



ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2010

**PERMIT
AND
INTRODUCTORY NOTE**

**RECEIPT AND DISPOSAL
OF RADIOACTIVE WASTE AT A LANDFILL SITE**

**Augean South Ltd
East Northants Resource Management Facility
Stamford Road
Kings Cliffe
Northamptonshire
PE8 6XX**

**PERMIT NUMBER
CD8503**

INTRODUCTORY NOTE

- IN 1.** This Note does not form part of the environmental permit.
- IN 2.** The following contains details of the environmental permit issued by the Environment Agency under the provisions of regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010 now referred to as EPR. The permit authorises the disposal of the specified radioactive waste.

The environmental permit includes a signed page together with schedule 1. The signed page includes the date from which the permit shall take effect. Schedule 1 contains general conditions and limitations relating to all radioactive waste streams.

- IN 3.** EPR is concerned with the control of radioactive material and any subsequent storage and disposal of radioactive waste. The conditions attached to the environmental permit are concerned with the receipt and disposal of radioactive waste.
- IN 4.** The environmental permit does not permit contravention of any other enactment or any order made, granted or issued under any enactment; nor does it permit any contravention of any rule of law. In particular any requirements governing radioactive substances under the Health & Safety at Work etc Act 1974 will additionally need to be observed.



ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2010

Receipt and Disposal of Radioactive Waste

Augean South Limited

CD8503

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Augean South Limited

(Company Registered No 4636789)

("the operator")

whose Registered Office is

4 Rudgate Court, Walton, Wetherby, LS23 7BF

to carry on radioactive substances activities described in Schedule 23 Part 2 paragraph 5(4)(a) and Schedule 23 Part 2 paragraph 5(2)(b) of the Environmental Permitting (England and Wales) Regulations 2010, being receipt and disposal of low level waste, on the premises used by the operator at

**East Northants Resource Management Facility, Stamford Road,
Kings Cliffe, Northamptonshire PE8 6XX**

subject to the limitations and conditions in the Schedule to this environmental permit.

This permit shall come into effect on 1st June 2011.

Signed *P. Heaton*

Dr P Heaton

Authorised to sign on behalf of the Environment Agency

Dated the *25th May 2011*

Schedule 1

STANDARD CONDITIONS AND LIMITATIONS

GENERAL MANAGEMENT

- 1.1.1 Subject to conditions 1.1.4, 1.1.6 and 1.1.7 the disposal of radioactive waste shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the operator as a result of complaints; and
 - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the disposal of radioactive waste.
- 1.1.2 Records demonstrating compliance with conditions 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall make provision for consultation with such suitable RPAs, or other such qualified experts as the Agency may approve in writing, as are necessary for the purpose of advising the operator as to compliance with the limitations and conditions of this permit.
- 1.1.5 The operator shall use the best available techniques to dispose of radioactive waste at times, in a form, and in a manner so as to minimise the radiological effects on the environment and members of the public.
- 1.1.6 The operator shall maintain in good repair the systems and equipment provided for the disposal of radioactive waste.
- 1.1.7 The operator shall check, at an appropriate frequency, the effectiveness of systems, equipment and procedures provided for the disposal of radioactive waste.
- 1.1.8 The operator shall post copies of this permit on the premises, in such characters and in such positions to be conveniently read by persons who have duties on the premises which are or could be affected by the matters set out in this permit.

ACCIDENTS THAT MAY CAUSE POLLUTION

- 1.2.1 The operator shall:
- (a) maintain and implement an accident management plan;
 - (b) review and record at least every 2 years or as soon as is reasonably practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
 - (c) make any appropriate changes to the plan identified by a review.

SITE SECURITY

- 1.3.1 Site security measures shall prevent unauthorised access to the radioactive waste, as far as is reasonably practicable.

WASTE ACCEPTANCE AND DISPOSAL

- 1.4.1 Radioactive waste shall only be accepted for disposal if:
- (a) it is solid radioactive waste not exceeding 200Bq/g;
 - (b) it:
 - (i.) would be acceptable for disposal under environmental permit EPR/TP3430GW as if that permit applied to the waste and all the relevant waste acceptance procedures have been completed and it fulfils the relevant waste acceptance criteria, including any derogations specified in that environmental permit; or
 - (ii.) would be inert waste, if it were not radioactive waste and all the relevant waste acceptance procedures have been completed and it fulfils the relevant waste acceptance criteria; or

(iii.) would be non-hazardous waste, if it were not radioactive waste and all the relevant waste acceptance procedures have been completed and it fulfils the relevant waste acceptance criteria.
(c) it has not been diluted or mixed solely to meet condition 1.4.1(a) and (b).

- 1.4.2 The operator shall visually inspect the radioactive waste consignment:
(a) without unloading it, on arrival at the landfill; and
(b) at the point of deposit;
and shall satisfy himself as far as reasonably practicable that it conforms to the consignor's characterisation documentation provided for that radioactive waste.
- 1.4.3 Radioactive waste found not to meet the requirements of condition 1.4.1 shall be returned to the consignor as soon as is reasonably practicable and within 24 hours of the quarantine facility becoming full, and in any event within 5 days of receipt at the site.
- 1.4.4 The operator shall use the best available techniques when taking samples and conducting measurements, tests, surveys, analyses and calculations, to determine compliance with the limitations and conditions of this permit, unless particular means are specified in writing by the Agency.
- 1.4.5 Where the operator has taken samples to establish that the radioactive waste is in conformity with the documentation submitted, then the samples taken shall be retained for at least one month and results of any analysis for at least two years.
- 1.4.6 The activity of radioactive waste disposed of shall not exceed the limits specified in Table 1.
- 1.4.7 The operator shall dispose of radioactive waste as specified in Table 2.
- 1.4.8 The operator shall provide a receipt to the person delivering radioactive waste. The receipt shall include the details specified in record numbers 2 to 8 of Table 4.
- 1.4.9 The operator shall not accept delivery of radioactive waste while landfill disposal activities under the current environmental permit EPR/TP3430GW have ceased.
- 1.4.10 The operator shall so far as is reasonably practicable prevent the loss or escape of any radioactive waste.
- 1.4.11 If the operator believes or has reasonable grounds for believing that any radioactive waste has been lost or stolen he shall:
(a) without delay inform the Police and the Agency;
(b) so far as is reasonably practicable recover the radioactive waste; and
(c) as soon as is reasonably practicable notify the Agency in writing of the circumstances of the occurrence and the means taken to recover the radioactive waste.
- 1.4.12 If the operator believes or has reasonable grounds for believing that any radioactive waste is escaping or has escaped from any container or location in which it is stored he shall:
(a) without delay inform the Agency;
(b) so far as is reasonably practicable:
(i) prevent any further escape; and
(ii) minimise the spread of any contamination; and
(c) as soon as is reasonably practicable report the circumstances in writing to the Agency.
- 1.4.13 Before the operator first receives radioactive waste from a consignor for the purpose of final disposal of that waste from or on the premises, the operator shall, at the earliest opportunity, inform the local authority, in whose area of responsibility the premises is situated, of the origin and nature of the radioactive waste.

1.4.14 The provisions of condition 1.4.13 do not apply:

- (a) where the waste consignor is exempt from the requirement to hold an environmental permit for the disposal of radioactive waste;
- (b) to the extent that it would require the disclosure of information relating to sealed radioactive sources;
- (b) to VLLW.

IMPROVEMENT PROGRAMME

1.5.1 The operator shall complete the improvements specified in Table 6 by the date specified in that table unless otherwise agreed in writing by the Agency.

1.5.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

CLOSURE AND DECOMMISSIONING

1.6.1 The operator shall dispose of radioactive waste so as to prevent or where that is not practicable, to minimise, any pollution risk on closure and decommissioning.

MONITORING

1.7.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the sampling and monitoring specified in Table 3.

RECORDS

1.8.1 The operator shall maintain and implement a system which ensures that a record is made of the details specified in Table 4. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

1.8.2 All records required to be made by this permit shall:
(a) be legible;
(b) be made as soon as reasonably practicable;
(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
(d) be retained, unless otherwise agreed in writing by the Agency, for at least 2 years from the date when the records were made, or as specified in Table 5.

1.8.3 Records of acceptance and disposal of radioactive waste required to be made by this permit shall be made on the day of acceptance and disposal.

1.8.4 Any records required to be made by this permit shall be supplied to the Agency within 14 days where the records have been requested in writing by the Agency.

1.8.5 All records required to be made by this permit shall be held on site and shall be available for inspection by the Agency at any reasonable time.

REPORTING

1.9.1 Within 28 days of the end of the relevant reporting period or by the date specified in Table 7 the operator shall, unless otherwise agreed in writing by the Agency, submit reports of the details specified in that Table.

1.9.2 All reports and notifications required by this permit shall be sent to the Agency using the contact details supplied in writing by the Agency.

NOTIFICATIONS

- 1.10.1 The operator shall notify the Agency without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or release of radioactive waste which has caused, is causing or may cause significant pollution from radioactive waste;
 - (b) the breach of a limit specified in this permit; or
 - (c) any significant adverse environmental effects.
- 1.10.2 If the operator believes or has reasonable grounds for believing that the acceptance or disposal of radioactive waste is occurring, has occurred or might occur which does not comply with the limitations and conditions of this permit he shall:
- (a) without delay inform the Agency;
 - (b) so far as is reasonably practicable prevent the further acceptance or disposal of radioactive waste; and
 - (c) as soon as is reasonably practicable report the circumstances in writing to the Agency.
- 1.10.3 Prior written notification shall be given to the Agency of the following events and in the specified timescales:
- (a) as soon as is reasonably practicable prior to the permanent cessation of disposal of radioactive waste; and
 - (b) at least 28 days prior to a change of name of the operator; and
 - (c) as soon as is reasonably practicable after the date of the first disposal of radioactive waste under this permit.
- 1.10.4 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.

INTERPRETATION

- 1.11.1 In this permit -

"activity" expressed in becquerels, means the number of spontaneous nuclear transformations occurring in a period of one second in a radioactive substance;

"Bq, kBq, MBq, GBq, TBq and PBq" are used as abbreviations meaning becquerels, kilobecquerels, megabecquerels, gigabecquerels, terabecquerels and petabecquerels respectively;

"inert" means radioactive waste which would be within the scope of Council Directive 1999/31/EC on the landfill of waste if the directive covered radioactive waste.

"low level waste" means solid radioactive waste, including any immediate packaging, with a maximum concentration of 4 gigabecquerels per tonne of alpha emitting radionuclides and 12 gigabecquerels per tonne of all other radionuclides.

"non-hazardous" means radioactive waste which is not covered within the scope of the Hazardous Waste (England and Wales) Regulations 2005 if those regulations covered radioactive wastes;

"relevant waste acceptance criteria" are derived from The Landfill Directive 1999/321/EC and Council Decision 2003/33/EC which establish waste acceptance criteria for landfills;

"relevant waste acceptance procedures" are derived from The Landfill Directive 1999/321/EC and Council Decision 2003/33/EC which establish waste acceptance procedures for landfills;

"RPA" means a Radiation Protection Adviser appointed under Regulation 13 of the Ionising Radiations Regulations 1999;

"sealed radioactive source" means a source whose structure is such as to prevent, under normal conditions of use, any dispersion of radioactive material into the environment;

"techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

"the Agency" means the Environment Agency.

"VLLW" is very low level waste and is a sub category of low level waste as defined in the "Policy for the long-term management of solid low-level radioactive waste in the United Kingdom. DEFRA, DTI and the Devolved Administrations. March 2007

1.11.2 "*best available techniques*" means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:

- (a) comparable processes, facilities or methods of operation which have recently been successfully tried out;
- (b) technological advances and changes in scientific knowledge and understanding;
- (c) the economic feasibility of such techniques;
- (d) time limits for installation in both new and existing plants; and
- (e) the nature and volume of the discharges and emissions concerned.

DISPOSAL OF RADIOACTIVE WASTE

Table 1

Radionuclide or group of Radionuclides	Limit GBq
H-3	3230
C-14	170
Cl-36	85
Fe-55	595
Co-60	732
Ni-63	187
Sr-90	1750
Nb-94	85
Tc-99	374
Ru-106	391
Ag-108m	85
Sb-125	85
Sn-126	85
I-129	85
Ba-133	85
Cs-134	85
Cs-137	5100
Pm-147	119
Eu-152	85
Eu-154	85
Eu-155	85
Pb-210	85
Ra-226	306
Ac-227	85
Th-229	85
Th-230	85
Th-232	85
Pa-231	85
U-232	85
U-233	85
U-234	85
U-235	85
U-236	85
U-238	85
Np-237	85
Pu-238	102
Pu-239	170
Pu-240	85
Pu-241	1190
Pu-242	85
Am-241	119
Cm-243	85
Cm-244	85
Any other radionuclide	85
TOTAL	17000

Table 2

Minimum depth of coverage by non-radioactive material or waste	0.3 metre
Maximum delay before disposal of radioactive waste	8 hours
Maximum delay before coverage after disposal	8 hours or by the end of that working day, whichever is the sooner
Container types	Enclosed double bagged or enclosed steel drums or a type agreed in writing by the Agency.

MONITORING

Table 3

Sample Type	Location	Frequency	Analysis
Groundwater	Boreholes K02a, K03, K04, K05, K06, K07, K08, K09, K14	Bi-annual	Gamma spec, total alpha and beta, tritium
Surface water	Surface water collected points KCSWNWPD, KCSWMP1, KCSWLAG and wheel wash run off.	Bi-annual	Gamma spec, total alpha and beta, tritium
Landfill gas	Environmental raw gas input point KCFLAINL	Bi-annual	Radon
		Bi-annual	Tritium
Dust	Downwind air sampler point KCDD01, Upwind air sampler KCDD02	Quarterly	Gamma spec, total alpha and beta.
Surface Soils	Surface soil locations as boundary to site KCSOIL01, KCSOIL02, KCSOIL03, KCSOIL04	Annual	Gamma spec, total alpha and beta.
Leachate	All leachate sumps and monitoring points in each phase used for LLW disposal'	Annual bulked per cell	Gamma spec, total alpha and beta, tritium
	Leachate transferred offsite for disposal	Quarterly bulked per transfer	Gamma spec, total alpha and beta, tritium
Site perimeter dose rate	5 perimeter locations adjacent to monitoring points K03, KCSOIL01, KCSOIL02, KCSOIL03, K13	Quarterly	Gamma dose rate at 1m above ground level using continuous measurement thermoluminescent dosimeter (measurement of TLD by an approved dosimetry service) or other technique as otherwise agreed by the Agency.

RECORDS

Table 4

Record Number	Record	Frequency of making record, unless agreed in writing with the Agency
1	A report stating the current environmental safety case for disposal of radioactive waste and how the operator has met the requirements of this permit	Each year
2	Date of delivery	Each consignment
3	Quantity of radioactive waste (m ³ and tonnes)	Each consignment
4	Identity of the waste producer	Each consignment
5	Site of origin of the waste	Each consignment
6	General description of the physical and chemical form of the radioactive waste	Each consignment
7	Activity of each radionuclide or group of radionuclides listed in Table 1	Each consignment
8	Specific activity by mass of each radionuclide or group of radionuclides listed in Table 1.	Each consignment
9	The cell and grid reference used for disposal of radioactive waste	Each consignment
10	Total activity of each radionuclide or group of radionuclides listed in Table 1 disposed of under this permit:	Each consignment

	(a) for the whole site (b) for each disposal cell	
11	Total activity of each radionuclide or group of radionuclides listed in Table 1 disposed of under this permit: (a) for the whole site (b) for each disposal cell	Each year
12	Total specific activity by mass of each radionuclide or group of radionuclides listed in Table 1 disposed of under this permit: (a) for the whole site (b) for each disposal cell	Each year
13	Quantity of radioactive waste disposed of under this permit (m ³ and tonnes): (a) this calendar year (b) since the permit came into effect	Each year
14	Results from sampling and monitoring specified in Table 3	As completed
15	Radionuclide content of each waste stream received	As received
16	Tests, measurements, surveys or audits undertaken to demonstrate compliance with this permit.	As completed
17	Assessments or evaluations based on samples, measurements, tests and surveys	As completed

Table 5

Record Number identified in Table 4	Length of time for retention of record
1 to 7, 9, 11 to 17	Until surrender of the permit for the site

IMPROVEMENTS

Table 6

Improvement	Date
The operator shall provide the Agency with a report of a comprehensive review of the activities undertaken to demonstrate compliance with the limits and conditions specified within this permit for the disposal of radioactivity (e.g. checks, monitoring, sampling and audits). A programme for carrying out any necessary changes identified by the review should be included.	Every 3 years from the effective date of this permit or as otherwise agreed in writing by the Agency.
The operator shall provide the Agency with an updated Environmental Safety Case for the site.	Every 5 years from the effective date of this permit or as otherwise agreed in writing by the Agency.
The operator shall provide the Agency with a report of a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the assessment of the impact of the emissions submitted with the application. A programme for carrying out any necessary changes identified by the review should be included.	Every year from the date of first radioactive waste disposal or as otherwise agreed in writing by the Agency.

REPORTING

Table 7

Parameters	Reporting Period or Date for reporting
Records 1-13, 15-17 from table 4	By 31 st January each year
Results from monitoring specified in Table 3	Each quarter. Results should be provided within two months of the end of that quarter