PŴER NIWCLEAR
HORIZON
NUCLEAR POWER

WYLFA NEWYDD

ENERGY WORKING FOR BRITAIN

Wylfa Newydd Project
Site Preparation and Clearance Application

Environmental Management Plan
Discharge of Uncontaminated Water to Land Procedure

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1 Introduction

1.1 This procedure sets out the water discharge practices that shall be used at all Horizon work locations (including within the WNDA and at all associated development sites) where the discharge of clean, uncontaminated water is required.

Purpose and Applicability

1.2 This procedure applies both to those working directly for Horizon and those undertaking works on behalf of Horizon. This procedure is in accordance with Pollution Prevention Guidance note 5 (PPG 5)[1] [RD1] adopted by Natural Resources Wales (NRW). This procedure shall only be used with the permission of NRW [2] and the landowner at the discharge location (such permission to be obtained through Horizon).

1.3 Where circumstances dictate that this procedure cannot be complied with, a specific separate procedure (or methodology) shall be developed that complies with PPG 5 [RD1].

Scope

1.4 This procedure covers discharges of clean, uncontaminated water to grassland, in accordance with PPG 5 [RD1] at any Horizon work location associated with the Wylfa Newydd Project.

1.5 This procedure does not refer to any water discharges that would require a permit from NRW. This procedure does not apply to any known areas of contamination (detailed within the Land Quality Strategy [RD2])

Terms and Definitions

1.6 The following terms and definitions are used in this procedure.

Table 1.1 Terms and Definitions

Term	Definition
Horizon	Horizon Nuclear Power Wylfa Limited.
NRW	Natural Resources Wales.
PPG	Pollution Prevention Guidance.
RAMS	Risk Assessment(s) Method Statement(s).
IBC	Intermediate Bulk Container.
Sensitive receptor	Referring to the 'Source – Pathway – Receptor' model. A sensitive receptor is an environmental feature that could be affected by pollution.
Pathways	Referring to the 'Source – pathway – Receptor' model. A pathway is a route for pollution to travel.

[1] Although PPG 3 is shown online as being withdrawn, an e-mail from NRW to Horizon cc'd to Horizon Regulator Interface (HRI) on 05/01/2016 states that NRW still support the use of PPGs [RD4].
[2] An e-mail was received by HRI from NRW on 17/06/2016 which confirmed that NRW is satisfied with the approach outlined in this document [RD5].

Term	Definition
Power Station	The proposed new nuclear power station, including two UK advanced water boiling reactors, associated plant and ancillary structures and features, to be constructed and operated at Wylfa on Anglesey.
Power Station Site	The indicative area of land and sea within which the majority of the permanent Power Station buildings, plant and structures would be situated.
Wylfa Newydd Project	The proposed construction of a new nuclear power station, known as Wylfa Newydd, on land west of Cemaes on the north coast of Anglesey and associated development supporting the delivery of the new power station.
WNDA	Wylfa Newydd Development Area. The indicative areas of land and sea, including the Power Station Site, the Wylfa NPS Site and the surrounding areas that would be used for the construction and operation of the Power Station. This area is representative of the maximum area extending around the Power Station Site that would be directly affected by Power Station construction activities and used to form the setting and features of the operational Power Station.
Wylfa NPS Site	The Wylfa site designated by the National Policy Statement for Nuclear Power Generation EN-6 as potentially suitable for the deployment of a new nuclear power station.

Responsible Parties

1.7 This section describes all the responsible parties associated with this process.

Table 1.2 Responsible parties

Responsible party	Description
Horizon	It is the responsibility of the Horizon Environment Team to seek permission from NRW to allow the discharge of water to grassland, using this standardised procedure.
Contractor	It is the responsibility of any Contractor to Horizon to ensure this procedure is referred to and used to produce their management arrangements (e.g. Risk Assessments and Method Statements (RAMS)) and the requirements are clearly communicated to those carrying out the work.

2 Procedure

Prior to Discharge

2.1 Where water has collected in excavations or natural depressions in the ground, a visual and olfactory inspection of the water shall take place to identify any signs of contamination (e.g. any sheens, discolouration, unusual smells). This inspection shall be carried out by a nominated person in the work team (e.g. Team Leader or Site Engineer).

2.2 The nominated person shall be named in the task specific RAMS which will first be submitted to Horizon for review and acceptance. Where the nominated person has identified suspected contamination, discharge to grassland shall not take place and a sample shall be collected for further confirmatory laboratory analysis.

2.3 Where water has been produced as part of a drilling activity or where it is not initially possible to carry out visual inspection before discharge, the water shall first be collected in a suitably sized intermediate holding container (e.g. Intermediate Bulk Container (IBC) or tanker).

2.4 The collected water shall then be inspected for visual or olfactory evidence of contamination by the nominated person.

2.5 Where the nominated person has identified suspected contamination, discharge to grassland shall not take place and a sample shall be collected for further confirmatory laboratory analysis.

2.6 When working in areas of made ground the nominated person together with the Horizon Site Environmental Coordinator shall make a decision (with the help of Horizon contaminated land specialists if necessary) whether the water is suitable for discharge to grassland or not (based on professional judgement in line with paragraphs 2.18 to 2.29). This decision shall be recorded.

Contamination Testing

2.7 Where contamination is suspected following visual and olfactory inspection, the Contractor shall collect a representative sample(s) and submit for analysis for the following suite of contaminants: (pH, hardness (as CaCO3), dissolved total metals by ICP including As, B, Cd, Co, Cr, Cu, Ni, Pb, Se and Zn, total Hg by CV AAS or CV AFS, speciated TPH (CWG), SVOC, VOC and speciated PAH), to be pre-agreed with NRW.

2.8 Unless otherwise agreed with Horizon, the maximum laboratory detection limit for each parameter shall not exceed one tenth of the lesser of:

- Freshwater Environmental Quality Standard (EQS) [RD6] (using the lowest value where this is hardness-dependent)
- Drinking water standard [RD7]

2.9 Water samples scheduled for metals analysis shall be filtered in the field with a 0.45 µm filter and acidified with nitric acid. All samples shall be collected in the containers appropriate to the analysis being undertaken.

2.10 Samples shall be submitted to accredited laboratories (UKAS and MCERTs), transported in chilled cool-boxes, accompanied with the appropriate chain-of-custody documents and

will be analysed within the holding-time limits specified by the laboratory. The Contractor shall retain the chain-of-custody documentation and make it available to Horizon for inspection.

2.11 The results of analysis will be assessed against screening concentrations comprising (in order of precedence, where available):

- Background concentrations in groundwater
- Freshwater EQS
- Drinking water standard

2.12 A list of EQS and DWS values will be provided by Horizon for this purpose when required. Where these values have not been available, screening criteria has been derived from other sources. In the event that screening criteria is not available for particular compounds, the Contractor is required to derive a site specific value which would require approval from NRW through Horizon.

2.13 It is the responsibility of the Contractor to ensure that these values are the most relevant and up to date and notify Horizon of any changes.

2.14 An exception to this is for the following PAH (Polycyclic Aromatic Hydrocarbons) compound, where the screening concentration shall be set at the limit of detection (LOD) achievable by the laboratory:

- Benzo(a)pyrene

2.15 If the laboratory analysis does not indicate contaminant concentrations above the proposed screening concentrations, the water shall be discharged as described above.

2.16 The Contractor shall retain the laboratory analysis results and make them available for inspection. If any contaminants are reported above screening criteria, no further action is to be taken until the Horizon Site Environmental Coordinator has been contacted for advice on the appropriate discharge route and their approval is given to continue.

2.17 Horizon's Environment Team shall contact NRW for further advice and confirmation, when appropriate.

Discharge locations

2.18 Once the nominated person has decided that there is no visual or olfactory evidence of contamination, or laboratory analysis has confirmed the sample contains no contamination in excess of appropriate screening criteria (see paragraphs 2.7 to 2.17), a suitable discharge location shall be identified.

2.19 Suitable locations for discharge shall always be agreed with the Horizon Site Environmental Coordinator (or nominated substitute) prior to discharge.

2.20 There is a potential for silt deposition during water discharge, therefore the discharge locations shall be selected based on a number of criteria, as follows:

- distance from sensitive receptors (e.g. protected habitat, watercourses or the sea);
- gradient at the location and between the location and any nearby sensitive receptor;

- existing ground cover at the location and between the location and any nearby sensitive receptor; and
- distance from potential pathways (e.g. tarmac roads or drainage).

2.21 In addition to the above general topographic criteria, the specific weather and ground conditions shall also be taken into account.

2.22 The rate of infiltration presented by the specific ground conditions on the day of discharge i.e. apparent soil permeability, vegetation cover, surface gradient and depth to the water table, must be considered sufficient to accommodate the water being discharged.

2.23 If the ground is clearly saturated at the surface with evidence of runoff and an alternative location cannot be found, then the discharge of water shall be delayed until drier conditions prevail. This delay is estimated to typically require 2-3 days of dry weather. In this situation, the water shall not be discharged until Horizon's Site Environmental Coordinator has confirmed the ground conditions are suitable.

The Discharge of Water

2.24 Once the nominated person has confirmed that the water is suitable for discharge and a suitable discharge location identified and agreed with the Horizon Site Environmental Coordinator (or nominated substitute), the water can be discharged to grassland.

2.25 The rate of water discharge shall be sufficiently slow so that the water can be seen to infiltrate the ground closest to the point of discharge, so surface runoff is minimised. The discharge location shall be checked periodically by a nominated person(s) (the frequency and names(s) of nominated persons shall be stated in the RAMS) to ensure the water is continuing to infiltrate into the ground as intended.

2.26 Care shall be taken when transporting the water from the collection area (e.g. directly from the excavation or IBC) to the discharge location to ensure that any loss of water along the way is kept to a minimum.

2.27 Where diesel pumps are used to transport the water, pollution prevention best practice shall be followed (pump positioned within spill containment if the pump itself is not integrally bunded and a spill response kit positioned nearby).

2.28 Silt mobilisation shall be minimised during the transfer from the collection area to the discharge location. A silt fence or other method of silt control shall be used if there is a likelihood of silt run-off during the discharge (silt control mitigation measures shall be included in the RAMS).

2.29 If, following the discharge, small amounts of silt remain in an IBC (or similar), these can be rinsed out at the agreed discharge location using clean water. If there is more than a small amount of silt remaining in the IBC (or similar) it shall be left to dry and stored on site for re-use. If these options are not suitable, any remaining silt shall be disposed of via a licensed waste carrier to a licensed waste facility.

3 Records

3.1 A record of the location and an estimated quantity of water discharged shall be collated by the Contractor and made available for inspection.

3.2 All laboratory analysis records shall be retained by the Contractor and made available for inspection.

3.3 Waste transfer documentation for water not suitable for discharge to ground or silt not suitable for re-use on site shall be retained by the Contractor and copies provided to Horizon.

4 Performance indicators

4.1 To ensure the implementation of the requirements specified in this procedure is effective in relation to quality it will be measured by the internal audit programme in accordance with the Audits and Inspections [RD3] process.

5 References

Table 5.1 References

Ref. No.	Document Number	Title
[RD1]	NA	Pollution Prevention Guidance Note 5 (October 2007)
[RD2]	HNP-FNC-EWM-STR-00002 (to be issued)	Wylfa Newydd Land Quality Strategy
[RD3]	HG-M-05-PRO-03-766	Audits and Inspections
[RD4]	HNP-S3-EWM-EML-00002	Email from NRW – Withdrawal of PPGs
[RD5]	HNP-S9-EWM-EML-00001	Email from NRW – Discharge of Uncontaminated Water to Land Procedure

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