


**RADIOACTIVE SUBSTANCES ACT 1993**  
**SECTION 13**  
**MULTI MEDIA AUTHORISATION FOR NUCLEAR  
LICENSED SITES**

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## CONTENTS

**INTERPRETATION OF TERMS.....2**

## SCHEDULES

<b>1. LIMITATIONS AND CONDITIONS RELATING TO THE AUTHORISED PREMISES AND THE UNDERTAKING.....</b>	<b>8</b>
1.1 Description of Undertaking .....	8
1.2 The Authorised Premises.....	8
<b>2. GENERAL LIMITATIONS AND CONDITIONS RELATING TO THE UNDERTAKING.....</b>	<b>9</b>
2.1 Disposal .....	9
2.2 Management.....	9
2.3 Sampling, measurements, and calculations.....	10
2.4 Records.....	12
2.5 Provision of information.....	13
2.6 Improvements .....	13
<b>3. RADIOACTIVE WASTE TYPES AND CONDITIONS FOR DISPOSAL AND AUTHORISED DISPOSAL.....</b>	<b>14</b>
3.1 Disposal of radioactive waste.....	14
3.2 National Arrangements for Radioactive Waste Disposal (NAIRD) and National Arrangements for Radioactivity (NAIR) .....	14
<b>4. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE GASEOUS WASTE BY DISCHARGE TO THE ENVIRONMENT.....</b>	<b>15</b>
4.1 Discharge of radioactive gaseous waste .....	15
4.2 Discharges exceeding or likely to exceed a Weekly Advisory Level .....	15
4.3 Discharges exceeding a Quarterly Notification Level .....	15
4.4 Measurement of total beta activity of particulate samples .....	16
4.5 Measurement of total alpha activity of particulate samples .....	16
<b>5. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE AQUEOUS WASTE BY DISCHARGE TO THE ENVIRONMENT.....</b>	<b>18</b>
5.1 Discharge of Radioactive Aqueous Waste .....	18
5.2 Discharges exceeding a Quarterly Notification Level .....	18
5.3 Measurement of total beta emitting radionuclides not otherwise specified .....	18
5.4 Measurement of total alpha emitting radionuclides.....	19
5.5 Environmental Harm .....	19
5.6 Listed or Hazardous Substances.....	19
5.7 Restriction on Volume of Radioactive Aqueous Waste.....	19
5.8 Descriptive Conditions .....	19
5.9 Flow Monitoring .....	20
5.10 Discharge Quality Standards.....	20
<b>6. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE WASTE BY INCINERATION ON THE AUTHORISED PREMISES .....</b>	<b>22</b>
6.1 Incineration of radioactive waste.....	22
<b>7. FURTHER LIMITATIONS AND CONDITIONS RELATING TO THE DISPOSAL OF RADIOACTIVE WASTE BY TRANSFER TO A PERSON WITHIN THE UNITED KINGDOM .....</b>	<b>23</b>

7.1	Disposal of Radioactive Waste to a Person within the United Kingdom .....	23
7.2	Disposal by Transfer .....	23
7.3	Radioactive Waste Found Following the Transfer not to be in accordance with the Limitations and Conditions of this Authorisation .....	24
7.4	Radioactive Waste which Cannot be Disposed of Due to Non-delivery .....	24
<b>8.</b>	<b>FURTHER CONDITIONS AND LIMITATIONS RELATING TO THE DISPOSAL OF RADIOACTIVE WASTE BY TRANSFER TO A PERSON OUTWITH THE UNITED KINGDOM .....</b>	<b>25</b>
8.1	Disposal of Radioactive Waste to a Person outwith the United Kingdom .....	25
8.2	Disposal of Radioactive Waste .....	25
8.3	Radioactive Waste Found Following the Transfer not to be in accordance with the Limitations and Conditions of this Authorisation .....	25
8.4	Radioactive Waste which Cannot be Disposed of Due to Non-delivery .....	25
8.5	Return of Radioactive Waste after Treatment .....	25
<b>9.</b>	<b>INFORMATION REQUIREMENTS .....</b>	<b>27</b>
9.1	Information Requirements .....	27
<b>10.</b>	<b>IMPROVEMENT REQUIREMENTS .....</b>	<b>29</b>
10.1	Improvement Requirements .....	29
<b>11</b>	<b>APPENDIX 1 – SITE PLAN .....</b>	<b>30</b>

## INTERPRETATION OF TERMS

(1) In this Authorisation:

Except where otherwise specified, words and expressions defined in the Radioactive Substances Act 1993 shall have the same meanings when used in this Authorisation as they have in that Act;

“the Act” means The Radioactive Substances Act 1993 as amended;

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

"aqueous waste" means radioactive waste in the form of a continuous aqueous phase together with any entrained solids, gases and non-aqueous liquids;

"Authorisation" means an Authorisation issued under the Radioactive Substances Act 1993 or the Radioactive Substances Act 1960;

“Authorised Person” means a person who is authorised in writing by SEPA under Section 108 of the Environment Act 1995 to exercise the powers specified in that Section;

“the Authorised Premises” are the premises defined in Schedule 1;

"Bq", "kBq", "MBq", "GBq", "TBq" and "PBq" are used as abbreviations meaning becquerel, kilobecquerel, megabecquerel, gigabecquerel, terabecquerel and petabecquerel respectively;

"calendar year" means a period of 12 consecutive months beginning on 1 January;

"consignment" means an individual shipment of radioactive waste not greater in volume than 40 cubic metres or such lesser volume as specified in writing by SEPA;

“decommissioning” means the process whereby a facility, at the end of its economic life, is taken permanently out of service and its site made available for other purposes and includes any remediation carried out by the Authorisation Holder in the locality of the Authorised Premises;

"environment" means all, or any, of the media of air, water (to include sewers and drains) and land;

"Environmental Operating Rule" means a mandatory restriction on operation, established by the Authorisation Holder, which is necessary to ensure compliance with this Authorisation;

"gaseous waste" means radioactive waste in the form of gases and associated mists and particulate matter;

“Hazardous Substances, Priority Substances and Priority Hazardous Substances” shall have the same meaning as in Council Directive 2000/60/EC;

“Integrated waste strategy” means a strategy for all waste, both radioactive and non-radioactive in solid, liquid and gaseous form that has or will arise at the Authorised

Premises describing how the Authorisation Holder optimises his approach to waste management in an integrated way, describes the waste streams and disposals expected from current and future operations and describes any actions required to improve the Authorisation Holders approach to waste management;

"listed substance" means any List I or II substances as defined under EC Directive 76/464/EEC or Annex X Priority and Priority Hazardous Substances as defined under EC Directive 2000/60/EC;

"LLW" means radioactive waste having a radioactive content not exceeding four gigabecquerels per tonne (GBq/te) of alpha or 12 GBq/te of beta/gamma activity;

"maintenance instructions" means instructions, established by the Authorisation Holder, for carrying out any maintenance that may have an effect on compliance with this Authorisation;

"maintenance schedule" means a programme, established by the Authorisation Holder, for maintenance of all systems and equipment that contribute to achieving compliance with this Authorisation;

"management system" includes organisational structure and procedures established by the Authorisation Holder;

"month" means calendar month (i.e. 1-31 January, 1-28/29 February, 1-31 March, etc);

"operating instructions" means instructions, established by the Authorisation Holder, for carrying out any operation that may have an effect on compliance with this Authorisation;

"organic liquid waste" means radioactive waste in the form of liquid, not being aqueous waste, containing one or more organic chemical compounds;

"Radioactive Waste Adviser" means a person having a current valid certificate recognising the capacity to act as a Radioactive Waste Adviser issued by an Assessing Body approved by SEPA or a Corporate Radioactive Waste Adviser working in accordance with Corporate Arrangements approved by SEPA.

"quarter" means any period of three consecutive months;

"samples" includes samples that have been prepared or treated to enable measurements of activity to be made;

"Schedule" means a Schedule forming part of this Authorisation;

"SEPA" means the Scottish Environment Protection Agency;

"the Undertaking" means the undertaking defined in Schedule 1;

"Transfrontier Shipment of Radioactive Waste Regulations" means the Transfrontier Shipment of Radioactive Waste and Spent Fuel Regulations 2008, as amended, and any subsequent revisions;

"Waste permitted person" means a person who is suitably:-

authorised under the Act to dispose of or accumulate waste; or

permitted under the Environmental Permitting (England and Wales) Regulations 2010 to dispose of or accumulate radioactive waste

“water environment” means all surface water, groundwater and wetlands; and “surface water”, “groundwater” and “wetlands” shall have the same meaning as in the Water Environment and Water Services (Scotland) Act 2003;

"week" means a period of 7 consecutive days commencing at a day and time to be notified in writing to SEPA by the Authorisation Holder at least 14 days before any disposal of radioactive waste is made under the terms of this Authorisation, any subsequent change being notified in writing to SEPA at least 7 days in advance

"year" means any period of 12 consecutive months;

(2)(a) In this Authorisation the Interpretation Act 1978 shall apply as it does to an Act of Parliament and in particular words in the singular include the plural and words in the plural include the singular.

(b) Any reference to a numbered Condition, Limitation, Schedule, Table, Appendix, Figure or Paragraph is a reference to a numbered Condition, Limitation, Schedule, Table, Appendix, Figure or Paragraph in this Authorisation;

(c) Except where otherwise specified in this Authorisation, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of this Authorisation) and to any other enactment, which may, after the date of this Authorisation, directly or indirectly replace it, with or without amendment.

(3)(a) In determining whether particular means are the "best practicable" for the purposes of this Authorisation, the Authorisation Holder shall not be required to incur expenditure whether in money, time or trouble which is, or is likely to be, grossly disproportionate to the benefits to be derived from, or likely to be derived from, or the efficacy of, or likely efficacy of, employing them, the benefits or results produced being, or likely to be, insignificant in relation to the expenditure.

(b) Where reference is made to the use of "best practicable means" in this Authorisation, the terms “best”, “practicable” and “means” have the following meaning:

“Best” – means the most effective techniques for achieving a particular objective, having due regard to technological advances (state of the art) and changes in scientific knowledge; and understanding.

“Practicable” – indicates that the “means” under consideration should only be selected following an optimisation process that includes consideration of the technical viability including comparable processes, facilities or methods of operation which have recently been successfully tried out and takes into account social and economic costs and benefits.

“Means” – includes: technology, disposal options, the design, build, maintenance, operation and decommissioning of facilities, and wider

management arrangements.

(c) The social and economic costs and benefits that should be taken into account in the optimisation process used to decide what is practicable includes (where relevant);

- economic costs
- social benefits
- radiological exposures to the public
- occupational radiological exposures
- radiological impact on the environment
- conventional safety
- consistency with the waste hierarchy
- impact of the non-radioactive properties of radioactive waste
- the generation and associated impact of non-radioactive wastes, including climate change emissions
- the proximity principle
- applicable government policy

(4) Where reference is made to radiological effects on the environment in this Authorisation it includes the effects on any living organism supported by the environment.

**1. LIMITATIONS AND CONDITIONS RELATING TO THE AUTHORISED PREMISES AND THE UNDERTAKING**

**1.1 Description of Undertaking**

1.1.1 The Undertaking is <<describe the trade/business/profession of the Authorisation Holder being carried out on the Authorised Premises>>.

**1.2 The Authorised Premises**

1.2.1 The Authorised Premises are as shown delineated in red on the Site Plan forming Appendix 1 of this Authorisation and at the date of this Authorisation having postal address <<postal address>>.

<<OR>>

1.2.2 The Authorised Premises are shown delineated in red on the Site Plan forming Appendix 1 of this Authorisation and comprise the buildings known at the date of this Authorisation as <<Building 1 Postal Address, Building 2 Postal Address, etc>> respectively marked <<A, B, ...>> on the Site Plan.

<<OR>>

1.2.3 The Authorised Premises are contained within the building [and its grounds] known at the date of this Authorisation as <<building postal address>>. The said building [and its grounds] is shown delineated in red on the Site Plan forming Appendix 1 of this Authorisation. The Authorised Premises are part of the said building and comprise <<insert description>> of the said building only.



## **2. GENERAL LIMITATIONS AND CONDITIONS**

### **2.1 Disposal**

- 2.1.1 The Authorisation Holder shall use the best practicable means to minimise the volume of and the total radioactivity in radioactive waste produced.
- 2.1.2 For each of the relevant waste types and disposal routes specified in Table 3.1, the Authorisation Holder shall use the best practicable means to:
  - 2.1.2.1 minimise the radioactivity of gaseous and aqueous radioactive waste disposed of by discharge to the environment; and
  - 2.1.2.2 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.
- 2.1.3 The Authorisation Holder shall maintain in good repair the systems and equipment provided:
  - 2.1.3.1 to meet the requirements of paragraphs 2.1.1 and 2.1.2; and
  - 2.1.3.2 for the disposal of radioactive waste under this Authorisation.
- 2.1.4 The Authorisation Holder shall check, at an appropriate frequency, the effectiveness of systems, equipment and procedures provided:
  - 2.1.4.1 to meet the requirements of paragraphs 2.1.1 and 2.1.2; and
  - 2.1.4.2 for the disposal of radioactive waste under this Authorisation.

### **2.2 Management**

- 2.2.1 The Authorisation Holder shall have a management system and resources which are sufficient to achieve compliance with the limitations and conditions of this Authorisation and which include, without restricting the generality of the requirement under this paragraph:
  - 2.2.1.1 written arrangements specifying how the Authorisation Holder will achieve compliance with each limitation and condition of this Authorisation, to include arrangements for control of the design and operation of systems and equipment provided for such compliance with this authorisation, and any modifications made to these systems and equipment;
  - 2.2.1.2 written Environmental Operating Rules and operating instructions;
  - 2.2.1.3 a written maintenance schedule and instructions;
  - 2.2.1.4 an Integrated Waste Strategy;
  - 2.2.1.5 adequate supervision of the disposal of radioactive waste by suitably qualified and experienced persons, whose names shall be clearly displayed with each copy of this Authorisation that is posted on the Authorised Premises as required by Section 19 of the Act;

- 2.2.1.6 adequate supervision by suitably qualified and experienced persons of the operation and maintenance of the systems and equipment provided to meet the requirements of paragraphs 2.1.1 and 2.1.2 and for the disposal of radioactive waste;
- 2.2.1.7 internal audit and review of the Authorisation Holder's management system and its efficacy.
- 2.2.2 The Authorisation Holder shall inform SEPA, at least 28 days in advance or, where this is not possible, without delay, of any change in the management system, or resources which might have, or might reasonably be seen to have, a significant impact on how compliance with the limitations and conditions of this Authorisation is achieved.
- 2.2.3 The Authorisation Holder shall appoint, retain and consult with such suitable Radioactive Waste Advisers as are necessary for the purpose of advising the Authorisation Holder as to compliance with the relevant limitations and conditions of this Authorisation; including but not limited to:
  - 2.2.3.1 achieving and maintaining an optimal level of protection of the environment and the population;
  - 2.2.3.2 checking the effectiveness of technical devices for protecting the environment and the population;
  - 2.2.3.3 acceptance into service, from the point of view of surveillance of radiation protection, of equipment and procedures for measuring and assessing, as appropriate, exposure and radioactive contamination of the environment and the population; and
  - 2.2.3.4 regular calibration of measuring instruments and regular checking that they are serviceable and correctly used;
- 2.2.4 The Authorisation Holder shall appoint each Radioactive Waste Adviser in writing and include in the appointment the scope of advice which the Radioactive Waste Adviser is required to give.

### **2.3 Sampling, measurements, tests, surveys and calculations**

- 2.3.1 The Authorisation Holder shall take samples and conduct measurements, tests, surveys, analyses and calculations to determine its compliance with the limitations and conditions of this Authorisation.
- 2.3.2 The Authorisation Holder shall undertake a programme to monitor the levels of radioactivity and ionising radiation in the environment and food caused by the disposal of radioactive waste on or from the Authorised Premises by taking such samples, conducting such measurements, tests, surveys, analyses and calculations, including environmental measurements and assessments, as are necessary to continuously assess the effectiveness of the measures taken by the Authorisation Holder to comply with paragraphs 2.1.1 2.1.2, 2.1.3 and 2.1.4.

- 2.3.3 The Authorisation Holder shall inform SEPA in writing, within 90 days of the effective date of this Authorisation, of the programme being undertaken to satisfy paragraph 2.3.2.
- 2.3.4 The Authorisation Holder shall inform SEPA, at least 28 days in advance or, where this is not possible, without delay, of any change in the programme being undertaken to satisfy paragraph 2.3.2.
- 2.3.5 The Authorisation Holder shall carry out regular review of the adequacy of the programme undertaken to satisfy paragraph 2.3.2. **[NOTE: It may be appropriate to include a specific timescale for undertaking the review. The requirement to specify a timescale for the review should be considered during the determination process.]**
- 2.3.6 The Authorisation Holder shall use the best practicable means when taking samples and conducting measurements, tests, surveys, analyses and calculations to determine its compliance with the limitations and conditions of this Authorisation, unless particular means are specified in this Authorisation.
- 2.3.7 The Authorisation Holder shall keep any sample or a sub sample taken as a requirement of paragraph 2.3.2 and for the purpose of demonstrating compliance with Authorised Limits for a minimum period of six months from the date of sampling and in sufficient quantity that the analysis carried out by the Authorisation Holder can be repeated, and shall provide any of the samples or sub samples, on request, to an Authorised Person or to such other person as an Authorised Person specifies; and if required by SEPA dispatch samples for tests at a laboratory 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 appropriate transport regulations are complete. **[NOTE: It may not be practical to retain some types of gaseous sample for a minimum period of 6 months. In this case it may be necessary to specify an alternative time period for the retention of these samples.]**
- 2.3.8 The Authorisation Holder may dispatch samples of radioactive waste for testing to a Waste Permitted Person and on completion of testing the samples or residues thereof may be returned to the Authorised Premises **[NOTE: Specify limits for activity and volume if considered necessary.]**
- 2.3.9 The Authorisation Holder shall provide and at all times maintain in good repair systems and equipment for:
- 2.3.9.1 carrying out any sampling, monitoring and measurements necessary to determine compliance with the limitations and conditions of this Authorisation; and
- 2.3.9.2 measuring and assessing exposure of members of the public and radioactive contamination of the environment.
- 2.3.10 The Authorisation Holder shall have and comply with appropriate criteria for the acceptance into service of systems, equipment and procedures for:

- 2.3.10.1 carrying out any sampling, monitoring and measurements necessary to determine compliance with the limitations and conditions of this Authorisation; and
- 2.3.10.2 measuring and assessing exposure of members of the public and radioactive contamination of the environment.
- 2.3.11 The Authorisation Holder shall carry out:
  - 2.3.11.1 regular calibration, at an appropriate frequency, of systems and equipment provided for:
    - 2.3.11.1.1 carrying out any sampling, monitoring and measurements necessary to determine compliance with the limitations and conditions of this Authorisation; and
    - 2.3.11.1.2 measuring and assessing exposure of members of the public and radioactive contamination of the environment;
  - 2.3.11.2 regular checking, at an appropriate frequency that such systems and equipment are serviceable, accurate and effective and correctly used at all times.

## **2.4 Records**

- 2.4.1 The Authorisation Holder shall:
  - 2.4.1.1 Make, as soon as is reasonably practicable, and retain true, accurate and legible records sufficient to demonstrate whether the limitations and conditions of this Authorisation are and have been complied with; and
  - 2.4.1.2 retain all records made in accordance with all previous Authorisations issued to the Authorisation Holder and related to the Authorised Premises covered by this Authorisation; and
- 2.4.2 retain all records transferred to the Authorisation Holder by all predecessor Authorisation Holder(s) which were made in accordance with any previous Authorisation related to the Authorised Premises covered by this Authorisation.
- 2.4.3 If the Authorisation Holder amends any record made in accordance with this Authorisation the Authorisation Holder shall ensure that the original entry remains clear and legible.
- 2.4.4 The Authorisation Holder shall at all times keep the records referred to in paragraphs 2.4.1 and 2.4.2 on the Authorised Premises at a location notified to SEPA unless otherwise agreed in writing with SEPA beforehand. **[NOTE: The form of records, e.g. in paper form, may be specified in this condition if required.]**
- 2.4.5 The Authorisation Holder shall retain the records referred to in paragraphs 2.4.1 and 2.4.2 until notified in writing by SEPA that the records no longer need to be retained.

## **2.5 Provision of information**

- 2.5.1 The Authorisation Holder shall supply on request and without delay, to any Authorised Person any record made as a requirement of this Authorisation.
- 2.5.2 The Authorisation Holder shall supply to SEPA any such information in such format and within such time as specified in Schedule 9 of this Authorisation and other such information to determine the efficacy of and compliance with this Authorisation as SEPA may periodically specify in writing.
- 2.5.3 The Authorisation Holder shall inform SEPA in writing, within 90 days of the effective date of this Authorisation, of the techniques being employed to determine the activity of radioactive waste disposals and shall inform SEPA in writing in advance of any modifications to those techniques.
- 2.5.4 The Authorisation Holder shall inform SEPA without delay if the Authorisation Holder has reason to believe that disposal of radioactive waste is occurring, has occurred or might occur which does not comply with the limitations and conditions of this Authorisation, and shall report the circumstances in writing to SEPA as soon as practicable thereafter.
- 2.5.5 The Authorisation Holder shall inform SEPA in writing, within 90 days of the effective date of this Authorisation, of the organisational structure and resources, together with the whole management system or such parts of the management system as SEPA specifies in writing, provided to achieve compliance with the limitations and conditions of this Authorisation.

## **2.6 Improvements**

- 2.6.1 The Authorisation Holder shall carry out the improvements specified in Schedule 10 of this Authorisation and within such times as specified in Schedule 10.

### 3. RADIOACTIVE WASTE TYPES AUTHORISED FOR DISPOSAL AND AUTHORISED DISPOSAL ROUTES

#### 3.1 Disposal of radioactive waste

3.1.1 Subject to paragraph 3.2, the Authorisation Holder is authorised to dispose only of the radioactive waste arising from the Undertaking at the Authorised Premises, only of the types of radioactive waste identified in Table 3.1, and only by the relevant disposal route(s) specified in Table 3.1 and in accordance with any further limitations and conditions contained within Schedules 4 to 8.

#### 3.2 National Arrangements for Incidents involving Radioactivity (NAIR)

3.2.1 The Authorisation Holder may dispose of radioactive waste, not being waste otherwise authorised to be disposed of, which is collected as a result of the user's participation in the National Arrangements for Incidents involving Radioactivity provided that the Authorisation Holder:

3.2.1.1 transfers the waste to a person whom SEPA has agreed in writing may receive that waste; and

3.2.1.2 as soon as practicable provides to SEPA all available details in writing of the nature of the radioactive waste, the radionuclides present, their activities and the manner and date of disposal.

Table 3.1

Radioactive Waste Type	Disposal Route
Gaseous Waste	Discharge to the environment
Aqueous Waste	Discharge to the environment
	Transfer to a Person within the United Kingdom
	Transfer to a Person outwith the United Kingdom
Organic Liquid Waste	Disposal by incineration on the authorised premises
	Transfer to a Person within the United Kingdom
	Transfer to a Person outwith the United Kingdom
Samples of waste	Transfer to a Person within the United Kingdom
Solid Waste	Disposal by incineration on the Authorised Premises
	Transfer to a Person within the United Kingdom
	Transfer to a Person outwith the United Kingdom

**[NOTE: Table 3.1 should contain sufficient detail to ensure that it is clear which schedule relates to each disposal route. The information in Table 3.1 should be consistent with the titles of the relevant schedules.]**

**[NOTE: Delete entries from the Table 3.1 if the route is not authorised.]**

#### **4. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE GASEOUS WASTE BY DISCHARGE TO THE ENVIRONMENT**

##### **4.1 Discharge of radioactive gaseous waste**

4.1.1 The Authorisation Holder shall discharge radioactive gaseous waste to the environment only by means of the outlets identified in Table 4.1.

4.1.2 The Authorisation Holder shall not in any year discharge gaseous waste in which the activity of any radionuclide or group of radionuclides specified in column **x** of Table 4.2 exceeds the relevant Annual Limit in column **x** of that table.

**<<OR>>**

4.1.3 The Authorisation Holder shall not in any year, from any outlet or group of outlets specified in Table 4.2 to **<<table number>>**, discharge gaseous waste in which the activity of any radionuclide or group of radionuclides specified in the relevant Table exceeds the relevant Annual Limit.

4.1.4 The Authorisation Holder shall use the best practicable means to exclude entrained particulate matter and mists from radioactive gaseous waste prior to discharge to the environment.

##### **4.2 Discharges exceeding or likely to exceed a Weekly Advisory Level**

4.2.1 If, in any week, the activity in gaseous waste of any radionuclide or groups of radionuclides specified in column 1 of Table 4.2 exceeds, or is likely to exceed the relevant Weekly Advisory Level (where specified) in column 3 of that table, the Authorisation Holder shall:

4.2.1.1 without delay, inform SEPA and the Food Standards Agency; and

4.2.1.2 as soon as reasonably practicable, advise SEPA and the Food Standards Agency of the circumstances leading to the release and the possible impact of any deposition of radioactivity on pasture or crops in the vicinity of the Authorised Premises, including any measurements made.

##### **4.3 Discharges exceeding a Quarterly Notification Level**

4.3.1 If, in any quarter, the activity in gaseous waste of any radionuclide or groups of radionuclides specified in column 1 of Table 4.2 exceeds the relevant Quarterly Notification Level (where specified) in column 4 of that table, the Authorisation Holder shall not later than 14 days from making the record which demonstrates such an excess provide SEPA with a written submission which includes:

4.3.1.1 details of the occurrence; and

4.3.1.2 a description of the means used to minimise the activity of gaseous waste discharged: and

4.3.1.3 a review of those means having regard to paragraphs 2.1.1 and 2.1.2.

#### 4.4 Measurement of total beta activity of particulate samples

- 4.4.1 For the purposes of demonstrating compliance with the limitations and conditions of this Authorisation relating to “total beta-emitting radionuclides associated with particulate matter”, the Authorisation Holder shall measure the total beta activity of all particulate samples collected for these purposes, after an appropriate period for decay of radon daughters, by using:
- 4.4.1.1 a Bloggs AB123 Ten Channel Low Level Counter with Bloggs AB456 Low Radioactivity Data System, in which;
  - 4.4.1.2 the gas flow proportional counter has an effective window thickness of 0.4 mg cm<sup>-2</sup>;
  - 4.4.1.3 the gas used in the detector is 7.5% methane in argon;
  - 4.4.1.4 the system is set up in accordance with the manufacturers requirements;
  - 4.4.1.5 the counter is calibrated for detection efficiency using a chlorine-36 standard traceable to a National Standard;

<<NB - ABOVE IS AN EXAMPLE ONLY>>

[NOTE: The method for measurement only needs to be specified if a total beta limit has been set.]

<<OR>>

- 4.4.2 The provisions of paragraphs 4.2, 4.3 and 4.4 shall not apply to discharges of radioactive gaseous waste from the <<incinerator and oil burner>> stack(s) identified in Table 4.1.

#### 4.5 Measurement of total alpha activity of particulate samples

- 4.5.1 For the purposes of demonstrating compliance with the limitations and conditions of this Authorisation relating to “total alpha-emitting radionuclides associated with particulate matter”, the Authorisation Holder shall measure the total alpha activity of all particulate samples collected for these purposes, after an appropriate period for decay of radon daughters, by using:

[NOTE: Include details of equipment used for the measurement of total alpha activity, set out as per 4.4.1]

[NOTE: The method for measurement only needs to be specified if a total alpha limit has been set.]

Table 4.1

Authorised Gaseous Discharge Outlets
Nominal <<XX>> metre high stack <<at or description of plant/facility>> that is in place at the date of this authorisation
[NOTE: Repeat for all stacks]




**<<NB - DESCRIPTION OF DISCHARGE OUTLETS IS TO BE CONFIRMED DURING DETERMINATION>>**

Table 4.2

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Radionuclide or Group of Radionuclides	Annual Limit (GBq)	Weekly Advisory Level (GBq)	Quarterly Notification Level (GBq)

**[NOTE: The limits are to be set as part of the determination process.]**

**<<AND/OR>>**

Table 4.3

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
Outlet or Group of Outlets	Radionuclide or Group of Radionuclides	Annual Limit (GBq)	Weekly Advisory Level (GBq)	Quarterly Notification Level (GBq)

**<<REPEAT THIS TABLE FOR EACH OUTLET/GROUP OF OUTLETS>>**

## 5. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE AQUEOUS WASTE BY DISCHARGE TO THE ENVIRONMENT

### 5.1 Discharge of Radioactive Aqueous Waste

- 5.1.1 The Authorisation Holder shall only discharge radioactive aqueous waste to the environment only at the location specified in Table 5.1 and through the systems specified in that Table.
- 5.1.2 The Authorisation Holder shall discharge radioactive aqueous waste to the environment only during the interval commencing <<one hour after high-tide and ending four hours after high-tide>>.
- 5.1.3 The Authorisation Holder shall use the best practicable means to exclude entrained particulate matter, gases and non-aqueous liquids from radioactive aqueous waste prior to discharge to the environment.
- 5.1.4 The Authorisation Holder shall not in any year discharge radioactive aqueous waste in which the activity of any radionuclide or group of radionuclides specified in column x of Table 5.2 exceeds the relevant Annual Limit in column x of that table.

### 5.2 Discharges exceeding a Quarterly Notification Level

- 5.2.1 If, in any quarter, the activity in radioactive aqueous waste discharged of any radionuclide or group of radionuclides specified in column 1 of Table 5.2 exceeds the relevant Quarterly Notification Level (where specified) in column 3 of that table, the Authorisation Holder shall not later than 14 days from making the record which demonstrates such an excess, provide SEPA with a written submission which includes:
- 5.2.1.1 details of the occurrence;
- 5.2.1.2 a description of the means used to minimise the activity of radioactive aqueous waste discharged;
- 5.2.1.3 a review of those means having regard to paragraphs 2.1.1 and 2.1.2;

**[NOTE: Include only if quarterly notification levels are set.]**

### 5.3 Measurement of total beta emitting radionuclides not otherwise specified

- 5.3.1 For the purposes of demonstrating compliance with the limitations and conditions of this Authorisation relating to “total beta emitting radionuclides” (other than those individually specified) in aqueous waste, the Authorisation Holder shall measure the gross activity, excluding tritium, of all samples collected for these purposes by:

**[NOTE: Consider the need to specify the method. Set out as per 4.4.1.]**

**[NOTE: The method for measurement only needs to be specified if a total beta limit has been set.]**

#### **5.4 Measurement of total alpha emitting radionuclides**

- 5.4.1 For the purposes of demonstrating compliance with the limitations and conditions of this Authorisation relating to “total alpha emitting radionuclides”, the Authorisation Holder shall measure the total alpha activity by using:

**[NOTE: Consider the need to specify the method. Set out as per 4.4.1.]**

**[NOTE: The method for measurement only needs to be specified if a total alpha limit has been set.]**

#### **5.5 Environmental Harm**

- 5.5.1 Other than as specifically permitted or limited by any condition of this authorisation, discharges shall not have a significant adverse impact on, or cause pollution of, the water environment.

#### **5.6 Listed or Hazardous Substances**

- 5.6.1 SEPA shall be notified in writing if any known material change occurs, or is proposed, that may introduce into the radioactive aqueous waste any listed substance, within 28 days of the Authorisation Holder identifying, or being informed of, any such change.
- 5.6.2 Before any aqueous waste is added to the disposal system for the first time it shall be appropriately characterised.

**[NOTE: The following conditions (5.7 to 5.10) may not be required.]**

#### **5.7 Restriction on Volume of Radioactive Aqueous Waste**

- 5.7.1 The discharge of radioactive aqueous waste shall not exceed a maximum daily volume of <<insert volume>> cubic metres per day.
- 5.7.2 The maximum rate of flow of the radioactive aqueous waste shall not exceed <<insert volume>> litres per second.

#### **5.8 Descriptive Conditions**

##### **For Discharge to Surface Waters**

- 5.8.1 Any discharge authorised by this Authorisation shall not cause:
- (a) a significant visible impact on the receiving waters due to the presence of oil and/or grease; or
  - (b) the significant deposition of solids on the <<banks, bed or shore>> of the receiving waters; or
  - (c) significant discoloration of the receiving waters; or
  - (d) significant increased foaming in the receiving waters; or
  - (e) significant growth of sewage fungus in the receiving waters.

**5.9 Flow Monitoring**

- 5.9.1 Flow measurement structure(s) shall be provided and maintained to enable determination of the instantaneous flow rates and daily volumes of the discharge of radioactive aqueous waste.
- 5.9.2 A continuous flow recorder with on-site visual display from which readings can be readily obtained and an associated data storage facility shall be provided and maintained to record the instantaneous flow rates and daily volumes of the discharge of radioactive aqueous waste.
- 5.9.3 Records of the readings obtained from all flow recorders required by any condition of this Authorisation shall be maintained in a format agreed with SEPA (or failing such agreement, as specified in writing by SEPA acting reasonably).

**[NOTE: In the event that the volume of the receiving watercourse is low, there may be a requirement to limit the volume of effluent discharge (of radioactive waste). Hence it may be necessary to specify the requirement for flow measurement.]**

**5.10 Discharge Quality Standards**

- 5.10.1 The Authorisation Holder shall not discharge any radioactive aqueous waste that exceeds the relevant concentration for the substances specified in Table 5.3.
- 5.10.2 The Authorisation Holder shall not discharge radioactive aqueous waste that exceeds the annual average concentration, or is outwith the range, as appropriate for the parameters specified in Table 5..

**[NOTE: To be set by discussion with appropriate EPI team staff.]**

**[NOTE: Probably pH and nitrate.]**

Table 5.1

<b>Authorised Aqueous Discharge System(s)</b>
System <<further description if necessary>> provided by the Authorisation Holder for the discharge of <<description of waste>> from the Authorised Premises on the <<AAAA site>> to <<name of receiving water>> at <<description or Grid reference of discharge point>>

**[NOTE: The description provided for the aqueous discharge system should capture all of the relevant parts of the liquid system, including any liquid transfer, handling and storage equipment.]**

**[NOTE: If there is more than one discharge location table 5.1 may require to be amended.]**

Table 5.2

<b>COLUMN 1</b>	<b>COLUMN 2</b>	<b>COLUMN 3</b>
<b>Radionuclide or Group of</b>	<b>Annual Limit</b>	<b>Quarterly</b>

Radionuclides	(GBq)	Notification Level (GBq)

**[NOTE: The limits are to be set as part of the determination process.]**

**<<AND/OR>>**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
System or Group of Systems	Radionuclide or Group of Radionuclides	Annual Limit (GBq)	Quarterly Notification Level (GBq)

**<<REPEAT THIS TABLE FOR EACH SYSTEM/GROUP OF SYSTEMS>>**

Table 5.3

Substance	Maximum concentration (mg/l)

Table 5.4

Parameter	Annual Average Concentration or range
Specific pollutant	
Nitrate (expressed as nitrogen) mg/l	
Nitrate (expressed as nitrogen) tonnes/year	
pH units	pH units
etc	

**6. FURTHER LIMITATIONS AND CONDITIONS RELATING TO DISPOSAL OF RADIOACTIVE WASTE BY INCINERATION ON THE AUTHORISED PREMISES**

**6.1 Incineration of radioactive waste**

- 6.1.1 The Authorisation Holder shall only incinerate radioactive waste of the type(s) specified in Table 6.1.
- 6.1.2 The Authorisation Holder shall only incinerate radioactive waste in the unit specified in Table 6.2.
- 6.1.3 The Authorisation Holder shall use best practicable means to remove suspended solids from the radioactive waste oil prior to incineration.

**[NOTE: This condition is optional - it is only applicable for oil burning incinerators.]**

- 6.1.4 The Authorisation Holder shall not in any year incinerate waste in which the activity of any radionuclide or group of radionuclides, specified in Table 6.3, exceed the relevant Annual Limit.

Table 6.1

Authorised Waste Types
<<solid/liquid>> waste consisting of <<XXXX>>

Table 6.2

Authorised Incinerator
<<Type - e.g. waste oil burner>>, located at NGR <<XX XXXX XXXX>>, discharging <<YY>> metres above ground level

Table 6.3

Radionuclides or Groups of Radionuclides	Daily/Weekly/Monthly/Annual Limit MBq/GBq

**[NOTE: It may be necessary for these conditions to be set in conjunction with PPC.]**

## **7. FURTHER LIMITATIONS AND CONDITIONS RELATING TO THE DISPOSAL OF RADIOACTIVE WASTE BY TRANSFER TO A PERSON WITHIN THE UNITED KINGDOM**

### **7.1 Disposal of Radioactive Waste to a Person within the United Kingdom**

7.1.1 **Subject to 7.1.2**, The Authorisation Holder is only authorised to dispose of LLW only to a waste permitted person and only where this is the best practicable means for the disposal of that type of waste.

**7.1.2** The Authorisation Holder is authorised to dispose of the radioactive waste types identified in Table 7.1 for the purpose as specified and to the relevant person or persons specified in Table 7.1 and to no other person.

**[NOTE: The default position is that Condition 7.1.2 and table 7.1 are not required. However, the determining officer should consider whether there are any waste streams that can not go to any waste permitted person. In such cases those waste streams should be specified in table 7.1 along with the permitted disposal routes. Examples of when this may be required are for higher activity waste transfers or for LLW where a specific government policy restricts the disposal route]**

### **7.2 Disposal by Transfer**

7.2.1 Before each consignment of radioactive waste is disposed of, the Authorisation Holder shall:

7.2.1.1 determine the radionuclides contained in the radioactive waste and their radioactivity;

7.2.1.2 provide to the person to whom the radioactive waste is to be disposed with a written description of the radioactive waste and the radioactivity of the radionuclides contained therein;

7.2.1.3 obtain confirmation that the person to whom the radioactive waste is to be disposed agrees to accept the radioactive waste;

7.2.2 All disposals of radioactive waste shall be accompanied at all times by a true and accurate record signed by or on behalf of the Authorisation Holder. This record shall detail the physical description of the radioactive waste, the radionuclides contained in the radioactive waste, the volume of the radioactive waste and the activity of each of the radionuclides in the radioactive waste. A copy of this record shall be provided to the person to whom the waste is transferred at the time of disposal and a copy shall be retained by the Authorisation Holder.

7.2.3 The Authorisation Holder shall not make any disposal of radioactive waste from the Authorised Premises unless a receipt is obtained from the person (or his agent) who removes such waste from the Authorised Premises.

7.2.4 The Authorisation Holder shall obtain written confirmation as soon as is reasonably practicable from the person to whom such waste is transferred that they have received such waste.

7.2.5 The Authorisation Holder shall notify SEPA in writing at least 28 days in advance of the first disposal of the radioactive waste to any person. The notification shall include:

7.2.5.1 the name and address of the person; and

7.2.5.2 the address and type of the radioactive waste treatment and/or disposal and/or accumulation facility to be used; and

7.2.5.3 evidence that the Authorisation Holder has established that the person is suitably authorised to receive or dispose of the radioactive waste

**7.3 Radioactive Waste Found Following the Transfer not to be in accordance with the Limitations and Conditions of this Authorisation**

7.3.1 If required by SEPA, the Authorisation Holder shall ensure that any consignment, or part of any consignment of radioactive waste, found following transfer not to be in accordance with the limitations or conditions of this Authorisation:

7.3.1.1 Is packaged in accordance with the appropriate transport regulations; and

7.3.1.2 is returned as soon as reasonably practicable to the Authorised Premises.

**7.4 Radioactive Waste which Cannot be Disposed of Due to Non-delivery**

7.4.1 If any disposal of radioactive waste cannot be completed by reason of non-delivery for any reason, the Authorisation Holder shall ensure that the radioactive waste is returned to the Authorised Premises forthwith.

Table 7.1

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
<b>Person to Whom Waste may be Transferred</b>	<b>Waste Type</b>	<b>Purpose of transfer</b>	<b>Radionuclide or Group of Radionuclides</b>	<b>Annual Activity Limit, GBq</b>	<b>Annual Volume Limit, m<sup>3</sup></b>
Specify name and premises					

**[NOTE: In the event that a disposal to a named site operator is authorised, the definition of the site operator should be added to the Interpretation of Terms section and added to Table 7.1.]**



## **8. FURTHER CONDITIONS AND LIMITATIONS RELATING TO THE DISPOSAL OF RADIOACTIVE WASTE BY TRANSFER TO A PERSON OUTWITH THE UNITED KINGDOM**

### **8.1 Disposal of Radioactive Waste to a Person outwith the United Kingdom**

8.1.1 The Authorisation Holder is only authorised to dispose of radioactive waste to a person outwith the UK where this is the best practicable means for the disposal of that type of waste and only for the purpose of treatment followed by return of any radioactive waste arisings and only in accordance with an authorisation granted under the Transfrontier Shipment of Radioactive Waste Regulations.

**[NOTE: Clause 8.1.1 cannot be complied with if a transfer overseas does not need a TFS authorisation or where it has been determined that waste arisings from overseas does not need to be returned to the UK. If an operator wishes to make such a transfer careful thought should be given to what additional clauses are required. A possible approach is that used in Sch 7.]**

### **8.2 Disposal of Radioactive Waste**

8.2.1 Before each consignment of radioactive waste is disposed of to any person outwith the United Kingdom the Authorisation Holder shall:

8.2.1.1 determine the radionuclides contained in the radioactive waste and their radioactivity;

8.2.2 provide to the person to whom the radioactive waste is to be disposed with a written description of the radioactive waste and the radioactivity of the radionuclides contained therein;

8.2.2.1 obtain confirmation that the person to whom the radioactive waste is to be disposed agrees to accept the radioactive waste.

### **8.3 Radioactive Waste Found Following the Transfer not to be in accordance with the Limitations and Conditions of this Authorisation**

8.3.1 If required by SEPA, the Authorisation Holder shall ensure that any consignment, or part of any consignment of radioactive waste, found following transfer not to be in accordance with the limitations or conditions of this Authorisation:

8.3.1.1 Is packaged in accordance with the appropriate transport regulations; and

8.3.1.2 is returned as soon as reasonably practicable to the Authorised Premises.

### **8.4 Radioactive Waste which Cannot be Disposed of Due to Non-delivery**

8.4.1 If any disposal of radioactive waste cannot be completed by reason of non-delivery for any reason the Authorisation Holder shall ensure that the radioactive waste is returned to the Authorised Premises forthwith.

### **8.5 Return of Radioactive Waste after Treatment**

8.5.1 The Authorisation Holder shall ensure that the radionuclides contained in the radioactive waste to be returned to the Authorised Premises and their

radioactivity is determined before the radioactive waste is returned to the Authorised Premises.

8.5.2 Radioactive waste arising from the treatment shall be accepted for return to the Authorised Premises only if:

8.5.2.1 the waste does not contain any other radionuclides that were not present in the radioactive waste at the time of its transfer and

8.5.2.2 the radioactivity in the radioactive waste is no greater than at the time of its transfer to that person specified in Table 8.1 as determined as a requirement of paragraph 8.2.3.1.

Table 8.1

<b>COLUMN 1</b>	<b>COLUMN 2</b>	<b>COLUMN 3</b>	<b>COLUMN 4</b>	<b>COLUMN 5</b>	<b>COLUMN 6</b>
<b>Person to whom waste may be transferred</b>	<b>Waste Type</b>	<b>Purpose of transfer</b>	<b>Radio-nuclide or Group of Radio-nuclides</b>	<b>Annual Activity Limit, GBq</b>	<b>Annual Volume Limit, m<sup>3</sup></b>

**[NOTE: Table only required if 8.1.3 used. The need to include columns 4-7 is to be considered as part of the determination process.]**

## 9. INFORMATION REQUIREMENTS

### 9.1 Information Requirements

9.1.1 The Authorisation Holder shall provide the information specified in Table 9.1 by the relevant completion date and, shall notify SEPA, in writing, within 14 days of the completion of each of those specifications.

Table 9.1

Specified information	Completion Date
1. The Authorisation Holder shall provide SEPA with a full report of a comprehensive review of how the Authorisation Holder is achieving compliance with condition 2.1.2.2 for radioactive waste disposal from the Authorised Premises, together with a programme for carrying out any necessary changes identified by the review.	Four years from the effective date of this Authorisation and at the same intervals thereafter unless SEPA otherwise specifies in writing.
2. The Authorisation Holder shall provide SEPA with a full report of a comprehensive review of national and international developments in best practice, in support of conditions 2.1.1 and 2.1.2.1 together with a programme for carrying out any necessary changes identified by the review.	Four years from the effective date of this Authorisation and at the same intervals thereafter unless SEPA otherwise specifies in writing.
3. The Authorisation Holder shall provide SEPA with a full report of a comprehensive review of the means used to assess the activity of radionuclides in disposals and to determine compliance with this Authorisation including consideration of national and international developments in best practice.	Four years from the effective date of this Authorisation and at the same intervals thereafter unless SEPA otherwise specifies in writing.
4. The Authorisation Holder shall in respect of the programme being undertaken to satisfy paragraph 2.3.2 provide to SEPA in writing the results of the said programme and a report assessing the results in respect of the radiation exposure of humans and trends in radioactivity concentration in the environment. The Authorisation holder 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.	Not later than 90 days after the end of each 3 month period or within such longer period as SEPA may approve in writing,
5. The Authorisation Holder shall provide SEPA with a report of a dose assessment to non-human species residing within environmentally sensitive areas within 20Km of the Authorised Premises from:	Three years from the effective date of this Authorisation and at the same intervals thereafter unless SEPA otherwise specifies

<p>a. discharges made over the past 3 years; and b. predicted discharges to be made over the next 3 years.</p>	<p>in writing.</p>
<p>6. The Authorisation Holder shall provide SEPA with a monthly report summarising:</p> <ol style="list-style-type: none"> <li>1. gaseous waste: (for each outlet) <ol style="list-style-type: none"> <li>a. the radioactivity discharged during the month and</li> <li>b. the total radioactivity of the radionuclides or group of radionuclides disposed of during the rolling year and compared to the relevant annual limit;</li> </ol> </li> <li>2. aqueous liquid waste; <ol style="list-style-type: none"> <li>a. (for each discharge, a. the time the discharge commenced,</li> <li>b. the duration of the discharge),</li> <li>c. the total volume discharged and</li> <li>d. its radioactivity and</li> <li>e. the total radioactivity of the radionuclides or group of radionuclides disposed of during the rolling year and compared to the relevant annual limit; and</li> </ol> </li> <li>3. for the disposal of waste by transfer, for each consignment disposed during the month: <ol style="list-style-type: none"> <li>a. a description of the waste,</li> <li>b. the purpose of the transfer,</li> <li>c. its volume and</li> <li>d. total radioactivity and</li> <li>e. the name of the person and address of the premises that received the waste.</li> </ol> </li> </ol> <p>The reporting shall be in accordance with SEPA's Radiological Monitoring Technical Guidance Note 1 – Standardised Reporting of Radioactive Discharges from Nuclear Sites.</p>	<p>Not later than 28 days after the end of each month and at the same interval thereafter unless SEPA otherwise specifies in writing.</p>
<p>7. The Authorisation Holder shall inform SEPA of the processes and activities occurring on the Authorised Premises that give rise to the presence of the substances listed in Table 5.5, excluding nitrate, in the radioactive waste being disposed.</p>	<p>12 months from the effective date of this Authorisation</p>

**10. IMPROVEMENT REQUIREMENTS**

**10.1 Improvement Requirements**

10.1.1 The Authorisation Holder shall complete the specified improvements in Table 10.1 by the relevant completion date and, shall notify SEPA, in writing, within 14 days of the completion of each of those specifications.

Table 10.1

<b>Specified improvements</b>	<b>Completion Date</b>
2. a, The Authorisation Holder shall provide to SEPA a programme for the progressive reduction of discharges of priority substances and the cessation of the discharge of priority hazardous substances by 1 January 2028; b. The Authorisation Holder shall implement the programme for the progressive reduction of discharges of priority substances and the cessation of the discharge of priority hazardous substances by 1 January 2028;	a. 18 months from the effective date of this Authorisation. b. 24 months from the effective date of this Authorisation
3.	

**11 APPENDIX 1 – SITE PLAN**