HyNet Hydrogen Production Plant 1 – Technical Note

EPR Response – 9ci – BAT for Cooling

Summary

Background

The normal electrical power consumption data is given in the Utility Summary [5194812-000-49EL-4-0003 Rev 03] as follows:

- Cooling medium Air Cooler: 270 kW
- Cooling Medium Pump: 548 kW

The power consumption of the Cooling Medium System is included in the total electric power import figure.

Problem Statement

Advise the electric power input for the proposed air-cooling system (air coolers and recirculation pumps) and confirm whether this duty is included in the total electric power import figure stated in the application (i.e., 30 MWe)

Response

Cooling Medium Cooler and Pump Electrical Source

Cooling Medium Air Coolers (10-BAA-E-001A/B-1 to 7) and its control panel are included in Electrical load list Doc. No-5194812-000-49EL-4-0001 Rev.04) for which power input source will be Substation-1 with 400V Switchboard Section A and B.

Cooling Medium Pumps (10-BAA-P-001A to D) are included in Electrical load list Doc. No-5194812-000-49EL-4-0001 Rev.04) for which power input source will be Substation-1 with 3.3kV Switchboard Section A and B. Cooling Water Medium Pumps will share 427 kW continuous load on each Switchboard Section A & B.

For Substation-1 with 400V Switchboard Section A and B and Substation-1 with 3.3kV Switchboard Section A and B source is 11kV Main Switchboard Section A &B which are included in Main source from 33kV Switchboard Section A&B.

With reference to Appendix-2 proposed Cooling Medium Fan & Pumps are included in total electric power import figure stated in the application.