey locations. Adding the annual mean calculated ground level concentrations of NO₂ for maximum operation or abnormal operation as indicated in the isopleths contained in Dr. Shanahan's submission to the oral hearing to suggested background level of 20 from Dr. Broderick's assessment for the Bull Island site and even converting the NO₂ levels to

NO_x levels by a reasonable factor would suggest that the European Union limit level for NO_x for vegetation would not be exceeded at the Bull Island monitoring site. I would also draw the Board's attention to Annex VI of Council Directive 1999/30/EC which sets out considerations to apply to fixed measurement at the macro scale for sampling points for the measurement of various compounds including NO_x. This states that sampling points targeted at the protection of ecosystems or vegetation should be sited more than 20 kilometres from agglomerations and more than 5 kilometres from other built-up areas, industrial installations or motorways. This would appear to imply that it would be anticipated that in such areas there could be exceedances of the specified limits. It is further stated that as a guideline the sampling point should be sited to be representative of air quality in a surrounding area of at least 1,000 square kilometres.

Having regard to the evidence and the documentation relating to ecology I consider that it would be reasonable for the Board to conclude that the proposed development would not have a significant adverse effects on designated sites of ecological interest having regard to the reasons for which these sites were designated. I consider that in the long term the integrity of the designated sites is more likely to be impacted upon by increased pressure on the recreational and amenity resources of the peninsula arising from increased population density rather than from an expansion of the utilities in the area.

In my assessment of the potential ecological impacts of the proposed development I have had regard to the study of dioxin levels in the sediments contained in Ms. Mayes submission. Evidence in relation to this was given by the author of the report Dr. Callaghan, at the oral hearing. There is some dispute in relation to the ability of AERMOD to adequately model the entirety of the deposition of dioxins. There is also uncertainty in relation to the percentage of the deposited dioxins which would be bound into the sediment. The study however indicates that the existing levels in the sediments are low and the predicted increase in sediment concentrations over a 30 year period is low and close to being insignificant.

Some of the observers at the oral hearing emphasised the use of the lands to the south by the wild fowl population of Dublin Bay. These lands however are zoned for industrial type development. There is currently no proposal to develop the lands for amenity or recreational purposes. Mr. Lawlor on behalf of Dublin Port stated at the oral hearing that he was not aware of any plans by Dublin Port to develop these lands for ecological purposes or for purposes to facilitate the winter-feeding of the Brent Geese population of Dublin Bay. I consider that the future of the lands to the south will have to be determined in the future either when a planning application is made, when more detailed discussions take place in relation to the Poolbeg/South Bank Framework Plan or when the Section 25 Planning Scheme is being formulated. There is a reference in this plan to the extension westwards of the Irishtown Nature Park. The Board may wish to consider whether or not as a condition of approval (if it decides to grant approval), it should require that the area indicated as a temporary construction area and a temporary storage area to the south of the site included in the CPO should in the long-term become an extension to the compensatory area for the winter feeding of the wildfowl. If the Board so decides it would be necessary for Dublin City Council to acquire the lands permanently, either through negotiation or by CPO, rather than attempt to obtain a short-term lease as appears to be envisaged. Having regard to my assessment, I do not consider that the development proposed of itself necessitates the long-term extension of the compensatory grassland feeding area although this may be desirable for ecological and amenity reasons.

I noted that in the submission from the Department of the Environment, Heritage and Local Government dated the 2nd October 2006 in its commentary on nature conservation, the various designations of sites in the vicinity are indicated and site synopsis for the SACs and SPAs are included. The only commentary in terms of assessment is to the effect that the Department does not envisage any significant adverse impact on the terrestrial natural heritage.

It was argued at the oral hearing that the proposed development would reduce the ecological diversity of the area and that the loss of any ecological habitat is significant in terms of diversity. A similar argument could be made in respect of practically every development. The lands in question are zoned for development and the site is

one in which there is existing development. In the circumstances, I consider that it would be unreasonable to refuse approval on the basis of loss of ecological diversity.

Fire Safety And Major Accidents Directive Issues

Mr. Colm Traynor presented evidence at the oral hearing in relation to fire services and fire safety issues. Mr. Don Menzies dealt with the issue of the health and safety assessment. Advice from the Health and Safety Authority had been received prior to the oral hearing.

Having regard to the nature of the proposed development and to the evidence submitted by Mr. Traynor both in his direct evidence and in cross-examination I do not consider that there are any reasonable grounds for refusal of approval on the basis of the unsuitability of the site having regard to the availability of adequate water for fire fighting or other issues relating to fire safety. Prior to construction of the facility a fire safety certificate will be required. In the event of this certification requiring the construction of a firewall between the site of the development and the gasholder on the adjoining site to the east as suggested as a possibility by Dr. Menzies, I do not consider that there are any planning reasons either visual or other to prevent the construction of such a wall. I do not consider that such a wall, if required, would be visually injurious to the area or detract from the scenic or visual amenities of the area although it would of necessity be of some considerable size and height.

In its report the Health and Safety Authority stated that it would not recommend against the granting of planning permission for the proposed development. The Health and Safety Authority accordingly has no fundamental objection in principle to the location of the facility at the site in question.

I consider that Dr. Menzies report in relation to health and safety issues adequately covers the issues arising. It would appear from this report that the facility becomes an Establishment for the purposes of the regulations essentially because of the quantity of flue gas treatment residues which would be stored in the facility. Such residues are

a normal by-product of developments of the nature in question. There is nothing exceptional or unique about the storage of such a material at a location such as this.

Some of the fears expressed in relation to the development and in particular views in relation to explosions etc appear to be exaggerated although probably genuine fears of people living in relative close proximity to the facility. The facility proposed however is not in the nature of a nuclear power station or a facility in which highly explosive materials are stored or processed. I accept that in any such a facility, particularly having regard to the fact that the incineration process is dependant on a very high temperature, accidents can happen and are possible.

Dr. Menzies assessment (in his assessment of loss of Ammonium Hydroxide) of the distance to the dangerous dose level as defined by the Health and Safety Authority indicates distances which would extend in some cases to areas where there may be residential properties in the future. Dr. Menzies evidence however referred to the low probability of any of the various scenarios modelled occurring.

I consider that some of the risks for which assessments were carried out e.g. earthquakes; plane crashes etc, are highly unlikely although obviously not impossible. The proposed site however would not appear to be exposed to any greater extent than the generality of sites in the area and in most places of the country.

Health And Impact On Human Beings

This issue is essentially dealt with in Chapter 13 of the EIS. Submissions at the oral hearing from Dr. Dieter Shrenk, Mr. Andrew Buroi and Dr. Fergal Callaghan relate to the issue. Submissions, particularly by Dr. Anthony Steens and by Mr. Joe McCarthy also relate to the health issues. An assessment of the submissions and of the health issues arising is contained in the report prepared by Dr. Dan Murphy, Occupational and Environmental Physician which is attached as Appendix No. 2 to this report.

In his conclusions, Dr. Murphy considers that the information provided is as adequate as can be expected based on technological developments and available research. Dr. Murphy concludes that health effects from emissions from the plant are highly unlikely. He notes that indirect effects from traffic noise, etc., were not part of the evidence, although the desirability of assessing such effects using a procedure known as a Health Impact Assessment was raised in the submission of Dr. Anthony Staines. Dr. Murphy concludes that the project is not a significant health risk if run according to plan.

The report by the Health Research Board of 2003 which comprised a literature review of the health and environmental effects of landfilling and incineration of waste is referred to on Page 13.11 of the EIS. The report could not be used as conclusive evidence either way in relation to the health impacts of modern state of the art incinerators operated in accordance with license requirements. It is stated in the report that there is a paucity of literature relating to modern landfill and incineration sites. The report stated that there is some evidence that incineration emissions may be associated with respiratory morbidity. It also states that acute and chronic respiratory symptoms are associated with incinerator emissions. It is stated that the evidence of a link between cancer and proximity to an incinerator is not conclusive. It is stated that further research is required to determine whether living near landfill sites or incinerators increases the risk of developing cancer.

It is generally regarded that the main potential health impacts likely to arise from incinerators relates to the release of dioxins and furans into the atmosphere. This issue has been covered in some detail in the submissions, and in particular the submissions by Dr. Fergal Callaghan. This issue is referred to in Dr. Broderick's assessment of the air emissions. There is some argument in relation to the adequacy of the method used for predicting dioxin deposition. The assessments however indicate that at least for the typical at risk individual, the intake of dioxins would be significantly less than the European Community Tolerable Weekly Intake figure.

In the submissions from Ms. Valerie Jennings and Mr. Joe McCarthy, the issue of emissions of ultra fine particles and the health implications of these particles was

emphasised. Dr. Murphy has commented on this issue in his report. Dr. Broderick has also referred to the lack of guidance in relation to acceptable background levels. One of the documents presented at the oral hearing, i.e., a paper Zurcher et al indicated that measured concentrations of ultra fine particles emitted from incinerators were at ambient air levels. Mr. McCarthy questioned whether even if this were so, the health impacts would be different, having regard to the source from which the particles derived. There is no toxicological data in the documentation on file to indicate that ultra fine particles from this source would differ from ultra fine particles in ambient air, in terms of toxicology. In the circumstances, I consider that this area of medical science is not adequately researched or developed to allow one to form a definitive conclusion to the effect that incinerators or waste to energy facilities emit such particles in such concentrations as to endanger the health of people living in the vicinity of such a plant. In the circumstances, I consider that a refusal of approval on this basis would not be reasonable or justified.

In his submission, Dr. Staines argued that the application should have been accompanied by a health impact assessment. This issue has been commented upon by Dr. Murphy. There is no legal requirement for the submission of a health impact assessment. Potential health impacts of the development have been referred to in various sections of the EIS, and in particular, in Chapter 13. I am not convinced that a formal health impact assessment would add anything significant to the documentation and information already submitted and on file. Whilst the indirect effects of traffic noise may not have been directly assessed in terms of health impacts, I consider it is unlikely that any such assessment could in any conclusive manner indicate likely adverse health impacts, having regard to the low level of increased noise predicted to arise from the traffic.

Having regard to the submissions and to Dr. Murphy's assessment, I consider that there would be no scientific basis for refusing approval for the proposed waste to energy facility (which would have to be operated in accordance with conditions of an Environmental Protection Agency license) on the basis of the plant having an adverse effect on the health of people living in or frequenting the vicinity of the proposed development.

Community Gain

This issue is referred to in Chapter 13 of the EIS. The issue was the subject of a presentation to the oral hearing by Mr. Con Coll of Dublin City Council.

Dublin City Council referred to three elements which they considered would result in a community gain arising from the proposed development.

One of the issues referred to was the provision of a district heating system based on excess heat from the proposed waste to energy plant. I have difficulty in appreciating to what extent it is reasonable to consider such a scheme to be an element of community gain, unless there is a specific proposal to develop a particular scheme through which heating would be provided to existing housing in the general area. No details of such a scheme have been submitted. If a district heating system is developed in order to use excess heat from the plant, presumably this will be done on a commercial basis with heat being essentially sold to people who can afford it. I consider that it is desirable for various reasons that a district heating system should be developed. These reasons include a reduction in the thermal discharge to the Liffey Estuary and also a reduction in emissions to the atmosphere from heating systems which would otherwise be provided to serve residential, commercial or industrial developments. I am sceptical however as to whether this item can be considered to be of any significance in terms of community gain in the absence of a definitive scheme for the provision of such a heating system.

I consider that the proposal, insofar it is a proposal, relating to the former Pigeon House Power Station and the Hotel and the adjoining site, is rather vague, particularly having regard to the statement by Mr. Coll to the effect that a private partner would be involved in the development of the facility. It is unclear what the financial incentive would be for the private partner and what the overall benefit to the local community would be. I accept however that there is potential for some community use to be made of the site in question and particularly the former hotel building. The details of the use etc., however would have to be worked out in consultation presumably with

the community gain fund Administration Board referred to by Mr. Coll in his submission. Ideally this administration board should be expanded into some type of community liaison committee who would have some input into considerations relating to monitoring of the facility and providing feedback from the local community to Dublin City Council in relation to the operation and day-to-day management of the waste to energy facility.

The third element of community gain referred to is the community gain fund. There is lack of guidance in relation to the nature and scale of such funds. It is clear from the amendments to the Planning and Development Act 2000, contained in the Planning and Development (Strategic Infrastructure) Act 2006, that such funds will become a more common part of planning control in the future. Sub-Section 175(9)(b) of the amended Planning and Development Act 2000 allows the Board to attach to an approval, a condition requiring the construction or the financing in whole or in part of the construction of a facility or the provision or the financing in whole or in part of the provision of a service in the area in which a development will be situated, being a facility or service, which in the opinion of the Board would constitute a substantial gain to the community. The current application was lodged prior to the coming into effect of the provision to which I have referred. I consider accordingly that this provision does not strictly apply in the current case. An Bord Pleanála however has on a number of previous occasions imposed conditions requiring payments to a fund of a similar nature. No guidelines however have been issued by the Department of the Environment, Heritage and Local Government in relation to the basis on which the amount of contributions or the extent of the facility which should be provided would be calculated. In the current case, I consider that in general the extent of the fund being proposed by the Local Authority is reasonable, i.e. a capital contribution equivalent to 3% of the capital cost of the facility and an annual revenue contribution equivalent to 0.5% of the revenue generated by gate fees, subject to an annual ceiling of €500,000. I note that at the oral hearing it was stated on behalf of Dublin City Council that the fund could be updated in accordance with the consumer price index. I assume the updating relates to the ceiling figure, as the contribution itself is based on a percentage of the gate fee.

Whilst I consider that there are extreme difficulties in attempting to determine a reasonable level of fund, I consider that if the Board decides to grant approval in this case, a condition should be imposed requiring payments to such a fund. I have some reservations about the annual contribution being tied to the gate fee. As the Local Authority is the promoter of the development in this case the 'gate fee' may be agreed with the private partner as part of the contract or some element of the contract may impinge on the fee. I consider that it would be more appropriate to base the annual payment on the tonnage of waste processed. This would be in line with previous Board decisions.

I note Mr. Haase's comments in relation to the community gain and to public participation in general. I consider that to some extent the arguments being put forward by Mr. Haase are reasonable, in the sense that the community gain fund does not appear to resolve the essential issues about which the opponents to the proposed development are concerned. Many, at least, of the more vocal of the opponents of the development appear to be concerned in relation to the overall planning of the peninsula and the future land use pattern of the area. A community gain fund will not offer local residents or others interested in the future development pattern of the area, a greater say in that pattern of development or in the future of the area. I consider that this is a much wider issue, however, which cannot be addressed in terms of the current application.

Miscellaneous Issues

I consider that the sections in the EIS dealing with interactions and cumulative impacts are generally adequate. Cumulative impacts have generally been addressed reasonably well in the individual sections of the EIS. Table 20.1 of the EIS is entitled 'Cumulative Impacts and Interaction of Effects Matrix'. I consider that the table is more indicative of interactions than of cumulative impacts. One could argue that some additional interactions should be indicated. I do not consider that this is of any great significance in terms of the overall assessment of the development.

The issue of sustainability is addressed in Chapter 19 of the EIS. Ms. Ria Lyden made a presentation to the oral hearing on the issue. Chapter 19 essentially refers to the various parts of the EIS in which it has been demonstrated that the proposed development would not have significant adverse effects on the environment. I consider that it is somewhat unrealistic to consider the sustainability of a waste to energy facility without considering the sustainability of the entirety of the waste management system, of which the incinerator or waste to energy facility forms part.

I consider that Mr. Mac Eochaidh's suggestion in his cross-examination of Ms. Lyden to the effect that incineration is by definition unsustainable because it changes matter in such a manner that it lessens the possibility of its reuse, ignores the fact that if the waste was not processed or disposed of in a waste to energy facility, it would be likely to be disposed of by landfilling. The possibility of future reuse of materials landfilled seems remote. With present technology, a waste to energy facility would extract more of the available energy from the waste, than alternative methods of disposal and the proposal currently before the Board also provides for the reuse of the bottom ash, although not in Ireland. To this extent, it would appear that a waste to energy facility is a more sustainable form of waste treatment than landfilling. I also consider that his argument in relation to reduction, reusing and recycling, reducing the amount of waste to approximately a similar percent by weight and a similar percent by volume, as incineration appears to ignore the argument of Dublin City Council to the effect that the waste to energy facility is intended for residual waste after reduction and recycling etc. I accept that there is a danger that if a large capacity is available for disposing of waste through waste to energy facilities or landfills, that the incentive for reduction, reuse and recycling might not be as great. The evidence presented by Mr. Twomey however in relation to other countries in Europe indicates that the countries with incineration generally have recycling rates which are higher than countries without incineration.

The issue of the disposal of residues in the form of bottom ash and flue gas cleaning residues was discussed at length at the oral hearing. The bulk of the residue would be in the form of bottom ash. I accept the arguments put forward by Dublin City Council to the effect that the export of this ash as proposed, would be in the form of a waste

recovery operation, rather than waste disposal. I accept that there would be procedural requirements in relation to any such trans-boundary shipment of waste. I do not consider however that these are insurmountable problems. I have reservations however as to whether in the long term, it would be financially sustainable to export the bottom ash in this manner. I would anticipate that if other waste to energy facilities are developed, a plant would be developed in Ireland for the treatment of this material and that the material would subsequently be reused in Ireland. The current proposal before the Board however is to export the bottom ash for reuse, although there is no definitive information in relation to the final end user.

I am not convinced of the arguments put forward by Mr. Mac Eochaidh to the effect that the export of bottom ash as proposed would be in conflict with Regulation (EC) No. 1013/2006 on the shipment of waste. I consider that the bottom ash would be exported for recovery purposes rather than for disposal. One of the papers presented to the oral hearing by Mr. McCarthy indicates that 98% of bottom ash in Denmark is recycled. It could also conceivably be argued that the bottom ash is a product rather than a waste.

It was indicated at the oral hearing that flue gas treatment residues would be stored at the container terminal prior to shipping. Details of the extent of this storage were not submitted and are not likely to be available at present. It is however desirable having regard to Mr. Menzies evidence to limit the extent of such storage so that the container storage area does not of itself become an Establishment for the purposes of the Major Accidents Hazard Directive. The assessment carried out to date by the HSA presumably relates only to the site of the waste to energy plant.

It was argued at the oral hearing that all environmental effects of the import of bottom ash etc., were not assessed. I consider that it is unlikely that significant effects on the environment would result from such activities. I do not consider the EIS to be deficient in this regard. In the event of an alternative bottom ash recovery/disposal system being proposed in the future the implications of that would have to be assessed through the appropriate procedures. I consider that alternative options which would

be acceptable from environmental and planning perspectives are likely to be available in the future.

There is confusion in the documentation in relation to the possibility of sewage sludge being incinerated in the plant. In the synergies for the Poolbeg site referred to in Section 4.4 of the EIS there is a reference to it being possible to pump the sludge directly to the waste-to-energy facility in the event of land spreading of the sludge no longer being an option. References were made in the submissions and documentation to 80,000 tonnes of sludge being incinerated per annum. It was submitted that this is part of the activity for which a license has been sought from the Environmental Protection Agency. There was no definitive information available at the oral hearing in relation to the nature of the sludge or its dry matter content. There was no definitive information as to the basis for the figure of 80,000 tonnes and whether this derives solely from the Ringsend Wastewater Treatment Plant. If sludge eventually has to be incinerated a factor in favour of the location for the waste-to-energy facility would be its proximity to the effluent treatment plant. If the 80,000 tonnes is part of the total 600,000 tonnes for which permission has been sought the overall capacity of the plant could be more easily defended in terms of overall waste generation as the amount of residual waste being burned would then be reduced to 520,000 tonnes. The figures given in relation to the capacity of the plant indicate that the overall capacity would not allow for the 80,000 tonnes being burned in addition to the 600,000 referred to.

At the oral hearing Mr. Twomey on behalf of Dublin City Council stated that the current application does not include an application for the incineration or burning of sludge. He stated that in the event of Dublin City Council wishing to use the facility for the incineration of sludge a separate application would be made. On the basis of the information submitted any approval of the development should clarify that the burning of sludge is not a part of the development for which approval is being granted, as this is not included in the development for which approval has been sought.

Reference has been made in many of the submissions to a previous decision by An Bord Pleanála in relation to an application for the incineration of hospital waste close to the site of the proposed development. Planning permission was refused by An Bord Pleanála in 1995 (File Ref.29S.095890). One of the reasons for refusal related to national policy issues in relation to the disposal of hospital waste. The proposal was considered premature at the time. The Dublin Port Tunnel was also not in existence at the time of the Board's decision on that particular application. I do not consider that decision justifiable precedent for a refusal of the current application.

Objections To Compulsory Purchase Order

Written objections to the compulsory purchase order were received from three parties, i.e. Dublin Port Company, Hibernian Molasses Company Limited and Clearway Disposals Limited. The objections from Hibernian Molasses Company Limited have been subsequently withdrawn.

The objection by Clearway Disposal Limited and others was made by O'Donnell, Sweeney Solicitors. A representative of O'Donnell, Sweeney Solicitors attended the opening day of the oral hearing and stated that they would not be making any further comments. They stated however that their objection to the compulsory purchase order still stood. They stated that the objections were on the basis of the written submission. Dublin Port Company was represented at the oral hearing as stated in the report on the oral hearing.

In this section of the assessment, I will deal only with matters not already covered in the assessment on the environmental and planning issues relating to the proposed development.

Clearway Disposals Limited Objections

At the oral hearing Dublin City Council stated that they were in the process of relocating Clearway Disposals Limited to an alternative location. Reference was made to a planning application having been made in the Fingal area.

A number of legal grounds are raised in the grounds of objection as submitted by O'Donnell, Sweeney. These were not elaborated on in more detail at the oral hearing or otherwise. As previously stated, I consider that the purpose of the CPO as stated in the order, is adequate, having regard to the High Court and Supreme Court decisions in the Clinton vs. An Bord Pleanála case. I also consider that the form of the order is of a form or a form to like effect as the form prescribed in the relevant regulations. I also consider that the compulsory purchase order adequately identifies the lands to be acquired from Clearway Disposals Limited. Arguments in relation to the objector's constitutional rights and there being a breach of natural justice have not been expanded on adequately to allow detailed assessment.

Insofar as the objection relates to the lack of an environmental impact assessment, an EIS has now been submitted and there was adequate opportunity for the objectors to make any submission they wished in relation to the environmental impact statement. It is noted that the objections stated that in the absence of an EIS, the objector was prejudiced in his ability to produce evidence in relation to environmental effects at an oral hearing or otherwise. No such evidence has been produced on behalf of the objector.

I consider that the argument that the development is in conflict with the Waste Management Plan for the Dublin region, which was then the 1998 plan and which provided for a particular role for scrap dealers in handling end of life vehicles is adequately dealt with by the City Council's endeavours to find an alternative location for the facility in question. I am also not convinced that there are not other suitable sites available.

Insofar as the objectors argue that the development would be a material contravention of the Development Plan, the Development Plan in place at the time of the objection lodged against the compulsory purchase order was the 1999 Development Plan. Under this plan, a waste to energy plant or incinerator was a permissible use in accordance with the zoning objective then pertaining to the site. I do not consider that it was necessary for there to have been a specific objective in the Development Plan

indicating that the City Council intended to promote the particular development by the use of compulsory acquisition or that it was necessary that there was a specific reference in the plan to the lands being acquired for a waste management facility.

I consider that arguments in relation to the impact on the applicant's business as contained in Point 4 of the written grounds of objection are basically a compensation matter (the objector argued that only one of its two depots in the area was being acquired and that this would interfere with his business operations). It is noted in the objection that on several occasions the objector had approached the Dublin Port Company requesting that additional lands be made available in the vicinity of Dublin Port. The evidence of Dublin City Council indicates that the City Council is endeavouring to accommodate the needs of the company at an alternative location. Clearway Disposals Limited presented no evidence at the oral hearing to dispute this submission from Dublin City Council.

Point No. 5 of the objection refers to Dublin City Council having failed to disclose the particular reasons for making the order and failure to disclose the reasons for including the objectors' property. I consider that the reasons for making the order and for including the objector's property within the order were clearly outlined at the oral hearing which was an oral hearing into the objections of the compulsory purchase order in addition to being an oral hearing in relation to the application under Section 226 of the Planning and Development Act 2000.

Dublin Port Company Objections

In its objection, Dublin Port Company stated that it had a statutory obligation to manage and develop Dublin Port and the area of land within which this can be done is limited. It was stated that the lands which were the subject matter of the CPO were required for present and future activities and operations of Dublin Port, pursuant to a statutory obligation.

This site selection study carried out by Dublin City Council identified the lands in Poolbeg as being in their opinion, the most suitable site for the development of the

waste to energy facility. There are benefits in having this facility located at this location as previously referred to in this report. As proposed, the development would involve the export of bottom ash through the Port. It would also involve the export of flue gas treatment residues on a permanent basis.

Evidence has not been presented of an intensive use of Dublin Port by the existing users of the lands to which Dublin Port has leased these lands. The whole future of the expansion of Dublin Port is an issue which will need to be reviewed in the coming years, having regard to the suitability of the location in terms of traffic, transportation and the possibility of development of some of the port areas for alternative uses which might be more conducive to the expansion of Dublin City. The area of land involved in the Compulsory Purchase Order is relatively small in comparison to the entirety of the lands owned by Dublin Port Company as indicated in the map submitted by Mr. Lawlor at the oral hearing. I also note that the lands to the south in Dublin Port Company's ownership are currently undeveloped. Having regard to existing air quality in the area and proposals for the extension of mixed use development with a strong residential content some of the existing uses in the port area may need to be relocated. The future of the port and its expansion as it exists in this location is not an issue which can be determined in the current application. If An Bord Pleanála considers that the development as proposed is acceptable at the location I consider that the Compulsory Purchase Order should also be confirmed and that the acquisition of the land per se would not significantly prejudice the Dublin Port Company in its statutory obligation to manage and develop Dublin Port.

My response to the second grounds of objection which is an expansion of the first one is similar to my response to the first objection. I note that in its submission to Dublin City Council in relation to the Draft Development Plan Dublin Port requested that the lands to the south be zoned Z6 i.e. employment/enterprise. It was stated that such zoning would facilitate the accommodation of displaced small enterprises which are a valuable employment resource.

The third ground of objection relates to an inadequate road infrastructure and a significant increase in heavy vehicles accessing the site. This ground of objection was

not supported in the submissions made on behalf of the Dublin Port Company at the oral hearing.

In the fourth point of objection it is argued that the Dublin Port Company would lose its access to a substantial area of land owned by it. This presumably refers to Shellybanks Road. At the oral hearing Dublin City Council stated that it would continue to allow access for Dublin Port Company along Shellybanks Road during the construction phase of the development. Following the construction phase the road would be reopened. I consider that adequate access can be provided. If not the issue would seem to be one of compensation for the Dublin Port Company following the confirmation of any Compulsory Purchase Order.

Objection No. 5 relates to general planning matters where it is argued that the site is unsuitable for the proposed development. This issue has been addressed under the various headings in the assessment of the proposal.

In Point No. 6 of its objections Dublin Port Company states that if the development were to proceed it would cause serious difficulties for Dublin Port Company in carrying out its operations in the development of adjoining lands. No specific indication is given as to the type of development which might prove difficult. Some arguments were put forward by Mr. Lawlor in relation to possible difficulties on the harbour due to the export of the bottom ash. I do not consider that this operation of itself would significantly interfere with the operations of the port. At the oral hearing Dublin Port Company suggested that they had plans for the extension of the port at this location. I am not convinced that this expansion is necessary for the scale of export envisaged from the waste-to-energy plant. (I understand that there is currently a planning application with Dublin City Council for an access road from the quays onto Pigeon House Road along the west side of the cooling water channel. This application is referred to on appeal file 29S.224819).

Point No. 7 of the written grounds of objection states that the development would have serious adverse effects on Dublin Port staff and the staff of their customers within the area and along the routes of access to the site. I consider that this issue has

been adequately dealt with in my general comments in relation to the planning and environmental aspects of the proposed development. I do not consider that there would be such serious adverse effects as claimed.

At the oral hearing Mr. Lawlor, apart from presenting environmental and planning objections to the proposed development, generally expanded on the written grounds of objection apart from those relating to traffic issues and the alleged inadequacy of the road network. He referred to the provision in the Dublin City Development Plan which states that it is the policy of Dublin City Council to support the continued development of Dublin Port subject to the highest environmental standards and minimising the potential impact on the surrounding environment. The plan however also states that Dublin City Council has commissioned a Land Use and Urban Design Framework Plan for the South Bank/Poolbeg area. The object of the study was to provide an overall development and landscape framework where the need to protect and develop utilities of regional importance can be combined with opportunities to provide sustainable mixed-use development in the context of the unique landscape qualities of the Poolbeg Peninsula. It is also stated in the plan that the city is now embracing extensive underused dockland areas north and south of the river to the east of the city core where high quality mixed-use urban quarters exploit the presence of water and bring the city in closer relationship to the Liffey and Dublin Bay. As previously stated I consider that the wider question of the future expansion and/or possible relocation of some of the activities of Dublin Bay is one which will require consideration in the future and is not a matter which can be determined in the context of the current application. (Mr. Lawlor submitted at the oral hearing that there were no plans to relocate the Port).

I consider that if An Bord Pleanála finds that the proposed development is acceptable at the location the Compulsory Purchase Order should be confirmed with the modification requested by Dublin City Council in its letter dated the 28th August 2002. I consider that it is desirable that access for existing landowners should be allowed along Shellybanks Road during the construction phase of the development. I do not consider that it would be possible to amend the Compulsory Purchase Order to allow for this. I consider however that this is an issue which would have implications

for proper planning and sustainable development in the area and accordingly it would be possible to impose a condition in any approval for the project requiring that such access be made available. I do not consider that it would be desirable to exclude Shellybanks Road from the Compulsory Purchase Order as I consider that this would put greater pressure on the construction compound proposed at the southern end of the lands. This would have the potential to have greater impact on the wintering water fowl using the grazing lands to the east.

Applications For Costs

A number of parties and particularly Mr. McEochaidh on behalf of the Combined Residents Against Incineration Group and Mr. McCarthy applied for their costs for attending the oral hearing and presenting their submissions.

I accept in general terms the argument put forward to the effect that it is difficult for a person without significant financial resources to compete on an equal basis with a better resourced body such as the City Council in situations such as this. The evidence however is that the City Council has expended significant resources in attempting to engage with the local community although it is not accepted by the objectors that this was done in a very satisfactory manner.

Some of the observers have clearly devoted a significant amount of time, effort and resources to dealing with the project over a long period of time. They attended the oral hearing and participated in the proceedings in an organised, courteous and co-operative manner. The City Council similarly co-operated and helped in the efficient conduct of the hearing.

The facility for directing the payment of costs contained in Section 219 of the Planning and Development Act 2000 appears to derive essentially from procedures relating to oral hearings and formerly public enquiries into objections to the compulsory acquisition of land. If there was no compulsory purchase of land involved in the current case the Board would not have any power to direct the payment of costs.

Having regard to the Board's policy in relation to the payment of costs dated 9th August, 2004 and to the nature of my recommendation I recommend that the Board should not avail of its powers under Section 219 to direct the Local Authority to pay the costs of any of the parties who applied for same and who requested that I make a recommendation on the matter. I consider however that this issue should ideally be determined on receipt of more detailed arguments following the Board's decision.

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SUMMARY OF ASSESSMENT

European Union and Government policies allow for waste-to-energy facilities as part of an integrated waste management system. This option has been chosen for the Dublin region and this is clearly outlined in the current Waste Management Plan.

A relatively comprehensive site selection procedure was undertaken for the project. The Poolbeg site was chosen as a result of this process. The site is not ideal from some perspectives but there is however no evidence of a more suitable alternative site being available.

The scale of the proposed waste-to-energy plant is at the upper end of the predictions in relation to requirements. The assessment indicates that the assimilative capacity of various environmental media will be at or close to 100% with the facility in place. This derives to a large extent from the existing conditions in the area.

The proposed development would be compatible with the existing land uses located in the vicinity, particularly those immediately to the east, west and north. The site is located a relatively long distance from existing sensitive receptors in terms of residential areas. The assessment does not indicate significant adverse effects on these residential areas. The assessment also indicates that the proposed development would not adversely affect the integrity of designated ecological sites in the vicinity.

In my assessment I have had regard to all of the submissions made including those made in written submissions and those made at the oral hearing.

I consider, having regard to all of the circumstances and to all of the conflicting arguments that, on balance, subject to a reduction in the scale of the proposed development in terms of throughput of waste and to compliance, with a license granted by the Environmental Protection Agency (which would control emissions from the facility) and with the conditions set out below, the proposed development would not result in significant adverse effects on the environment or have significant adverse implications for the proper planning and sustainable development of the area.

RECOMMENDATION

I recommend that approval be granted for the proposed development subject to conditions and I recommend that the Board should confirm the compulsory purchase order subject to modification. The recommended reasons and considerations, conditions and modification as appropriate for both applications are set out below.

REASONS AND CONSIDERATIONS (File Reference 29S.EF2022)

Having regard to

- (a) the Environment Impact Statement, the plans and particulars and all documentation submitted by Dublin City Council;
- (b) all submissions and observations submitted in writing to An Bord Pleanála and made at the oral hearing and the report and recommendation of the person appointed by the Board to conduct the oral hearing and report on the matter;
- (c) the National Waste Management policy framework and strategy as set out in the following documents, Waste Management Changing Our Ways 1998, Taking Stock and Moving Forward 2004 and the National Strategy on Biodegradable Waste 2006;
- (d) the National Development Plan (2007 – 2013) provisions in relation to waste management and the provision of waste facilities;
- (e) the provisions of the Waste Management Plan for the Dublin Region 2005 – 2010;
- (f) the policies and objectives of the Dublin City Development Plan 2005 to 2011 including the objectives of the Waste Management Plan which by virtue of Section 22 of the Waste Management Act 1996 (as amended) are deemed to be included in the Development Plan;
- (g) the location of the site of the proposed development in an area characterised by existing utility and industrial type land uses;

- (h) the distance of the site of the proposed development from existing and likely future residential areas;
- (i) the advice given by the Health and Safety Authority;
- (j) the fact that a licence from the Environmental Protection Agency will be required for the activity and the operator will be required to comply with any conditions imposed in the licence; and
- (k) the mitigation measures proposed to prevent and to minimise environmental impacts likely to arise from the proposed development.

it is considered that subject to compliance with the conditions set out in this order the proposed development

- would assimilate into the existing and future development pattern of the area,
- would not be prejudicial to public health,
- could be accommodated on the road network and would be acceptable in terms of traffic safety,
- would not be visually out of character or detract from the visual amenities of the area,
- would not be seriously injurious to the residential amenities of existing or future residential developments in the area,
- would not adversely affect the integrity of any Natura 2000 site or other designated site of ecological significance in the vicinity having regard to the purposes for which these sites are designated and
- would not otherwise have significant effects on the environment or have significant adverse implications for the proper planning and sustainable development of the area.

CONDITIONS (File Reference 29S.EF2022)

1. The throughput of waste treated in the facility shall not exceed 500,000 tonnes in any twelve month period. The waste thermally treated at the facility shall be in the form of municipal non-hazardous waste generated primarily in the Dublin Waste Management Region as proposed in the application.

Reason: To ensure compliance with national waste management policy and with the provisions of the Dublin Waste Management Plan and to limit the scale of development to a level appropriate to the assimilative capacity of the area.

2. This approval does not include approval for the incineration or thermal treatment of sewage sludge or for the disposal or treatment of residues including bottom ash other than by export as indicated in the application.

Reason: It is considered that the application does not include the incineration of sludge or any alternative treatment or disposal of residues and to clarify any ambiguity which may arise in relation to the interpretation of this approval.

3. A Community Liaison Committee shall be established to liaise between Dublin City Council and the local community. The membership of this Committee shall reflect the membership of the Community Gain Fund Administration Board proposed by Dublin City Council in its submissions at the oral hearing. The Committee shall comprise of 10 members having an independent chairperson, 3 local community representatives, 3 elected members of Dublin City Council, 2 officials of Dublin City Council and 1 representative from the operators of the waste to energy facility. The Community Liaison Committee shall have responsibility for the administration of the Community Gain Fund account to be set up in accordance with condition number 4 and for decisions on projects to be supported by the Fund in addition to acting as a Liaison Committee with the local community in relation to ongoing monitoring of the operation of the waste to energy facility.

Reason: To provide for appropriate ongoing review of waste management operations at the site in conjunction with the local community and to provide for the allocation of resources from the Community Gain Fund in accordance with the requirements of the local community.

4. A Community Gain Fund shall be established to support facilities and services which would be of benefit to the community in the general catchment area. This fund shall include a once-off capital contribution equivalent to 3% of the capital cost of the facility and an annual contribution per tonne of waste accepted for thermal treatment at the plant. The annual contribution shall be €1 per tonne in the first year following commissioning of the plant and thereafter shall be updated in accordance with the Consumer Price Index. Details of the management and operation of the Community Gain Fund, which shall be lodged in a special Community Fund account, shall be agreed between Dublin City Council and the Community Liaison Committee referred to in condition number 3.

Reason: It is considered reasonable that the operators of the facility should contribute towards the cost of environmental, recreational or community facilities which will be of benefit to the community in the area.

5. The former Pigeon House power station and hotel site shall be developed by Dublin City Council in partnership with the local community as stated in the EIS and in the submissions by Dublin City Council to the oral hearing. The use of the site shall be determined following consultation with the Community Liaison Committee referred to in condition number 3.

Reason: To take account of the Community Gain proposals and commitments of Dublin City Council and to provide facilities which would be of benefit to the local community.

6. Waste deliveries to the facility shall be in accordance with the strategy proposed and elaborated on by Dublin City Council at the oral hearing. Deliveries of waste (and return trips), except from the central area as indicated on slides/drawings submitted at the oral hearing, shall be via the M50 and the Dublin Port Tunnel. Conditions requiring compliance with this transport strategy shall be incorporated into relevant permits granted to waste collectors.

Reason: To limit the impact of the development on residential areas in the vicinity and along access routes to the proposed development.

7. (a) The external cladding of the main building shall be finished externally in a light grey colour with a matt finish,
- (b) A detailed landscaping scheme for the site of the proposed development, including Shellybanks Road, shall be prepared by a qualified landscape architect. The landscaping scheme shall include details of all site boundary fencing. The landscaping scheme shall be made available for public inspection at the offices of the local authority (including an office in the Ringsend/Poolbeg area) and shall be implemented on completion of construction works.

Reason: In the interest of visual amenity.

8. Access from the existing Shellybanks Road shall continue to be available to existing landowners abutting the road during the construction phase of the proposed development. On completion of the construction works the road shall be re-opened.

Reason: To prevent undue interference with existing land uses in the vicinity during the construction phase of the development.

9. Aviation warning lights shall be provided on the two proposed emission stacks in accordance with details to be agreed with the Irish Aviation Authority.

Reason: In the interest of aviation safety.

10. (a) Prior to the commencement of construction monitoring of existing fish diversity in the Liffey Estuary in the vicinity shall be carried out in accordance with details to be agreed with the Eastern Regional Fisheries Board and the Department of Transport and the Marine.

Facilities designed to prevent entrainment and impingement at the cooling water intake point shall be provided in accordance with details to be agreed with the Eastern Regional Fisheries Board. The effectiveness of the facilities shall be continuously monitored and any necessary adjustments shall be implemented in accordance with the requirements of the Fisheries Board.

- (b) Details in relation to the timing of excavations for the cooling water channel and procedures etc., to be adopted to limit water pollution in the estuary during excavation works shall be agreed with the Eastern Regional Fisheries Board.

Reason: In the interest of fishery protection.

- 11. Prior to the commencement of construction works Dublin City Council shall ensure that all public roads on the Poolbeg Peninsula to the west of the location of the proposed access are free of loose soil, sand and gravel. A continuous maintenance regime shall be put in place by Dublin City Council to ensure that this situation continues for the entirety of the duration of the construction and operational phases of the development.

Reason: To protect the amenities of the area and to limit dust emissions likely to be generated by traffic associated with the development.

- 12. (a) A 'Marine Notice' advertisement in accordance with the requirements of the Department of Transport and the Marine shall be placed in a locally circulating newspaper prior to the commencement of any construction works on the foreshore. Local commercial fishing and angling organisations shall be directly notified of the commencement of construction.
- (b) Any floating plant used during the construction phase shall be adequately lit at night and during times of poor visibility.

- (c) The British Admiralty Hydrographic Office at Taunton shall be advised of the location and nature of proposed marine works. Final details shall be confirmed on completion of the marine works.
- (d) New navigational aids and/or alterations to existing aids shall be in accordance with details to be agreed with the Commissioners of Irish Lights.

Reason: To ensure the safety of navigation.

13. Flue gas residues shall not be stored at any location outside the boundaries of the site of the proposed development in such quantities as to result in the storage area becoming an Establishment for the purposes of the European Union Major Accidents Directive.

Reason: The application has been assessed on the basis of the site of the proposed development only being such an Establishment.

14. All mitigating measures proposed and recommended in the Environmental Impact Statement and which are set out in summary in Chapter 21 of the EIS shall be implemented as part of the development. The following additional provisions shall be incorporated into the mitigating measures.

- (a) Piling during the construction phase of the development shall take place only between the hours of 8a.m. and 8p.m.
- (b) The temporary construction area proposed at the southern end of the site of the proposed development shall be modified by providing a setback of at least 20 metres wide from the eastern edge of the compound as indicated on Drawing No. MDR0358 UZ0 BE001c. Continuous screening shall be provided around the edge of the construction compound during the course of construction works. Monitoring of the use by wild fowl of the grass lands located south of the wastewater treatment plant shall be carried out for a period of at least 1 year prior to the enclosure and use of the temporary

construction area, during construction works and for a period of at least three years following the commissioning of the plant. Reports on the monitoring shall be prepared at least twice yearly following the commencement of construction works. Copies of the reports shall be available for inspection by the public at the offices of the local authority and at an office in the Ringsend/Poolbeg area.

- (c) An intertidal and underwater archaeological survey shall be carried out in the area impacted upon by the proposed cooling water channel prior to the commencement of construction works. A report on the findings of this archaeological investigation shall be submitted to the Department of the Environment, Heritage and Local Government.
- (d) A scheme for monitoring noise, dust deposition and suspended solids in surface water run-offs and adjacent waters shall be prepared for the construction phase of the development. Details of the scheme shall be made available for inspection at the offices of Dublin City Council and at a local office in the Ringsend/Poolbeg area prior to the commencement of construction works. Monitoring shall be carried out during the construction phase and reports on the monitoring shall be made available for inspection at the offices in question on a 3 monthly basis. The reports shall compare monitored results with standards set out in the EIS or standards given in recognised national or international guidelines as relevant.
- (e) Excavated material shall be retained and reused on site only if it has been demonstrated following a quantitative risk assessment that the material is not likely to cause risk to human health or the diminution of the environmental quality of water or air in the area. A risk assessment report to verify this and indicating the procedures and protocols adopted, certified by a suitably qualified person, shall be prepared and made available for public inspection at the offices of Dublin City Council and in an office in the Ringsend/Poolbeg area prior to the completion of the site development works.
- (f) Existing granite blocks located along the edges of Pigeon House Road and Shellybanks Road within the confines of the overall site of the

proposed development shall be identified and assessed from a archaeological/architectural heritage perspective by suitably qualified personnel. Details in relation to the eventual treatment of these blocks shall be agreed with the Department of the Environment, Heritage and Local Government prior to any development commencing.

Reason: To limit the impact of construction works associated with the proposed development on the environment.

REASONS AND CONSIDERATIONS (File Reference 29S.CH2061)

Having regard to the purposes for which the lands are to be acquired as set out in the compulsory purchase order and as elaborated on at the oral hearing into the objections to the compulsory purchase order, to the objections made to the compulsory purchase order, to the report of the person who conducted the oral hearing into the objections and to the Board's decision on the application for the construction of a waste to energy facility on the lands included in the compulsory purchase order, it is considered that the acquisition by the local authority of the lands in question is necessary for the purposes stated in the order and the objections can not be sustained having regard to this necessity.

MODIFICATION (File Reference 29S.CH2061)

The names Clearway Disposals Limited, Clearway Disposals Limited t/a The Hammond Lane Metal Company Limited, Samuel Davis Limited, Hibernian Molasses Company Limited, the Electricity Supply Board, Dublin Port Company and Dublin City Council shall be inserted in the column headed Occupiers for plot number 7 as referred to in the Schedule to the Order and identified in the map attached to the Order.

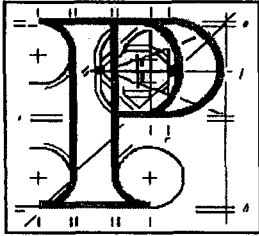
Reason: To take account of all known owners or reputed owners or persons with a legal interest in the lands referred to in the compulsory purchase order.

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Padraic Thornton
Deputy Planning Officer

30th October, 2007.

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Board Direction

Ref: 29S.EF2022

This file was further considered at a Board meeting held on 19th November 2007.

The Board decided to approve the contents of the Board Direction as follows:-

Notes:

1. Having regard to the contents of the EIS, the submissions to the oral hearing and the report of the Inspector (including expert reports) the Board considered that the design capacity of the facility, proposed to be reduced by the Inspector in relation to the assimilative capacity of the area (recommended Condition No.1), was justified with regard to the projected waste arisings, after prevention and recycling, and with regard to traffic impacts. The Board further considered that any concerns with regard to air and water pollution were not such as to justify a reduction in the design capacity of the facility and detailed process design is best controlled through licensing. The Board, therefore, decided to approve the capacity as proposed and considered that any restriction that might be necessary would be more appropriately dealt with by the EPA through the licensing of the activity.
2. The Board omitted Condition No.2, as recommended by the Inspector, as the application does not include proposals for the acceptance of sewage sludge at the facility or for the treatment of ash other than by export.
3. The Board omitted Condition No.5, as recommended by the Inspector, as it considered that the former Pigeon House power station and hotel site may not be a suitable site for community use and that the funds to be made available under Condition No.3 should not necessarily be tied to the development of community facilities on this site and should be left open for consideration in conjunction with the Community Liaison Committee.

Board Member _____ Date 19th November 2007.
Brian Hunt

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