February 15th, 2024

Emma Smith
Permitting Service
Natural Resources Wales
Cambria House,
29 Newport Road,
Cardiff
CF24 0TP

Re: Request for more information about your application – Application reference: PAN-023615 (EPR/BL4567IZ/V010) Operator: Vale Europe Limited Facility: Clydach Nickel Refinery

Dear Emma Smith,

Please find this letter by way of an update on the information requested in your letter dated 02nd February 2024. Additional information is provided below :-

Application Form Part A

Vale Europe Ltd Response :- Registered office address has been updated in form part A and re-submitted as part of this response.

Application Form Part C2

Part 2b Table 1 – Updated:- 01.03.24

Vale Europe Ltd Response :- The is achieved when the Kiln Plant is operating at maximum capacity and in this scenario all Hydrogen would be consumed by the Kiln Plant therefore the vent would not be used. The Hydrogen plant has the ability to adjust it's production of Hydrogen to meet the demands of the Kiln plant (i.e. if the Kiln Plant reduced its operating capacity by 50% the Hydrogen plant would reduce its yield accordingly). There is also Hydrogen Holder capacity which allows for the storage of excess Hydrogen production during times when the plants are aligning the Hydrogen Demand requirements. Therefore in normal operating conditions when both plants are operating the new vent is not required.

It has been estimated that the potential frequency of unexpected operational stoppages and the Hydrogen Holders reaching capacity would average out to approx. 1 occurrence per month (12 per annum). Due to planned frequency of use of the vent being low and the normal operational aim to match supply with demand, I've been unable to quantify an exact planned quantity of Hydrogen that would be released during each venting event, however it can be confirmed that the volume that would be vented during use would be significantly lower than . An approximate conservative estimate would be in the range of 1% - 4% of maximum yield as the plant would adjust its controls to reduce the yield accordingly to meet demand.

Clarification Required

Vale Europe Ltd Response :- It can be confirmed that the variation request is not proposing flaring and the reference in the "Hydrogen Vent design basis and notes" document which discusses Nitrogen purging is referenced as part of the Safety philosophy for the design and rationale for tappings to be provided on the vent line, near the vent valves, which could be used to connect a nitrogen hose if this is determined to be desirable as an additional control measure to be used if the vent was alight in an Emergency Scenario.

Part 3d3

Vale Europe Ltd Response :- Management of Facility Change (MOFC) document has been provided as additional evidence to support this point.

Part 4d2

Vale Europe Ltd Response :- Question Part 4d2 has been answered and an updated Form C2 re-submitted as part of this response. Policy document has been included as additional evidence to support this point.

Part 5a

Vale Europe Ltd Response :- Updated plan has been included as additional evidence to support this point.

Application Form Part C2

Table 1a
Vale Europe Ltd Response :- Following review of RGN 2 – Appendix 2 – Limb (ii) directly associated activities, it can be confirmed that the proposed venting of hydrogen is a directly associated activity. This has been updated in form C3 – Table 1a and re-submitted as part of this response.

Part 3b

Appendix 2

Vale Europe Ltd Response :- For Activity A5 it should be highlighted that Best Available Techniques (BAT) conclusions for the Non-Ferrous Metals Industries which apply for the general operation are not applicable for Activity A5, and the reference document which best fits this activity is EIGA – Best Available Techniques for Hydrogen Production by Steam Methan Reforming Doc 155/21. This proposed variation will not change the existing operation of the plant which aligns with the EIGA – BAT Doc 155/21. The new vent is designed to avoid hydrogen venting from the top of the holders. The frequency of use of the vent would be limited to only venting when unexpected Kiln Plant events occur and Hydrogen Holder Capacity has been maximised.

Question 3 in Appendix 2

Vale Europe Ltd Response :- Confirmed this question was ticked in error. The form has been updated and re-submitted as part of this response.

If you wish to discuss in more detail or require further evidence, please feel free to contact me on 01792 841391.

Kind Regards

Richard De Filippo
Sustainability Supervisor
Vale Europe Ltd