



## **IGas Energy PLC**

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**Permit Compliance Document (NORM)**



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## Notice

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### Document History

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Revision	Purpose Description	Originated*	Reviewed*	Authorised*	Date
00					
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02					
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04	Review	RR	CB	SR	29/09/16
05	Change EPR reference to EPR 16	RR	CB	SR	31.01.17
06	Document amended to reflect the changes in the Ionising Radiations Regulations 2017 (IRR17)	RR	RPA (Aurora) CB	SR	31.01.18
07	Document amended due to the management structure changes, (App. 1)	RR	CB	SR	09.07.2019

*\*Key parties are specified for ease of reference. But the formal review and approval process is logged within the M-Files systems*



## **1. Compliance Statement**

IGas is committed to compliance with all aspects of legislation relevant to its work with Radioactive Materials. This document specifically addresses the management arrangements relating to the Environmental Permitting (England and Wales) Regulations 2016 (EPR16) and sets out how IGas complies with the conditions of its Permits issued by the Environment Agency.

## **2. Procedures and documents**

There are a number of key operating procedures and documents which detail how IGas manages radioactive materials on their premises. These are:

1. IGas NORM Work with Ionising Radiation Procedure (HSE.PR.006)
2. IGas NORM Local Rules Working with Ionising Radiation (HSE.PR.005)
3. NORM Assessment and Processing Procedure (HSE.PR.004)
4. Associated Radiological Risk Assessments
5. Excel NORM samples and Material/Waste Accountancy Spreadsheet
6. Excel NORM Contaminated Equipment Inventory Spreadsheet

Document 1 specifies how IGas as an organisation manages its work with ionising radiations and how the organisation ensures that all of the sites within the company align and follow the company procedures.

Document 2 identifies how IGas manages radiological safety at a local level with the emphasis on operational controls and the recording activities needed to achieve Permit compliance. The procedure also covers the operational requirements of the Ionising Radiations Regulations 2017.

Document 3 identifies the method of assessment, sample collection and analysis requirements for equipment that potentially maybe contaminated with NORM.

Document 4 examines the radiological hazards and risks arising from the management of NORM contaminated items.

Document 5 – IGas maintain an Excel based spreadsheet used to manage their NORM contaminated waste to ensure that the time limits placed within the condition of the Permits are complied with.

Document 6 - IGas maintain an Excel based spreadsheet Inventory used to manage their NORM contaminated items to ensure that the time limits placed within the condition of the Permits are complied with.

### **3. Responsibilities under EPR16**

#### **3.1 Radiation Protection Supervisor (RPS)**

IGas have appointed RPS's for the sites to oversee all work with sources of ionising radiation and in association with the Health, Safety and Environment Adviser carry out audit, review and compliance support functions. RPS's are available to support other site's RPS's if required.

Although appointed to supervise work in accordance with local rules under the Ionising Radiations Regulations 2017, IGas RPS's have a crucial role in assisting the organisation as a whole in compliance with the EPR16. The RPS is provided with radiological protection training and is aware of Permit requirements. The RPS has specific duties assigned to them to ensure IGas achieves compliance with Permit requirements. RPS duties include the following:

- the supervision of the use, accountancy and security arrangements for all the radioactive material,
- the power to authorise staff to work with radioactive materials,
- the power to order the cessation of work if they are not satisfied with working arrangements,
- audit and inspection in conjunction with the HSE Adviser,
- collection of NORM samples for analysis.

#### **3.2 Health, Safety and Environment Department**

The Health, Safety and Environment Department confirm that all persons who may come into contact with NORM contaminated material are trained and authorised to work with radioactive materials. The HSE department shall also oversee the collection of samples by the RPS for analysis, ensure that any results are distributed to the appropriate persons, and through the process of audit ensure that any NORM contaminated materials are managed in accordance with the conditions of the Permits.



### **3.3 Radiation Protection Adviser (RPA)**

IGas has appointed a Radiation Protection Adviser (RPA) to provide advice on all aspects of radiological safety and compliance with radiological protection legislation. The RPA's are experienced individuals and act as IGas's Radioactive Waste Adviser (RWA) and in this capacity provide advice on compliance with all aspects of the EPR16 and Permit conditions. The RWA also assists the HSE Adviser in auditing performance compliance with EPR16 and on practical operational matters.

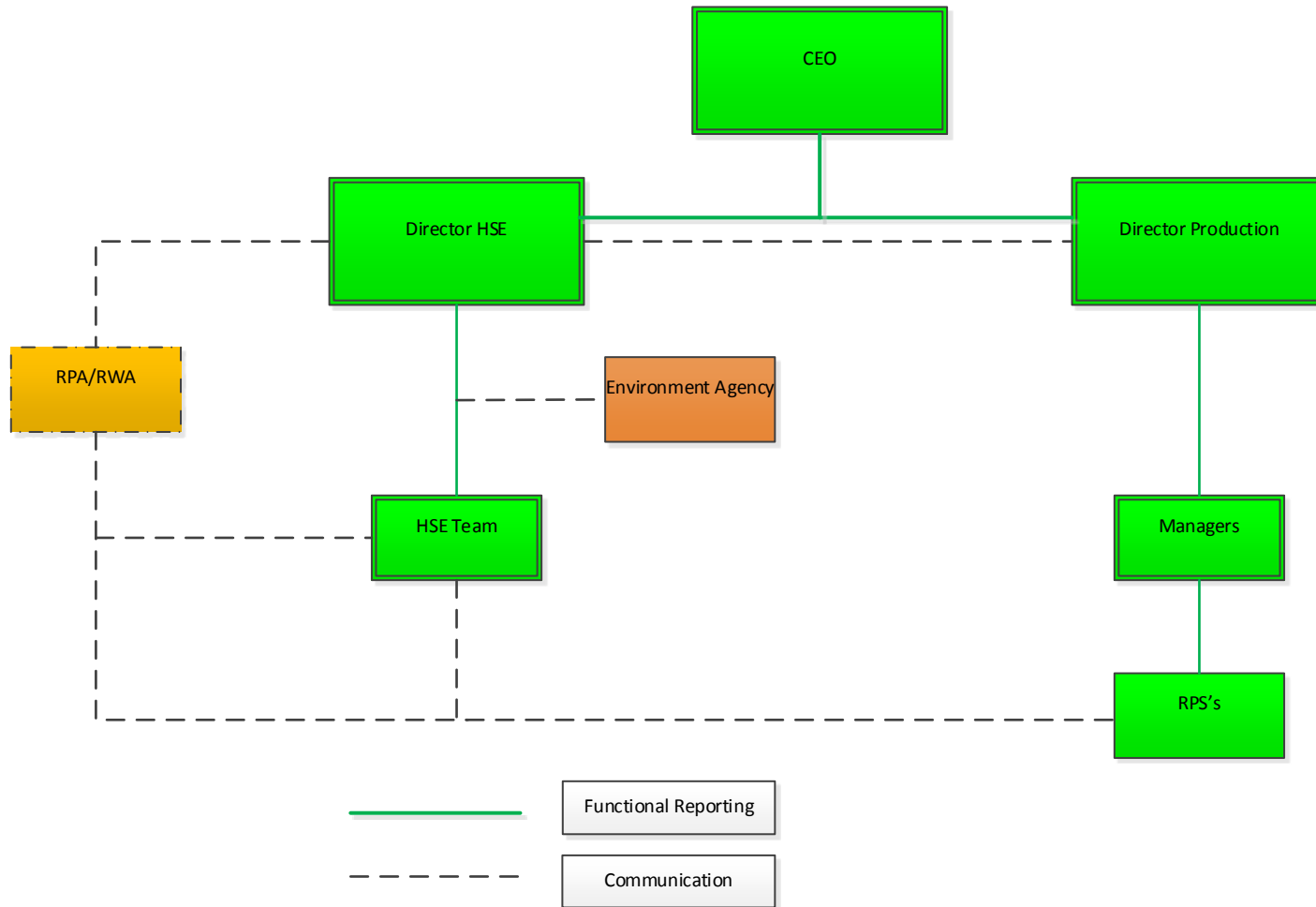
## **4. Organisational chart**

Appendix 1 sets out IGas's organisational structure for the management of radioactive sources.

## **5. Compliance schedule**

Appendix 2 details the controls in place for meeting the requirements of the Permit.

**APPENDIX 1: Organisational structure for the management of radioactive sources.**





APPENDIX 2: Compliance Schedule (Controls in place for meeting the requirements of the Permit)

Condition	Requirement	Controls in place
<b>1 – Management</b>		
<b>1.1 General Management</b>		
1.1.1	<i>The operator shall manage and operate the activities (a) In accordance with a written management system that is sufficient to ensure compliance with the conditions in the permit; and (b) Using sufficient competent persons and resources.</i>	This document in conjunction with the documents listed in Section 2 serves to meet the requirements of this condition. The documents in Section 2 provide a link to other relevant documents and procedures in place at IGas which serve to meet the requirements of the Permits.
1.1.2	<i>The operator shall maintain records demonstrating compliance with condition 1.1.1.</i>	All relevant documents shall be retained in a filing system held by Production Operations. And also contained in the on-line documentation system (M-Files)
1.1.3	<i>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.</i>	A copy of the Permit is posted at the site to which it applies. In addition a copy of the Permit is held by the RPS. A copy of the Permit is held by the HSE Adviser and is also contained within the on-line documentation system (M-Files).
1.1.4	<i>The operator shall manage and operate the activities in consultation with such suitable RPAs, or other such qualified experts approved the Environment Agency in writing, and are necessary for the purpose of advising the operator as to compliance with this permit.</i>	IGas has appointed qualified and experienced Aurora employees as their Radiation Protection Adviser (RPA) and Radioactive Waste Adviser (RWA) and consults with the RPA/RWA as required.
<b>2 – Operations</b>		
<b>2.1 Permitted Activities</b>		
2.1.1	<i>The operator is only authorised to carry on the activities specified in schedule1, Table S1.1 (the “activities”).</i>	Work activities are as specified. These include the disposal and accumulation of radioactive waste only. Alternative uses are prohibited.
2.2.1	<i>The activities shall not extend beyond the site, being the land shown edged in green on the site plan at Schedule 5 to this permit.</i>	Condition noted. Work with radioactive materials is restricted to site locations which are known to the HSE





Condition	Requirement	Controls in place
		Adviser.
<b>2.3 Operating techniques</b>		
2.3.1	<p><i>The operator shall use the best available techniques:</i></p> <ul style="list-style-type: none"> <li><i>(a) To minimise the period over which radioactive waste is accumulated;</i></li> <li><i>(b) To minimise the activity of radioactive waste produced on the premises that will require to be disposed of on or from the premises;</i></li> <li><i>(c) To ensure that all relevant parts of the premises are constructed, maintained and used in such a manner that:</i> <ul style="list-style-type: none"> <li><i>(I) They do not readily become contaminated: and</i></li> <li><i>(II) Any contamination which does occur can be easily removed;</i></li> </ul> </li> <li><i>(d) To prevent:</i> <ul style="list-style-type: none"> <li><i>(I) The loss of any radioactive waste: and</i></li> <li><i>(II) Access to any radioactive waste by any persons not authorised by the operator.</i></li> </ul> </li> </ul>	<p>Once identified as radioactive waste, IGas aim to undertake analysis to identify a suitable disposal route. This ensures that material is segregated into Out of Scope, Exempt and Low Level Waste to ensure radioactive waste disposal is minimised. Any waste is disposed as soon as is reasonably practicable.</p> <p>Waste is accumulated in a safe and sealed location within a secure site. The bund is covered with a temporary weatherproofing and is suitably signed in accordance with the requirements of designation as a Controlled Area under the Ionising Radiations Regulations 2017.</p>
2.3.2	<p><i>The operator shall use the best available techniques in respect of the disposal of radioactive waste pursuant to this permit to:</i></p> <ul style="list-style-type: none"> <li><i>(a) Minimise the activity of gaseous and aqueous radioactive waste disposed of by discharge to the environment:</i></li> <li><i>(b) Minimise the volume of radioactive waste disposed of by transfer to other premises: and</i></li> <li><i>(c) 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.</i></li> </ul>	<p>There are no gaseous or aqueous radioactive wastes produced at the sites.</p>
2.3.3	<p><i>The operator shall use the best available techniques to:</i></p> <ul style="list-style-type: none"> <li><i>(a) Exclude all entrained solids, gases and non-aqueous liquids from aqueous radioactive waste prior to the discharge to the environment:</i></li> <li><i>(b) Ensure that any discharge of radioactive gas to the atmosphere is made in a manner which prevents its entry into any building.</i></li> </ul>	<p>There are no gaseous or aqueous radioactive wastes produced at the sites.</p>
2.3.4	<p><i>The operator shall maintain in good repair the systems and equipment provided:</i></p> <ul style="list-style-type: none"> <li><i>(a) To meet the requirements of 2.3.1, 2.3.2, and 2.3.3: and</i></li> </ul>	<p>All facilities are subject to a maintenance and inspection regime. Radiological instrumentation is subject to annual calibration.</p>



Condition	Requirement	Controls in place
	<i>(b) To carry out any monitoring and measurements necessary to determine compliance with the conditions of this permit.</i>	
2.3.5	<i>The operator shall check, at an appropriate frequency, the effectiveness of systems, equipment and procedures provided to meet the requirements of conditions 2.3.1, 2.3.2, and 2.3.3.</i>	Each site has an appointed RPS whose duties include oversight of the requirements of the Permit. The sites are audited annually by an RPA/RWA.
2.3.6	<i>Any container in which radioactive waste are stored shall be clearly and legibly marked with the word "Radioactive", with the ionising radiation symbol conforming to BS3510: 1968 or ISO 361 and any other information necessary for the identification of the radioactive material or radioactive waste present.</i>	The bunded accumulation areas are all suitably labelled.
2.3.7	<i>The operator shall have and comply with appropriate criteria for the acceptance into service of systems equipment and procedures for carrying out any monitoring and measurements necessary to determine compliance with the conditions of this permit.</i>	IGas has a corporate management system that includes radiological documentation and procedures including the criteria for the acceptance of new equipment and systems The RPA will be consulted prior to the procurement of new equipment
2.3.8	<i>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.</i>	A copy of the Permit is posted at the site to which it applies. In addition a copy of the Permit is held by the RPS. A copy of the Permit is held by the HSE Adviser and is also contained within the on-line documentation system (M-Files)
<b>2.4 Pre-operational conditions</b>		
2.4.1	<i>The activities shall not be brought into operation until the measures specified in schedule1, table S1.2A have been completed.</i>	There are no specified measures listed.
2.4.2	<i>The operations specified in schedule1, table S1.2B shall not commence until the measures specified in that table have been completed.</i>	There are no specified measures listed.
2.4.3	<i>Written notification of the date of completion of each measure shall be sent to the Environment Agency within 14 days of the completion of each such requirement.</i>	There are no specified measures listed.
<b>2.5 Improvement programme</b>		
2.5.1	<i>The operator shall complete the improvements specified in Schedule 1, Table</i>	There are no specified improvements listed.



Condition	Requirement	Controls in place
	<i>S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.</i>	
2.5.2	<i>Except in the case of an improvement which consists of only a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of the completion of each improvement.</i>	There are no specified improvements listed.
<b>2.6 Receipt of radioactive waste</b>		
2.6.1	<i>No radioactive waste shall be received onto the premises.</i>	Condition noted – there is no intention or need for IGas to act as a waste recipient.
<b>2.7 Accumulation of radioactive waste</b>		
2.7.1	<i>There shall be no accumulation of radioactive waste except of the types of radioactive waste specified in schedule 2, table S2.1.</i>	Condition noted - there is no intention or need for IGas to accumulate radioactive waste other than that listed in schedule 2 table S2.1.
2.7.2	<i>The limits on accumulation given in Schedule2 shall not be exceeded.</i>	Condition noted – IGas use a designed spreadsheet that monitors and tracks the accumulation and disposal limitations of its radioactive waste.
2.7.3	<i>The operator shall maintain records of radioactive waste showing:</i> <i>(a) The radionuclide present, the date on which accumulation began and the activity on that date;</i> <i>(b) So far as is reasonably practicable its location on the premises;</i> <i>(c) If it has been removed from the premises, the date of removal, the activity on that date and the name and address of the person to whom it was transferred; and</i> <i>(d) The total activity and volume of radioactive waste present on the premises.</i>	Condition noted – IGas use a designed spreadsheet that monitors and tracks the accumulation and disposal records of its radioactive waste.
<b>3 – Disposals of radioactive waste and monitoring</b>		
<b>3.1 Disposal of radioactive waste</b>		
3.1.1	<i>There shall be no disposals of radioactive waste except of the types of radioactive wastes and by the disposal routes specified in Schedule3.</i>	Condition noted - there is no requirement for IGas to dispose of radioactive waste other than that listed in schedule 3.
3.1.2	<i>The limits on disposals given in Schedule 3 shall not be exceeded.</i>	Condition noted - there is no requirement for IGas to



Condition	Requirement	Controls in place
		<p>dispose of radioactive waste other than that listed in schedule 3. IGas use a designed spreadsheet that monitors and tracks the accumulation and disposal limitations of its radioactive waste.</p>
3.1.3	<p><i>The operator shall ensure that the transfer of radioactive waste:</i></p> <ul style="list-style-type: none"> <li><i>(a) Is in accordance with the directions of the person to whom the radioactive waste is transferred that are necessary to enable that persons to comply with all relevant requirements:</i></li> <li><i>(b) Is done using a suitable container constructed and maintained so as to prevent the loss of waste: and</i></li> <li><i>(c) So far as reasonably practicable, is not subject to delays in transit and is accepted at the premises of the person to whom the operator transfers waste.</i></li> </ul>	<p>Condition is noted, and arrangements are in place to ensure that all transfers are carried out in accordance with transport regulations and meet the recipients CFA's.</p> <p>All shipments of radioactive waste are carried out in compliance with the required transport of dangerous goods legislation. IGas transport any radioactive waste using the approved haulage provider. They make arrangements with the waste recipient prior to leaving the sites.</p>
3.1.4	<p><i>The operator shall:</i></p> <ul style="list-style-type: none"> <li><i>(a) Ensure that the person to whom radioactive waste is transferred receives at the time of transfer of each consignment a clear and legible note signed on the operators behalf:</i> <ul style="list-style-type: none"> <li><i>(I) Stating the total activity in the consignment of each relevant radionuclide or group of radionuclides listed in the relevant table in Schedule3: or</i></li> <li><i>(II) Stating when no relevant radionuclide or group of radionuclides is specified in Schedule 3, the total activity in the consignment of each radionuclide or group of radionuclides as listed in the written specification of the person to whom the radioactive waste is transferred.</i></li> </ul> </li> <li><i>(b) Obtain a note signed on behalf of the person to whom radioactive waste is transferred, at the time of transfer, stating that the transfer has taken place: and</i></li> </ul>	<p>Consignment documentation will meet the recipients CFAs, transport regulations requirements and this permit condition.</p> <p>Any transfer records shall be retained in a filing system held by Production Operations.</p>



Condition	Requirement	Controls in place
	<i>(c) Keep a copy of any note issued under condition 3.1.4(a) and any note received under condition 3.1.4(b).</i>	
3.1.5	<i>If required by the Environment Agency the operator shall ensure that any consignment or part of any consignment of radioactive waste found, following transfer, not to be in accordance with the conditions of this permit: (a) Is packaged in accordance with relevant legislation: and (b) Is returned as soon as practicable to the operator's site.</i>	Condition noted
3.1.6	<i>The operator shall, no later than 14 days after the end of each month or within such longer period as the Environment agency may approve in writing, record all disposals of radioactive waste made during that month.</i>	Details are recorded in an Excel spreadsheet and confirmation of receipt of waste documentation retained from the waste recipient.
<b>3.2 Monitoring</b>		
3.2.1	<i>If required by the Environment Agency, the operator shall: (a) Take such samples and conduct such measurements, test, surveys, analysis and calculations, including environmental measurements and assessments, at such times and using such methods and equipment as the Environment Agency specifies: and (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 notification that the testing and repackaging in accordance with relevant legislation are complete.</i>	Condition noted  Any such requests will be complied with.
3.2.2	<i>The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements necessary (periodic and continual), calibrations, examinations, test and surveys and any assessment or evaluation made on the basis of such data.</i>	Records retained without limit unless IGas specifically ask the Agency for permission to destroy relevant records.
3.2.3	<i>The operator shall carry out: (a) Regular calibration, at an appropriate frequency, of systems and equipment provided for carrying out any monitoring and</i>	Hand held radiation monitoring instrument tested every 12 months in line with regulatory requirements. Records of such testing are retained on M-Files.



Condition	Requirement	Controls in place
	<p><i>measurements necessary to determine compliance with the conditions of this permit: and</i></p> <p><i>(b) Regular checking, at an appropriate frequency, that such systems and equipment are serviceable and correctly used.</i></p>	<p>The condition and operation of the instrument is checked at each use.</p> <p>The NORM contaminated storage areas are checked by the RPA/RWA on an annual basis.</p>
<b>4 – Information</b>		
<b>4.1 Records</b>		
4.1.1	<p><i>All records required to be made by this permit shall::</i></p> <p><i>(a) be legible;</i></p> <p><i>(b) be made as soon as reasonably practicable;</i></p> <p><i>(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and</i></p> <p><i>(d) be retained until notified in writing by the Environment Agency that records no longer need to be retained.</i></p>	<p>Condition noted.</p> <p>Records are made on paper and held electronically. Amendments to paper records are legible with single crossing out of the error.</p> <p>Record keeping is audited by HSE Adviser and the RPA/RWA.</p>
4.1.2	<p><i>The operator shall:</i></p> <p><i>(a) retain records made in accordance with any previous relevant permit issued to an operator and related to the premises covered by this permit: and</i></p> <p><i>(b) retain records transferred to the operator, which were made in accordance with any previous relevant permit related to the premises covered by this permit.</i></p>	<p>Condition noted but not relevant at this site.</p>
4.1.3	<p><i>The operator shall keep on site all records, plans and management systems required by this permit unless otherwise agreed in writing by the Environment Agency.</i></p>	<p>This document details how the limitations and conditions of the Permits are being complied with and is one of the management documents along with those listed in Section 2. The management documentation is amended and updated as required with copies of records being filed accordingly.</p> <p>All records required by the Permits are made and stored either hard copy or electronically by IGas.</p>



Condition	Requirement	Controls in place
		The radiation protection practices at IGas are subject to review by the RPA/RWA.
<b>4.2 Reporting</b>		
4.2.1	<i>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.</i>	Condition noted  Annual Pollution Inventory Returns will be done on-line.
4.2.2	<i>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 condition 3.2.1; in such format and within such timescales as the Environment Agency may specify in writing.</i>	Condition noted  Any requests will be satisfied Information has been provided to visiting Inspectors during site inspections.
<b>4.3 Notifications</b>		
4.3.1	<i>The Environment Agency shall be notified without delay following the detection of: (a) any malfunction, breakdown or failure of equipment or techniques or accident, which has caused, is causing or may cause significant pollution or may generate significant amounts of radioactive waste; (b) the breach of a limit specified in this permit; or (c) any significant adverse environmental effects; or (d) any escape of accumulated radioactive waste.</i>	Condition noted and arrangements in place to ensure that this condition would be complied with in these events. See contingency arrangements in Local Rules. The RPS would consult the RWA/RPA if such an occurrence is known or suspected and the Environment Agency notified.
4.3.2	<i>Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in Schedule 4 within the time period specified in the Schedule</i>	Condition noted Arrangements in place to ensure that this condition would be complied with in such circumstances. See 4.3.1
4.3.3	<i>The Environment Agency shall be notified in writing, at least 21 days in an advance or, where this is not possible, without delay, of the operators intention to cease to accumulate or dispose of radioactive waste.</i>	Condition noted. Requirements for notifying the Environment Agency following incidents etc. are detailed in the documentation listed in Section2.



Condition	Requirement	Controls in place
4.3.4	<p><i>The Environment Agency shall be notified within 14 days of the occurrence of the following matters. Except where such disclosure is prohibited by stock exchange rules:</i></p> <p><i>(a) Where the operator is a registered company</i></p> <ul style="list-style-type: none"> <li>• <i>Any change in the operators trading name, registered name or registered office address; and</i></li> <li>• <i>Any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.</i></li> </ul> <p><i>(b) Where the operator is a corporate body other than a registered company:</i></p> <ul style="list-style-type: none"> <li>• <i>Any change in the operators name or address; and</i></li> <li>• <i>Any steps taken with a view to the dissolution of the operator.</i></li> </ul> <p><i>(c) In any other case:</i></p> <ul style="list-style-type: none"> <li>• <i>The death of the named operators (where the operator consists of more than one named individual); and</i></li> <li>• <i>Any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.</i></li> </ul>	Condition noted
4.3.5	<p><i>If the operator believes or has reasonable grounds for believing that radioactive waste has been lost or stolen he shall:</i></p> <p><i>(a) Without delay inform the Police and the Environment Agency;</i></p> <p><i>(b) Make all reasonable efforts to recover that radioactive waste; and</i></p> <p><i>(c) As soon as reasonably practicable report the circumstances in writing to the Environment Agency.</i></p>	<p>Condition Noted.</p> <p>Contingency arrangements and the local rules indicate actions to be taken.</p>
<b>Refer to the Permit for Schedules and interpretations.</b>		