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Pollution Prevention and Control Regulations 2012

Part A Permit - Production of hydrogen by electrolysis of water

H100 Fife production facility

PPC/A/5006668

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Introduction

This introduction is not part of the authorisation.

Authorisations

Who we are: The Scottish Environment Protection Agency (SEPA) is a non-departmental public body of the Scottish Government. Our purpose is to deliver environmental protection and improvement in ways that, as far as possible, also create health and wellbeing benefits and sustainable economic growth.

Why we issue authorisations: We are responsible for preventing or controlling pollution and improving the environment. One of the tools available to us is the authorisation of activities that present environmental risk. Authorisations give permission for these activities to occur and set conditions that the activities must comply with.

When we issue authorisations: We will issue an authorisation following our determination of an application, when satisfied that the authorised person has put in place measures to protect the environment and is capable of carrying out activities in line with the conditions of an authorisation.

Changes to authorisations: We can amend, suspend or revoke an authorisation in response to changes in legislation, the activities undertaken or authorisation holder performance.

Compliance and enforcement: SEPA Officers may undertake monitoring and inspections to assess compliance with authorisation conditions. All authorisations and inspection reports are publicly available. If an authorised person fails to comply with an authorisation, we may take enforcement action in line with our enforcement policy and guidance.

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General information:

Address:	H100 Fife Production Facility,Fife Energy Park, Methil, Fife, KY8 3RA.
Description of authorised activities:	The production of hydrogen by electrolysis of water. The burning of fuel in a 1.2 MWth “new” medium combustion plant.
Environmental risks SEPA has regulatory powers to control:	The emission of pollutants to the air, water and ground. The emission of oxides of nitrogen and carbon monoxide to the air.

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Grant of Authorisation

This authorisation has been granted by the Scottish Environment Protection Agency (SEPA) in exercise of its powers under Regulation 13 of the Pollution Prevention and Control (Scotland) Regulations 2012. Terms used in this authorisation are, unless otherwise specified, defined in the Interpretation of Terms schedule.

Authorisation Number:	PPC/A/5006668
Authorised Person:	SGN Futures (H100) Limited 13292114 St. Lawrence House, Station Approach, Horley, England
Authorised Activities:	The operation of an installation where the following activities are carried out: the production of hydrogen by electrolysis of water and any directly associated activities as further detailed in this authorisation falling within Schedule 1, Part 1, Chapter 4, Section 4.2 Part A (a) (i) of the Regulations. The burning of fuel in a medium combustion plant that was put into operation after 20 December 2018 with a rated thermal input of equal to or greater than 1 MW up to and including 20 MW falling within Schedule 1, Part 1, Chapter 1, Section 1.1, Part B (d) of the Regulations. Any directly associated activities as further detailed in this authorisation.
Authorised Place:	H100 Fife Production Facility,Fife Energy Park, Methil, Fife, KY8 3RA.
Conditions applicable to this authorisation:	The conditions contained in the schedules of this authorisation.
Date of Authorisation:	15 May 2025
Effective date of Authorisation:	15 May 2025

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Schedule 1: The Authorised Person and Activities

Purpose: This schedule places responsibility on the authorised person to have systems and procedures in place to ensure compliance with the conditions of this authorisation and details the activities that can be carried out.

1.1 Duty of Authorised Person

1.1.1 The authorised person must ensure compliance with the conditions of this authorisation.

1.2 Authorised Place

1.2.1 The authorised place is delineated in green on the plan in Appendix 1.

1.2.2 The installation is delineated in green on the plan of the authorised place in Appendix 1.

1.3 Authorised Activities

1.3.1 This authorisation authorises the operation of the installation in Table 1 to carry out the authorised activities at the authorised place.

Table 1: Installation

Stationary Technical Unit:
Water purification (up to 2.5 m^3/h)
Alkaline electrolysis with a combined hydrogen production capacity of 970 Nm^3/h
Electrolyte storage
Hydrogen scrubbing with water
Hydrogen compression and compressed gas storage.
Stand-by generator for use in the event of failure of both the wind turbine and the electricity grid connection comprising of a diesel engine with a rated thermal input of 1.21 MWth, burning gas oil (diesel), operating for less than 500 hours per year (calculated as a rolling average over a period of 3 years) and emitting combustion products via a stack 2.62 m above ground level.
Activities:
The production of hydrogen by electrolysis of water as described in Schedule 1, Part 1, Chapter 4, Section 4.2(a)(i) of the Regulations
New medium combustion plant with a rated thermal input of equal to or greater than 1 MW up to and including 20 MW
Directly Associated Activities:
Directly Associated Activities carried out at the energy centre
The provision of services to the stationary technical unit (including electricity import, transformers and rectifiers)
The processing and storage of gas for export (including pressure reduction, metering, odorant injection and storage)

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Schedule 2: General requirements

2.1 Management and Administration

2.1.1 The Authorised Person must have an appropriate person (and deputy) as the primary point of contact with SEPA, and notify SEPA in writing of the name of the appointed person (and deputy) within four weeks of the date of this Permit.

2.1.2 In the event of a different person being appointed to act as primary point of contact (or deputy) the Authorised Person must notify SEPA in writing of the name of the appointed person or deputy without delay.

2.1.3 A copy of this Permit must be kept at the Permitted Installation and must be made readily accessible for examination by all staff.

2.2 Management Systems

2.2.1 The Permitted Installation must be managed and operated in accordance with a written management system.

2.2.2 The written management system required by Condition 2.2.1 must be implemented immediately after Commissioning has concluded.

2.2.3 The written management system must be reviewed as required and at least once every 4 years. All reviews must be recorded, and the results of any review incorporated into the written management systems, and implemented, within a period of 3 months from the end of the review.

2.3 Commissioning

2.3.1 As part of the commissioning of the installation, validation tests must be carried out that demonstrate that the installation can be operated in compliance with the conditions of this authorisation.

2.3.2 An end of commissioning report must be submitted to SEPA within 4 weeks of completing the commissioning of the installation.

2.4 Decommissioning

2.4.1 SEPA must be notified if there is a planned cessation of all, or any part of authorised activities for any period exceeding 12 months. The notification must be submitted to SEPA at least 1 month before the date of planned cessation.

2.4.2 On final cessation of activities, measures must be taken to return to the installation to a satisfactory state.

2.5 Resource efficiency

2.5.1 The authorised activities must be undertaken in a manner that uses resources efficiently and minimises the production of waste.

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Schedule 3: Pollution Control

Purpose: This schedule requires the authorised person to ensure emissions to air from the authorised activities are controlled and specified emission limit values are met.

3.1 Start-up and Shut-down

3.1.1 The number of start-ups and shut-downs should be kept to the minimum that is reasonably practicable.

3.1.2 All reasonable steps must be taken to minimise emissions during start up and shut-down.

3.2 Operating Hours

3.2.1 The medium combustion plant must not operate more than 500 operating hours per year (calculated as a rolling average over a period of 3 years).

3.3 Emissions

3.3.1 Measures must be taken to prevent, or where that is not practicable, minimise:

(a) odour;

(b) noise;

arising from the authorised/permitted activities.

3.3.2 Other than condensed water vapour, all releases to the air during normal operations must be free from visible emissions.

3.3.3 Offensive odours from the authorised activities as perceived by a SEPA officer must not be emitted beyond the boundary of the authorised place.

3.3.4 Noise from the authorised activities, which has a significant impact on the environment, people or property, must not be emitted beyond the boundary of the authorised place.

3.3.5 Other than as specifically authorised, the authorised activities must not cause environmental harm.

3.3.6 There must be no discharge of any hazardous substance or pollutant to soil or groundwater.

3.4 Emissions Points - Air

3.4.1 Point source emissions to air from the installation must only be made from the emission points and locations specified in Table 2.

3.5 Emissions - Air

3.5.1 The discharge of the substance(s) to the air from the installation must not exceed the relevant emission limit value(s) specified in Table 2.

3.5.2 Air must not be added to dilute emissions in order to achieve the emission limit values specified in Table 2.

3.5.3 The discharge of any other substance, not specified in Table 2, from the installation must not cause environmental harm.

3.5.4 The Operator shall record and report the mass emission results for the parameters of the combined emissions specified in Table 4 using the method as summarised in Table 4. This information shall be reported annually within 2 months of the end of the calendar year.

3.5.5 Information used to estimate mass emissions in compliance with Condition 3.5.4 shall be recorded for each estimate.

3.6 Venting

3.6.1 All venting events must be recorded and reported to SEPA within 2 months of the end of the calendar year. The record must contain:

(a) The date, time and duration of each venting event;

(b) The vent(s) employed;

(c) An estimate of the quantity of hydrocarbons vented;

(d) The reason for the venting event with identification of the root cause of the event;

(e) Actions taken to minimise emissions during the venting event; and

(f) Actions taken to prevent reoccurrence of the venting event.

3.6.2 SEPA must be notified in writing of any planned venting from the EDP stacks (emission points A3 and A4). The notification must be given at least 7 days before the planned venting event and must include:

(a) The reason why the planned venting is required;

(b) An estimate of the quantity of hydrogen to be vented;

(c) An estimate of the date, time and duration that the planned venting event will take place over.

3.6.3 Any venting events from the EDP stacks not notified under 3.6.2 must be treated as an event in terms of 7.1 through to and including 7.3.

3.6.4 SEPA must be notified in writing when any vent is to be taken out of service. The notification must be given at least 24 hours before the vent is taken out of service and must include:

(a) The reason why the vent is out of service;

(b) An estimate of the time that the vent will be out of service; and

(c) A description of how venting operations are to be managed during the period when the vent is out of service.

Table 2 Air Emissions: limits

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Hydrogen	No limit set	A3 & A4	Emergency Depresurisation (EDP) stacks	Emergency scenarios, maintenance, commissioning.
		IA1	Electrolyser & electrolyte (train 1) hydrogen vent	Emergency scenarios, maintenance, commissioning.

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Hydrogen	No limit set	IA2	Scrubber (train 1) H2 bypass vent	Emergency scenarios, maintenance, commissioning.
		IA3	Gas holder (train 1) vent	Emergency scenarios, maintenance, commissioning.
		IA4	Compressor (train 1) blow off	Emergency scenarios, maintenance, commissioning.
		IA5	Downstream of compressor upstream of dryer (train 1)	Emergency scenarios, maintenance, commissioning.
		IA6	Downstream of scrubber upstream of compressor (train 1)	Emergency scenarios, maintenance, commissioning.
		IA7	Downstream of dryer (train 1)	Emergency scenarios, maintenance, commissioning.
		IA8	Electrolyser & electrolyte system (train 2) hydrogen vent	Emergency scenarios, maintenance, commissioning.

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Hydrogen	No limit set	IA9	Scrubber (train 2) H2 bypass vent	Emergency scenarios, maintenance, commissioning.
		IA10	Gas holder (train 2) vent	Emergency scenarios, maintenance, commissioning.
		IA11	Compressor (train 2) blow off	Emergency scenarios, maintenance, commissioning.
		IA12	Downstream of compressor upstream of dryer (train 2)	Emergency scenarios, maintenance, commissioning.
		IA13	Downstream of scrubber upstream of compressor (train 2)	Emergency scenarios, maintenance, commissioning.
		IA14	Downstream of dryer (train 2)	Emergency scenarios, maintenance, commissioning.
		IA15 & IA16	Filter skid	Emergency scenarios, maintenance, commissioning.

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Hydrogen	No limit set	IA17, IA18, IA19, IA20 & IA21	Metering	Emergency scenarios, maintenance, commissioning.
		IA22 & IA23	Pressure reduction skid	Emergency scenarios, maintenance, commission.
		IA24	Odorant skid	Emergency scenarios, maintenance, commissioning.
Oxygen	No limit set	A1 & A2	Electroyser and electrolyte system oxygen vents	Normal operation
Nitrogen Oxides	No limit set	IA25	Diesel generator exhaust	Normal operation firing gas oil
Carbon Monoxide	No limit set	IA25	Diesel generator exhaust	Normal operation firing gas oil
Odourant	No limit set	IA24	Odourant skid	Emergency scenarios
Ammonia	No limit set	IA3 & IA10	Electroyser and electrolyte system oxygen vents	Commissioning of new electroyser membranes

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Nitrogen	No limit set	A3 & A4	Emergency Depresurisation (EDP) stacks	Purging
		IA1	Electrolyser & electrolyte (train 1) hydrogen vent	Purging
		IA2	Scrubber (train 1) H2 bypass vent	Purging
		IA3	Gas holder (train 1) vent	Purging
		IA4	Compressor (train 1) blow off	Purging
		IA5	Downstream of compressor upstream of dryer (train 1)	Purging
		IA6	Downstream of scrubber upstream of compressor (train 1)	Purging
		IA7	Downstream of dryer (train 1)	Purging
		IA8	Electrolyser & electrolyte system (train 2) hydrogen vent	Purging
		IA9	Scrubber (train 2) H2 bypass vent	Purging

Substance	Emission Limit Value (units)	Emission Point Reference Number (as shown on plan of the installation)	Emission source	Operational mode
Nitrogen	No limit set	IA10	Gas holder (train 2) vent	Purging
		IA11	Compressor (train 2) blow off	Purging
		IA12	Downstream of compressor upstream of dryer (train 2)	Purging
		IA13	Downstream of scrubber upstream of compressor (train 2)	Purging
		IA14	Downstream of dryer (train 2)	Purging
		IA15 & IA16	Filter skid	Purging
		IA17, IA18, IA19, IA20 & IA21	Metering	Purging
		IA22 & IA23	Pressure reduction skid	Purging
		IA24	Odorant skid	Purging

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Table 3 Air Emissions:monitoring requirements

Substance	Emission Point Reference Number (as shown on plan of the installation)	Operational mode	Monitoring frequency	Monitoring method
Nitrogen Oxides	IA25	Normal operation firing gas oil	At least once every: (a) 1500 hours of operation; or (b) 5 years.	BS EN 14792
Carbon Monoxide	IA25	Normal operation firing gas oil	At least once every: (a) 1500 hours of operation; or (b) 5 years.	BS EN 15058

Table 4 Mass Emissions to Air

Substance/ Parameter	Combined Emissions Point	Method (Summary)	Mass Emissions Result to be recorded as:
Hydrogen	A3, A4, IA1, IA2, IA3, IA4, IA5, IA6, IA7, IA8, IA9, IA10, IA11, IA12, IA13, IA14, IA15, IA16, IA17, IA18, IA19, IA20, IA21, IA22, IA23 & IA24	Amount of hydrogen produced minus the sum of the metered amount of hydrogen exported and the amount of fugitive hydrogen emissions	kg
Oxygen	A1 & A2	Calculated from the amount of hydrogen produced	kg

Substance/ Parameter	Combined Emissions Point	Method (Summary)	Mass Emissions Result to be recorded as:
Nitrogen	A3, A4, IA1, IA2, IA3, IA4, IA5, IA6, IA7, IA8, IA9, IA10, IA11, IA12, IA13, IA14, IA15, IA16, IA17, IA18, IA19, IA20, IA21, IA22, IA23 & IA24	Amount of nitrogen used for purging	kg
Nitrogen Oxides	IA25	Calculated from the number of hours running x test results	kg

3.7 Emissions Points – Water

3.7.1 The discharge outfall(s) and sample point(s) must be at the location(s) specified in Table 5.

Table 5 Water Outfall Location(s)

Activity	Discharge to	Outfall NGR	Sample Point NGR
WW1	Scottish Water Sewer via WW2	NT 336594 698804	-
WW2	Scottish Water Sewer	NT 336590 698776	-
SW1	Firth of Forth	NT 36759 98362	-

3.8 Emissions – water

3.8.1 Effluent from the electrolysis process must be discharged to sewer (location identified as WW2 on the plan attached as Appendix 1);

3.8.2 The operator shall forward to SEPA the results of any effluent monitoring of discharges from WW2 undertaken by Scottish Water on an annual basis within 2 months of the end of the calendar year.

3.8.3 Domestic waste from the facility must be discharged to sewer (location identified as WW1 on the plan attached as Appendix 1);

3.8.4 Surface water from the facility must be discharged to surface water (location identified as SW1 on the plan attached as Appendix 1);

3.8.5 The authorised activities must not have a significant impact on the water environment as a result of:

(a) iridescence/sheen;

(b) discolouration;

(c) deposition of solids;

(d) increased foaming; and

(e) microbiological growth.

3.8.6 The discharges must not cause pollution of the water environment.

3.8.7 The discharges must not:

(a) be directly into groundwater;

(b) have a significant adverse impact on any water used for human consumption.

3.9 Soil and Groundwater

3.9.1 Unless specified elsewhere in this Permit, there must be no emission of any pollutants to groundwater or soil from the Permitted Installation.

3.9.2 Surfaces should be of an appropriate specification, and maintained, to ensure compliance with Condition 3.9.1.

3.9.3 The Operator must maintain plan(s) that identify the configuration and specification of all drains and subsurface pipe-work and the position and purpose of all sub-surface sumps and storage vessels that are used or have been used within the Permitted Installation from the date of this Permit until the Permit is surrendered.

3.9.4 All above ground containers and tanks containing liquids whose spillage or release could be harmful to the environment must be bunded.

3.9.5 The Operator must regularly inspect secondary containment and remove any rainwater that has collected.

3.9.6 The Operator must maintain a record of any incident that has, or might have, impacted on the condition of any soil or groundwater under the Permitted Installation, either as a result of that incident or as a result of an accumulation of incidents, together with a record of any further investigation or remediation work carried out.

3.10 Fugitive emissions

3.10.1 Measures must be taken to ensure that fugitive emissions or leaks of hydrogen are prevented.

3.10.2 The Operator shall prepare, implement and maintain a fugitive release inventory for all plant included within the Permitted Installation. The said inventory shall list the main sources of fugitive releases on each plant along with the techniques in place to prevent or minimise emissions from each source. Fugitive emissions shall be quantified (based on composition and mass in kilograms) for each source including the total for each production plant based on monitoring estimates on an annual basis. The fugitive release inventory shall be reported to SEPA on an annual basis, within 2 months of the end of the calendar year.

3.10.3 The Operator shall implement and maintain an on-going annual Leak Detection and Repair Programme (LDAR) designed to reduce fugitive emissions to air from the production plant. The repair programme shall use monitoring using best available techniques and the annual fugitive release inventory as the basis for targeting improvements.

3.10.4 The Operator shall record and report to SEPA the annual leak repair programme for the forthcoming calendar year along with a review of the previous year's repair programme identifying any improvements made, within 2 months of the end of the calendar year.

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Schedule 4: Monitoring

Purpose: This schedule requires the authorised person to monitor emissions.

4.1 Monitoring Requirements

4.1.1 Monitoring must be undertaken as specified in Table 3.

4.1.2 Sample locations must be provided, maintained and appropriately identified so that representative samples may be safely obtained.

4.1.3 The first monitoring of emissions must be undertaken within four months of the start of the operation of the installation.

4.1.4 The first monitoring of emissions for the medium combustion plant described in Table 1 must be undertaken within four months from the later of:

(a) the grant of this authorisation; or

(b) the start of the operation of the medium combustion plant.

4.1.5 Monitoring must be undertaken when the medium combustion plant is:

(a) Operating under stable conditions at a representative even load; and

(b) Not undergoing start-up or shut-down.

4.2 Soil and Groundwater

4.2.1 At least every four years, the Operator must carry out a systematic assessment of all measures used to prevent emissions from the Permitted Installation to soil and groundwater. A written report of each assessment must be recorded and reported to SEPA. The report must include details of and timescales for any additional measures that are required to prevent emissions to soil and groundwater. The first report must be provided 6 months from the date of this permit.

4.2.2 The Operator must monitor the groundwater at the site for the Relevant Hazardous Substances specified in Table 6 at the frequency specified in Table 6, the purpose of which must be to identify groundwater contamination associated with the activities specified in Table 6 by those Relevant Hazardous Substances. Each assessment must be recorded and reported to SEPA. The first assessment must be completed within 5 years of the issue

date of this permit. The assessment must include interpretation of the results with reference to previous monitoring undertaken (including the site and where applicable baseline reports) and operations at the Permitted Installation and details of corrective actions that are required to protect groundwater and remedy any contamination that has occurred a result of permitted activities.

Table 6 Groundwater Monitoring Requirements

Relevant Hazardous Substance	Activity to be Monitored	Frequency
Odorant NB, Potassium Hydroxide solution, Transformer Oil.	Hydrogen production	Every 5 years

4.2.3 The Operator must monitor the soil at the site for the relevant hazardous substances specified in Table 7 at the frequency specified in Table 7, the purpose of which must be to identify soil contamination associated with the activities specified in Table 7 by those Relevant Hazardous Substances. Each assessment must be recorded and reported to SEPA. The first assessment must be completed within 10 years of the issue date of this permit. The assessment must include interpretation of the results with reference to previous monitoring undertaken (including the site and where applicable baseline reports) and operations at the Permitted Installation and details of corrective actions that are required to protect soil and remedy any contamination that has occurred as a result of permitted activities.

Table 7 Soil Monitoring Requirements

Relevant Hazardous Substance	Activity to be Monitored	Frequency
Odorant NB, Potassium Hydroxide solution, Transformer Oil.	Hydrogen production	Every 10 years

4.2.4 The Operator must submit a detailed soil and groundwater monitoring plan, for the monitoring required by 4.2.2 and 4.2.3 to SEPA at least three months in advance of carrying out the monitoring, which must include the locations at which monitoring must be carried out and the methodology which must be used. The monitoring plan must follow the guidance provided in SEPA

technical guidance document IED-TG-42 for the content of a monitoring plan.

4.2.5 The Operator shall carry out the monitoring required by 4.2.2 and 4.2.3 in accordance with the soil and groundwater monitoring plan required by 4.2.4.

4.2.6 The Operator must review the plan required by 4.2.4 no later than six months after each monitoring event. The purpose of the review must be to determine whether any changes to monitoring locations, frequency or parameters are required and where changes are proposed, submit a revised plan to SEPA.

4.2.7 The Operator must maintain the groundwater monitoring wells detailed in the plan required in 4.2.4 in a condition fit for purpose. Where a monitoring well's function is compromised it must be repaired or replaced to allow sample collection in accordance with 4.2.2 and 4.2.3.

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Schedule 5: Infrastructure & Operation of Process

Purpose: This schedule places responsibility on the authorised person to ensure activities are carried out in accordance with required methods of operation.

5.1 Liquid Storage

5.1.1 Containers used for the storage of liquids must be stored within a bund / secondary containment system that must:

(a) hold at least:

(i) for a single container, 110% of its total capacity; or
(ii) for two or more containers the greater of:
1) 110% of the capacity of the largest container; or
2) 25% of the capacity of all containers together.

(b) catch all spills from the container(s) and related parts;

(c) be leak-proof;

(d) be located and/or protected, to prevent damage as far as reasonably practicable;

(e) be stored away from sources of heat; and

(f) have any spills and/or rainwater removed as soon as reasonably practicable.

5.2 Hydrogen storage

5.2.1 The quantity of hydrogen stored at the installation at any one time must not exceed 4.855 tonnes.

5.3 Raw Materials, Waste Handling and Storage

5.3.1 Waste shall not be stored at the Permitted Installation for periods in excess of one year.

5.3.2 The Operator shall prepare and thereafter maintain a register of the raw materials and wastes. The said register shall be updated at least every 6

months and shall contain the following records for each raw material or waste type:

(a) A unique reference name or number for identification purposes;

(b) A description of the activity that generated the waste stream, including an indication whether the activity is of a permanent or temporary nature;

(c) Quantities of raw materials stored on-site or waste generated with reference to mass, volume or number of items;

(d) Date on which storage of the raw material or waste commenced and date of removal of the waste from the Permitted Installation;

(e) Location and method of on-site handling and storage of the raw material or waste; and

(f) A description of the type of raw material or waste.

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Schedule 6: Record Keeping and Data Submission

Purpose: This schedule requires the authorised person to keep records associated with the operation of the installation and submit certain records to SEPA.

6.1 Record Keeping – general requirements

6.1.1 All information recorded, kept or submitted to SEPA in accordance with a condition of this authorisation must be:

(a) true and accurate,

(b) provided to SEPA upon request, and

(c) kept for the retention period specified in Table 8.

Table 8 Retention of information requirements

Information	Retention period
Soil and groundwater monitoring	Until surrender of authorisation
All records and reports of any environmental event that has, or might have, impacted on the condition of any soil or groundwater	Until surrender of authorisation
All other information	Six years

6.1.2 Records must be kept of the following for the medium combustion plant described in Table 1:

(a) the type and quantity of fuel used;

(b) the operating hours.

6.2 Resource Efficiency

6.2.1 Annual data totals of raw materials, energy utilised, emissions, and waste produced within the installation, must be recorded in the relevant section of the “Systematic assessment of resource use and efficiency template” supplied by SEPA.

6.2.2 A report detailing a review of resource utilisation at the installation must be submitted annually. The report must:

(a) Include the annual data totals required in 6.2.1;

(b) identify ways to reduce raw materials, water used, energy utilised, emissions, and waste produced; and

(c) demonstrate that where possible resource utilisation is improving at the installation year-on-year.

6.2.3 For the purposes of 6.2.2 (a) “raw materials”, “energy” and “fuel” must, as a minimum, include the materials listed in Table 9.

Table 9: Resource type and unit of measurement

Raw material, Energy or Fuel	Unit of Measurement
Hydrogen produced	kg
Hydrogen exported	kg
Hydrogen vented and fugitive emissions	kg
Mains Water to the process	kg
Electricity (non-fossil fuel sources)	MWh
Electricity (grid supply)	MWh
Diesel	kg
Nitrogen imported	kg
Nitrogen emitted	kg
Oxygen emitted	kg
Oxygen exported	kg
Potassium hydroxide solution	kg
Water purifier cleaning products	kg
Odorant NB	litres

Raw material, Energy or Fuel	Unit of Measurement
Effluent discharge to sewer from the process	kg

6.3 Soil and groundwater protection assessment report

6.3.1 At least every four years, an assessment of the condition of the installation and infrastructure designed to prevent emissions from the installation to soil and groundwater must be undertaken and reported to SEPA. The assessment report must include:

(a) a review of the effectiveness of the infrastructure designed to prevent emissions to soil and groundwater;

(b) a review of records of any management actions or procedures used to prevent emissions to soil and groundwater and an assessment of their effectiveness.

(c) details of any actions required to maintain the infrastructure so that it prevents emissions to soil and groundwater.

(d) a CCTV or video survey of the drainage systems and process area to ensure their structural integrity and to identify any remedial actions required;

(e) the details of corrective actions required to remedy any contamination that has occurred as a result of the authorised activities; and

(f) the details of any additional measures that are required to prevent emissions to soil and groundwater.

6.4 Data Submission

6.4.1 The results of the monitoring of emissions, as described in Schedule 4, must be submitted to SEPA, no later than two months from the date on which monitoring was undertaken.

6.5 Reporting and Notification Requirements

6.5.1 Where any condition of this authorisation requires information to be reported or notified to SEPA, a report or notification must be forwarded to SEPA by the date(s), the period, and the frequency, specified in Table 10.

Table 10 Reporting and notification requirements

Summary of information to be reported or notified	Condition/ section/ schedule	Date/within period/ frequency to be reported	Date First Report Due	Address to send report to
Notification of appointed person (and deputy)	2.1.1	Once	Within four weeks of the date of the permit.	datareturns@sepa.org.uk
Notification of change of appointed person and/or deputy	2.1.2	Without delay as required	-	datareturns@sepa.org.uk
End of Commissioning Report	2.3.2	Within four weeks of completing the commissioning of the installation	Within four weeks of completing the first commissioning of the installation	datareturns@sepa.org.uk
Notification if there is a planned cessation of all, or any part of authorised activities, for any period exceeding 12 months	2.4.1	At least 1 month before the date of planned cessation	-	datareturns@sepa.org.uk
Annual mass emission results	3.5.4	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk

Summary of information to be reported or notified	Condition/ section/ schedule	Date/within period/ frequency to be reported	Date First Report Due	Address to send report to
Report of venting events.	3.6.1	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk
Notification of any planned venting from EDP stacks.	3.6.2	At least 7 days before the planned venting event	As required	datareturns@sepa.org.uk
Notification when any vent is to be taken out of service.	3.6.4	At least 24 hours before the vent is taken out of service	As required	datareturns@sepa.org.uk
Results of any effluent monitoring of discharges from WW2 undertaken by Scottish Water	3.8.2	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk
Fugitive release inventory	3.10.2	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk
Annual leak repair programme for the forthcoming calendar year	3.10.4	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk
Systematic assessment of all measures used to prevent	4.2.1	At least every 4 years	Within 6 months from the date of this permit	datareturns@sepa.org.uk

Summary of information to be reported or notified	Condition/ section/ schedule	Date/within period/ frequency to be reported	Date First Report Due	Address to send report to
emissions from the Permitted Installation to soil and groundwater				
Monitoring of groundwater	4.2.2	Every 5 years	Within 5 years from the date of this permit	datareturns@sepa.org.uk
Monitoring of soil	4.2.3	Every 10 years	Within 10 years from the date of this permit	datareturns@sepa.org.uk
Soil and groundwater monitoring plan	4.2.4	At least three months in advance of carrying out the monitoring	At least three months in advance of carrying out first monitoring	datareturns@sepa.org.uk
Review of the soil and groundwater monitoring plan	4.2.6	No later than six months after each monitoring event	No later than six months after first monitoring event	datareturns@sepa.org.uk
Report detailing a review of resource utilisation at the installation	6.2.2	Annually within 2 months of the end of the calendar year	By 28 February following permit issue	datareturns@sepa.org.uk
Assessment of the condition of the installation and infrastructure designed to prevent emissions from	6.3.1	At least every 4 years	Within 4 years of the date of the permit	datareturns@sepa.org.uk

Summary of information to be reported or notified	Condition/ section/ schedule	Date/within period/ frequency to be reported	Date First Report Due	Address to send report to
the installation to soil and groundwater				
Results of the monitoring of emissions, as described in Schedule 4	6.4.1	No later than two months from the date on which monitoring was undertaken	As required by 4.1.4	datareturns@sepa.org.uk
Notification of an event as required by 7.1.1	7.1.1	As reasonably practicable, and in any case within 24 hours of identification of the event	As required	Via pollution hotline contact telephone number
Event report	7.3.1	Within 14 days of the event	As required	datareturns@sepa.org.uk

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Schedule 7: Environmental Events

Purpose: This schedule requires the cessation, prevention and reporting of any potentially polluting event that may arise from the authorised activities.

7.1 Notification of SEPA

7.1.1 SEPA must be notified via its pollution hotline contact telephone number as soon as reasonably practicable, and in any case within 24 hours of identification of an event, of any of the following:

(a) an event that has caused or could cause adverse impact to the environment or harm to human health;

(b) an event that results, or could result, in an emission to the environment that is not authorised;

(c) an event that has caused a breach of a condition of this authorisation.

In this condition, the meaning of 'event' is as defined in the Interpretation of Terms in Schedule 8: of this authorisation.

7.2 Management of the Event

7.2.1 All measures that are reasonably practicable must be taken to stop an event and to minimise its effect on the environment.

7.3 Reporting of the Event

7.3.1 Within 14 days of an event a report must be submitted to SEPA detailing:

(a) the reason(s) for the event;

(b) the action(s) taken to stop the event and minimise the impacts; and

(c) the action(s) taken to prevent the event from recurring.

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Schedule 8: Interpretation of Terms

For the purposes of this authorisation, and unless the context requires otherwise, the following definitions apply.

Term	Definition
authorisation	The permit granted by SEPA under The Pollution Prevention and Control (Scotland) Regulations 2012.
authorised activities	The activities and any directly associated activities which may be carried out under this authorisation.
authorised person	The holder of this authorisation and person responsible for securing compliance with the conditions of it. Has the same meaning as 'operator' as defined in The Pollution Prevention and Control (Scotland) Regulations 2012.
authorised place	The geographic location at which the authorised activities may be carried on.
commissioning	The commencement in operation of the permitted installation or part thereof, for the first time following construction, or after any significant modification or change. It includes: the planning and management of the commissioning or the permitted installation or part thereof; functional testing of equipment; introducing process materials to the plant; resolution of technical and procedural problems; confirmation that all aspects of the plant operate as designed or planned; and confirmation the plant operates within the conditions of the authorisation.
directly associated activity	Any activity which has a technical connection with the activity carried out in the stationary technical unit and which could have an effect on pollution.
dust	Suspended solid particles and liquid droplets suspended in air which may then be deposited on surfaces and may cause air pollution and/or nuisance.

Term	Definition
emission	The direct release of a substance or heat from individual or diffuse sources in an installation into the air, land or water.
environmental harm	(a) harm to the health of human beings or living organisms, (b) harm to the quality of the environment, including: (i) harm to the quality of the environment taken as a whole, (ii) harm to the quality of air, water or land, and (iii) other impairment of, or interference with, ecosystems, (c) offence to the senses of human beings, (d) damage to property, or (e) impairment of, or any interference with, amenities or other legitimate uses of the environment.
event	(a) Any accident which has caused or could cause environmental harm; or (b) Any malfunction, breakdown or failure of plant, infrastructure or techniques which has caused or could cause environmental harm; or (c) Force majeure or action taken to save human life or limb.
fuel	Any solid, liquid or gaseous combustible material.
Gas oil	Either: (a) Any petroleum-derived liquid fuel falling within CN codes 2710 19 25, 2710 19 29, 2710 19 47, 2710 19 48, 2710 20 17 or 2710 20 19; or (b) Any petroleum-derived liquid fuel of which less than 65% by volume (including loses) distils at 250oC and of which at least 85% by volume (including loses) distils at 350oC by the ASTM D86 method.
hazardous substance	substances or mixtures as defined in Article 3 of (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

Term	Definition
installation	(a) stationary technical unit where one or more activities listed in Schedules 1 or 2 of the Regulations are carried out, and (b) any other location on the same site where any other directly associated activities are carried out, any references to an installation include references to part of an installation.
Medium Combustion Plant	A combustion plant with a rated thermal input equal or greater than 1 megawatt but less than 50 megawatts.
normal operation	Operation of the stationary technical unit excluding start-up and shut-down periods.
oxides of nitrogen	Nitric oxide and nitrogen dioxide, expressed as nitrogen oxide (NO2).
point source emission	Single, identifiable source of emission.
rated thermal input	The rate at which fuel can be burned at the maximum continuous rating of the appliance multiplied by the net calorific value of the fuel and expressed as megawatts thermal.
the Regulations	The Pollution Prevention and Control (Scotland) Regulations 2012.
relevant hazardous substance	hazardous substances that are capable of contaminating soil and groundwater based upon consideration of the chemical and physical properties of the substance.
resource	Resource means materials, water, waste, residues and energy used within or produced from the regulated process(es) and in any ancillary processes on site.
SEPA	Scottish Environment Protection Agency.

Term	Definition
SEPA officer	Any person who is authorised in writing under Section 108 of the Environment Act 1995 to carry out duties on behalf of SEPA.
Start-up	The starting or restarting of all or part of a process following shutdown within an authorised activity before reaching minimum stable operating conditions.
Shut-down (electroysers)	A period of time where one or more electrolysers, is intentionally placed in a non-operational condition. This includes but is limited to a planned cold standby, where power to the electrolyser in question is cut off, and a nitrogen purge is conducted to safely isolate the unit. A hot standby state, where the electrolyser remains in an idle state but fully ready to operate with only dynamic adjustments to power required to recommence production, is not classified as a shutdown.
Venting event	Any venting of hydrogen via emission points A3, A4, IA1, IA2, IA3, IA4, IA5, IA6, IA7, IA8, IA9, IA10, IA11, IA12, IA13, IA14, IA15, IA16, IA17, IA18, IA19, IA20 IA21, IA22, IA23 and IA24.
Planned venting from the EDP stacks	Any planned venting of hydrogen via emission points A3 & A4.
water environment	has the same meaning as in the Water Environment and Water Services (Scotland) Act 2003 that is all surface water, groundwater and wetlands; and “surface water”, “groundwater” and “wetlands” shall have the same meanings as in the Act.

Except where specified otherwise, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of the authorisation) and to any other enactment, which may after the date of the authorisation replace or amend it.

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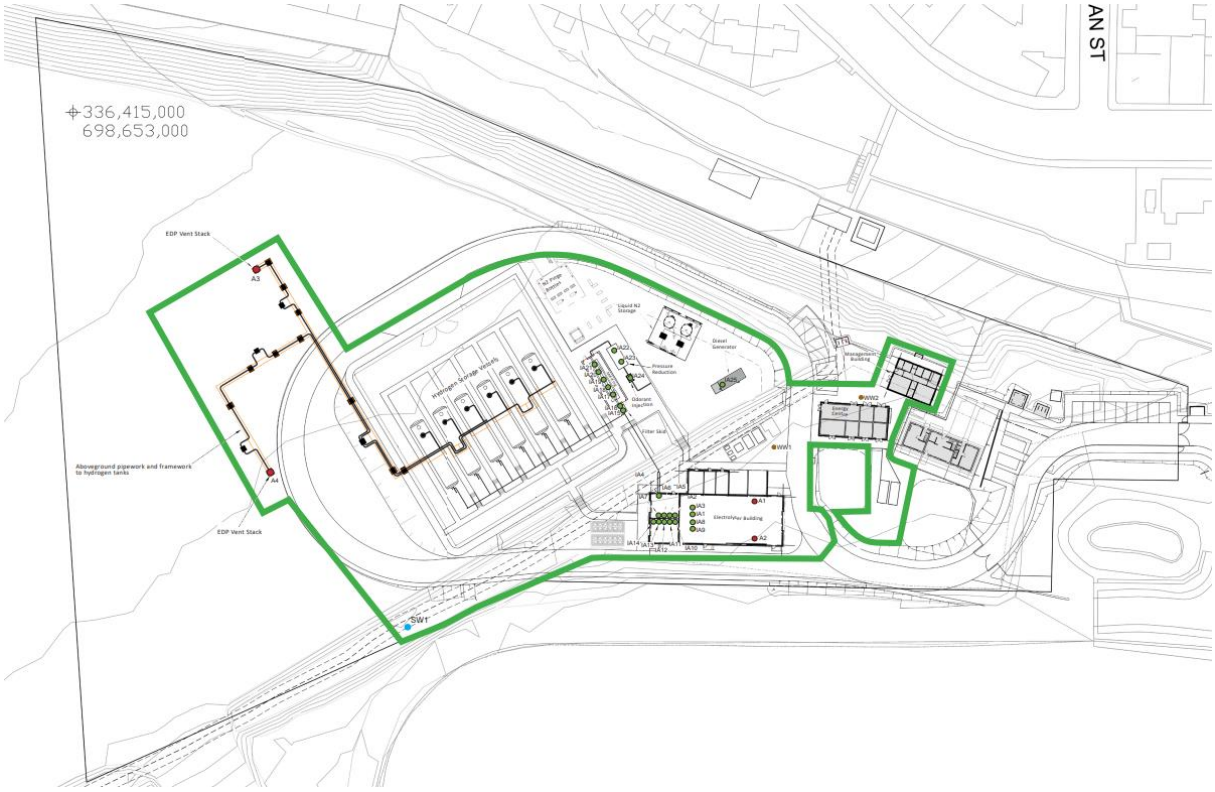
Appendix 1 - Plan of Authorised Placeand location of emission points



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Authorisation Number: PPC/A/5006668

Explanatory Notes

These explanatory notes do not form part of the authorisation.

Best Available Techniques (BAT):

Regulation 22 of the Regulations specifies that there is a condition of an authorisation, that the authorised person must use the best available techniques (BAT) for preventing, or where that is not practicable, reducing emissions from the installation or mobile plant. This is referred to as the 'general' BAT condition. This condition does not apply in relation to any aspect of the operation of the installation or mobile plant, which is regulated by a specific condition of the authorisation. Examples of aspects of the operation that have not been regulated by specific conditions are management supervision systems, training and qualifications and maintenance in general.

In considering BAT, SEPA would expect the authorised person to have regard to all relevant PPC sectoral or other technical guidance, including process guidance notes published by the Scottish Government.