


This Report has been cleared for submission to the Board by Programme Manager Marie O'Connor

Signed: Marie O'Connor **Date:** 26th July 2023

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|  <p>Environmental Protection Agency An Ghníomhaireacht um Chaomhú Comhshaoil</p> | OFFICE OF ENVIRONMENTAL SUSTAINABILITY |
| REPORT OF THE TECHNICAL COMMITTEE ON OBJECTIONS TO PROPOSED DETERMINATION | |
| TO: | Directors |
| FROM: | Technical Committee Environmental Licensing Programme |
| DATE: | 26 JULY 2023 |
| RE: | Objection to Proposed Determination for SSE Generation Ireland Limited , Great Island Generating Station, Campile, New Ross, County Wexford, IEL Reg: P0606-04 |

| Application Details | |
|---|---|
| Classes of Activity (under EPA Act 1992 as amended): | 2.1 - Combustion of fuels in installations with a total rated thermal input of 50 MW or more. |
| Licence application received: | 29 September 2020 |
| PD issued: | 09 February 2022 |
| First party objection received: | 1 |
| Third Party Objection received: | 5 |
| Submissions on Objections received: | 1 |
| Regulation 28 Issued | 13 March 2023 |
| Additional Information Received | 04 April 2023 |
| Regulation 36(1) extension of time: | Yes (30 June 2022, 01 November 2022, 27 February 2023, 22 June 2023) |

Company

SSE Generation Ireland Limited (hereafter referred to as SSE or the licensee) applied to the Agency for a review of Industrial Emissions licence P0606-03. The licence is for a gas fired electricity generation station at Great Island, County Wexford. A power station has

been operated at this site since the 1960s, initially by the ESB. The licence was reviewed (P0606-03) in 2011, to allow for the replacement of the heavy fuel oil plant with a new gas-fired, combined cycle gas turbine (CCGT) power plant and the new CCGT plant began commercial operation in 2015. The licence was transferred to SSE Generation Ireland Limited in 2013.

There were 16 submissions received in relation to the application and these were considered by the Board at Proposed Determination (PD) stage.

Consideration of the Objections

The Technical Committee, comprising of Philip Stack (Chair), and Alison McCarthy, has considered all of the issues raised in the objections and this report details the Committee's comments and recommendations following the examination of the objections and the documents associated with the industrial emissions licence application.

This report considers the one first-party objection, five third-party objections and one third-party submission on objections received.

In addition, one Regulation 28¹ request for additional information was issued to SSE (dated 13 March 2023). A response was received on the 04 April 2023. Three third-party submissions on the Regulation 28 response were received between 11 May and 16 May 2023.

On 09 August 2022, the Board of the Agency approved the recommendation of the Licensing Inspector that an oral hearing of the objections was not required, and the reasons are set out in the Memorandum dated 10 May 2022 and the Addendum Memorandum dated 4 August 2022, which are available on the EPA website.

The main issues raised in the objections are summarised below. However, the original objection should be referred to for greater detail and further expansion of particular points.

First Party Objection

There was one first party objection on behalf of the licensee.

| | Date Received |
|---|---------------|
| Mr Mark McGarry, AXIS Environmental Services, Unit 3 Westlink Business Park, Clondrinagh, Limerick, County Limerick, on behalf of SSE Generation Ireland Limited. | 06/03/2022 |

The licensee has made seven points of objection relating to the condition and schedules of the PD. The points of objection are dealt with in the order below:

¹ Regulation 28 of the Environmental Protection Agency (Industrial Emissions)(Licensing) Regulations 2013 (S.I. 137 of 2013)

- A.1 Condition 1.3 Site Boundary
- A.2 Condition 3.9.7 Leak Detection System
- A.3 Condition 4.1.1(i) Continuous Monitoring
- A.4 Schedule C.5 Ambient Monitoring
- A.5 Auxiliary boilers – Monitoring and Flow Limits
- A.6 Schedule C2.2. Emission Point Reference Number SW8
- A.7 Schedule C.2.2. Chlorine Monitoring

For clarity the Submission on Objections made by a Third Party in relation to the First Party objection are dealt with in this section, in association with the objection to which they relate.

A.1 Condition 1.3 Site Boundary

Condition 1.3 states:

For the purposes of this licence, the installation authorised by this licence is the area of land outlined in blue on Drawing No. 859-0802-0011 submitted as part of the application on 07th May 2021. Any reference in this licence to "installation" shall mean the area thus outlined in blue. The licensed activity shall be carried on only within the area outlined.

The licensee has stated that the area outlined in blue reflects the area under the legal ownership of SSE, but that this area is not used in its entirety for the licensed activity and portions of this land are leased to alternative businesses which have no link or association with the activity under licence. The licensee attached a site plan with the proposed site boundary outlined in red. There are two hatched areas that the licensee proposes be excluded from being considered part of the licensed installation, as these areas are used by electrical subcontractors or the ESB which are not associated with or owned by SSE.

Submission on Objection:

Mr. Patrick Moran states that this appears to him to be a late stage in the process to propose a boundary change, "along with a piecemeal development with a grey area between zoning, planning and licensing".

Technical Committee's Evaluation:

Condition 1.3 sets out the location of the boundary of the installation where the relevant activity is to take place. The licensee has stated the area of land which falls outside the red boundary but is within the blue boundary line on Drawing No. 859-0802-0011 is under the ownership of the licensee, but not used for the licensed activity. The licensee has stated that no activity relating to the licence will be carried out on this land.

The baseline report submitted as part of this application notes that historical waste disposal activities were carried out at the site by previous operators. These waste disposal activities occurred at locations within the blue line boundary, but not within the red line

boundary proposed by the licensee. The PD contains management and groundwater monitoring requirements in relation to these onsite landfill areas. The TC considers that these areas should remain within the licensed site boundary and in the absence of a proposed site boundary from the licensee which excludes areas used by the ESB or electrical subcontractors, while retaining areas of environmental concern, such as the landfill areas, the TC does not recommend any change to the PD.

The TC notes the submission on this objection made by third party objector, Mr. Patrick Moran. The submission on the objection addresses the planning and licensing process generally and there is no specific point relating to a PD condition which the TC can address.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- To maintain the onsite landfill and groundwater monitoring infrastructure within the licensed boundary.
- In the interest of protecting the environment.

Recommendation: No change

A.2 Condition 3.9.7 Leak Detection System

Condition 3.9.7 states:

The licensee shall apply a leak detection system to all storage tanks, container and drum storage areas that contain liquid material other than water.

The licensee considers this condition to be very broad, as it relates to "all" storage tanks, container and drum storage areas. The licensee considers the application of a leak detection system excessive for small containment units (1 to 1000 litres), which are already stored in bunded locations. The licensee proposes applying leak detection based on a risk-based assessment of each storage tank and that daily visual inspections are sufficient for liquids contained in bunded areas with valid integrity certification.

Submission on Objection:

None.

Technical Committee's Evaluation:

The TC has examined the requirements of the Reference Document on the Best Available Techniques (BREF) on Emissions from Storage in relation to leak detection requirements. In the BREF for Emissions from Storage, BAT is to apply leak detection on storage tanks (BAT 29), underground and mounded tanks (BAT 35) containing liquids that can potentially cause soil pollution, as well as larger storage facilities (BAT 51) (according to the properties of the products stored) and to apply risk-based inspection processes (BAT 2 & 27).

The implementation of leak detection should be risk assessed and implemented as per the EPA's *'IPC Guidance Note Guidance Note on Storage and Transfer of Materials for Scheduled Activities'*.

The TC considers that the current punctuation of this condition implies that all individual containers require a leak detection system, whereas it is the TC's interpretation that it is 'container and drum storage areas' to which a leak detection system should be implemented. For example, an individual IBC may not merit installation of a leak detection system if the IBC is located with a bunded area and subject to inspection at a frequency that would enable the detection of leaks, before the leaked material could pose an environmental hazard.

Therefore, the TC recommends that Condition 3.9.7 should be slightly amended to clarify that leak detection is not necessary for each individual container, rather for '*container and storage areas*'.

Reason for Decision:

The TC has reached its conclusion on the basis of the following consideration:

- To enable proportionate implementation of leak detection systems.

Recommendation:

Replace Condition No. 3.9.7 with the following:

*The licensee shall apply a leak detection system to all storage tanks **and all** container and drum storage areas that contain liquid material other than water.*

A.3 Condition 4.1.1(i) Continuous Monitoring

Condition 4.1.1 (i) of the PD states:

The value of the 95% confidence intervals determined at the emission limit values shall not exceed the following percentages of the monthly average emission limit value:

Carbon monoxide (CO) 10%

Nitrogen oxides (NOx) 20%

The licensee notes that the PD has omitted 95% confidence intervals for SOx and dust, which, as outlined in the Large Combustion Plant Directive, need to be included in P0606-04 for the operation of the installation under gas oil. Technical Amendment C of the existing IE Licence, P0606-03, includes these confidence intervals.

Submission on Objection:

None.

Technical Committee's Evaluation:

SOx and dust are not parameters of concern for the installation when operating on natural gas; however, emission limit values (ELVs) and monitoring requirements do apply when the installation is operating on gas oil, and this is reflected in the requirements of the Large Combustion Plant Directive. The TC therefore recommends amending the condition to reflect the existing licence, as per the licensee's proposal.

Reason for Decision:

The TC proposes the below change and has reached its conclusion for the following reason:

- In the interest of the protection of the environment.
- To comply with the requirements of the Large Combustion Plant Directive (2001/80/EC).

Recommendation:

Amend condition 4.1.1(i) to read as follows:

The value of the 95% confidence intervals determined at the emission limit values shall not exceed the following percentages of the monthly average emission limit value:

Carbon monoxide (CO) 10%

Nitrogen oxides (NOx) 20%

Sulphur Dioxide (SO₂) 20%

Dust 30%

A.4 Condition 6.19 Receiving Water Monitoring

Condition 6.19 Receiving Water Monitoring states:

The licensee shall determine, for approval by the Agency a suitable receiving water monitoring point within six months of date of grant of licence.

The licensee has previously agreed a location with the Agency and tested at this location since 2011. They would therefore like to formalise the location in this licence.

Submission on Objection:

None.

Technical Committee's Evaluation:

Although the current monitoring point location has been agreed previously, it may not be the optimal choice currently or in the future. To that end, the TC proposes to retain the PD's current wording as it allows flexibility for a new monitoring point to be designated by OEE, if desired.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- In the interest of the protection of the environment.

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| Recommendation: No change |
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A.5 Auxiliary Boilers – Monitoring and Flow Limits

1. The PD has incorporated the auxiliary boilers under the Medium Combustion Plant Directive (2015/2193) into the licence. Operation time of the boilers is largely based on start-up of the CCGT, which is in response to a notification from EirGrid to start up the plant and therefore would not normally be at a time arranged by SSE. The boilers additionally do not operate for prolonged periods of time and obtaining a continuous 30-minute sample will be difficult. Interpretations in Condition 4 for non-continuous monitoring require 60-minute mean values to be compared against hourly average emission limit values. This could not be achieved on auxiliary boilers which operate for c. 10 minutes at a time depending on demand.
2. The Medium Combustion Plant (MCP) Directive emission limit values are not due to come into effect under Regulation S.I. No. 595 of 2017, until the 01 January 2025 (Article 11-2). The licensee requests to clarify in the licence that testing is not required to commence until 2025.
3. The PD requests periodic measurements to be completed on an annual basis. In line with Schedule 3, Part 1 of MCP Regulations, periodic measurements are required every three years for MCPs with a rated thermal input equal to or greater than 1 MW and less than or equal to 20 MW. As the auxiliary boilers are within this range (each boiler is 15.21 MW) and are not classed as 'new plant', the licensee requests that the test frequency be reduced from an annual requirement to once every three years.
4. The licensee notes that there are two auxiliary boilers, both of which would operate simultaneously during start-up of the CCGT. Each boiler has a maximum emission rate of 20,000 Nm³, a combined emission of 40,000 Nm³, however the flow ELV applied in the PD is 20,000 Nm³, which is insufficient to cover the emissions of both boilers during a start-up event.

Submission on Objection:

None.

Technical Committee's Evaluation:

1. The TC notes that the EIS submitted in support of the application indicates that it is expected that the auxiliary boilers would, if required, operate for 2-3 hours on one or two occasions per month. The TC recognises that this may not reflect the current operating conditions of the CCGT, given the necessity for more flexible operation of gas-fired power plants to accommodate a higher portion of renewable electricity. The MCP Directive does not specify a minimum sampling period for non-

- continuous sampling. The TC therefore proposes amending Condition 4.1.2. to permit an alternative sampling period to be employed for parameters where the current 60-minute sampling period proves impractical or impossible, subject to the approval of the Agency.
2. The ELVs applied in the PD for emission point A3-1 (Auxiliary Boiler Stack) do not come into effect until January 2025. The TC agrees that the licensee should not be required to commence monitoring until that date.
 3. Schedule 3, Part 1 of the MCP Regulations (S.I. 595/2017), requires periodic measurements at a three-year interval for MCPs with a rated thermal input equal to or greater than 1 MW and less than or equal to 20 MW. Article 10(1) of the above regulations requires that new plants should be aggregated and considered as a single MCP for evaluation purposes, however as the plants in question were put into operation prior to 20 December 2018, it is appropriate to consider them as two individual 'existing' MCPs. The TC therefore agrees with the licensee's stance that the boilers should be monitored at a three year interval, rather than annually.
 4. The TC agrees that the correct flow ELV should be 40,000 m³.

Reason for Decision:

The TC has reached its conclusion on the basis of the following consideration:

- Consistency with the requirements of the Medium Combustion Plants Regulations (S.I. 595/2017).

Recommendation:

Amend condition 4.1.2 to read as follows:

Non-Continuous Monitoring:

- (i) *For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant emission limit value.*
- (ii) *For nitrogen oxides and carbon monoxide, no 60-minute mean value shall exceed the hourly average emission limit value*
- (iii) *For all other parameters, no 60-minute mean value shall exceed the daily average emission limit value.*
- (iv) *For any parameter applicable to the auxiliary boilers where, due to sampling or analytical limitations, a 60-minute sample is inappropriate, a suitable sampling period should be employed, subject to approval by the Agency. The value obtained therein shall not exceed the emission limit value.*

Amend the table relating to emission point A3-1 (Auxiliary Boiler Stack) in *Schedule B.1. Emissions to Air* as follows:

Emission Point Reference No. A3-1 (Auxiliary Boiler Stack)
 Location: E268912, N114563
 Volume to be emitted: Maximum per hour: **40,000** m³
 Minimum discharges height: 30 m above ground

| Parameter | Emission Limit Value (mg/m ³) |
|---------------------------------------|---|
| Nitrogen Oxides as (NO ₂) | 200 ^{Note 1, 2} |

Note 1: Emission limit value applies from 01 January 2025.

Note 2: Emission limit value does not apply when the auxiliary boilers operate for a combined total of less than 500 operating hours per year, as a rolling average over a period of five years.

Amend the table relating to emission point A3-1 (Auxiliary Boiler Stack) in *Schedule C.1.2 Monitoring of Emissions to Air* as follows:

Emission Point Reference No. A3-1 (Auxiliary Boiler Stack)

| Parameter | Monitoring Frequency ^{Note 1} | Analysis Method/Technique |
|---------------------------------------|--|---------------------------|
| Nitrogen Oxides as (NO ₂) | Every three years | Standard Method |
| Carbon Monoxide (CO) | Every three years | Standard Method |
| Volumetric flow | Every three years | Standard Method |

Note 1: **Monitoring to commence in 2025, and to be repeated every three years thereafter.**

A.6 Schedule C2.2. Emission Point Reference Number SW8

For emission point SW8, *Schedule C2.2 Monitoring of Emissions to Water*, currently requires use of "Standard method or alternative to be agreed by the Agency" under 'Key Equipment/Technique' for the continuous monitoring of flow. The licensee states that their investigations into the installation of a flow meter on this line have deemed it not practical due to the low flow rates and large volume of silt, seaweed, fish and debris backwashed from the intake filters. They propose instead to determine flow by calculation based on the pump design and number of hours of operation.

Submission on Objection:

None.

Technical Committee's Evaluation:

The TC notes the argument put forward by the licensee, but also notes that the current wording of the schedule permits an alternative method of continuous flow measurement to be implemented, if agreed by the Agency.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- In the interest of the protection of the environment.

- The current wording of the PD provides adequate flexibility.

Recommendation: No change.

A.7 Schedule C.2.2. Chlorine Monitoring

The PD increases the frequency of chlorine sampling in SW2 and SW8 from weekly and quarterly monitoring respectively to daily testing, which the licensee considers excessive.

Submission on Objection:

In his submission on the objections received, Mr. Pat Moran mentions chlorine monitoring, but does not discuss it further, rather focusing on the nature and quantity of chlorinated cooling water discharged and its environmental impacts.

Technical Committee’s Evaluation:

The TC notes that the concentration of chlorine in the effluent from SW2 and SW8 is one of the key causes of concern expressed in the objections to the PD received. Furthermore, due to the apparently variable dosing of chlorine, the TC notes that it may be difficult to obtain a representative reading from a single weekly sample. Inland Fisheries Ireland (IFI) recommended the continuous monitoring of chlorine in their submission. The TC proposes therefore that the licensee provide monitoring of chlorine (as Total Residual Chlorine) at a minimum of hourly intervals using a continuous residual chlorine monitor.

The TC also proposes to alter the parameter listed in *Schedule B.2 Emissions to Water* from ‘chlorine’ to ‘total residual chlorine’ to maintain consistency with *Schedule C.2.2 Monitoring of Emissions to Water*.

Reason for Decision:

The TC has reached its conclusion on the basis of the following consideration:

- To ensure compliance with emission limit values is adequately demonstrated.

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| Recommendation: | |
| Amend the tables relating to emission points SW2 and SW8 in <i>Schedule B.2 Emissions to Water</i> as follows: | |
| Emission Point Reference No. | SW2 – Condenser Cooling Water |
| Name of Receiving Waters: | Barrow Estuary |
| Location: | 269030E, 114580N |
| Volume to be emitted: | Maximum rate per hour: 33,000 m ³ |
| Parameter | Emission Limit Value |
| Temperature | 12°C above estuarine water 10°C (98%ile of hourly values over a year) |
| Thermal Load | 330 MW _{th} (maximum) 316 MW _{th} (98%ile of hourly values over a year) |
| Total Residual Chlorine | 0.3 mg/l |

| | | |
|--------------------------------|--|--|
| Emission Point Reference No. | SW8 – Cooling Water Screen Wash Water | |
| Name of Receiving Waters: | Barrow Estuary | |
| Location: | 268621E, 114560N | |
| Volume to be emitted: | Maximum in any one day: 1,970 m ³ | |
| Parameter | Emission Limit Value | |
| Total Residual Chlorine | 0.3 mg/l | |

Amend the tables relating to emission points SW2 and SW8 in *Schedule C.2.2 Monitoring of Emissions to Water* as follows:

Emission Point reference No: SW2

| Control Parameter | Monitoring Frequency | Analysis Method/Technique |
|--------------------------------|----------------------|---|
| Flow | Continuous | Calculation from pump usage with recorder |
| Temperature | Continuous | On-line temperature probe with recorder |
| Total Residual Chlorine | Hourly | Continuous Residual Chlorine Monitor |

Emission Point reference No: SW8

| Control Parameter | Monitoring Frequency | Key Equipment/Technique |
|--------------------------------|-------------------------------------|---|
| Total Residual Chlorine | Daily Grab Sample ^{Note 1} | Standard method |
| Flow | Continuous | Calculation from pump usage with recorder |

Note 1: Sampling shall take place at an appropriate interval after chlorine dosing. The interval to be used shall be agreed in writing by the Agency.

Third Party Objections

Five Third Party Objections are considered, for convenience they are labelled objections number 1, 2, 3, 4, and 5 respectively.

| <i>Objection No. 1</i> | <i>The points of objection relate to the following issues:</i> | <i>Date Received</i> |
|--|---|----------------------|
| Mr. William O Dwyer and Mr. Patrick Dwyer, Deise Premium Aquaculture, Ballyhack, Arthurstown, New Ross, Co. Wexford. | <ul style="list-style-type: none"> • Water quality and sodium hypochlorite usage • Compliance with Best Available Techniques • Environmental Impact Assessment | 06/03/2022 |

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|--|---|----------------------|
| <i>Objection No. 2</i> | <i>The points of objection relate to the following issues:</i> | <i>Date Received</i> |
| Mr. Paul Barlow, Woodstown Bay Shellfish Ltd., The Harbour, Dunmore East, Waterford, Co. Waterford | <ul style="list-style-type: none"> • Planning status of the installation • Environmental Impact Assessment • Compliance with Best Available Techniques • Appropriate Assessment • Water Quality • The licence review process and Proposed Determination • Public participation | 07/03/2022 |
| <i>Objection No. 3</i> | <i>The points of objection relate to the following issues:</i> | <i>Date Received</i> |
| Mr. Patrick Moran, Oysters for Suir, The Mount, Cheekpoint, Waterford, Co. Waterford. | <ul style="list-style-type: none"> • The licence review process and Proposed Determination • Environmental Impact Assessment | 07/03/2022 |
| <i>Objection No. 4</i> | <i>The points of objection relate to the following issues:</i> | <i>Date Received</i> |
| Ms. Karin Dubsky, Coastwatch Ireland, Civil, Structural and Environmental Engineering, TCD, Dublin 2, Co. Dublin. | <ul style="list-style-type: none"> • Water quality • The licence review process and Proposed Determination • Environmental Impact Assessment • Appropriate Assessment • Compliance with Best Available Techniques • Planning status of the installation | 08/03/2022 |
| <i>Objection No. 5</i> | <i>The points of objection relate to the following issues:</i> | <i>Date Received</i> |
| Mr. Peter Sweetman, on behalf of Wild Ireland Defence CLG, Harrington & Company, Newtown, Bantry, Co. Cork | <ul style="list-style-type: none"> • Water quality • Environmental Impact Assessment • Appropriate Assessment • Planning status of the installation | 08/03/2022 |
| <i>Submission on an objection</i> | <i>The points raised relate to the following issues:</i> | <i>Date Received</i> |
| Mr. Pat Moran, The Mount, Cheekpoint, County Waterford | <ul style="list-style-type: none"> • The SSE submission regarding chlorine monitoring. • A summary and statement of support of points made in objections 1, 2, 4, and 5. | 08/04/2022 |

Predominantly, the points of objection do not relate to specific conditions of the Proposed Determination, but rather relate to the issues listed below. For clarity any submissions on objections are dealt with in association with the issue to which they relate. The Technical Committee has grouped these objections or components of objections based on the issues raised.

- B.1 Planning Status of the Installation
- B.2 Compliance with Best Available Techniques
- B.3 Environmental Impact Assessment
- B.4 Appropriate Assessment
- B.5 Water Quality
- B.6 The Licence Review Process and Proposed Determination
- B.7 Public Participation

The Technical Committee wishes to clarify that any objection or submission on objection made to the Agency in relation to a licence application, can only be made to the Proposed Determination, as approved by the Board of the Agency. Therefore, points raised by the objectors in relation to the Inspector's Report have been noted but are not discussed in great detail in this report.

As stated earlier, on 09 August 2020, the Board of the Agency decided not to hold an oral hearing of objections to the Proposed Determination. The objections and submissions on objections have been fully considered by this Technical Committee.

B.1 Planning Status of the Installation

The objectors state that the installation, as operating, does not have planning permission for the scale at which it operates (namely generation capacity and cooling water demand) and is a materially different installation from that granted planning permission by An Bord Pleanála under planning permission ref. no. 26.PA0016.

Submission on Objection:

Mr. Moran states "*the Law for the protection of the Environment is optional as regards Planning, Licensing and also when it comes to assessing the individual and in combination effects of Licences*"

Regulation 28

The TC determined that insufficient information was available to it to establish conclusions in relation to the points raised above. Therefore, a Regulation 28 notice was issued to SSE dated 13 March 2023, and a response received on 04 April 2023. The response was then circulated to the objectors and three submissions on the Regulation 28 response were received.

The Regulation 28 requested details on the following:

1. The input (MWth) and output (MWe) capacities of the installation referenced in the licence review application, differ from those referenced in the previous licence review

- application (P0606-03) and in planning permission (Ref. no. 26.PA0016), granted for the construction of the CCGT by An Bord Pleanála.
2. Having regard to sections 1, 3, and 4 of the objection by Mr. Paul Barlow, received by the Agency on 07 March 2022, confirm that planning permission is in place for the installation, as constructed and operated, and has been agreed with the planning authority.

The Regulation 28 response included:

- An explanation that the estimated ranges of capacity referred to in the EIS and planning documents were based on similar power plants built elsewhere, and that the actual input and output capacities are based on the specific ambient atmospheric pressure and temperature and river water temperature at the installation's location, which could only be definitively ascertained after the installation had been constructed.
- Confirmation that the installation is compliant with its planning permission regarding capacity, cooling water usage, and traffic impacts.

Submissions on the Regulation 28 Response

Mr. Paul Barlow of Woodstown Bay Shellfish Limited made a submission on the Regulation 28 response on 11 May 2023, which contained the following points:

- The Regulation 28 response is extremely brief and vague and does not contain any evidence to corroborate its claims.
- Major refurbishments and upgrades have been carried out at the installation since the original planning permission was granted. The current installation does not reflect that described in the EIS submitted in support of the planning permission ref. no. 26.PA0016.
- A number of references were made to the objector's previous submissions in relation to topics not relevant to the Regulation 28 RFI response. These include an oral hearing request, the discharge of chlorinated cooling water and its ecological impacts, and the location of the discharge within a European Natura 2000 site. Mr. Barlow states that no satisfactory response to their concerns and those of other stakeholders has been received.

Mr. Pat Moran made a submission on the Regulation 28 response on 15 May 2023.

- Mr. Moran states that the legal issues relating to the issuance of the reviewed licence P0606-03, the current licence review, and the planning permission of the installation should be referred to the Attorney General for a legal interpretation. He questions whether an agreement existed outside the planning and licensing regimes for the operation of the installation.
- Mr. Moran reiterates his position that the difference between the amount of sodium hypochlorite currently used at the installation and the quantity proposed in the EIS submitted in support of planning is unacceptable and that the installation should be limited to the quantity given in the EIS and that the installation previously operated at this level of sodium hypochlorite usage (<5 tonnes per annum). He states that because of this difference the installation as operated cannot be regarded as having planning permission and this effectively amounts to a retrospective modification of the planning permission.

- The submission includes a list of questions not related to the Regulation 28 response in relation to chemical storage and use onsite, the quantity of sodium hypochlorite used and its impacts on spratfall (shellfish), use of sodium hypochlorite by Waterford County Council to chlorinate surface waters, and the IE licensing process.

Mr. William and Mr. Patrick Dwyer made a submission on the Regulation 28 response on 15 May 2023, which repeats concerns made in previous submissions about the impact of sodium hypochlorite in the installation's cooling water on the Waterford Estuary and the negative impact that they believe this is having on their shellfish business. These are addressed elsewhere in the report

Technical Committee's Evaluation:

The installation was granted planning permission by An Bord Pleanála (ref. no. 26.PA0016) on 29 July 2010 for a Combined Cycle Gas Turbine with a 741 MWth input and 430 MW electrical (MWe) output and this is the figure given in the Inspector's Report associated with licence P0606-03. The review application is for an installation of 795 MWth input capacity and 464 MWe output.

The Regulation 28 response provided by the licensee highlights that the generation capacity of the installation was and could only be definitively ascertained after the installation had been constructed. This is stated in the EIS and where the input or output capacities were referred to, they were given as estimated ranges of capacity based on similar power plants built elsewhere. Testing carried out to determine the actual capacity of the installation during the commissioning phase indicated that under the specific ambient atmospheric pressure and temperature and river water temperatures at this site, the installation was capable of obtaining an output capacity of 464 MWe. The planning authority is aware that this is the demonstrated operating capacity, as it has been referred to in multiple subsequent planning applications for the site.

No limits on the volume of cooling water utilised by the installation were set by planning permission ref. no. 26. PA0016.

The objection does not address any particular aspects of the PD with respect to this issue. Any further queries regarding the planning permission should be addressed to the planning authorities – Waterford County Council and An Bord Pleanála.

Reason for Decision:

No points raised in relation to the PD.

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| Recommendation: No change |
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B.2 Compliance with Best Available Techniques

1. The objectors state that the installation, as operating, does not comply with Best Available Techniques (BAT) with respect to the use of a once-through cooling water system, continuous dosing of sodium hypochlorite, the residual chlorine concentration in the discharged cooling water, and prevention of fish entrainment.

2. Ms. Karin Dubsky (Coastwatch) states that the proposed temperature, phosphate and flow ELVs are not BAT and the absence of pH ELVs on SW2 and SW8 is not BAT.

Submission on Objection:

None.

Technical Committee's Evaluation:

1. The installation was assessed against the *Commission Implementing Decision (EU) 2017/1442 establishing BAT Conclusions for Large Combustion Plants (CID)* as part of the licence review application and found to have been in compliance with the BAT specified therein. All ELVs and monitoring requirements specified in *Schedule B: Emission Limits* and *Schedule C: Control and Monitoring* of the PD are set in accordance with the CID. Additional conditions incorporated into the PD to address BAT conclusions are specified in Appendix 6 of the IR.

The most recent publication on BAT with respect to industrial cooling is the *Reference Document on the application of Best Available Techniques to Industrial Cooling Systems (BREF)* published in December 2001. The licensee does not appear to have assessed the installation against this document as part of the application; however, it has been considered by the inspector during their assessment and is referenced in the IR. Having reviewed this document, it is the TC's conclusion that the installation, as built and operated, is compliant with the BAT described within. Specific concerns relating to BAT raised by the objectors are addressed in further detail below.

The IR also lists the horizontal BREFs, the Reference Document on the Best Available Techniques on Emissions from Storage and the Reference Document on the Best Available Techniques for Energy Efficiency as relevant to the Agency's assessment.

The BREF on Industrial Cooling Systems states "to achieve a high overall energy efficiency when handling large amounts of low-level heat (10-25°C), it is BAT to cool by open once-through systems". The SSE installation at Great Island produces large amounts of low-level heat, and as such its once-through cooling system can be considered BAT compliant.

For seawater, BAT-levels of free residual oxidant (FRO) in the discharge, associated with this activity, vary with applied dosage regime (continuous and discontinuous), dosage concentration level, and with the cooling system configuration from ≤ 0.1 mg/l to 0.5 mg/l, with a value of 0.2 mg/l as a 24-hr average. The PD sets chlorine ELVs for SW2 and SW8 of 0.3 mg/l. With respect to the continuous use of a biocide, the BREF on Industrial Cooling Systems states that "depending on species and water temperature (above 10-12°C) continuous treatment at low levels may be necessary". The licensee states in their first party objection to the PD that chlorine dosing ceases completely at the plant when the temperature drops below 12°C. The consumption rate of chlorine at the installation is at the lower range of typical values given in Table 3.8 of the BREF on Industrial

Cooling Systems for Dutch once-through wet cooling systems utilising salt or brackish water. This installation abstracts water from an estuarine, brackish environment. The TC recommends an increase in the frequency of chlorine monitoring, as previously discussed in section A.7 of this report.

On the adaptation of water intake devices to lower the entrainment of fish and other organisms, the BREF on Industrial Cooling Systems states that this is highly complex and site-specific and that “from the applied or tested fish protection or repulsive technologies, no particular techniques can yet be identified as BAT”. Condition 2.2.2.7 (ix) of the PD requires the applicant to review the reduction of fish entrainment and fish impingement including measures for the safe passage of fish in the vicinity of the cooling water intake.

2. With respect to the proposed monitoring parameters and ELVs, the once-through cooling water system at the installation only adds sodium hypochlorite to the cooling water, the TC therefore considers a phosphorus ELV at SW2 and SW8 unnecessary.

SW2 discharges to an estuarine environment, within which water will at high tide have a pH similar to that of seawater (approximately 8.1). Additionally, the cooling water will be substantially diluted upon discharge to the estuary, and the sodium hypochlorite will rapidly breakdown due to the highly oxidising nature of the chemical. It is therefore not foreseen that the addition of sodium hypochlorite to the cooling water will raise the pH of the discharge significantly or with any lasting effect. The TC therefore considers a pH ELV at SW2 and SW8 unnecessary.

The flow rate is derived from the volume of water required to cool the installation, which is compliant with BAT.

Reason for Decision:

Other than the increase in the frequency of chlorine monitoring discussed in section A.7 of this report, the TC proposes no change and has reached its conclusion for the following reason:

- The installation as described in the application and PD are compliant with BAT.

Recommendation: No change

B.3 Environmental Impact Assessment

The objectors state (for particular details see third party objection tables above) that there was a lack of adequate Environmental Impact Assessment under Council Directives 2011/92/EU and 2014/52/EU undertaken in relation to the activity and that the material before the Agency does not equip it to satisfy its obligations under the EIA Directive (Habitats Directive and EPA Act 1992 as amended). The EIS submitted originally in support

of planning permission ref. no. 26.PA0016 and in support of this licence review application is said to be unrepresentative of the installation as built and operated.

It is expressed that the cumulative and in combination impact of the discharge of cooling water to the estuary (part of the River Barrow and River Nore SAC) has not been assessed in accordance with the EIA Directive.

It is contended that 2014/52/EU EIA Directive applies from 16 May 2017 and the objector is of the opinion that the Agency is mistaken in assessing the licence application under the 2011 EIA Directive.

Submission on Objection:

Mr. Moran states "*the Law for the protection of the Environment is optional as regards Planning, Licensing and also when it comes to assessing the individual and in combination effects of Licences*". He states that the submission calls into question the value of EIS statements.

Technical Committee's Evaluation:

The TC has reviewed the assessment in the Inspector's Report and, taking into account all objections and submission on objections received, and the contents of this TC report, the TC considers that the potential significant direct and indirect effects of the activity have been identified, described and assessed in an appropriate manner as respects the matters that come within the functions of the Agency, and as required by Section 83(2A) of the EPA Act 1992 as amended.

The TC notes that Irish Legislation entrusts the EIA process to a number of competent authorities, as provided for by the EIA Directive. Directive 2011/92/EU as amended by Directive 2014/52/EU came into effect on 16th May 2017. Article 3 of the 2014 Directive includes transitional provisions where the 2011 EIA Directive applies to applications initiated prior to this date. An EIS was submitted to the planning authority prior to 16 May 2017; and the planning authority carried EIA out under the 2011 EIA Directive requirements. The Agency carried out EIA on the same EIS and supplementary information. The TC notes the Agency reached a reasoned conclusion on the significant effects of the activity on the environment as contained in the IR and PD which is a requirement of the Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

The TC is satisfied that the EIA undertaken by the Inspector included an examination, analysis and identification which identified, described and assessed, the likely significant direct and indirect effects of the activity on the environment as respects the matters which come within the functions of the Agency. The TC is satisfied that the assessment of the activity carried out by the Agency for the purpose of EIA, as documented in the IR and in this TC report, is complete.

It is considered that the monitoring, mitigation and preventative measures proposed in the Inspector's Report, and as detailed in this TC report, will enable the activity to operate without causing environmental pollution, subject to compliance with the licence conditions included in the PD, with the inclusion of the amendments proposed in this report.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- An EIA has been completed in accordance with Section 83 of the EPA Act 1992 as amended, and is documented in the Inspector's report and addenda.

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| Recommendation: No change |
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B.4 Appropriate Assessment

Mr. Barlow expresses the view that no Appropriate Assessment (AA) was conducted and that the impact of the installation on species of conservation interest has not been assessed. He states that the planning authority did not conduct AA on the installation's water abstraction at the scale at which it currently occurs.

Ms. Dubsy, on behalf of Coastwatch, expresses the following views:

- *That there is no AA screening or Stage II AA and that any purported AA does not meet the standard of assessment required in Article 6(3) of the Habitats Directive, particularly with respect to cumulative assessment of the installation in combination with other pressures on the waterbody.*
- *The EIA for the installation is inaccurate and does not deal with fish entrainment during abstraction of cooling water from the estuary and the effects on fish of added biocides.*
- *The information on the protected fish species for which the Waterford Estuary and Lower River Suir SACs are designated, is inadequate to the extent that the EPA cannot stand over the adequacy of the abstraction conditions to protect these fish species, none of which are at 'good' status. Consideration is not being given to impacts from the installation when protected fish are migrating past the installation or when high numbers of sprat congregate in the estuary, attracting twaite shad and possibly other species to feed on them.*
- *The occurrence of mass deaths of estuarine macroinvertebrates.*
- *That the EPA needs to set a high enough bar to provide assurance that the habitats and species for which the two SACs were designated are going to improve (see CJEU Case C-404/09 EC v Kingdom of Spain).*

Mr. Sweetman also expresses the view that no AA or AA screening was conducted and that the impacts on species of conservation interest at the affected European sites has not been carried out in compliance with Article 6 of the Habitats Directive.

Submission on Objection:

Mr. Moran states "the Law for the protection of the Environment is optional as regards Planning, Licensing and also when it comes to assessing the individual and in combination effects of Licences". He states that the submission calls into question the value of AA and NIS statements.

Technical Committee's Evaluation:

An Appropriate Assessment Screening Determination was carried out on 6th May 2021 and published on the licence application page on Agency's website. This informed the applicant that a Stage II Appropriate Assessment would be required and acknowledged that a Natura Impact Statement had already been received by the Agency.

The Natura Impact Statement submitted as part of the application contains an assessment of the possible impacts of the installation on designated species and habitats in the River Barrow and Nore SAC and Lower River Suir SAC, including the cumulative effects of the installation in combination with other pressures on the water bodies. The NIS concluded that there would be no impact on fish species migrating past the installation given the very limited impact that the discharge from the installation has on the receiving water and the short period that migrating fish spend in the portion of the estuary near the discharge point. The spawning grounds of salmon (*salmar salmar*), twaite shad (*alosa fallax*), sea lamprey (*petromyzon marinus*), brook lamprey (*lampetra planeri*), and river lamprey (*lampetra fluviatilis*) are all upstream of the installation and it is not feasible that they would be impacted by the discharge from the installation.

The EIS submitted with the application also addressed the potential impacts of the installation on fish, shellfish and benthic communities in the receiving water, including the possibility of fish entrainment during abstraction of cooling water and the impact of residual chlorine in the cooling water discharge.

The TC notes that the reduced chlorine ELV for cooling water in the PD means that the overall permissible load of chlorine discharged from the installation will be lower than the existing licence, notwithstanding the addition of the discharge from SW8. This alone will not significantly improve the status of the designated species and habitats in the SACs, as the major pressure on the water bodies derives from excess nutrient input, rather than the installation, which was not identified as a significant pressure².

The TC has reviewed the Inspector's Appropriate Assessment in the Inspector's Report and, taking into account all objections and the submission on objections received, the TC is satisfied that the Inspector's Report provides an adequate examination and evaluation of the effects of the activity on the European Sites concerned, the River Barrow and River Nore SAC (002162) and the Lower River Suir SAC (002137), in the light of their conservation objectives.

Reason for Decision:

The TC proposes no change to the PD and has reached its conclusion for the following reason:

- The TC is satisfied that the Agency should adopt the report of the inspector, and this report, and that the assessment concludes that the activity will not adversely affect the integrity of any European site.

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| Recommendation: No change |
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² Water Quality in Ireland 2016–2021. Environmental Protection Agency. Published 14th October 2022. Link: [Water-Quality-in-Ireland-2016-2021-Report.pdf \(epa.ie\)](https://www.epa.ie/publications/reports/water/water-quality-in-ireland-2016-2021-report.pdf)

B.5 Water Quality

1. Mr. Patrick Dwyer states that the unregulated quantity of sodium hypochlorite used by the applicant is causing the destruction of phytoplankton in the estuary and is having lethal and sublethal effects on shellfish and their larvae. It is this loss of primary productivity that is causing a collapse in shellfish in the estuary. Mr. Dwyer is of the view that the high levels of dissolved inorganic nitrogen observed in the estuary may be the result of a lack of phytoplankton to assimilate the nitrogen, rather than agricultural pollution.
2. Three submissions stated that no regard was given to the achievement of Water Framework Directive objectives and/or noted that the status of the receiving waterbodies was 'at risk of not meeting good status'.
3. Mr. Paul Barlow stated that the statement that the installation at Great Island "has not been identified as a significant pressure" on the three nearby transitional water bodies is incorrect. The scale of concern about the discharges to the marine environment from the plant from the local fishing and aquaculture industry is in itself an identification of a significant pressure.
4. Mr. Barlow notes that the 3rd cycle draft Colligan-Mahon Catchment Report (EPA, 2021) for the Barrow-Suir-Nore Estuary incorporates 'recommended areas for action' in relation to a submission by Bord Iascaigh Mhara in relation to "shellfish protected areas, norovirus impacts, concern re. sodium hypochlorite use (point source), important inshore fisheries".
5. Mr. Barlow states that the Marine Institute assessment of dissolved metals in shellfish waters and microbial quality in shellfish flesh is insufficient as it does not address chlorine and chlorine compounds and the Waterford Harbour Pollution Reduction Programme's conclusions re. the key pressures on the estuary are outdated.
6. Ms. Karin Dubsky notes that the Waterford estuary is categorised as 'at risk' and is concerned about the cumulative impacts of this discharge on the Waterford estuary, alongside pressures including the eutrophic status of the estuary, silt released from plough dredging, and higher water temperatures during heat waves. Ms. Dubsky states that the objectives of the WFD have not been properly considered.
7. Ms. Dubsky expresses concern about the impact on protected fish species caught in the abstraction process particularly during migration past the cooling water intake, and when sprat are congregating. Ms Dubsky expressed concern that the IR did not adequately address the impact on twaite shad or other fish mortalities at the intake in the EIA and AA.
8. Ms. Dubsky is of the view that the PD should include microbial monitoring of the cooling water discharge as the biocide regime and warmer water may encourage growth of harmful bacteria. When considered with other pressures, including

Waterford sewage treatment plant upstream, this poses a health risk to consumers of shellfish harvested from the area.

Submission on Objection:

Mr. Pat Moran states that there are significant impacts from the chlorinated cooling water discharge on water quality in the estuary. He refers to widespread decimation of shellfish in the area and specifically refers to a reef known locally as the Mussel Bank, which upon the mass die-off of mussels, collapsed and was lost along with the reef ecosystem it supported.

Technical Committee's Evaluation:

1. The TC has reviewed the Inspector's Report and no issues or concerns in relation to the impact of chlorine and sodium hypochlorite from the cooling water discharge on phytoplankton and shellfish have been raised, which have not been already assessed as part of the licence review assessment process. The IR notes that there was no evidence that phytoplankton are being impacted from the discharge from the ecological survey carried out in 2020, and that the results are consistent with previous surveys.

The TC further notes that the status of phytoplankton in the Barrow Suir Nore Estuary and in and the Lower Suir Estuary (Little Island – Cheekpoint) WFD waterbodies has been recently updated³. Phytoplankton status was assessed to be 'good' in the Barrow Suir Nore Estuary and 'high' in the Lower Suir Estuary (Little Island – Cheekpoint) from 2016–2021. The status of phytoplankton in the downstream Waterford Harbour was assessed to be 'high' and it was assessed as 'moderate' in the upstream New Ross Port. The primary pressure on these waterbodies is from nutrient input in the wider catchments³. Waterford Harbour, New Ross Port and the Middle Suir Estuary have all shown significant upward trends in nitrogen concentrations over the 6-year period 2016–2021³.

2. The TC's opinion is that due regard has been given to the achievement of the WFD objectives, and the IR is clear that the receiving waterbodies in the vicinity of the installation are 'at risk' of failing to achieve their WFD objectives. For clarity, the TC notes that the WFD objectives for these waterbodies is to achieve 'good' status by 2027. The IR notes that the primary pressure on the waterbodies is from nutrient pollution from diffuse agriculture and that the installation at Great Island has not been identified as a significant pressure^{4,5}.

The TC further notes that it is clarified in the IR that the licence review includes only one change in emissions to surface waters (discharge at SW8 with a reduced chlorine ELV of 0.3 mg/l) from the previous licence (P0606-03). Under the previous

³ Water Quality in Ireland 2016–2021. Environmental Protection Agency. Published 14th October 2022. Link: [Water-Quality-in-Ireland-2016-2021-Report.pdf \(epa.ie\)](https://www.epa.ie/publications/reports/water/water_quality_in_ireland_2016_2021_report.pdf)

⁴ <https://gis.epa.ie/EPAMaps/Water>

⁵ <https://www.catchments.ie/>

licence review ELVs were established for emissions to surface waters to satisfy the requirements of the European Communities (Surface Waters) Regulations, 2009.

3. The TC is satisfied that the IR correctly identified that the installation has not been identified as a 'significant pressure' on the receiving WFD waterbodies. The TC notes that a robust scientific assessment process has been carried out to determine the significant pressures on waterbodies including over 140 datasets, modelling tools and knowledge from field and enforcement staff from Local Authorities, Inland Fisheries Ireland and the EPA. Impacts from agriculture have been identified as a significant pressure on the receiving waterbodies in the vicinity of this installation^{4,5}.
4. The TC notes that the 3rd cycle draft *Colligan-Mahon Catchment Report* lists agriculture as the significant pressure on the Barrow Suir Nore Estuary. There are multiple reasons given for selection of this waterbody as a 'Recommended Area for Action' in the report, however the individual reasons are not expanded on or explained. The TC notes that Bord Iascaigh Mhara did not make any submission in relation to the licence review application. The 2019 *Waterford Harbour Priority Area for Action – Desk Study Summary* by the Local Authority Waters Programme also identifies the main pressures on the Waterford Harbour Priority Area for Action as: elevated nitrate and elevated phosphorus applied as agricultural fertiliser, domestic waste water treatment systems or septic tanks, urban run-off and urban wastewater storm water overflows during heavy rainfall. The identified pressures do not include cooling water discharges.
5. Section 6.2.1 of the IR describes the three receiving waterbodies in the vicinity of the installation in terms of their WFD status. Information is provided in the IR on the Marine Institute's monitoring of shellfish waters in this area, and that the protected area objectives for shellfish has been met in the receiving waterbodies. For clarity the TC notes that the Marine Institute's shellfish flesh monitoring programme is designed to meet the requirements of the WFD and the physico-chemical elements of the Shellfish Waters Directive (which has been subsumed into the WFD) (i.e., monitoring of shellfish flesh for microbes and trace metals).

The Waterford Pollution Reduction Programme referred to in the IR is dated 2012 and no further updates have been published. These programmes do not fall under the remit of the EPA. However, in relation to chlorine and chlorine compounds, the TC notes that the IR describes the chlorine sampling carried out in the estuary and in the vicinity of the outfall in 2021. Concentrations of free chlorine were low throughout the estuary. The survey did not reveal any chlorinated by-products above laboratory analysis limits of detection. Research carried out by an expert panel into chlorination by-products from power station cooling waters found that they have a limited tendency to bio-accumulate and, apart from the immediate vicinity of a cooling water discharge, are found at 2–3 orders of magnitude below their acute toxic levels⁶

⁶ Chlorination by-products in power station cooling waters. *British Energy Estuarine & Marine Studies*. Scientific Advisory Report Series, 2011, no. 009.

The TC has recommended hourly total residual chlorine monitoring at SW2 and daily monitoring at SW8 (see Section A.7 of this report). An emission limit value has been set for total residual chlorine of 0.3 mg/l at SW2 and SW8. Condition 2.2.2.7(vii) of the RD (Schedule of Environmental Objectives and Targets) also requires the licensee to examine practicable options for the reduction of chlorine emissions to water, including alternatives to the use of biocide for maintaining the cooling water system. The TC considers these measures will ensure protection of the receiving waters and shellfish areas subject to compliance with the licence.

6. The TC has reviewed the IR and the previous submissions. The issue of cumulative impacts was previously raised in the submissions in particular in relation to dredging and discharges from waste water treatment plants and other industries. The IR noted that the sampling survey carried out for chlorine, VOCs, pH and temperature provided data from the wider estuary and was indicative of the cumulative impacts on these parameters. The IR notes that this chemistry sampling survey did not show any impact from the discharge on the temperature of the receiving water. The IR notes that the emissions from the installation do not contain significant quantities of sediment and there will be no cumulative impact with dredging activities. The IR commented that the emission limits set out in *Schedule B: Emission Limits* of the licence on the parameters in the process emissions to surface waters remain unchanged since the previous licence (P0606-03) and that the limits and controls in the licence have been set in order to achieve compliance with the European Communities Environmental Objective (Surface Waters) Regulations 2009. The TC is of the view that the IR adequately addresses cumulative impacts from the discharge.

The TC further notes that plough dredging activities in the estuary are regulated by the EPA under the Dumping at Sea Act 1996, as amended. Any increases in suspended solids and associated sedimentation from plough dredging in this area are limited in concentration, duration and spatial extent and are comparable to naturally occurring conditions in the estuary. The Port of Waterford Company currently holds a Dumping at Sea permit (Reg. No. S0012-03) for activities in the Suir Estuary/Waterford Harbour and continuous turbidity monitoring is required under the permit to ensure that activities do not give rise to exceedances of suspended solids. There are no further dumping at sea permit applications under consideration by the EPA in this area.

7. The TC has reviewed the IR and responses were given to the concerns regarding fish entrainment and protected and migratory fish. Nonetheless, Condition 2.2.2.7 (ix) of the PD requires the applicant to review the reduction of fish entrainment and fish impingement including measures for the safe passage of fish in the vicinity of the cooling water intake.
8. The cooling water is treated with a biocide which inhibits microbial growth and it is unlikely that it would specifically enhance the growth of harmful bacteria. With regard to microbial monitoring of the cooling water discharge and the risk posed by harmful bacteria to consumers of shellfish harvested in the area, the TC notes that the Marine Institute monitors biotoxins and phytoplankton in Waterford Harbour and the Sea Fisheries Protection Authority carries out microbiological

monitoring of shellfish production areas and provide regular updates on [HABs Shellfish Monitoring Programme \(marine.ie\)](https://www.marine.ie/HABs-Shellfish-Monitoring-Programme). These monitoring programmes ensure that shellfish containing biotoxins are not harvested and placed on the market.

As regards cumulative impacts on shellfish waters with the Waterford City waste water treatment plant, the TC notes that the protected Shellfish Area at Waterford Harbour (Cheekpoint/Arthurstown/Creadan) (code IEPA2_056) met its WFD water dependent objectives under the 2nd cycle River Basin Management Plan (RBMP). Waterford City WWTP is not deemed a significant pressure on the receiving waterbody under the 2nd cycle RBMP.

The TC is of the view that the IR adequately addressed the receiving waterbodies in terms of Water Framework Directive (WFD) and Shellfish Areas.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- The installation has not been identified as a significant pressure on the receiving water.
- Monitoring of the receiving water and nearby shellfish beds indicate that cooling water from the installation is not having a negative impact.

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| Recommendation: No change |
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B.6 The licence review process and Proposed Determination

1. Ms. Karin Dubsky states that the reviewed licence should not be granted, rather the large-scale abstraction of cooling water stopped immediately, and a phased shutdown of the installation implemented, in favour of renewable energy and 'green line' services. She states that the passing of the maritime spatial plan (MSP) Act presents the opportunity of a designated maritime area plan (DMAP) for this estuary and prompt action could lead to the estuary recovering good status by 2027.
2. Ms. Dubsky notes the following regarding the PD
 - That it does not contain a flow ELV for SW13.
 - That it should mandate an annual limit on the usage of sodium hypochlorite.
 - That the PD leaves too many areas open to being discussed and agreed with the Agency after the grant of the licence.
3. Mr. Patrick Moran notes that the information regarding the usage of sodium hypochlorite at the installation provided in the EIS submitted as part of the application differs from actual reported usage.

4. Mr. Paul Barlow states that the licence review should not have been restricted to discrete areas identified by the licensee, rather should have reviewed the installation in full.
5. Mr. Barlow further states that the past non-compliance of the licensee, specifically the failure to report the unauthorised discharge from SW8, was not adequately considered by the Agency when issuing a PD that relies heavily on self-regulation. He states that given this past non-compliance that the Agency should have imposed a requirement for continuous monitoring on SW2 (as recommended by Inland Fisheries Ireland) and should have placed an ELV for chlorine on SW13.

Submission on Objection:

None.

Technical Committee's Evaluation:

The observations by Ms. Dubsy regarding the cessation of the activity in favour of renewable energy and green line services and the implementation of a maritime spatial plan are outside the scope of an Industrial Emissions license review.

The maximum volume per diem SW13 given in Schedule B.2 Emissions to Water of the existing licence (P0606-03) was removed by Technical Amendment A on 04 September 2012. This decision was made on the grounds that a number of process water discharges which had previously discharged directly to the cooling water channel had been merged. These process water discharges are initially discharged to the 200 m³ capacity homogenisation pit for neutralisation and monitoring and then discharged via SW13. SW13 does not discharge directly to the receiving water rather into the cooling water channel (SW2), on which there is a flow ELV. Further information can be found in the Inspector's Report relating to Technical Amendment A of the existing licence. The TC proposes to amend Schedule B.2 Emissions to Water to more accurately reflect that SW13 discharges initially to the cooling water channel (SW2), rather than directly to the Barrow Estuary.

The ELV on residual chlorine at SW2 and SW8 imposes a limit on the concentration of sodium hypochlorite (as residual chlorine) that can be discharged to the environment. When considered with the ELV on flow from each of these discharge points, this constitutes a de facto limit on the total mass discharge of sodium hypochlorite. Condition 7.4 of the PD additionally obliges the licensee to "undertake an assessment of the efficiency of use of raw materials in all processes, including the quantity and location of biocide dosing, having particular regard to the reduction in waste generated and emissions to water".

The PD mandates certain aspects of the licence be discussed and approved by the Agency after grant of the licence in instances where it was considered appropriate, i.e. other sampling locations can be agreed in the future without the need for a licence review, or where additional monitoring would provide a more appropriate sampling period; therefore the TC does not consider an overly prescriptive approach necessary or optimal.

The quantities of biocide (sodium hypochlorite) proposed in the EIS submitted with the application are not considered realistic (approximately 5 l/day). The quantity of sodium hypochlorite permitted by the current and previous licences and PD is in line with BAT. The TC proposes that the licensee record the frequency and concentration of sodium

hypochlorite dosing at the cooling water intake to provide a record of the quantity and duration of sodium hypochlorite use.

While the primary focus of the licence review was to regularise the emission point SW8 and reinstate a stormwater discharge point (SW7), change the required frequency of stormwater monitoring, and to update the licence in line with the CID, the licence review also evaluated the environmental impacts of the installation in full.

Section 11 of the IR considers the licensee’s past compliance with its existing licence. The TC believes that the existing and proposed monitoring requirements, when combined with the amendment described under point 3 of this section of the TCR, provide an adequate level of monitoring to demonstrate compliance with the licence. The process water discharged from SW13 does not contain any chlorinated waste water streams. It is therefore unnecessary to monitor this parameter at this emission point.

Reason for Decision:

The TC has reached its conclusion on the basis of the following consideration:

- In the interest of the protection of the receiving water.
- To enable efficient, effective regulation of the activity.

Recommendation:

Amend schedule *B.2 Emissions to Water* to read as follows:

Emission Point Reference No.: SW13 – Process Waste Water
 Name of Receiving Waters: Barrow Estuary (via SW2)
 Location: 268951E,114600N

| Parameter | Emission Limit Value |
|-------------------------|----------------------|
| pH | 6-9 |
| BOD | 20 mg/l |
| Suspended Solids | 30 mg/l |
| Total Dissolved Solids | 5,000 mg/l |
| Mineral Oil | 20 mg/l |
| Ammonia (as N) | 5 mg/l |
| Total Phosphorus (as P) | 5 mg/l |

Amend schedule *C.2.1 Control of Emissions to Water* to read as follows:

Emission Point Reference No. SW2

| Control Parameter | Monitoring | Key equipment ^{Note 1} |
|-------------------|------------|---------------------------------|
| Temperature | Continuous | On-line temperature probe |
| Flow | Continuous | Calculation from pump usage |

| Hypochlorite/chlorine usage ^{Note 2} | Continuous (when in use) | To be approved by the Agency |
|---|--------------------------|------------------------------|
| Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the monitoring system. | | |
| Note 2: A record of the volume and concentration of sodium hypochlorite added to the cooling water. | | |

B.7 Public Participation

Mr. Barlow states that because the notice published by the Agency did not adequately reflect the true nature and scale of the installation in terms of power output and cooling water usage, which have changed since the previous EIA process, no proper public consultation on this licence review can be considered to have been made.

Stakeholders have not had an adequate forum to present modern scientific evidence to the process or interrogate through experts, the licensee’s proposal.

Submission on Objection:

None.

Technical Committee’s Evaluation:

The nature and scale of the installation have not significantly changed since it was granted planning permission or since the grant of the existing licence (P0606-03).

In accordance with the Environmental Protection Agency Act 1992, as amended, and the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013 (SI 137/2013), public consultation was carried out through the publication of notices announcing the licence review and the PD, the opportunities for members of the public to provide submissions on the licence application, to object to the PD, and to request an Oral Hearing. Each of these stages provided an opportunity for stakeholders to present evidence in relation to the licensee’s proposal. As part of the licensing process all submissions and objections are taken into consideration in the decision-making process.

All objections are available on the EPA website and circulated to other objectors to allow that submissions on objections can be made. The technical committee, comprising of staff other than those involved in the preparation of the proposed licence, reviewed the objections and they have informed the recommendations contained in this memo.

The Agency’s decision can ultimately be appealed by judicial review.

Further information on public consultation during the Industrial Emissions licencing process can be found at the EPA’s website: <https://www.epa.ie/our-services/licensing/industrial/industrial-emissions-licensing-ied/>.

The PD additionally requires the licensee to establish, maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed and can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

Reason for Decision:

The TC proposes no change and has reached its conclusion for the following reason:

- There were repeated opportunities for public participation in accordance with the requirements of the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013 (SI 137/2013).

Recommendation: No change

Summary

The TC has reviewed the assessment in the Inspector's Report and, taking into account all objections and submissions on objections received, and the contents of this TC report, the TC considers that the potential significant direct and indirect effects of the activity have been identified, described and assessed in an appropriate manner as respects the matters that come within the functions of the Agency, and as required by Section 83(2A) of the EPA Act 1992 as amended.

It is considered that the monitoring, mitigation and preventative measures proposed in the Inspector's Report, and as detailed in this TC report, will enable the activity to operate without causing environmental pollution, subject to compliance with the licence conditions included in the PD, with the inclusion of the amendments proposed in this report.

Overall Recommendation

It is recommended that the Board of the Agency grant a licence to the applicant

- (i) for the reasons outlined in the proposed determination and
- (ii) subject to the conditions and reasons for same in the Proposed Determination, and
- (iii) subject to the amendments proposed and the reasons set out in this report.

Signed



Philip Stack

for and on behalf of the Technical Committee