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**Environmental Authorisations (Scotland) Regulations 2018**

**PERMIT MODULAR APPLICATION FORM**

**SECTION 5- LIMITS FOR GASEOUS DISCHARGES TO THE ENVIRONMENT**

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| **5a. Please provide the information requested in the table below** *(see guidance note on p22 & use the key indicators specified below the table)* |

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| **Radionuclide or group of radionuclides** | **Limit being applied for (Bq/time)** | **Name & location of discharge point** | **Type of change requested** |
| **Tritium (H-3)** | **20GBq/y (For all stacks)** | **Authorised Disposals – Table 1 of permit (EAS/P/1173609), All Gaseous Disposal Outlets Specified in Table 2 of the permit (EAS/P/1173609). See separate page for table 2 authorised gaseous outlets.** | increase requested |
| **Carbon-14 (C-14)** | **5GBq/y (For all stacks)** | **Authorised Disposals – Table 1 of permit (EAS/P/1173609), All Gaseous Disposal Outlets Specified in Table 2 of the permit (EAS/P/1173609). See separate page for table 2 authorised gaseous outlets.** | new request |
| **Tritium (H-3)** | **40GBq/y** | **Gaseous Discharge Site Limits Table 3 of existing permit (EAS/P/1173609)** | increase requested |
| **Carbon-14 (C-14)** | **10GBq/y** | **Gaseous Discharge Site Limits Table 3 of existing permit (EAS/P/1173609)** | increase requested |

**Key: (N) = new request, (I) = increase requested, (R) = reduction requested, (U) = unchanged**

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| **5b. Please describe how the limits being applied for were determined.** *(see guidance note on p22)* |
| Information on how the proposed gaseous limits being applied for were determined is contained within all sections of calculation sheet HNA/3800/TC/CS/1534 ‘Impact of SILWE Gaseous Discharges on Site Permit Limits’. As detailed within the calculation sheet, annual discharge limits within Table 1 of the permit are referred to as sub limits and annual discharge limits within Table 3 of the permit are referred to as site limits.   Assumptions made are listed on the front page of the calculation sheet under the subheading ‘assumptions’. Reference to further assumptions and limitations on which the proposed gaseous limits are based is made in section 4 of the calculation sheet. Details of these further assumptions and limitations are contained within sections 5.1 and 5.2 of report HNA/2981/PG/REP/1223 ‘Assessment of Hunterston A SILWE Gaseous Radioactive Discharges in Relation to Best Practicable Means Requirement’. |

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| **5c. Please provide details of any significant non-radioactive properties of the radioactive material you intend to discharge and what arrangements you have made to mitigate against these hazards.** *(see guidance note on p23)* |
| A grout plant forms part of the SILWE facility. Operation of the grout plant shall be in accordance with the requirements of a permit issued by SEPA, number PPC/B/1169293, under the Pollution Prevention Control (Scotland) Regulations 2012. The SILWE facility is designed such that no dust from the grout plant will enter the radiological ventilation system.  Hydrogen gas will be produced following the addition of grout to the 3m3 boxes. The extract rate at the point of hydrogen generation, within the box, will be sufficiently high that the extracted air will remain below the Lower Flammable Limit for hydrogen in air.   More detail concerning the non-radioactive properties of the gaseous radioactive waste can be found within HNA/2940/TC/SR/1261 ‘Optimisation (BPM) Summary for Implementation of the SAWB Waste Management Strategy’, specifically within section 1.3.1 under the subheading ‘Ventilation Systems’ as well as sections 1.3.2 and 1.4.2. Section 1.3.2 (page 22) of this report states that no additional non-radioactive emissions will occur during the encapsulation process. Similar ILW encapsulation processes at other Magnox sites have shown no evidence of any non-radioactive emissions from this encapsulation process. |

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| **5d. Have you submitted a dose assessment demonstrating that your proposed discharges will not adversely affect the public?** *(see guidance note on p23)* |
| Yes  No  If not, please explain  An assessment has been performed to calculate the total estimated dose to the most exposed person in the vicinity of the Hunterston A Site, if the radioactive aqueous and gaseous waste discharges were made at the proposed limits. The assessment concludes that the total estimated dose is 6.3 micro-Sieverts/year which is less than the 20 micro-Sieverts/year threshold for optimisation.  More detail concerning the assessment can be found within all sections of the following supporting document, HNA/8100/PG/PR/1071 ‘Screening to Determine whether a Transboundary Consideration Assessment is required for Hunterston A’s Proposed Variation to Authorisation Limits’, with section 5 containing the results of the assessment.  For clarity, please note that this variation application does not request a change to the current radioactive aqueous waste limits contained within the existing permit, EAS/P/1173609. |