OFFICE OF LICENSING & GUIDANCE

INSPECTORS REPORT ON A LICENCE APPLICATION

To:	Each Board Member	
From:	Kieran O'Brien	**- Licensing Unit**
Date:	12th February 2004	
RE:	Application for a review of licence from Electricity Supply Board, Moneypoint Generating Station, Killimer Kilrush, County Clare. Reg. No. 669	

Application Details	
Classes of activities:	2.1 The production of energy in combustion plant the rated thermal input of which is equal to or greater than 50MW. 11.1 The recovery or disposal of waste in a facility, within the meaning of the Waste Management Act, 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
Request for Licence review received (Class 2.1 & 11.1):	26/03/2003
Notice under Section 85(1)(b) issued:	27/05/2003
Information under Section 85(1)(b) received:	01/07/2003
Article 17 notice issued:	25/07/2003
Information under Article 17 received:	10/09/2003
Requests under Article 18(2) (for time extensions to 09/01/2004 & 12/03/2004 respectively) issued:	03/11/2003, 07/01/2004
Consent under Article 18(2) received:	07/11/2003, 08/01/2004
Additional Information received	20/01/2004
No submissions received:	
Site visits:	19/06/03

Description of Activity

Moneypoint Generating Station is located on the northern shore of the Shannon estuary in Co. Clare approximately 6 km Southeast of Kilrush and 3 km west of Killimer. The total site area is 170 hectares (24 hectares were reclaimed from the estuary). Construction of the three generating units began in 1979 with commissioning from May 1985 to April 1987.

The plant has three generating units of 305 MW_{el} each, even though the original design envisaged the construction of a fourth 305 MW_{el} unit and both 220 metre high chimneys are each capable of serving two such units. All units are dual fired capable of full load on coal and/or HFO firing. Coal is the primary fuel with approximately 2 million tonnes consumed per annum. The resulting ash from the coal burning is presently land filled on-site.

The existing licence Reg. No. 605 requires that emissions of sulphur dioxide (SO_2), oxides of nitrogen (NOx) and dust be reduced by 1 January 2008 or alternatively that the plant is operated for a limited period after Jan 2008 (20,000 hours over eight year). This provision has been set in accordance with the requirement of EU Directive 2001/80/EC (Large Combustion Plant Directive). To meet these reduced emission limits requires the installation of flue gas desulphurisation (FGD) and NOx abatement. This application for a revision of the licence has been made to provide for the installation and operation of the abatement systems and the disposal of the resulting by-products in particular from FGD by on-site landfill.

Process

The main features of the station include:

1. Station main building housing boiler units.
2. Jetty for unloading coal ships.
3. Coal yard with storage of approximately 3,000,000 t, of coal stacked to 15m high.
4. Two HFO tanks each of 25,000 t capacity and two 300 t tanks for diesel.
5. Coal handling system.
6. Cooling water (CW) system.
7. Electrostatic Precipitators.
8. Ash handling system and ash disposal area.
9. Two concrete chimneys, one serving Units 1 & 2 and the other serving Unit 3.
10. Generator transformers and 400kV compound

In 1996 Moneypoint established a formal Environmental Management System which was certified to ISO 14001 standard on 22nd December 1998.

General Plant Description

Each generating unit consists of a coal fired natural circulation drum boiler. Each unit is equipped with four coal pulveriser mills, three boiler feed pumps and two electrostatic precipitators. The boilers are designed for base load and cycle operation but have operated as base load plant since commissioning. Coal is the primary fuel with heavy fuel oil (HFO) as an alternative fuel. Diesel is used during start-up.
Water is heated in the boilers by coal or oil fired burners. The heat produced by the combustion process turns the water to superheated steam. The turbines are driven by the pressure of the superheated steam passing through the turbine blades. A continuous shaft traverses both turbines and generator turning a rotor through a magnetic field. This action produces voltage of 17,000 volts, which is transferred to a transformer. The generated electricity is then stepped up to 400,000 volts and synchronised onto the national grid.

Resource Consumption

The principal resources that will be used will be as follows:

Fuel
Coal is the predominant fuel with HFO as standby. Diesel is only used a small percentage of the time. (Facilities exist for the burning of diesel in all burners on the three boilers for cold start up purposes, when conditions do not allow for the burning of the HFO.)

Water
Water to supply the make up needs of boilers and for cooling and other purposes is drawn from the station reservoir, which has a capacity of 8,000,000 gallons. This is topped up by a main supply from Doolough Lake.

Chemicals
Bulk chemicals are used for boiler water conditioning and for regeneration of water deionisation plant. These are principally ammonia, sodium hydroxide and sulphuric acid. All bulk chemical storage tanks have been bunded. Chemical drum storage is on dedicated storage racks that incorporate bunds. Other chemicals in small quantities are used for standard laboratory testing and other purposes. Hydrazine is added to the boiler water.

Electricity
Electricity is consumed for house load, mainly to provide motive power for pumps and fans associated with the generating plant. This amounts to about 6 - 7% of the electricity generated.

Wind generating project
Planning permission to develop a wind farm, comprising nine wind turbines on the Moneypoint site was granted by An Board Pleanala in October 2002. A copy of the EIS for this project has been included in the application for licence review. This is not a First Schedule activity.

Ash and FGD by-product Handling

Approximately 200,000 tonnes of ash is produced annually. There are two types of ash, furnace bottom ash (FBA, about 15% of total) and pulverised fly ash (PFA, about 85% of total). Both are regarded as non-hazardous wastes.

Bottom ash is crushed at the bottom of the furnace and transferred from the bottom ash hopper to the wet ash handling area. Water driven ejectors carry the wet ash to a series of silos where the water is decanted off and returned to the settling chambers for re-use. Trucks then transfer the wet ash from the silos to the designated Ash Storage Area (ASA).

Fly Ash (PFA) is collected by electrostatic precipitators. PFA is then transferred to the dry ash handling plant by an air ejector system. The PFA is loaded onto bulk containers and sold to the concrete industry for further use.
The FGD process will generate approximately 100.000 tonnes of FGD waste. It is proposed to stabilise this with water and coal ash (~40,000 tonnes) and landfill the material on site.

Ash and FGD waste Disposal Areas

The existing ash storage area covers approximately 25 hectares. It is separated from the main area of the station site by the N67 Kilrush-Killimer Road. The area has a capacity of ~2,300,000m^3. Storage of ash commenced in 1985 and current practice is to store PFA and FBA in separate areas with a view to future retrieval of the PFA for sale.

Two new separate landfills are proposed one to the west and one to the east of the station for the onsite disposal of FGD waste. It is proposed to stabilise the FGD waste with water and coal ash (PEA) before land filling. The total new landfill area is approximately 41ha. The total capacity is estimated at 4 million m^3 with I million m^3 in the landfill to the east in three cells and 3 million m^3 to the west in eight cells. The material to be land filled has been determined to have a very low permeability (~10^{-9} to 10^{-11} m/s) similar to landfill liners.
The FGD waste is classified under Code 10 01 05 calcium-based reaction wastes from flue gas desulphurisation in solid form. The main components and trace metals have been assessed and there are no significant levels that would result in the contamination of ground water or surface water from the proposed landfill.
At present there is no viable option other than land filling for the disposal of the FGD waste. The ongoing investigation of potential commercial uses for FGD waste, as an alternative to landfill, has been included in EMP.

Restoration
Areas of the Ash Storage Area are restored to grass as sections within it reach their final level. This reduces the possibility of wind erosion of the consolidated ash. It also improves the visual appearance of the ash disposal within the bunded area by blending in with the background vegetation. Of the 25 hectares within the area, approximately 14.5 hectares have already been restored.
The new landfill areas for the FGD/PFA waste will be developed in two phases. Area A to the east of the station will be developed initially and filled on a cell by cell bases, as each cell is completed a capping layer will be provided to facilitate revegetation. It is estimated that ~ 80,000m^3 of topsoil will be required in total for both areas. Area B to the West of the station will be developed following the completion of Area A.

Proposed Determination

IPPC DIRECTIVE
As an existing activity, the IPPC Directive will apply.

BAT/BATNEEC
Work on Bref for this sector commenced in Seville in February of 2000, and a first draft of the Large Combustion Plant BREF was issued in March 2001. A second draft of the BREF was issued in April 2003. For the purposes of this determination the ELVs contained in the LCP Directive 2001/80/EC are considered to represent BAT/BATNEEC.

LARGE COMBUSTION PLANT DIRECTIVE (2001/80/EC)
Boilers 1, 2 and 3 qualify as “existing plant” (i.e. PP before 1/7/87) under this Directive.
The original Large Combustion Plant Directives (88/609/EEC and 94/66/EC, both implemented under S.I. 264 of 1996), have been superseded by Directive2001/80/EC. This Directive contains ELVs for existing plants and set out a time frame up until 2016 by which reductions must be achieved. Emission limit values in accordance with this Directive have been set in the existing licence Reg. No 605 and this PD also incorporates these limits. The

Directive also provides for the operation of a National Emission Reduction Programme (NERP).
Article 4 (6) of the Directive provides for the operation of a NERP where member states can comply with the terms of the Directive by adopting a NERP for existing plants in place of specific emission limits on plant-by-plant bases. The adoption of a NERP can provide significant savings and improved efficiencies in achieving the total annual reductions and compliance with the ceilings as set out in Directive 2001/80/EC and 2001/81/EC(National Emission ceilings Directive). A NERP has been proposed and submitted to the Commission for consideration as required by the Directive. Provision has been included in the PD to allow for the operation of the NERP.

Air

FGD:
The proposed FGD is a dry process for the removal of SO_2 by adsorption with lime producing a calcium sulphite/sulphate non-hazardous waste. SO_2 emissions will be reduced by approximately 80% from the current levels. The FGD system consists of reaction vessels and dust filters fitted to each boiler. Water will be injected into the flue gas to reduce its temperature and a limewater mixture will be sprayed into the gas stream where it will react with SO_2 to form a solid by product. This material will then be collected in the dust filter before the cleaned gas is released to atmosphere. The proposed FGD process is technically proven and commercially available.

Oxides of Nitrogen (NOx) Reduction:
NOx reductions can be achieved by primary and secondary means. Primary measures involve combustion modifications reducing NOx formation and secondary measures involve to removal of NOx following its formation. Low NOx burners have already been fitted to the boilers at Moneypoint reducing NOx to their current levels. Advances in primary NOx reduction have advanced since the installation of the low NOx burners and assessments are on going on the ability of achieving the required limit of 500mg/m^3 up to 2016. If the required reduction can be achieved by primary means then NOx removal technology will not be required within this time frame.
The proposed NOx removal technology is Selective Catalytic Reduction (SCR) and involves the injection of ammonia to react with the NOx in the presence of a catalyst converting it to nitrogen and water. Ammonia is supplied from a urea-to-ammonia converter that uses aqueous urea solution as a feed stock. The SCR if installed will be placed before the existing electrostatic precipitators which will be followed by the proposed FGD system.

The licensee in the application makes reference to the IPPC Directive and in particular Article 9.3 and proposed that equivalent parameters or technical measures are inserted in the revised licence in place of ELVs. In particular they propose that a combination of primary and secondary measures across the three units are provided for to achieve the equivalent emission reduction in place of ELVs on each specific unit. It is argued that the provision of SCR on two units and primary measures on one unit would achieve the required reduction if the three units were considered as a combined unit.
While the IPPC Directive provides for the replacement of ELVs by equivalent parameters or technical measures the control and environmental performance of the units at Moneypoint is primarily determined by the Large Combustion Plant Directive 2001/80/EC. Article 2 (7) of this Directive set out how combustion plant is to be considered and in particular provides for the consideration of two or more plants as one unit where emissions could be discharged through one stack. However this provision is applicable to new plant only and therefore the units at Moneypoint must be considered as individual units for the purposes of assessing their compliance with the Large Combustion Plant Directive. Provision has therefore not been included to allow the averaging of emissions across the three units other than as part of a NERP as defined under the Large Combustion Plant Directive 2001/80/EC.

Air Impact
The impact of the proposed development will be the reduction of emissions as follows:

- SO2 from 3400 mg/m^3 to 400 mg/m^3
- NOx from 11,000 mg/m^3 to 500 mg/m^3 (200 by 2016)
- Particulate matter from 150 mg/m^3 to 50 mg/m^3

Modelling of the existing emission from Moneypoint, licence application Reg. No. 605, predicted ambient impacts to be low and well within the standards set in S.I. 271 of 2002. Since the temperature of the emission will be reduced due to the additional abatement resulting in reduced buoyancy further modelling was carried out to determine the impact of the proposed changes. The following table outlines the existing and post development on the modelled ground level concentrations:

Parameter	Modelled Impact	Existing (µg/m^3)	Post development	Air quality standard
NO_2 (60% Conversion)	99.8% of hourly	37	34	200(2010)
	98% of hourly	20	18	200(until 2010)
	Highest annual value	1	1	40 (Human health until 2010) 30 (protection of veg.)
SO_2	99.75 of hourly	134	41	350(2005)
	99.2% of daily	43	23	125(2005)
	Highest annual value	4	1.3	20 for ecosystems
PM_{10}	90.4% of daily	1	0.7	50(from 2005)
	98.1% of daily		1.3	50(from2010)
	Highest annual value	<0.25	0.2	40(from 2005)

Installation of the abatement will result in a reduced impact on the local environment. However the existing impact is not significant and therefore the main benefit from the proposed development will be on the annual emissions of SO_2 and NOx in the context of the regional impacts of the European SO_2 and NOx emissions.

Emissions from the Moneypoint boilers are very large in terms of volume in the region of 80 million m^3 per day. Trace elements in the coal feed stock will therefore add up to a relatively high mass emission in some cases in excess of the reporting thresholds for PER. Assessment of emissions of these elements has been carried out and no significant impact is predicted. I am satisfied that these emissions will not give rise to transboundary pollution.

Background Air Quality (which includes the impact of the above emissions)
Ambient daily average levels of sulphur dioxide (SO_2) and smoke have been continuously measured within the Shannon estuary for over 15 years.

All of these ambient values are well below National and European Air Quality Standards and it can be concluded that the impact of these emissions will not result in any breach of these standards.

Water

Shannon Estuary
The Shannon is Ireland's major river and its catchment covers approximately one-fifth of the entire area of the country. It is tidal from a point a short distance upstream of Limerick. A Water Quality Management Plan for the Shannon Estuary has been drawn up, taking into account relevant international conventions, EC Directives and national legislation. Measurements undertaken at Foynes have shown that sea water makes up some 88% of the water mix within the estuary at that point. The 99.5% water flow entering the estuary from the River Shannon has been estimated to be 11.9 m^3/s.

The Shannon currently supports fisheries for salmon, sea trout and eels and is used as a spawning and nursery ground for some marine fish. The Water Quality Management Plan identifies the need to maintain these current uses and to protect the aquaculture potential, including shell fisheries, of certain areas. Preliminary water quality standards have been set and these are seen as being adequate to generally ensure these uses, although it is stated that in individual cases site specific standards are required.

Discharges

There are thirteen separate discharges to the Shannon Estuary as follows:

1. Seven discharges that fully or partly comprise process effluents. These are designated SW2, SW4A, SW5, SW6, SW7, SW8 and SW9.
2. Three discharges that comprise surface waters exclusively. These are designated SW1, SW4 and SW13
3. Three discharges that comprise sewage treatment effluent. These are designated SW3, SW10 and SW11

All discharges to surface waters from the activity are to the Shannon Estuary.

Cooling Water System - SW8 and SW4A

Cooling water is abstracted from the Shannon Estuary at the intake and is required continuously when the plant is running. Trash rakes and band screens at the cooling water intake prevent marine debris being taken into the system. The screens, which are rotated constantly when in use, are continuously washed with water to remove any debris that has accumulated on them. The wash water is collected and discharged following removal from it of debris washed off the screens (SW4A). However, because the point of discharge is at the cooling water intake, the waters discharged are effectively reabstracted immediately.

Cooling water inlet temperature varies seasonally and historical records show a minimum of $6^{o}C$ and a maximum of $17^{o}C$. The temperature at the condenser outlets has varied between $11^{o}C$ and $29^{o}C$.

The cooling water is chlorinated at the intake whenever the temperature of the incoming water is $10^{o}C$ or more. This is usually from mid-March to mid-November. Chlorination is carried out to control slime formation and to inhibit the settlement of shellfish larvae on the condenser tubes and is achieved by continuous dosage with sodium hypochlorite, which is produced from estuarine water by electrochlorination. To ensure effectiveness, the chlorine is injected as a maximum rate of 2.0mg/l. This results in a maximum residual chlorine concentration of <0.5mg/l in the cooling water at the outfall.

Overall, the impact of the thermal plume from Moneypoint is relatively small in the context of the extent of the receiving waters in the estuary. An investigation at the cooling water outfall concluded that it was apparent that the thermal plume has no significant negative effects on migratory fish, fish eggs or larvae. This was attributed to the rapid dilution of the heated water over a very short distance. Naturally occurring variations in salinity and high suspended solids in the Shannon at Moneypoint have a greater negative effect than the heated cooling water.

A request for a variation in the conditions relating to SW8 were included in the information supporting the review. The licensee explained that under an extended period of increased monitoring as required by the existing licence that more flexibility is required in particular when the temperature change in the cooling water is increased due to fouling of inlet screens reducing water flow. It is proposed that the cooling water emission is controlled with reference to the thermal load in place of the limit on the temperature change alone. It is not considered that this change would result in any significant loss in control and would not significantly impact the receiving waters. A modified Schedule 2(i) has been included in the PD to reflect this.

Boiler Blowdowns - SW2 (Part) and SW7 (Part)
Boiler blowdowns comprise discharges of high purity boiler water in which small accumulations of impurities have arisen. The blowdown is discharged to a tank to reduce pressure prior to entering drains, which also serve surface water drainage run-off. The duration of a blowdown is determined by the level of contaminants present. The boilers are also blowndown when coming on load. A small increase in the pH limit has been requested (from 9.0 to 9.5) to allow for periods where no additional surface water will join this stream before discharge. This has been included in the PD.

Water Treatment Neutralisation - SW9 (Part)
The incoming town-water is treated by cation and anion ion exchange resins. Regeneration of these resins is by sulphuric acid (H_2SO_4) and caustic soda (NaOH) and is normally carried out every five days, with about 200m^3 of effluent per regeneration over a period of 2-3 hours.

In addition, water leaving each condenser is routed through ion exchange beds that are also regenerated at the water treatment plant. Regeneration would be expected to occur approximately 40 times annually, with up to 300m^3 of effluent per regeneration.

The effluents drain to a neutralisation sump, where they are adjusted to a pH of 6-9 prior to discharge.

Surface Water - SW1, SW2 (Part), SW4, SW5 (Part), SW6 (Part), SW7 (Part), SW9 (Part) and SW13
In volumetric terms the main effluent discharge from Moneypoint, other than cooling water, is surface water run-off arising from rainfall. The average surface water discharge from the site is estimated to be 1,250,000 m^3/year.

Most of the drainage (SW1) from Ash Storage Area runs off as surface water. A major component of this discharge is a stream that is culverted through the Ash Storage Area. Leachate that arises is collected in a series of land drains that are directed to a holding chamber (settling tank). From the holding chamber the leachate enters a chamber where it is mixed with water from part of the flow of the stream at the northern site boundary. The discharge to the foreshore is via three pipes.

Some of the drainage in SW2 comprises a naturally occurring stream north of the 400kV compound.

Drainage from the Chlorination plant (SW4) contains backwash from the filters in the plant.

Surface water from the coal yard (SW9 (Part) and SW13) is passed through a settling tank prior to combination with other drainage.

All of the above discharges are addressed in the Proposed Determination.

Waste

Hazardous wastes for off-site recovery/disposal are anticipated to arise only infrequently. These include waste oils, batteries, fluorescent tubes and spent machine coolants. In addition occasional amounts of asbestos (old site facilities) may arise. Spent catalyst from the NOx abatement system will also arise.

Non-hazardous wastes for off-site recovery/disposal include office waste; scrap metal; wooden pallets etc.
Additional waste generated by the FGD system will amount to approximately 105,000 tonnes per annum for on site landfill.

All wastes will be disposed of according to appropriate legislation. In addition the PD requires the on site disposal areas to comply with the requirements of the Landfill Directive (1999/31/EC).

Noise

Noise levels produced by Moneypoint power station at the noise sensitive locations (NSLs) have been assessed as being within 55 dBA (daytime) and 45 dBA (night-time) except for possible marginal exceedence (by about 2 dBA) at the nearest NSL of the night-time value during ship unloading. The applicant has stated that in 15 years of operation, no complaints in relation to ship unloading have been received. A current programme to identify and remedy the source of minor steam leaks is expected to reduce noise levels further. Additional noise will arise on site from the FGD system and the new wind farm. Noise from these activities has been assessed and this development will not result in a breach of the guide values of 45/55 dB(A) at NSLs.

Ground

Other than the on-site Landfill (discussed above), there are no proposed emissions to ground.

Historically, there have been a small number of minor oil spills (all of which were contained and remedied on site) together with one more notable spill of HFO. This occurred during the first delivery of HFO to the station in 1985 and was contained within the HFO storage tank bund. The area was cleaned and contaminated rockfill (the bund material) was removed and subsequently remediated using biological treatment techniques.

A recent desk study of ground and groundwater conditions at the site focused on the coal yard, ash storage area and oil facilities. Data available suggests that there is no evidence of contamination of soils or surface waters. Groundwater beneath the ash storage area has been found to be contaminated with boron and sulphate, attributed to leachate from the ash. While the ash storage area is not expected to impact on abstractions to the north or east of the site, the groundwater beneath this area would be unsuitable for domestic, agricultural or industrial use without treatment. Any impact on the River Shannon would not be discernible due to the high dilutions available in the estuary.

Energy

Boilers 1, 2 and 3 have net conversion efficiencies around 37.35%. An energy audit of the site is required by the PD within one year of commencement and thereafter as required under the AER.

EIS

I have assessed the EIS and am satisfied that it complies with the requirements of the EIA and Licensing Regulations.

Seveso Directives

The proposed oil storage volumes do not bring the site under the requirements of the current Irish legislation implementing the Seveso Directives.

List 1 Substances etc.

Hydrazine (3 t/a) is used as an oxygen scavenger in the boiler water. A requirement to look for alternatives has been included in the Schedule of Targets and Objectives.

Phosphates are not used in water treatment.

SACs etc.

Designated sites of conservation value in the vicinity (i.e. within about 10 km) of the activity are as follows:

Lower River Shannon (Site Code 002165)
This is a very large site stretching along the Shannon valley for a distance of some 120km. It is of high ecological interest.
The site contains a number of habitats listed on Annex I of the EU Habitats Directive. The site also supports a range of mammals, fish and invertebrates listed on Annex II of the EU Habitats Directive. Most of the estuarine part of the site has been designated a Special Protection Area (SPA), under the EU Birds Directive, primarily to protect the large numbers of migratory birds present in winter.
It constitutes the largest estuarine complex in the country and is of international importance for black-tail godwit and redshank and of national importance for commorant, greylag goose, shelduck, wigeon, teal, mallard, scamp, golden plover, grey plover, lapwing, knot, dunlin, bat-tailed godwit and curlew.

St. Senan's Lough, Co. Clare (Site Code 001025)
Located approximately 2.5km from the station, the site is a shallow acid lake with a floating fen community of mosses and a marsh flora around the lake.
The site is of general ecological interest with three important habitats present, although the surrounding marsh is more valuable than the lake. The lake margins are colonised by the Common Reed (Phragmites communis) in places and a little way back the Reed Mace (Tpyha angustifolia) is very common. The site is associated with a number of other plants, notably some mosses including the peat forming Sphagnum Moss (Sphagnum spp). Peat is being formed here in this very wet moss-rich marsh. As such, this is a thriving habitat and is going through a long-term process that was once very common.

Tarbert Bay, Co. Kerry (Site Code 1386)
Located approximately 4km from the station, Tarbert Bay is a sandy intertidal bay fringed by saline vegetation, which is best developed at Tarbert Village.
Some deciduous woodland is included in the site and this comes down to the estuary edge in places. The site is important for a wintering waterfowl and is part of the large Shannon-Fergus estuarine complex.

Ballylongford Bay, Co. Kerry (Site Code 1332)
Located approximately 7km from the station, Ballylongford Bay is an inlet on the southern side of the Shannon Estuary that runs northwards from the town of Ballylongford in Co. Kerry. The scientific interest of the area lies in the large concentrations of waterfowl that feed on the mudflats there. Recent figures specifically for the birds of Ballylongford Bay are not available since the whole of the Shannon estuary is treated as one wetland. The Ballylongford Bay NHA makes up a valuable part of the SPA of the Lower Shannon Estuary and it cannot be considered out of context of the Estuary.

Clonderalaw Bay, Co. Clare (Site Code 000027)
Approximately 7km from the station this narrow bay off the Shannon Estuary is of ornithological interest, being part of the Shannon and Fergus estuary complex. It is the estuary of the Crompaun and Cloon Rivers. The site includes all of the intertidal mudflats of the Bay.
It holds a variety of species including whooper swan, ducks and waders. Nationally important numbers of grey plover can occur in autumn. Although this site is primarily important as an ornithological site, it is also an example of a high quality estuarine site.

Scattery Island, Co. Clare (Site Code 001911)
Located approximately 7.5km from the station, the site is largely composed of glacial till with grey soils and poor drainage. Because agricultural production was never intensified, the vegetation is species rich and of ecological interest. There are also areas of salt march.

Much of the site is grassland and it has areas of Silverweed (Potentilla anserina). Clovers (Trifolium spp.) and Sedges (Carex spp.). Other species recorded included Primrose (Primula vulgaris), Bird's -foot trefoil (Lotus corniculatus) Dog Violet (Viola riviniana) and lesser Celandines (Ranunculus ficaria). In areas of poor drainage, there are patches of Rushes (Juncus spp.) and Yellow Iris (Iris pseudacours).

Poulnsherry Bay, Co. Clare (Site Code 000065)
This site is approximately 10km from the station, is primarily of ornithological interest, being part of the Shannon-Fergus estuarine complex of sites which is internationally important for wintering waterfowl, but it is also a good example of an estuarine habitat.

Submissions

There were no submissions received.

Recommendation:

I recommend that the attached Proposed Determination be approved and issued.

Signed

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Kieran O'Brien

Procedural Note

In the event that no objections are received to the Proposed Determination of the application, a licence will be granted in accordance with Section 85(4) of the Environmental Protection Agency Act 1992 as soon as may be.