

Siemens Energy Ltd

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Your letter of	N/A
Our reference	SOM-MISC-0134
Date	09/11/2020
Reply required:	Yes

Dear Dr Richards,

Re: Environmental Permit (EPR) HP3737UE – Table S1.3 Improvement Programme Requirements

In accordance with the requirements of the improvement programme identified in Table S1.3 of the Environmental Permit HP3737UE, please find the response to the two identified Improvement Conditions (IC). Based on the information provided we would like to request that the permit is updated to reflect closure of the actions:

IC7 - Effluent from the condensate polishing plant

- a) Operator shall review all relevant options for treating the effluent from the condensate polishing plant, resulting from resin cleaning activities. This should use an appropriate method such as the Environment Agency's H1Guidance Part A 'Options Appraisal' and shall include:
 - a cost/benefit comparison with the current practice of tankering the effluent away
 - options for treatment at local treatment facilities
 - treatment technique options and a comparison of the expected concentrations of chemical species in the treated and untreated effluent e.g. ammonia
 - a comparison against the emissions benchmark values given in the relevant technical guidance or BREF.
- b) Should the assessment show that the effluent is of a potential suitable quality for discharge, an impact assessment using the Environment Agency's H1 Guidance Part B 'Software Tool ' or other approved modelling technique shall be used.

Siemens Energy have completed a full review of the process, due to the varying concentration of resin and ammonia the potential of discharging into the estuary was not considered an option at this time, based on the additional water treatment processes that would be required at a site level including significant investment to ensure that BAT is employed.

In line with the fundamentals of the H1 assessment Part A, Siemens Energy have performed an evaluation of the potential discharge to ensure that the impact of the disposal of liquid waste from the Severn facility, be that directly caused through discharge to a sensitive receptor, or the environmental impact during the transport and treatment is minimised or mitigated

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During normal operational processes at the Severn facility, the generation of wastewater is an identified waste stream, the waste streams can contain varying concentrations of ammonia which makes it unsuitable for direct discharge into the nearest receptor. The wastewater is split into two identified waste streams depending on ammonia content MAJ which is identified as 'weak' and CPP regeneration which is identified as 'strong'.

Wastewater is generated and then stored within collection tanks on site, these tanks are designed with extraction points which allow for road tankers to collect the wastewater for disposal, with collections on a call out system. As part of an ongoing waste management contract with a 3rd party supplier (Licenced waste carrier), the liquid waste was collected by road tanker prior to being transported by road to Avonmouth for treatment, not only did the process have a significant footprint based on the transport from the Severn facility to the treatment location, but the waste provider (tankers) were attending site from a location in the south west of England, again a significant carbon impact in vehicle emissions.

After entering into a series of discussions with Welsh Water it was found that the Nash Treatment works located less than one mile from the Severn Facility, had undergone some significant updating and could possibly accept and treat the waste water generated at a site level. Potential maximum and minimum ammonia concentrations for both the MAJ and CPP waste was shared with Welsh Water to ensure the system was capable of treating the generated waste streams. Welsh Water accepted the waste types based on the information supplied, and a trial was arranged to test the system, it was decided to test the process on the stronger CPP.

In June 2020 47.39 tonnes of high strength ammonia waste was sent to the Nash works for test and treatment, Welsh Water confirmed that there were no issues with the treatment, and the resulting discharge was in line with their own environmental discharge consent for the treatment facility.

After acceptance of the waste, the decision has been made by the Client (Calon Energy), and Siemens Energy (Permit holder) to identify the Nash Works as its preferred water treatment site, where possible all ammoniated waste water will be transported to the Welsh Water site, this preference has also been shared with the nominated waste provider.

Although the difference in disposal costs was insignificant, the decision to use the local treatment facility was based on a reduction in transport generated emissions, and less tanker movements through Nash village.

All waste water will continue to be disposed of via identified treatment facilities with the capabilities of treating ammoniated water as per their own environmental permits, there are no plans for the Severn facility to modify its treatment processes to allow for a direct site discharge of the waste water streams.

Additionally, due to the current status of the plant, the waste water being generated has been significantly reduced, and going forward it is unlikely that any significant discharge will be made in the next nine months, should the site return to a normal operational state, with increased waste water generation then as identified the preferred discharge location will be the Nash works.

Siemens Energy, request that NRW review the information above and based on the future disposal of ammoniated water at the Nash works resulting in a reduction of transportation emissions, accept this improvement condition item as complete.

IC 11 - Black Start Operation

The operator shall produce and submit a written Black Start Response Plan to Natural Resources Wales, for approval.

The plan shall contain an impact assessment demonstrating that there is no significant environmental risk associated with black start operations and:

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- propose a methodology for minimisation of environmental impact during such a period of operation; and
- include the procedure for the notification of black start operation and its duration.

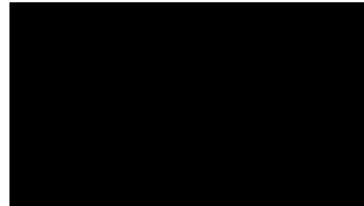
The methodology for operation and reporting set out in the report shall be implemented by the Operator from the date of approval by Natural Resources Wales.

The above-named project is no longer planned for the Severn facility, due to the status of the plant, and the potential for long term preservation all investment into new operations has been put on hold. As such Siemens Energy would like to request that this IC is removed from the permit.

Yours sincerely,



Plant Manager



B A Manager

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