

**Environmental Permitting Regulations (England and Wales) Regulations
2016**

**Compilation of Environment Agency
Requirements, Approvals and Specifications**

made under

Permit Number EPR/ZP3893SG

Issued to

Magnox Ltd

for the

Receipt and Disposal of Radioactive Waste from

Berkeley Site

Berkeley, Gloucestershire, GL13 9PA

Issue 6, Dated 01/05/2021

TABLE 1: CURRENT REQUIREMENTS

Permit condition	Requirement number	Effective Date
Condition 2.4.1	2.4.1/v001	1 May 2021
Condition 2.6.2	None	
Condition 3.1.1	3.1.1/v003	1 May 2021
Condition 3.2.1(b)	3.2.1(b)/v001	1 August 2019
Condition 3.2.1(C)	None	
Condition 3.2.3	3.2.3/v001	1 August 2019
Condition 3.2.4	3.2.4/v002	1 August 2019
Condition 3.2.5(a)	3.2.5(a)/v002	1 May 2021
Condition 3.2.5(b)	3.2.5(b)/v005	1 May 2021
Condition 4.1.1(d)	4.1.1(d)/v001	1 August 2019
Condition 4.1.2	4.1.2/v002	1 August 2019
Condition 4.2.1	4.2.1/v001	1 October 2012
Condition 4.2.2	4.2.2/P1/v005*	1 January 2020
Condition 4.2.2	4.2.2/P2/v005**	1 January 2020

* part 1 (pollution inventory)

** part 2 (other specifications)

All previous Environment Agency Requirements, Agreements and Specifications are revoked and replaced, where applicable, by those set out in this document.

Signed



Mr K Littlewood

Authorised to sign on behalf of the Environment Agency

Issue 6, Dated: 17th March 2021

Effective date: 1st May 2021

Requirement number 2.4.1/v001

Permit condition

The operator shall complete the requirements specified in schedule 1 table S1.2 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

Environment Agency Agreement

The Environment Agency agrees a completion date of December 2022 for requirement IC1.

Requirement number 3.1.1/v003

Permit condition

Subject to condition 3.1.4, there shall be no disposals of radioactive waste except of the types of radioactive waste and by the disposal routes specified in schedule 3.

To be read in conjunction with the text:

- A. in schedule 3 tables S3.1 and S3.2 of “all outlets to air/water/sewer, not otherwise described in this table, that are approved by the Environment Agency”
- B. in schedule 3 table S3.3 of “a specified holder of an environmental permit for the receipt and disposal of combustible liquid waste/ILW, as agreed in writing by the Environment Agency”.

A. Environment Agency Approval

1. The Environment Agency approves the following approved outlets to air:

- Buffer Store;
- Intermediate Storage Facility;
- Louvres, vents, fan assisted-vents, windows and doors associated with Radiation/Contamination Controlled Areas, laboratories, containers, and tanks not specifically listed above or in Schedule 3 of the permit.

B. Environment Agency Agreement

1. The Environment Agency agrees the following permit holder(s) for the receipt and disposal of ILW:

- No Additional routes agreed

Requirement number 3.2.1 (b) v001

Permit condition

The operator shall:

(b) unless otherwise agreed in writing by the Environment Agency:

- (i) define, document and carry out an environmental monitoring programme
- (ii) use the results of that programme to carry out an annual retrospective assessment of the dose to the representative person;
- (iii) inform the Environment Agency in writing in advance of any modifications affecting the extent of that programme or that have a potential to change the results obtained.

Environment Agency Agreement

For 3.2.1(b)(i):

- The operator shall use BAT to define, document and carry out a marine and terrestrial environmental monitoring programme and ensure it is sufficient to comply with permit condition 3.2.1.(b)

For 3.2.1(b)(ii):

- The Environment Agency agrees that the operator shall carry out a retrospective dose assessment for the year 2018 and every calendar year thereafter.
- The Environment Agency agrees that the operator shall provide the Environment Agency with a report on the dose assessment required under condition 3.2.1 (b)(ii) within 12 months of the end of the calendar year.

For 3.2.1(b)(iii):

- The Environment Agency agrees that the operator's BAT case used to define the programme shall be kept up to date and shall be provided in writing 28 days in advance of any proposed changes to the environmental monitoring programme.

Requirement number 3.2.3/v001

Permit condition

Monitoring equipment, techniques, personnel and organisations employed for the monitoring of disposals and the environment required by condition 3.2.1 or 3.2.5 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

Environment Agency Agreement

The Environment Agency agrees that MCERTS certification or MCERTS accreditation is not required for any monitoring equipment, techniques, personnel and organisations employed for the monitoring of disposals or monitoring of the environment.

Requirement number 3.2.4/v002

Permit condition

Permanent means of access shall be provided to enable sampling and monitoring to be carried out in relation to the disposal outlets specified in schedule 3 unless otherwise agreed in writing by the Environment Agency

Environment Agency Agreement

The Environment Agency agrees that permanent access is not required to the following outlets:

Table 2: Outlets where permanent access is not required

Disposal outlet reference	Disposal outlet
A3	Caesium Removal Plant -Main Building Extract System
A4	Caesium Removal Plant -Cells Extract System
A5	Caesium Removal Plant -Cells Purge System
A6	Active Effluent Treatment Plant Vent System
A8	Low Level Waste Complex
A10	Shielded Area (E22-E25) – Plenum System
A11	Shielded Area (E22-E25)-Fume System

Requirement number 3.2.5(a)/v002

Permit condition

If required by the Environment Agency, the operator shall

- (a) take such samples and conduct such measurements, tests, surveys, analyses and calculations, including environmental measurements and assessments, at such times and using such methods and equipment as the Environment Agency specifies.

Environment Agency Requirement

The Environment Agency requires the operator to:

Apply analytical techniques adequately validated and controlled in a manner consistent with Best Available Techniques (BAT), which is taken to include arrangements to minimise cross contamination.

Under this condition the Environment Agency specifies:

1. Environmental Measurements;
2. Discharge Sampling.

1. Environmental measurements to be made

The Environment Agency requires the Operator to specify and carry out an appropriate terrestrial and marine environmental monitoring programme. The Operator shall take all reasonably practicable measures to obtain the specified samples, actively seeking appropriate permission to sample wherever relevant. Where circumstances beyond the control of the Operator prevent the undertaking of the programme as specified (such as lack of access to sampling locations or the lack of availability of samples), the Operator shall take all reasonably practicable steps to obtain appropriate alternatives.

2. Discharge Sampling

The Environment Agency requires the Operator to:

- a) Take samples of the type and at the frequency specified in table 3 in the presence of a representative of the Environment Agency's approved contract laboratory holding written authority from the Environment Agency or such other persons as an Environment Agency Officer specifies. Two nominally identical aliquots, each of the minimum volume specified in table 3, shall be prepared. The Operator shall analyse one aliquot for the radionuclides or groups of radionuclides specified in table 3, using the same techniques as those employed by the Operator to determine the activity of relevant radioactive waste disposals.
- b) Perform the following when the operator becomes aware of any circumstances which are expected to or prevent the taking of any sample according to the requirements of paragraph (a). The Operator shall advise the Environment Agency and the Environment Agency's approved contract laboratory verbally as soon as possible and in any case in writing within ten days and shall propose temporary alternative arrangements. These might include deferring the sample or taking an alternative sample appropriate to the relevant discharge route, and shall normally be implemented unless the Environment Agency advises otherwise in writing.
- c) Prepare a volume-proportional annual bulk sample of effluent discharged from the Ebb Tide Tank from the volume-proportional bulk samples taken by the operator as part of its quality assurance arrangements. The annual bulk sample is to be analysed, using the best available techniques, for the radionuclides/groups of radionuclides specified in table 4.
- d) In the event that the Agency's contractor is not available at the time that the witnessed sample is due, the operator shall continue to take samples in accordance with paragraph (a) and shall by

arrangement with the Agency's contractor send the second aliquot to the Agency's designated laboratory.

Table 3: Samples to be taken in the presence of a representative of the Environment Agency's approved contract laboratory.

Sample Type	Frequency	Minimum Aliquot Volume	Radionuclides or Groups of Radionuclides
Spot sample of effluent from the Liquid Effluent Compliance Plant (LECP) Ebb Tide Tank V90	Six monthly	500 ml	Tritium Caesium-137 Other radionuclides

Table 4: Radionuclides or groups of radionuclides for which the annual bulk sample is to be analysed:

Radionuclides:		
Tritium	Zirconium-95	Cerium-144
Calcium-45	Niobium-95	Praseodymium-144
Manganese-54	Ruthenium-106	Europium-154
Iron-55	Rhodium-106	Europium-155
Cobalt-58	Silver-110m	Plutonium-238
Iron-59	Antimony-124	Plutonium-239+240
Cobalt-60	Antimony-125	Plutonium-241
Zinc-65	Tellurium-125m	Americium-241
Strontium-90	Caesium-134	Curium-242
Yttrium-90	Caesium-137	Curium-243+244

Requirement number 3.2.5(b)/v005

Permit condition

If required by the Environment Agency, the operator shall

- (b) keep samples, provide samples, or dispatch samples for tests at a laboratory, as the Environment Agency specifies, and ensure that the samples or residues thereof are collected from the laboratory within three months of receiving written notification that testing and repackaging in accordance with the relevant legislation are complete.

Environment Agency Requirements

1. The Environment Agency requires the operator to keep an aliquot, of the specified minimum volume and for the specified period, from each sample of a type listed in table 5 below, and to provide any of those aliquots, on request, to an Environment Agency officer or to an employee of a contractor holding written authority from the Environment Agency or to such other person as an Environment Agency officer specifies.

Table 5: Sample retention

Sample Type		Minimum Volume	Retention Period
Aqueous Effluent Discharge Samples:	Volume-proportional or spot sample taken from aqueous effluent LECP Ebb Tide Tank to assess compliance and sanction disposal prior to any discharge.	500 ml	6 months from the date of sampling
	Six monthly volume proportional bulk sample of effluent from the LECP Ebb Tide Tank (stabilised by addition of recorded quantities of acid where necessary) taken and used by the operator for its quality assurance purposes.	500 ml	24 months from the end of the bulking period
Gaseous discharge samples:	Samples of bubbler liquors from routine discharge sampling	20 ml	3 months from the end of the sampling period
	Beta-particulate filter paper samples	Whole filter paper	3 months from the end of the sampling period
Other waste:	Representative sample of waste oil consignment	500 ml	3 months from the end of the calendar year in which the waste was consigned
Environmental samples:	All non-perishable samples or residues	As available	24 months from the date of sampling

2. The Environment Agency requires the operator to dispatch, within the specified period, aliquots of the specified minimum volume of each of the samples specified in the table below, to its approved contractor:

CRCE Glasgow
Public Health England
155 Hardgate Road
Glasgow
G51 4LS

Table 6: Samples to be dispatched to CRCE Glasgow

Sample		Minimum volume	Dispatch period
Aqueous Discharge samples	Six monthly volume proportional bulk sample of effluent from the LECP Ebb Tide Tank (stabilised by addition of recorded quantities of acid where necessary) taken and used by the Operator for its quality assurance purposes.	1000 ml (2 x 500 ml)	Within 28 working days after the end of the period when the sample is taken.

3. The Environment Agency requires the Operator to provide one aliquot of any sample taken in accordance with requirement 3.2.5(a), Paragraph 2, either:
- Directly, on the day of the sampling, to a representative of the Environment Agency's approved contract laboratory holding written authority from the Environment Agency; or
 - following sealing of the aliquot by the representative of the Environment Agency's approved contract laboratory, holding written authority from the Environment Agency, by dispatch, within 28 days of the date of sampling, to the Environment Agency's contract laboratory

Requirement number 4.1.1(d)/v001

Permit condition

4.1.1 All records required to be made by this permit shall:

- (d) be retained until notified in writing by the Environment Agency that records no longer need to be retained.

Environment Agency Notification

The Environment Agency notifies the operator that the records specified below in Table 7, need to be retained only for the relevant specified period and until the record has ceased to be relevant for the purpose for which it was made.

Table 7: Records Retention Schedule

Magnox list of records	Record	Retention period
(i) RWMCs	The following records relating to condition 1.1.2: (i) Radioactive Waste Management Case records	Permanent
(i) Plant operating instructions	The following records relating to condition 1.1.2: (i) Plant operating instructions	2 years
(i) Management system documents (e.g. Procedures, instructions, standards) (ii) Audit reports (iii) Abnormal event records (iv) Records showing organisation (e.g. baselines) (v) Competence records (e.g. training and authorisation records)	All other records relating to condition 1.1.2	5 years
(i) BAT baseline (ii) Variation applications (iii) Plant modification and decommissioning proposals (iv) BAT assessment reports (v) BAT assessments for abnormal situations	Records relating to condition 2.3.1	Permanent
(i) BAT baseline (ii) Variation applications (iii) Plant modification and decommissioning proposals (iv) BAT assessment reports (v) BAT assessments for abnormal situations	Records relating to condition 2.3.2	Permanent

(i) Authority to discharge forms	The following records relating to condition 2.3.3: (i) Authority to discharge forms	5 years
(i) BAT baseline (ii) Variation applications (iii) Plant modification and decommissioning proposals (iv) BAT assessment reports (v) BAT assessments for abnormal situations (vi) Characterisation reports e.g. details of waste sampling plans and laboratory analysis results supporting characterisation	All other records relating to condition 2.3.3	Permanent
(i) Associated work instructions/procedures for equipment (ii) Check sheets/calibration certs where referenced from the instructions	The following records relating to condition 2.3.4: (i) Associated work instructions/procedures for equipment (ii) Check sheets/calibration certificates records	2 years
(i) Records of history of maintenance (including inspection/testing) of 'environmental equipment' which is listed on relevant maintenance schedules (e.g. 'Passport' or equivalent database)	All other records relating to condition 2.3.4	Permanent
(i) Associated work instructions/procedures for equipment (ii) Check sheets/calibration certificates where referenced from the instructions (iii) Audit reports for procedures	The following records relating to condition 2.3.5: (i) Associated work instructions/procedures for equipment (ii) Check sheets/calibration certificates records (iii) Audit reports for procedures	2 years
(i) Records of history of maintenance (including inspection/testing) of 'environmental equipment' which is listed on relevant maintenance schedules (e.g. 'Passport' or equivalent database)	All other records relating to condition 2.3.5	Permanent
(i) Plant modification and decommissioning proposals (PMAF/DPAF) associated	The following records relating to condition 2.3.6: (i) Plant modification and decommissioning proposals	Permanent

quality plans/test and commissioning records	(PMAF/DPAF) records associated quality plans/test and commissioning records	
(ii) Maintenance instructions (e.g. check sheets/calibration certs where referenced from the instructions)	All other records relating to condition 2.3.6	2 years
Written submissions (regulatory correspondence)	Records relating to condition 2.4.1	Permanent
Written submissions (regulatory correspondence)	Records relating to condition 2.4.2	Permanent
Written submissions (regulatory correspondence)	Records relating to condition 2.5.1	Permanent
Written submissions (regulatory correspondence)	Records relating to condition 2.5.2	Permanent
(i) Waste acceptance criteria written specifications (ii) Waste characterisation reports (iii) Consignment notes.	Records relating to condition 2.6.1	Permanent
(i) EA agreement (regulatory correspondence file) (ii) consignment notes	Records relating to condition 2.6.2	5 years
(i) Correspondence	Records relating to condition 2.6.3	Permanent
(i) Returns	Records relating to condition 3.1.2	5 years
(i) BAT baseline (ii) Variation applications (iii) Plant modification and decommissioning proposals (iv) BAT assessment reports (v) BAT assessments for abnormal situations (vi) Characterisation reports e.g. details of waste sampling plans and laboratory analysis results supporting characterisation	Records relating to condition 3.1.3	permanent
(i) Regulatory correspondence file	Records relating to condition 3.1.4	5 years
(i) Waste information records (e.g. WIF)	Records relating to condition 3.1.5	5 years

(ii) Waste information records (e.g. WIF) and consignment notes (ii) Waste receipts	Records relating to condition 3.1.6	5 years
(i) Consignment notes.	Records relating to condition 3.1.7	5 years
(i) Disposal records.	Records relating to condition 3.1.8	5 years
(i) individual sample and measurement results and other disposal summaries (ii) environmental monitoring programme documents and records (iii) retrospective dose summary report (iv) regulatory correspondence (v) techniques documents	Records relating to condition 3.2.1	5 years
(i) Returns; individual sample/measurement results used to compile returns and other disposal	The following records relating to condition 3.2.2: (i) Returns; individual sample/measurement results used to compile returns and other disposal summaries	5 years unless ILW then permanent
(i) Check sheets/calibration certs where referenced from the instructions maintenance calibration records	All other records relating to condition 3.2.2	2 years
(i) MCERTS certificates	Records relating to condition 3.2.3	5 years
(i) Associated work instructions and procedures for equipment (ii) Check sheets/calibration certs where referenced from the instructions	The following records relating to condition 3.2.6: (i) Associated work instructions and procedures for equipment (ii) Check sheets/calibration certificates	2 years

(i) Record of history of maintenance (including inspection/testing) of 'environmental equipment' which is listed on relevant maintenance schedules (e.g. 'Passport' or equivalent database)	All other records relating to condition 3.2.6	5 years
(i) Records made under previous permits (including RSA 93/RSA60 permits) or transferred by previous operator	Records relating to condition 4.1.3	As specified in this table for equivalent (or nearest equivalent) records
(i) Returns (regulatory correspondence)	Records relating to condition 4.2.2	5 years
(i) Significant event records	Records relating to condition 4.3.1	Permanent
Regulatory correspondence file	Records relating to condition 4.3.2	Permanent
Regulatory correspondence file	Records relating to condition 4.3.3	5 years
Regulatory correspondence file	Records relating to condition 4.3.4	Permanent
Management of change documentation and regulatory correspondence	Records relating to condition 4.3.5	5 years
(i) Magnox recording of all WAL exceedances as 'events', even where they arise as a result of planned activities/expected discharges. (ii) Written submission (regulatory correspondence)	Records relating to condition 4.3.6	5 years
(i) Written submission (regulatory correspondence)	Records relating to condition 4.3.7	5 years

Requirement number 4.1.2/v002

Permit condition

The operator shall keep on site all records, plans and the management system required by this permit, unless otherwise agreed in writing by the Environment Agency.

Environment Agency agreement

The Environment Agency agrees that records, plans and the management system required by this permit may be held:

- on the premises
- at a facility operated by Iron Mountain (UK) Ltd
- at any other designated repository as made available by the Nuclear Decommissioning Authority (NDA).

Requirement number 4.2.1/v001

Permit condition

The operator shall send all reports and notifications required by this permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

Environment Agency agreement

The Environment Agency requires that:

1. Without prejudicing the requirements set out in 4.3.2, in the event of reporting required without delay under Permit Condition 4.3.1 we require the operator to contact us on 0800 731 1300;
2. Unless specified elsewhere in this CEAR, all reports and notifications required by this permit shall be sent by email to:

nrg.south@environment-agency.gov.uk.

Or by post to:

Nuclear Regulation Group
Red Kite House
Howbery Park
Wallingford
Oxfordshire
OX10 8BD.

Requirement number 4.2.2/P1/v005

Permit condition

The operator shall supply such information in relation to:

- (a) the disposals of radioactive waste; and
- (b) the samples, tests, surveys, analysis and calculations, environmental monitoring and assessments undertaken under conditions 3.2.1 and 3.2.5 in relation to disposals of radioactive waste;

in such format and within such timescales as the Environment Agency may specify in writing.

Environment Agency specification Part 1: Pollution Inventory

The Environment Agency specifies that:

1. The operator shall supply information relating to disposals of radioactive waste, taking account of the guidance provided in the Pollution Inventory Reporting Form for Radioactive Waste (available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/515793/LIT_7990.pdf), and in accordance with the following:
 - (a) The information shall be provided not later than 28 February each year for disposals made during the preceding calendar year;
 - (b) The information shall be provided by:
 - (i) using our web-based reporting system (accessible from <https://piedc.environment-agency.gov.uk/piedc/piedc>); or
 - (ii) completing the Pollution Inventory Reporting Form Radioactive Waste (available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/515793/LIT_7990.pdf) and e-mailing it to: nrg.south@environment-agency.gov.uk or posting a paper copy to:

Nuclear Regulation Group
Red Kite House
Howbery Park
Wallingford
Oxfordshire
OX10 8BD.

In either case, the information identified in 'Part 5' [if present in these forms] is not required.

- (c) The information provided shall include discharge activity values of all radionuclides in Annex 1 of Recommendation 2004/2/Euratom, where these are included in the Pollution Inventory Reporting Form for Radioactive Waste or are specified as permit limits. Where a similar level of accuracy to routine monitoring can be achieved by calculating discharge values for these radionuclides, such calculated discharge values may be used as a substitute for routine monitoring.
- (d) The detection limit for key radionuclides in Annex 1 of Recommendation 2004/2/Euratom shall not exceed the "requirement for the detection limit" specified for that radionuclide in that annex, where all monitored values for the annual reported discharge reporting year are below the detection limit for that radionuclide. Where a monitored value for these radionuclides is below the decision threshold, that value may be substituted by a value of one half of the decision threshold. Where all monitored values in the calendar reporting year for one of these radionuclides are below the decision threshold, no discharge report need be made for that radionuclide. The definition and determination

of detection limits and decision thresholds shall be compliant with ISO 11929:2019 or superseding ISO standards.

- (e) The information provided on release quantities shall be the operator's best estimate achievable with the time and resources available. The operator is not required to perform additional monitoring, beyond any demanded by the permit, in order to complete the Reporting Form.

Requirement number 4.2.2 Part 2/v005

Permit condition

The operator shall supply such information in relation to:

- (a) the disposals of radioactive waste; and,
- (b) the samples, tests, surveys, analysis and calculations, environmental monitoring and assessments undertaken under conditions 3.2.1 and 3.2.5 in relation to disposals of radioactive waste

in such format and within such timescales as the Environment Agency may specify in writing.

Environment Agency Specification Part 2: other specifications

1. The operator shall report information relating to waste disposals as specified in table 8 below, at the frequencies and within the timescales specified in that table, and in accordance with the following:
 - (a) For each reportable quantity marked with an asterisk in proformas 1 and 2, the operator shall highlight any reported value which exceeds the mean plus 3 standard deviations of the previous 12 reported values and, as far as reasonably practicable, provide an explanation for any such elevated value.

Table 8 – Waste Disposal Information

Information to be supplied ^[4]	Frequency required	Date by which information is to be supplied
As specified in Proforma 1: Monthly Gaseous Effluent Discharge Return.	Quarterly ^[5]	30 days after the end of the 3 month period when the discharge was made (regardless of whether waste was disposed of in that quarter)
As specified in Proforma 2: Monthly Aqueous Liquid Effluent Discharge Return.	Quarterly ^[5]	30 days after the end of the 3 month period in which the discharges were made
As specified in Proforma 3: Results of Annual Extended Analysis of Bulked aqueous Liquid Effluent sample.	Annually ^[6]	Six months after the end of each calendar year
Minor approved gaseous discharge outlet report. The Operator shall maintain and review a strategy for the sampling, measuring and/or calculating discharges; to confirm that discharged from these outlets continue to be minor. The operator shall report the results of the programme annually.	Annually ^[6]	30 April of each calendar year.

2. The operator shall, within 3 months of the end of the calendar quarter in which the samples were taken, report analytical results for each sample specified in the table in paragraph 2 of requirement 3.2.5(b) from which an aliquot was dispatched to the Agency's contract laboratory.

^[4] Returns may be submitted electronically as a signed copy in pdf format.

^[5] January-March, April-June, July-September, October-December.

^[6] Calendar Year January-December.

3. The operator shall report the results of the environmental monitoring programme (see condition 3.2.1) on a quarterly basis; the reports to be provided within 3 months of the end of the quarter to which they refer and in accordance with the following:
- (a) All positive results (i.e. those exceeding the detection limit) shall be reported with an uncertainty which is at the 95% confidence level (i.e. 1.96 standard deviations) and includes all analytical uncertainties in accordance with ISO 17025 (or equivalent). Where results are less than, or equal to, the detection limit, the detection limit value shall be reported;
 - (b) Reasons shall be identified why any:
 - results are late;
 - sample has not been obtained;
 - analysis has not been undertaken;
 - relevant detection limit has not been achieved;
 - radiological assessment has used alternatives to the values and relationships given in "ICRP, 2012. Compendium of Dose Coefficients based on ICRP Publication 60. ICRP Publication 119. Ann. ICRP 41(Suppl.)". The alternative data used shall be provided.
 - (c) The type(s) of instrument used for contamination monitoring shall be specified.
 - (d) Where gamma-spectrometry has been carried out on sediment samples, any positive results for potassium-40 shall be reported.
 - (e) Any result which exceeds the mean plus 3 standard deviations of the previous 12 results shall be highlighted and, as far as reasonably practicable, an explanation shall be provided for any such elevated value.
 - (f) Any result which exceeds the mean plus 4 standard deviations of the previous 12 results shall be notified to the Environment Agency, without delay.
 - (g) The report for the last quarter of each calendar year shall include annual means and annual ranges for each type of measurement at each location.

4. The information required by paragraph 2 of this specification shall be sent to:

Radiological Monitoring and Assessment Team
Environment Agency
Lutra House
Dodd Way
Walton Summit
Bamber Bridge
Preston
PR5 8BX
Or e-mail to: radeffluents@environment-agency.gov.uk

All other information required by this specification shall be sent to:

Nuclear Regulation Group
Red Kite House
Howbery Park
Wallingford
Oxfordshire
OX10 8BD
Or e-mail to: NRG.South@environment-agency.gov.uk

Proforma 1 - Monthly Gaseous Effluent Discharge Return

BERKELEY SITE

Month: _____ Year: _____ page _____ of _____

Outlet	Beta emitting radionuclides associated with particulate matter MBq	Tritium MBq	Carbon-14 MBq
A1: Safestore 1 (Reactor Ventilation Stack)			
A2: Safestore 2 (Reactor Ventilation Stack)			
A3: Caesium Removal Plant Main Building System			
A4: Caesium Removal Plant Cell Extract System			
A5: Caesium Removal Plant Tank Purge System			
A6: Active Effluent Treatment Plant Vent System			
A7: Active Waste Vaults Vent System			
A8: Low level Waste Complex			
A9: Shielded Area Building Ventilation System			
A10 Shielded Area(E22-E25) – Plenum System			
A11 Shielded Area(E22-E25) – Fume System			
A12 Access Control Building (ACB) Wet Radiochemical Laboratory			
A13: Mobile Extraction Units (MEU's)			
A14: Solid and Wet Waste Conditioning Facility			
A15: MILWEP Encapsulation Plant			
A16: R4 Stand Alone Mobile Extraction Unit (MEU)			
Monthly Totals			

Proforma 1 (Cont) - Monthly Gaseous Effluent Discharge Return

BERKELEY SITE

Month: _____ **Year:** _____ **page** _____ **of** _____

	Beta emitting radionuclides associated with particulate matter MBq	Tritium MBq	Carbon-14 MBq
Total in last 12 months			
Annual Limit	20	1,000,000	5,000
% of Annual Limit			

Decommissioning Work Status (capable of affecting emissions):

Events and non routine sampling (including details of when alternatives to normal sampling procedure undertaken)

Notes

	Name	Signature	Position	Date
Prepared by:				
Approved by:				
Authorised by:				

Proforma 2 - Monthly Aqueous Liquid Effluent Discharge Return

BERKELEY SITE

Month: Year: page of

Ebb Tide Tank Discharges					Tritium		Caesium-137		Other Radionuclides	
DATE STARTED	TIME STARTED	TIME FINISHED	TANK	VOLUME m ³	MBq/m ³	GBq	MBq/m ³	GBq	MBq/m ³	GBq
ETT MONTHLY TOTALS					N/A		N/A		N/A	
MINOR AUTHORISED and APPROVED SYSTEMS (taken together)					N/A		N/A		N/A	

Proforma 2 (Cont) - Monthly Liquid Effluent Discharge Return

BERKELEY SITE Month: Year: page of

Summary

	Volume m ³	Tritium GBq	Caesium-137 GBq	Other radionuclides GBq
Monthly Total				
Total In Last Three Months				
Quarterly Notification Level	N/A	500	50	100
% Of Quarterly Notification Levels	N/A			
Total In Last 12 Months				
Annual Limit	N/A	1000	200	200
% Of Annual Limit	N/A			
Comments (including any use of sampling other than the proportional sampler for ETT discharges).				

Name	Signature	Position	Date
Prepared by:			
Approved by:			
Authorised by:			

Proforma 3 – Annual Liquid Effluent Discharge Return Based on Results of Extended Analysis of Bulk Effluent Samples

BERKELEY SITE

Year: _____

Radionuclide	Discharge for the Year, GBq
H-3	
Ca-45	
Mn-54	
Fe-55	
Co-58	
Fe-59	
Co-60	
Zn-65	
Sr-90	
Y-90	
Zr-95	
Nb-95	
Ru-106	
Rh-106	
Ag-110m	
Sb-124	
Sb-125	
Te-125m	
Cs-134	
Cs-137	
Ce-144	
Pr-144	
Eu-154	
Eu-155	
Pu-238	
Pu-239 + 240	
Pu-241	
Am-241	
Cm-242	
Cm-243 + 244	

