Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

For the future of our environment

Permit activity:

Hydrogen production by electrolysis of water

Version 1.0 April 2026

s

Contents

Schedule 1 Hydrogen production 4

Section 1: The authorised activities 4

1.1 Authorised activities 4

Section 2: General requirements 6

2.1 Written management system 6

2.2 Commissioning 6

2.3 Decommissioning 6

2.4 Ceasing operations 6

2.5 Resource efficiency 7

Section 3: Pollution control 8

3.1 Start-up and shut-down 8

3.2 Emissions 8

3.3 Emission points – Air 9

3.4 Emission limit values – Air 9

3.5 Emission points – Water 13

3.6 Emission limit values – Water 14

Section 4: Environmental monitoring 17

4.1 Monitoring requirements 17

4.2 Soil and groundwater 17

Section 5: Infrastructure 19

5.1 Surface and drainage system requirements 19

5.2 Liquid storage requirements 19

5.3 Waste handling and storage requirements 20

Section 6: Record keeping and data submission 21

6.1 Pre-commissioning information requirements 21

DRAFT

OFFICIAL

6.2 Proposed change in operation 22
6.3 Record keeping – general requirements 23
6.4 Emissions to air 24
6.5 Venting 25
6.6 Emissions to mains sewer 26
6.7 Resource utilisation 27
6.8 Soil and groundwater protection assessment report 27
6.9 Reporting and notification requirements 28
Schedule 2 Environmental events 30
Section 1: Events notification and reporting 30
1.1 Notification of SEPA 30
1.2 Management of the event 30
1.3 Reporting of the event 30
Schedule 3 Interpretation of terms 31
Appendix 1: Installation plan 35
Appendix 2: Air emission point plan 36
Appendix 3: Water emission and sampling point plan 37
Appendix 4: Permitted lower tier exceedances 38
Appendix 5: Resource utilisation 40

DRAFT

OFFICIAL

Schedule 1 Hydrogen production

Purpose: This schedule identifies the industrial activity that can be carried on, and the authorised place. It ensures operations are carried out in a way that reduces risk to the environment and requires minimum environmental standards to be met at all times, so that local communities are protected.

Section 1: The authorised activities

1.1 Authorised activities

1.1.1 The permit authorises the operation of the installation described in 1.1.4, where the authorised activities in 1.1.3 are carried out together with the activities in 1.1.5, as detailed in this schedule, at the authorised place shown on the installation plan in Appendix 1.

1.1.2 The site boundary is outlined in red, and the installation is outlined in blue on the installation plan in Appendix 1.

1.1.3 The authorised activities are:

(a) The production of hydrogen by electrolysis of water as described in Schedule 20, Part 4, Paragraph 17 (a) of the Regulations.

1.1.4 The stationary technical unit includes the following:

(a) One 120kW AEM electrolyser and one 175kW alkaline electrolyser capable of producing a maximum 51,684kg of hydrogen per year.

DRAFT

1.1.5 The directly associated activities are:

(a) Purification of incoming process feedwater.

(b) Electricity generated by wind power, with supplement from the National Grid.

(c) The discharge of effluent to the water environment.

(d) Hydrogen purification, compression and venting.

(e) Collection and compression of oxygen produced by the electrolysis.

(f) Storage and handling of raw materials and chemicals.

(g) Surface water drainage.

(h) Hydrogen storage up to 108kg.

(i) Cascade filling of Hydrogen into vehicles.

DRAFT

OFFICIAL

Section 2: General requirements

2.1 Written management system

2.1.1 The authorised person must have a written management system in place.

2.1.2 The authorised person must regularly carry out a review of the management system and its effectiveness in terms of achieving compliance with the conditions of the authorisation.

2.2 Commissioning

2.2.1 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.

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

2.3 Decommissioning

2.3.1 SEPA must be notified if there is a planned cessation of all, or any part of authorised activities for any period exceeding 12 months.

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

2.4 Ceasing operations

2.4.1 In the event of a breach of conditions that poses an immediate danger to human health or threatens to cause an immediate significant adverse effect upon the environment, the operation of an installation or plant must cease without delay until compliance is restored.

DRAFT

OFFICIAL

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.

DRAFT

OFFICIAL

Section 3: Pollution control

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 Emissions

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

(a) odour;

(b) noise; and

(c) heat emissions

from the authorised activities.

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

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

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

3.2.5 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.

DRAFT

OFFICIAL

3.2.6 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; or

(e) microbiological growth.

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

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

3.3 Emission points – Air

3.3.1 Point source emissions to air from the installation must only be made from the emission points referenced in Table 1 of this schedule, as shown on the plan in Appendix 2.

3.4 Emission limit values – Air

3.4.1 Emissions to the air from the installation, must not exceed the emission limit value specified in Table 1 of this schedule.

3.4.2 Air must not be added to dilute emissions in order to achieve the emission limit values specified in Table 1 of this schedule.

DRAFT

OFFICIAL

Table 1: Emissions: limits – air

Parameter	Emission limit value (Units)	Emission point reference number	Emission source	Operational mode
Hydrogen	No limit set	H1	PALK Electrolyser and Purification Vent at Hydrogen Production Hall	Normal Operating Mode and Emergency Venting
Hydrogen	No limit set	H2	Dispenser	Normal Operating Mode and Emergency Venting
Hydrogen	No limit set	H3	Low Pressure Hydrogen Storage	Normal Operating Mode and Emergency Venting
Hydrogen	No limit set	H4	High Pressure Hydrogen Storage	Normal Operating Mode and Emergency Venting

DRAFT

Parameter	Emission limit value (Units)	Emission point reference number	Emission source	Operational mode
Hydrogen	No limit set	H5	AEM Electrolyser Vent at Hydrogen Production Hall	Normal Operating Mode and Emergency Venting
Oxygen	No limit set	O2 Vent 1	Electrolysis of Water	Normal Operating Mode and Emergency Venting
Oxygen	No limit set	O2 Vent 2	Oxygen Compressor and Storage	Emergency Venting
Nitrogen	No limit set	H1	PALK Electrolyser and Purification Vent at Hydrogen Production Hall	Routine and Emergency Shutdown for Purging
Nitrogen	No limit set	H2	Dispenser	Routine and Emergency Shutdown for Purging

DRAFT

Parameter	Emission limit value (Units)	Emission point reference number	Emission source	Operational mode
Nitrogen	No limit set	H3	Low Pressure Hydrogen Storage	Routine and Emergency Shutdown for Purging
Nitrogen	No limit set	H4	High Pressure Hydrogen Storage	Routine and Emergency Shutdown for Purging
Nitrogen	No limit set	H5	AEM Electrolyser Vent at Hydrogen Production Hall	Routine and Emergency Shutdown for Purging

DRAFT

3.5 Emission points – Water

3.5.1 The discharge location and sample location must be at the locations specified in **Error! Reference source not found.**2 of this schedule.

Table 2: Discharge and sample location(s)

Activity	Emission point reference number	Discharge to	Discharge location NGR	Sampling point reference number	Sample location NGR
Electrolysis of Water	W1	Scottish Water Sewer	NB398313	13-T-001	NB398312

DRAFT

OFFICIAL

3.6 Emission limit values – Water

3.6.1 Within 30 months of starting operations, a report detailing emissions to the mains sewer must be submitted to SEPA. The report must:

(a) Summarise the results of the monitoring required by Table 3 of this Schedule;

(b) Use the monitoring results required by Table 3 of this Schedule to assess the emissions over a period of 24 months; and

(c) Confirm emissions are below the relevant waste-water BAT-AEL trigger limits.

3.6.2 The Operator shall forward to SEPA the results of any effluent monitoring of discharges to the Scottish Water sewer undertaken by Scottish Water on an annual basis within 2 months of the end of the calendar year.

3.6.3 Any sample of effluent must not exceed the lower and upper tier limits for the corresponding parameter in Table 3 of this schedule.

3.6.4 The lower tier limit in Table 3 of this schedule may be exceeded in a series of samples over a 12 month period, providing the number of exceedances is not greater than the permitted exceedances in Table 1 in Appendix 4.

.

DRAFT

Table 3: Emissions: limits and monitoring requirements – water

Parameter	Sampling point reference number	Lower tier emission limit value (Units)	Upper tier emission limit value (Units)	Monitoring frequency	Monitoring type/method
Total Organic Carbon (TOC)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous BS EN 1484
Total Suspended Solids (TSS)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous BS EN 872
Total Phosphorous (Total P)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous Various BS EN standards apply
Chromium (expressed as Cr)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous Various BS EN standards apply

DRAFT

Parameter	Sampling point reference number	Lower tier emission limit value (Units)	Upper tier emission limit value (Units)	Monitoring frequency	Monitoring type/method
Copper (expressed as Cu)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous Various BS EN standards apply
Nickel (expressed as Ni)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous Various BS EN standards apply
Zinc (exporessed as Zn)	13-T-001	N/A	N/A	Once every month for 24 months following the start of operation	Instantaneous Various BS EN standards apply

DRAFT

Section 4: Environmental monitoring

4.1 Monitoring requirements

4.1.1 Monitoring must be undertaken to the frequency and standard as specified in Table 4 of this schedule.

4.1.2 All monitoring and laboratory analysis must be undertaken by an organisation, or organisations, accredited to BS EN ISO/IEC 17025, or any subsequent revision or replacement of that standard as recognised by the UKAS.

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

4.2 Soil and groundwater

4.2.1 Soil and groundwater monitoring must be undertaken as specified in Table 4 of this schedule.

Table 4: Monitoring requirements – soil and groundwater

Relevant hazardous substance	Operational area	Soil monitoring frequency	Groundwater monitoring frequency
As per monitoring plan submitted under Condition 4.2.2 and agreed in writing by SEPA	As per monitoring plan submitted under Condition 4.2.2 and agreed in writing by SEPA.	10 Years	5 Years

DRAFT

OFFICIAL

4.2.2 A soil and groundwater monitoring plan to achieve the requirements of Table 4 of this Schedule must be submitted to SEPA at least 3 months prior to any monitoring taking place and include the locations at which the monitoring shall be carried out and the methodology which shall be used.

DRAFT

Section 5: Infrastructure

5.1 Surface and drainage system requirements

5.1.1 The drainage system at the authorised place must be maintained.

5.1.2 The authorised person must maintain plans that detail the site drainage system including subsurface infrastructure.

5.2 Liquid storage requirements

5.2.1 Containers used to store liquid must be:

(a) Of sufficient strength and structural integrity;

(b) Installed in a manner to ensure that they are unlikely to burst or leak in their ordinary use;

(c) kept closed; and

(d) stored within a secondary containment system.

5.2.1 All secondary containment systems 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.

DRAFT

5.3 Waste handling and storage requirements

5.3.1 The authorised person must maintain a record of the location, estimated quantities and types of all wastes produced within the installation.

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.

DRAFT

Section 6: Record keeping and data submission

6.1 Pre-commissioning information requirements

6.1.1 At the time of the production of a Soil and Groundwater Sampling Monitoring Plan (as per Permit Condition 4.2.2), an updated site condition and baseline report describing the condition of the authorised place must be submitted to SEPA.

6.1.2 Where site investigation works are required for the preparation of the Baseline Report under Condition 6.1.1 of this Schedule, site investigation proposals shall be submitted to SEPA at least 3 months prior to any site investigations being undertaken.

6.1.3 During commissioning of the installation, the final design detail for the following must be submitted to SEPA:

(a) Hydrogen Vents H1, H2, H3, H4 and H5;

(b) Oxygen Vents 1 and 2.

6.1.4 The information required in 6.1.3 of this schedule must include the following:

(a) height of the emission stack above ground level;

(b) stack inner diameter;

(c) stack gas temperature; and

(d) stack gas velocity.

DRAFT

6.1.5 During commissioning of the installation, the final design detail for the following must be submitted to SEPA.

(a) drains;

(b) subsurface pipework;

(c) subsurface sumps; and

(d) storage vessels.

6.1.6 The information required for the infrastructure in 6.1.5 of this schedule must include the:

(a) configuration;

(b) specification; and

(c) location within the authorised place.

6.1.7 During commissioning of the installation, a report detailing the implementation of Best Available Techniques (BAT) for noise at the installation must be submitted to SEPA. The report must:

(a) confirm the techniques to be used for the control of emissions of noise and vibration from the installation during normal, abnormal and emergency conditions; and

(b) explain how BAT has been applied to prevent or reduce noise from individual noise sources.

6.2 Proposed change in operation

6.2.1 SEPA must be notified via email to registry@sepa.org.uk in advance of any proposed change in operation that may have consequences for the environment, unless the authorised person has submitted a variation application for the permit that includes the proposed change.

DRAFT

6.3 Record keeping – general requirements

6.3.1 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 5 of this schedule.

Table 5: 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

DRAFT

6.4 Emissions to air

6.4.1 A fugitive release inventory must be submitted to SEPA annually.

6.4.2 The fugitive release inventory must include:

(a) the main sources of fugitive releases from each plant;

(b) the techniques in place to prevent or minimise emissions from each source; and

(c) an estimate of annual fugitive emissions (based on composition and mass in kilograms) for each source including the total for each production plant.

6.4.3 A leak detection and repair programme (LDAR) must be implemented and maintained. The LDAR programme must:

(a) be designed to reduce fugitive emissions to air from the production plant;

(b) monitor using best available techniques; and

(c) use the fugitive release inventory in 6.3.2 of this Schedule as the basis for targeting improvements.

6.4.4 A report detailing the LDAR programme in 6.3.3 of this Schedule must be submitted to SEPA annually.

6.4.5 The report detailing the LDAR programme must include:

(a) the leak repair programme for the forthcoming calendar year;

(b) a review of the previous year's repair programme; and

(c) any improvements made.

DRAFT

6.5 Venting

6.5.1 SEPA must be notified at least 7 days in advance of any planned venting from emission points H1, H2, H3, H4, H5. The notification must include:

(a) the reason for the planned venting;

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

(c) an estimate of the date, time and duration of the planned venting.

6.5.2 Any venting from emission points H1, H2, H3, H4, H5 not notified under 6.5.1 of this schedule must be treated as an event under Schedule 2.

6.5.3 All venting must be recorded and submitted to SEPA annually. Each venting record must contain:

(a) the date, time and duration;

(b) the emission point(s) employed;

(c) an estimate of the quantity of hydrogen vented;

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

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

(f) actions taken to prevent reoccurrence of the venting.

DRAFT

6.5.4 SEPA must be notified at least 24 hours in advance of emission points H1, H2, H3, H4, H5 being taken out of service. The notification must include:

(a) the reason why the emission point is out of service;

(b) an estimate of the time that the emission point will be out of service; and

(c) a description of how venting operations will be managed during the period when the emission point is out of service.

6.6 Emissions to mains sewer

6.6.1 Results of any effluent monitoring undertaken to demonstrate compliance with emission limits to the mains sewer must be reported to SEPA annually.

DRAFT

6.7 Resource utilisation

6.7.1 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.

6.7.2 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 6.7.1 of this schedule;

(b) identify ways to reduce where possible 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.

6.7.3 For the purposes of 6.7.2(a) of this schedule "raw materials", "energy" and "fuel" must, as a minimum, include the materials listed in Table 1 in Appendix 5.

6.8 Soil and groundwater protection assessment report

6.8.1 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;

DRAFT

(d) a CCTV, video or appropriate equivalent 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.

6.9 Reporting and notification requirements

6.9.1 Where any condition of this authorisation requires information to be reported or notified to SEPA, a report or notification must be forwarded to SEPA at registry@sepa.org.uk by the date(s), the period, and the frequency, specified in Table 6 of this Schedule.

Table 6: Reporting and notification requirements

Summary of information to be reported or notified	Condition / Section	Date / within period / frequency to be reported
End of commissioning report	2.2.2	Within 4 weeks of completing commissioning
Planned cessation of all, or any part of authorised activities for any period exceeding 12 months	2.3.1	2 months prior to period of non-operation
Effluent discharge monitoring results	3.6.1	Within 30 months of the start of operations.
Environmental monitoring results	Section 4	No later than 2 months after monitoring has taken place
Soil and groundwater monitoring plan	4.2.2	3 months prior to monitoring taking place

Summary of information to be reported or notified	Condition / Section	Date / within period / frequency to be reported
Pre-Commissioning Report(s)	6.1	During commissioning of the installation.
Revised Site Condition Report and Baseline	6.1.1	At the time of the production of a Soil and Groundwater Sampling Monitoring Plan (as per Permit Condition 4.2.2). 3 months prior to any monitoring taking place.
Proposed change in operation	6.2.1	Immediately in advance of any proposed change in operation
Fugitive release inventory	6.3.2	Annually before 31 March
Leak repair programme	6.3.4	Annually before 31 March
Planned venting	6.5.1	At least 7 days in advance of planned venting
All venting	6.5.3	Annually before 31 March
Emission points taken out of service	6.4.4	24 hours in advance of emission point being taken out of service
Results of any effluent monitoring of discharges to the main sewer	6.6.1	Annually before 31 March
Resource utilisation	6.7.2	Annually before 31 March
Soil and groundwater protection assessment report	6.8.1	Every 4 years

DRAFT

Schedule 2 Environmental events

Section 1: Events notification and reporting

1.1 Notification of SEPA

1.1.1 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 by this permit;

(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 of this authorisation.

1.2 Management of the event

1.2.1 All measures that are reasonably practicable must be taken to stop an event, as described in 1.1.1 of this schedule and to minimise its effect on the environment.

1.3 Reporting of the event

1.3.1 Within 14 days of an event as described in 1.1.1 of this schedule 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.

DRAFT

Schedule 3 Interpretation of terms

Table 1: Interpretation of terms

Term	Definition
authorisation	The document provided to applicants by SEPA, authorising the activity applied for.
change in operation	A 'change in operation' means a change in the nature or functioning of a Schedule 20 installation, or an extension of the installation or plant which may have consequences for the environment. It does not include changes that do not alter the current environmental impact. It can include both positive and negative changes.
commissioning	The commencement in operation of the installation or part of the installation, for the first time following construction, or after any significant modification or change. It includes: the planning and management of the commissioning of the 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 permit.
dust	Suspended solid particles and liquid droplets suspended in air which may be deposited on surface and may cause air pollution and/or nuisance.

DRAFT

Term	Definition
emission limit value	The mass, expressed in terms of specific parameters, concentration or level of an emission, which may not be exceeded during one or more periods of time. All air emission limit values are to be calculated: (a) At a temperature of 273.15K, (b) At a pressure of 101.3kPa, and (c) After correction for the water vapour content of the waste gases. (d) at a standardised oxygen content of: • 6% for combustion plants using solid fuels; • 3% for combustion plants, other than engines and gas turbines, using liquid and gaseous fuels; • 15% for engines and gas turbine.
environmental harm	(a) Harm to the health of human beings or other 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 sense of human beings, (d) Damage to property, or (e) Impairment of, or any interference with, amenities or other (f) legitimate uses of the environment.

DRAFT

Term	Definition
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.
normal operation	Operation of the authorised activities excluding periods such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations.
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, products, water, waste, residues and energy used within or produced from the regulated process(es) and in any ancillary processes on site.
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 shut-down of an authorised activity, before reaching minimum stable operating conditions.
shut-down	A period of time where one or more electrolysers, is intentionally placed in a non-operational condition. This includes, but is not 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 shut-down.

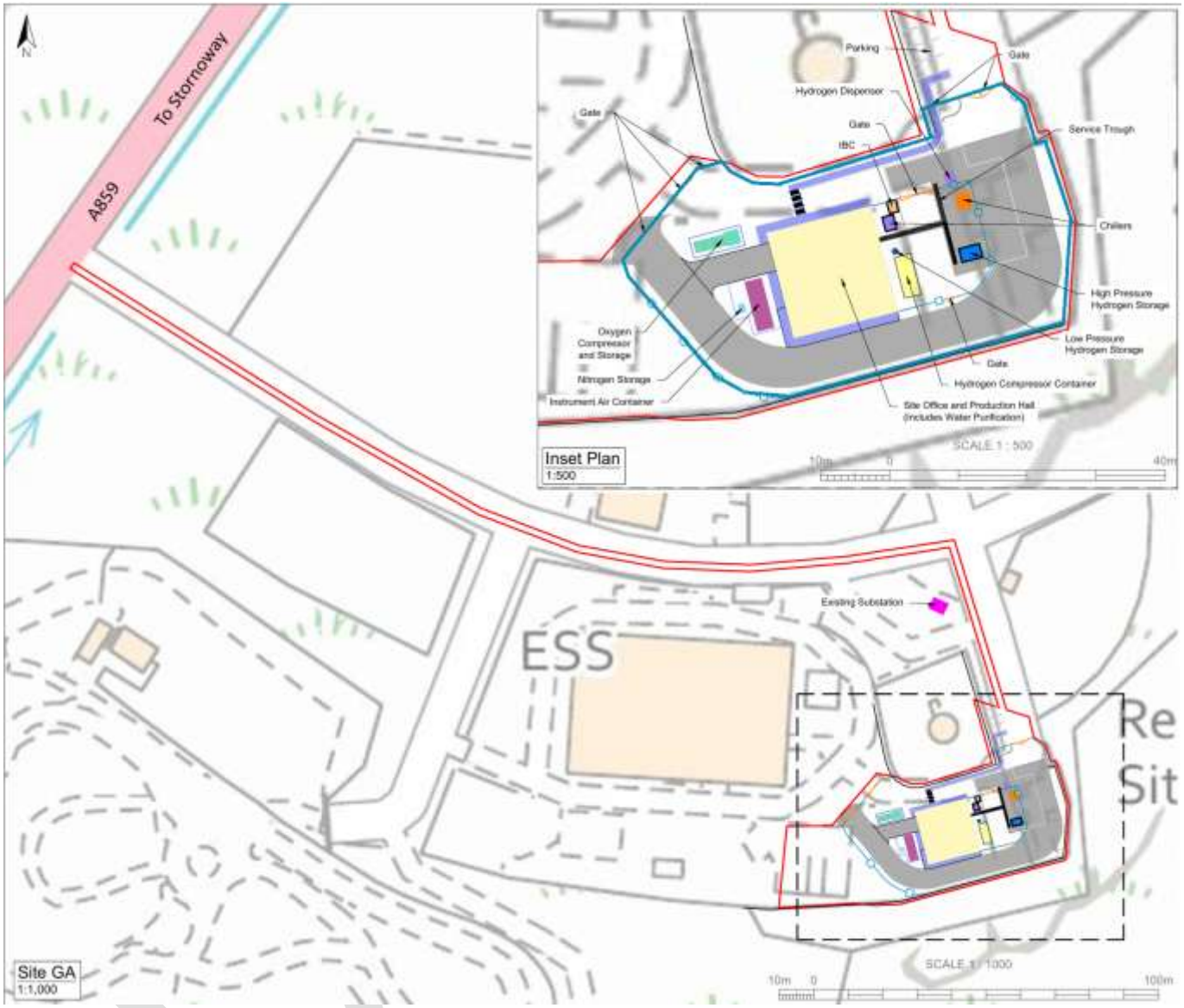
DRAFT

Term	Definition
UKAS	The United Kingdom Accreditation Service
venting	Any venting of hydrogen via emission point(s)

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.

DRAFT

Appendix 1: Installation plan



Appendix 2: Air emission point plan



DRAFT

Appendix 3: Water emission and sampling point plan



Appendix 4: Permitted lower tier exceedances

Table 1: Permitted lower tier exceedances

Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform
1–7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-100	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17

DRAFT

Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

DRAFT

Appendix 5: Resource utilisation

Table 1: Resource type and unit of measurement

Raw materials, energy or fuel	Unit of measurement
Hydrogen produced	kg
Hydrogen exported	kg
Hydrogen vented or flared and fugitive emissions	kg
Water supplied to the process (by source)	kg
Electricity	MWh
Nitrogen imported	kg
Nitrogen emitted	kg
Oxygen emitted	kg
Oxygen exported	kg
Potassium hydroxide solution	kg
Water purifier cleaning products	kg
Effluent discharge to sewer from the process	kg
Fuel (Gas, oil, diesel, etc)	m^3, litres
Disinfectant/detergents	Litres/kg
Refrigerants	Litres

DRAFT