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On behalf of Indaver Ireland Limited

19 December 2024

Reg. No.: W0167-04

Regulation 10(2)(b)(ii) of the EPA (Industrial Emissions) (Licensing) Regulations 2013, in respect of a licence review from Indaver Ireland Limited for an installation located at Carranstown, Duleek, County Meath.

Dear Sir/ Madam,

I refer to the application for a licence received by the EPA on 14 July 2023.

Having examined the documentation submitted, I am to advise that the Agency is of the view that the documentation does not comply with the above mentioned legislation. You are therefore requested, in accordance with the regulations, to supply the information detailed below.

**Sewer**

1. Please provide a detailed overview of the sewer system on site, including but not limited to tanks, controls, monitoring etc.
2. Confirm if there is one or two effluent holdings tanks on the site associated with the modular offices and the temporary portacabins?
3. What processes will generate wastewater at the facility?
4. It states in the application that wastewater arising from process activities will be reused in the process or will it be tankered off site for treatment in a licensed facility in the Republic of Ireland. Can you please confirm if this should be categorised as process wastewater/effluent? The application states that no process effluent will be generated on site.
5. Confirm if this waste water/process water will be reused on site or tankered off site for treatment in a licenced facility? In Section 9.2.1 of the Operational report, it states that "Wastewater arising from process activities will tie into the existing infrastructure"; however, in the Non Technical Summary it states that "Wastewater arising from process activities is reused in the process or in rare cases tankered off site for treatment in an appropriately licensed facility".
6. It is noted that "Wastewater from the modular offices and the contractor's compound will drain to a holding tank and subsequently sent off site for treatment in a licensed facility in the Republic of Ireland". Confirm if this will be a new holding tank or does this refer to an existing holding tank?

7. What processes at the facility will reuse wastewater?
8. Provide an updated map of the drainage system clearly identifying stormwater, sewer, surface water and any associated holding tanks, silt traps and interceptors.

### **Groundwater**

1. Confirm there are no main emission points to ground?
2. Confirm the number of groundwater emission points (existing and proposed) at the facility and please outline the details of these (including codes and locations)?
3. Confirm the number of groundwater monitoring locations (including codes) at the facility (existing and proposed), and please provide details of these.

### **Stormwater**

1. Provide a detailed overview of the stormwater system for each section/building of the site (existing and proposed), including but not limited to tanks, interceptors (including type, class, location), controls, monitoring etc.
2. It is outlined in the application that two continuous monitoring points are in place at the facility, one located prior to the attenuation pond and another at the outlet of the attenuation pond. Update Attachment 7.7 - Discharges to Storm Water, with details for the two monitoring points. This attachment currently only shows one monitoring point (SW-1). Ensure that the correct monitoring location identifiers are provided in the updated Attachment 7.7.
3. Confirm if drainage from all new buildings, existing buildings and hard standing areas at the facility passes through a silt trap and interceptor before entering the attenuation pond?
4. Confirm if all 'clean' stormwater eventually drains into in the attenuation pond after it goes through pre-treatment, e.g. silt trap/interceptors?
5. It is noted that stormwater drainage that is outside of the trigger levels for entry to the attenuation pond is redirected to an underground storage tank and is either sent off site for disposal to an appropriately licensed or permitted facility or used in the process.
  - a. Clarify what type of processes this drainage water would be used in?
  - b. Is the water treated before it is reused at the facility?
  - c. How is it determined what is sent off site and what is reused at the facility?
6. Drainage:
  - a. Confirm if drainage from areas where unloading occurs will drain via a forecourt interceptor and silt trap prior to it being discharged to the existing stormwater system on the site or will it be sent for off-site disposal (if contaminated) or will it be reused at the facility (if clean)? Reference to all three options are outlined in the application.
  - b. If drainage enters the existing stormwater system, confirm if this drainage enters the attenuation pond or an underground spill water tank?
7. Spilled water tank:

- a. It is noted that any spills or wash waters generated within the hydrogen generation unit building will be contained and directed to the existing spilled water tank located to the east of the bunker building and underground. Will the contents of this tank be removed and sent to a licenced facility or reused at the facility?
  - b. Confirm what other areas drain into this spilled water tank?
  - c. Confirm if all drainage that enters the spilled water tank from the tanker unloading bay and inside buildings gets reused at the facility? If not, what happens with the water in the spill water tank?
8. Tank Farm:
  - a. Confirm if drainage from the tank farm will drain via a forecourt interceptor and silt trap prior to being discharged to the existing stormwater system on the site or will drainage be contained within a bund?
  - b. If the drainage is contained within a bund, please explain what happens to the drainage in the bund.
9. What abatement measures are in place if there are any spills from the aqueous waste tank farm? Please describe the drainage details for this area and add this to the “Proposed Stormwater Drainage System Flow Diagram” in the Operational Report.
10. In Section 8.3.1 (Aqueous Waste Storage and Unloading Area) of the Operational report, it states that “Containment for the full contents of a tanker (25 m<sup>3</sup>) will be provided in the event of a spillage.” Provide more details on this?
11. What abatement measures are in place at the bottom ash storage building?
12. It is noted in Section 4.2.2 of the Operational Report, that “Any contained spills of hazardous materials will be pumped out and either treated on site (trace contamination)...” (from the unloading area). Provide details of this treatment process and where does this take place?
13. Confirm what detection system, alarms and/or diversions are in place across the facility.
14. Clarify if the drainage system hydrobrakes/shutoff valves are to be operated manually or automatically?
15. It states in Section 4.1.1 of the Operational Report that “Water that is outside of the trigger levels is redirected to an underground storage tank” and in Section 9.1.2 that “In the event trigger levels are exceeded water is redirected to an underground fire retention tank...”. In Section 9.1.3, it states “Contaminated run-off arising from firefighting operations is contained by collection in the stormwater drainage system and draining to both the underground contaminated water tank and by overflow when full to the attenuation pond”. Clarify and confirm if these refer to the same underground tank or are they different tanks?
16. Confirm how many storage tanks are located on the storm water drainage system and what their purpose on the system are? The application refers to a 2 m<sup>3</sup> holding tank for diversions of storm water at the tanker unloading area; a firewater retention tank; an underground storage tank; an underground contaminated water tank; an existing spilled water tank (100 m<sup>3</sup>) associated with the hydrogen generation unit

building and a new 146 m<sup>3</sup> stormwater attenuation tank. Amend the stormwater drainage system flow diagram (any drainage maps, if applicable) with the correct number of tanks.

17. Provide details of the 'Surface Water Attenuation Facility' shown on Drawing 05?
18. Show on a map where the "new attenuation tank (146 m<sup>3</sup>)" is located?
19. It states in Section 9.1.3, that "Firewater will be stored for removal from site for disposal or for transfer to the tank farm for treatment in the furnace." Clarify how this water is treated in the furnace?
20. It is noted on Figure 30 of the Operational Report, that if contaminated, drainage from certain parts of the facility will be diverted to the tank farm or removed off site for disposal. Clarify how it is determined what remains in the tank farm for processing and what is sent for off-site disposal?
21. Provide an updated standalone stormwater drainage map showing all tanks, interceptors and silt traps.

## Noise

1. Update the Noise Impact Assessment to include a determination on whether the existing development and proposed development is to be located in or near an area that could be considered a 'Quiet Area' or an area of 'low background noise' as outlined in NG4.
2. In relation to cumulative effects, update the noise modelling to include all relevant projects such as Irish Cement. Provide results for each noise sensitive location.
3. Section 3.1.1 of the Noise Impact Assessment report outlines the baseline survey locations used for the assessment. In this section, it describes how a noise monitoring survey was undertaken at four boundary locations (AN1-1 to AN1-4) in 2018 and 2019, and supplementary monitoring was undertaken close to AN1-1 (October 2019). However, Figure 4 in this section shows four Noise Sensitive Locations (NSLs) which have not been described in Section 3.1.1. Confirm if monitoring was also conducted at these four NSLs? If so, please update the Noise Impact Assessment with details and results from these locations.
4. It is noted that the latest noise monitoring results are from 2019. Provide more up to date data if available.
5. Section 6 of the Noise Impact Assessment Report outlines a number of mitigation measures to ensure noise levels are controlled. Confirm if these mitigation measures were included in the noise model?
6. Provide further justification on why LA<sub>90</sub> results are used when the LA<sub>eq</sub> results are above the noise limits.
7. Can you submit noise contour maps outlining the results of the modelling?
8. It is noted that baseline LA<sub>90</sub> daytime, evening and nighttime results are the same as the cumulative noise levels in Tables 6 to 8, please clarify this and outline the methodology used to determine cumulative impacts?
9. How many operational hours of the HGU have been included in the noise model?
10. Can you please update the noise impact assessment to include a table for all elements of the existing development and proposed development, outlining the sound power noise emissions which was used in the noise model for each

operational plant items within the facility and details regarding operational scenarios/ hours included?

#### **Aqueous Waste Tank Farm & Unloading Area**

1. Confirm that the proposed building labelled as “Area A Proposed Tank Farm” in Drawing 02 titled “Existing and Proposed Development” is the proposed aqueous waste tank farm.
2. What is the function of the three existing buildings in front of the “Area A Proposed Tank Farm”?

#### **Air & Odour**

1. The EIAR refers to a 65m high stack. The air modelling report refers to a stack height of 95.5m O.D. The odour emissions report refers to a stack height of 95.5m O.D. 65m above ground level.
  - a. Confirm that the correct stack height was used in each report.
  - b. Explain the difference between the two stack heights mentioned.
  - c. Provide information on where the O.D. height is in relation to.

#### **Odour**

2. Figure 2 of the odour emissions report lists a maximum odour concentration of  $0.12\text{OU}_E/\text{m}^3$ . However, the Figure 2 contour plot does not show any area in red (to signify an odour result of  $0.1\text{OU}_E/\text{m}^3$  or more). Update the contour plot to show the location of the maximum odour concentration.
3. Relating to odour, provide details of the operational controls and mitigation measures and the odour management plan referred to in the odour emissions report. Also, provide details of any additional operational controls and mitigation measures and enhancements to the odour management plan that will be added as part of the proposed development.

#### **Air**

4. Justify why emissions from the Hydrogen Product Process have not been included in the air modelling.
5. Provide dispersion model results from the cumulative assessment including PEC as a percentage of standard.
6. Provide contour plots for all relevant pollutants and averaging periods for cumulative scenario.
7. Update contour plots to include background.
8. It is noted that some contour plots list a maximum concentration that is higher than the value that should result in a red area as per the key on the contour plot. However, these contour plots do not show any red area. Update the relevant contour plots.
9. It is noted that the air modelling report refers to the closest SAC/SPA. Provide a list of all European Sites that were assessed as part of the air modelling. Provide a table of results for the closest and also the European Site identified by the modelling as being the European Site that has the most potential to be impacted.
10. Identify the ecological receptor(s) that was considered as having most potential to be impacted. Provide a table of results for this ecological receptor(s). Provide a statement of conclusion regarding potential effects on these ecological receptor(s).

## **BAT**

1. Provide results of the review of the following BAT documentation in relation to the activities applied for under W0167-04, or provide a justification on why these BAT documents are not applicable:
  - a. Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for common waste water and waste gas treatment/ management systems in the chemical sector,
  - b. Reference Document on the application of Best Available Techniques to Industrial Cooling Systems
2. Regarding Attachment 4-7-6 of the application, "Assessment of Compliance with Conclusions on Best Available techniques from the BAT Conclusions for the Production of Chlor-alkali (2013)"
  - a. BAT 7: provide details of what controls and monitoring will be in place for the emissions to air to ensure that substances, such as but not limited to KOH, do not potentially get emitted to air.
  - b. BAT 11: Will water need to be removed from the process at any stage, such as water that has not converted to hydrogen and oxygen, removal of water at shut down, for maintenance/ repairs etc? If yes, how will this water be dealt with to ensure that there will be no risk to the environment from this process water.
3. Update Attachment 4-7-4 of the application, "Reference Document on Best Available Techniques on Emissions from Storage, July 2006" to include more specific information, especially for hydrogen.

## **Hydrogen Generation Unit**

There is limited information provided within the documents submitted as part of the licence review (such as in the Non Technical Summary, EIAR & Appendices to EIAR, Operational Report, Attachment 9-1 Environmental Management Techniques) regarding the specific details of the overall hydrogen process lifecycle on site and relevant controls and monitoring. Please provide the following:

1. Provide details of all:
  - a. Inputs/ raw materials,
  - b. Process equipment, consumables, intermediary substances formed during the process, abatement, recovery and treatment systems etc.,
  - c. Outputs/ by-products,
  - d. Wastes, discharges, emissions,
  - e. What is the expected conversion rate of raw materials to hydrogen and how will any remaining raw material/waste be managed? (As an example, will 100% of water input be converted to hydrogen and oxygen, or will some water remain. How would any remaining water be managed/ used/disposed of?),

- f. What quantity of water will be used per annum in the hydrogen production process and confirm that this water supply will be sourced from the current groundwater abstraction point and/or water generated from the steam output from the waste to energy facility on site?,
    - g. How is O<sub>2</sub> emitted from the process i.e. is it emitted through a flue or stack or vent? Is it vented to the outdoors or is it vented indoors. At what height is the O<sub>2</sub> emitted? As seen in the EIAR, there are two stacks on the Hydrogen Generation Unit, confirm if these are the oxygen vent and the scrubber vent. What abatement and control measures if any will be present on these emission points?
2. Identify risks and assess the potential for accidents throughout the whole lifecycle of the hydrogen production process, including but not limited to;
  - a. delivery, storage and use of raw materials and process inputs, transfer of these inputs to the process equipment e.g. through pipework etc,
  - b. during the start-up, operation, (re-)circulation and shut down of the hydrogen production process, ancillary processes/ equipment (for example but not limited to electrolyser, scrubber, separators, gas holder, compressors etc.),
  - c. transfer to storage and storage of hydrogen product, transfer to GNI,
  - d. transfer and storage/ emission/ discharge/ removal of all wastes/ by-products/ end of life materials,
  - e. during the on-site transfer of the hydrogen to its end use, including
    - i. being fed into the national gas grid,
    - ii. on site for fuelling trucks, buses and other vehicles (consider at a minimum both the storage and fuelling activities (and risks associated with any pressure changes that may be needed)),
    - iii. being tankered off site for industrial use or to fuel distribution centres (consider at a minimum storage of the hydrogen, transfer of the hydrogen to storage from the production process and from storage to the tanker, transport of the tanker off the site).
3. For all of the above, provide details of the preventative/mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident. Include all controls and monitoring. Also, provide details of any other additional measures that will be in place.
4. Provide evidence of assessments regarding potential for fire, explosion, leaks etc. including justification for location of hydrogen process (including hydrogen production, transfer and storage) including risk to environment and people.
5. Have consents been received from the appropriate regulators/ authorities, where appropriate, for the end uses listed above? Have agreements been made with customers to accept the hydrogen produced for end use?
6. Will hydrogen be stored as gas or liquid, or will hydrogen be present in both states?
7. What will the maximum storage capacity of hydrogen be on site (in tonnes)?
8. What controls are in place to ensure that the hydrogen storage tank cannot be filled beyond a safe capacity?

9. What will the maximum capacity (in tonnes) be for hydrogen on site at any one time (including the total combination of for example maximum storage capacity, hydrogen in the production process, hydrogen stored/ travelling in pipework etc.)
10. Will hydrogen be used on site (such as a fuel source)?
11. Provide details on any other licence/ permit applications/ reviews etc. that have been or will be applied for regarding this activity.
12. It is noted that KOH is not listed in Attachment 4.6.2 of the application "Raw Materials, Intermediates and Products". Update this document to ensure that all raw materials, intermediates and products are included.
13. Drawing No. 02 titled "Existing and Planned Development" includes a proposed gas line which appears to connect at one end at the Proposed AGI Store and connect at the other end close to the proposed Hydrogen Generation Unit.
  - a. Confirm the connection points of this proposed gas line, the direction of travel of the gas and the purpose of this proposed gas line.
  - b. Is it natural gas or hydrogen gas that is intended to travel in this proposed gas line?
14. Provide an updated map of the existing and proposed Development showing facilities and identifying the areas that will be needed for the transfer of hydrogen to its end use (e.g. being fed into national gas grid, on site fuelling of vehicles, tankering off site),
15. Regarding Drawing No. 29043-CD-601 titled "Proposed Hydrogen Generation Unit (HGU) Building Ground Floor GA":
  - a. Provide details of the purpose of the two transformers shown.
  - b. Provide details of the purpose of the gas holder shown.
  - c. Provide details of the controls and mitigations in place for and around these transformers and gas holder to protect the environment.
16. Update Attachment 9.1 to include the Environmental Management Techniques specifically associated with the hydrogen process.

**Accidents:**

1. Confirm if all recommendations listed in Appendix 4 titled "Recommendations Arising from HAZID&RA Exercise" have been implemented.
2. Provide details for each of the recommendations listed in Appendix 4 titled "Recommendations Arising from HAZID&RA Exercise" on actions taken/ changes made based on these recommendations.

**ELRA & CRAMP**

1. ELRA & CRAMP technical reports submitted as part of this application are titled for W0167-03 and dated as 2021. Both reports do not reflect the proposed activities. Please provide comment on same.

**Waste:**

1. What year does Table 1 Attach 4.3.3 Merchant Waste Operator refer to?



2. The total quantity generated in 2021 is detailed as 54,518.87 tonnes. Are there more up to date figures available?
3. Provide clarity on the waste (tpa) requested as part of this licence review application. Provide the following (and additional clarification, as appropriate):
  - a. Provide details (by table, schematic or other suitable method) to detail the different waste paths such as waste to energy versus other waste paths that involve waste being stored on site versus paths that wastes are transferred off site. For each pathway, please provide details of the current licence limit and the licence limit requested as part of this licence review application. For each waste path, include details on the quantity of that waste that would be considered hazardous waste.

Ensure all relevant application documentation is updated to reflect any changes and/or addition of information from the response to questions in this letter.

In addition to the above, please also provide an updated non-technical summary (Application Form, and EIS where applicable) to reflect the information provided in your reply, insofar as that information impinges on the non-technical summary.

The requested information should be submitted to the Agency within 10 weeks of the date of this notice, in order to allow the Agency to process and determine your application.

It should be noted that the eight-week period within which the Agency is to decide the proposed determination will commence on the day on which this notice has been complied with. If you have any further queries please contact [licensing@epa.ie](mailto:licensing@epa.ie).

In the case where any drawings already submitted are subject to revision consequent on this request, a revised drawing should be prepared in each case. It is not sufficient to annotate the original drawing with a textual correction. Where such revised drawings are submitted, provide a list of drawing titles, drawing numbers and revision status, which correlates the revised drawings with the superseded versions.

Your response to this request is to be submitted via EDEN. Guidance on how to use this portal is available on the EPA website at [IE Licence application guidance | Environmental Protection Agency \(epa.ie\)](#).

Note that where the licensee fails to comply with this requirement in full and to the satisfaction of the Agency, the Agency may consider, having regard to the extent of the failure, whether the application can be considered pursuant to Regulation 10(2)(b)(ii) of the Environmental Protection Agency (Industrial Emissions)(Licensing) Regulations 2013 as

amended, and may issue a notice in writing that the application cannot be considered by the Agency, outlining the extent of such failure. Alternatively, where there is a failure to comply with this requirement the Agency may activate Regulation 19 of the EPA (Industrial Emissions)(Licensing) Regulation 2013, which pertains to Withdrawal or Abandonment of an application for licence.

Please direct any queries to [licensing@epa.ie](mailto:licensing@epa.ie).

Yours Sincerely,

Brid Horgan

Water, Energy & Business Support Programme

Office of Environmental Sustainability

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