Submission	
Submitter:	Grace O'Sullivan
Submission Title:	Submission
Submission Reference No.:	S010103
Submission Received:	20 September 2021
Application	
Applicant:	SSE Generation Ireland Limited
Reg. No.:	P0606-04

See below for Submission details.

Attachments are displayed on the following page(s).

Noeleen Keavey

From: O'SULLIVAN Grace <grace.osullivan@europarl.europa.eu>
Sent: Monday 20 September 2021 15:54
To: Licensing Staff
Subject: Re P0606-04

Dear Sir/Madam

I am writing to your offices in response to the Surface Water Modelling report submitted by SSE Generation Ireland Limited in respect of a licence review from SSE Generation Ireland Limited for an installation located at SSE Generation Ireland Limited (Great Island), Great Island Generating Station, Campile, New Ross, Wexford, Y34KC62. Having had the opportunity to consult with an appropriate expert in the field, I wish to make a number of observations.

The brief for the field validation study stipulated that "*sufficient measurements should be made to capture the spatial and temporal variability of the concentrations in the model output. Measurements should at a minimum be made over a period of at least two days, covering a range of tidal conditions and locations within the estuary and include the surface and bottom layers of the water column.*" While the field survey did take place over two days, from the report it does not appear that sufficient measurements of chloride and chlorine were taken to capture the spatial and temporal variability of chlorine/chloride concentrations. It appears that all chemical samples were collected on the same date (9th of June) at spring tides when a contamination was less likely to be detectable while hydrographic data (which cannot be used on their own to detect potentially elevated chlorine/chloride) appear to have been collected on neap tides (2nd of June) when a signal from contaminants would have been more readily detectable.

Firstly I would suggest that In order for the study to support valid conclusions it is vital to communicate which samples and measurements were taken and when, this has important implications for the type of data analysis which can be conducted and whether or not valid inferences can be drawn from the study. This information should be provided in Table 1 page 6. This section should also include detailed information on times, dates samples including a quantitative information detailed on the timing of the sample collection relative to high and low tide.

Secondly I submit that an In depth analysis of water profile data should be provided. More specifically the scales of the graphs provided in Appendix 3 should be harmonized suitably with reference to relevant maxima and minima in temperature and salinity; Dates and times should be provided for the water profile data Appendix 3 (pg 23-33) ; Aggregated Temperature and salinity data (from the whole survey) should be used to generate Temperature salinity diagrams to enable identification of water masses; Profile data should be used to produce longitudinal section of the temperature and salinity characteristics of the estuary with depth along the length of the sampling survey (open-source software solutions (e.g. R) are commonly employed and maps of surface and bottom temperature and salinity should be produced based on the profile data to enable comparison with chlorine and chloride data.

If water profile data were collected concurrently with chemical samples, regression analysis of chlorine and chloride concentrations with oceanographic parameters (temperature and salinity) should be conducted. If water profile data were not collected concurrently with chemical samples concurrent data should be gathered to enable analysis. Potential future sampling should include measurement of the temperature and salinity characteristics of intake waters. Furthermore potential future sampling should incorporate time series information from a single site adjacent to the generation station over a full tidal cycle as an additional element.

Lastly I would suggest that a rationale should be provided for the numbering of the study sites and that sampling locations should be included on all maps to distinguish between interpolated and measured data.

I look forward to hearing further in the matter.

Kind regards

THE GREENS/EFA in the European Parliament

Grace O'Sullivan
Member of the European Parliament for Ireland South
Greens/EFA group in the European Parliament - Green Party Ireland
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