Department
for Environment
Food & Rural Affairs

Independent Monitoring of Radioactivity in Effluent Samples

ECM_66090

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Contents

A GENERAL PROVISIONS

A1 Definitions and Interpretation

Unless the context otherwise requires the following terms shall have the meanings given to them below:

“Affected Party” means the Party seeking to claim relief in respect of a Force Majeure Event.

“Affiliate” means in relation to a body corporate, any other entity which directly or indirectly Controls is Controlled by, or is under direct or indirect common Control with, that body corporate from time to time.

“Approval” and “Approved” means the prior written consent of the Authority.

“Authorised Representative” means the Authority representative named in the CCN as authorised to approve agreed Variations.

“Authority Data” means:

(a) the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible media, and which are: (i) supplied to the Contractor by or on behalf of the Authority; or (ii) which the Contractor is required to generate, process, store or transmit pursuant to the Contract; or

(b) any Personal Data for which the Authority is the Controller.

“Authority Premises” means any premises owned, occupied or controlled by the Authority or any other Crown Body which are made available for use by the Contractor or its Sub-Contractors for provision of the Services.

“Authority Software” means software which is owned by or licensed to the Authority (other than under or pursuant to the Contract) and which is or will be used by the Contractor for the purposes of providing the Services.

“Authority System” means the Authority’s computing environment (consisting of hardware, software and/or telecommunications networks or equipment) used by the Authority or the Contractor in connection with the Contract which is owned by or licensed to the Authority by a third party and which interfaces with the Contractor System or which is necessary for the Authority to receive the Services.

“BPSS” means the HMG Baseline Personnel Security Standard for Government employees.

“Bravo” has the meaning given in paragraph 1.2 of the Form of Contract.

“CCN” means a change control notice in the form set out in Schedule 3.

“Commencement Date” means the date set out in paragraph 1.3 of the Form of Contract.

“Commercially Sensitive Information” means the information listed in Schedule 4 comprising the information of a commercially sensitive nature relating to:

(a) the Price;

(b) details of the Contractor’s Intellectual Property Rights; and

(c) the Contractor’s business and investment plans

which the Contractor has indicated to the Authority that, if disclosed by the Authority, would cause the Contractor significant commercial disadvantage or material financial loss.

“Confidential Information” means any information which has been designated as confidential by either Party in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) including information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person or trade secrets or Intellectual Property Rights of either Party and all Personal Data. Confidential Information shall not include information which:

(a) was public knowledge at the time of disclosure otherwise than by breach of clause E4;

(b) was in the possession of the receiving Party, without restriction as to its disclosure, before receiving it from the disclosing Party;

(c) is received from a third party (who lawfully acquired it) without restriction as to its disclosure; or

(d) is independently developed without access to the Confidential Information.

“Contract” has the meaning given in paragraph 1.1 of the Form of Contract.

“Contract Period” means the period from the Commencement Date to:

(a) the End Date; or

(b) following an Extension, the end date of the Extension

or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

“Contracting Authority” means any contracting authority (other than the Authority) as defined in regulation 3 of the Regulations.

“Contractor Software” means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services and which is set out in Schedule 7.

“Contractor System” means the information and communications technology system used by the Contractor in performing the Services including the Software, the Contractor Equipment and related cabling (but excluding the Authority System).

“Control” means that a person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the other person (whether through the ownership of voting shares, by contract or otherwise) and “Controls” and “Controlled" shall be interpreted accordingly.

“Controller” has the meaning given in the GDPR.

“Copyright” means as it is defined in s.1 of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Crown” means the government of the United Kingdom (including the Northern Ireland Executive Committee and Northern Ireland Departments, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers, government departments, government offices and government agencies and “Crown Body” is an emanation of the foregoing.

“Data Loss Event” means any event that results, or may result, in unauthorised access to Personal Data held by the Contractor under this Contract, and/or actual or potential loss and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach.

“Data Protection Impact Assessment” means an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data.

“Data Protection Legislation” means (i) the GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the DPA 2018 to the extent that it relates to processing of personal data and privacy; and (iii) all applicable Law about the processing of personal data and privacy.

“Data Protection Officer” has the meaning given in the GDPR.

“Data Subject” has the meaning given in the GDPR.

“Data Subject Request” means a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data.

“Database Rights” means as rights in databases are defined in s.3A of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Default” means any breach of the obligations of the relevant Party (including abandonment of the Contract in breach of its terms, repudiatory breach or breach of a fundamental term) or any other default, act, omission, negligence or statement of the relevant Party or the Staff in connection with the subject-matter of the Contract and in respect of which such Party is liable to the other.

“DOTAS” means the Disclosure of Tax Avoidance Schemes rules which require a promotor of tax schemes to tell HMRC of any specified notifiable arrangements or proposals and to provide prescribed information on those arrangements or proposals within set time limits as contained in Part 7 of the Finance Act 2004 and in secondary legislation made under vires contained in Part 7 of the Finance Act and as extended to

NICs by the National Insurance (Application of Part 7 of the Finance Act 2004) regulations 2012, SI 2012/1868 made under section 132A of the Social Security Administration Act 1992.

“DPA 2018” means the Data Protection Act 2018.

“EIR” means the Environmental Information Regulations 2004 (SI 2004/3391) and any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such regulations.

“End Date” means the date set out in paragraph 1.3 of the Form of Contract.

“Equipment” means the Contractor’s equipment, consumables, plant, materials and such other items supplied and used by the Contractor in the delivery of the Services.

“Extension” has the meaning given in paragraph 1.4 of the Form of Contract.

“FOIA” means the Freedom of Information Act 2000 and any subordinate legislation made under that Act from time to time together with any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such legislation.

“Force Majeure Event” means any event outside the reasonable control of either Party affecting its performance of its obligations under the Contract arising from acts, events, omissions, happenings or non-happenings beyond its reasonable control and which are not attributable to any wilful act, neglect or failure to take reasonable preventative action by that Party, including acts of God, pandemics, epidemics, riots, war or armed conflict, acts of terrorism, acts of government, local government or regulatory bodies, for flood, storm or earthquake, or disaster but excluding any industrial dispute relating to the Contractor or the Staff or any other failure in the Contractor’s supply chain.

“Form of Contract” means Section 1 of the Contract.

“GDPR” means the General Data Protection Regulation (Regulation (EU) 2016/679).

“General Anti-Abuse Rule” means:

(a) the legislation in Part 5 of the Finance Act 2013; and

(b) any future legislation introduced into parliament to counteract tax advantages arising from abusive arrangements to avoid NICs;

“Good Industry Practice” means standards, practices, methods and procedures conforming to the Law and the degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person or body engaged in a similar type of undertaking under the same or similar circumstances.

“Halifax Abuse Principle” means the principle explained in the CJEU Case C-255/02 Halifax and others.

“HMRC” means HM Revenue & Customs.

“ICT Environment” means the Authority System and the Contractor System.

“Information” has the meaning given under section 84 of the FOIA.

“Initial Contract Period” means the period from the Commencement Date to the End Date.

“Intellectual Property Rights” means patents, utility models, inventions, trademarks, service marks, logos, design rights (whether registrable or otherwise), applications for any of the foregoing, copyright, database rights, domain names, plant variety rights, Know-How, trade or business names, moral rights and other similar rights or obligations whether registrable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off.

“ITEPA” means the Income Tax (Earnings and Pensions) Act 2003.

“Key Personnel” mean those persons named in the Specification as key personnel.

“Know-How” means all information not in the public domain held in any form (including without limitation that comprised in or derived from drawings, data formulae, patterns, specifications, notes, samples, chemical compounds, biological materials, computer software, component lists, instructions, manuals, brochures, catalogues and process descriptions and scientific approaches and methods).

“Law” means any law, statute, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements of any Regulatory Body with which the relevant Party is bound to comply.

“LED” means Law Enforcement Directive (Directive (EU) 2016/680).

“Malicious Software” means any software program or code intended to destroy, interfere with, corrupt, or cause undesired effects on program files, data or other information, executable code or application software macros, whether or not its operation is immediate or delayed, and whether the malicious software is introduced wilfully, negligently or without knowledge of its existence.

“Material Breach” means a breach (including an anticipatory breach) that is serious in the widest sense of having a serious effect on the benefit which the Authority would otherwise derive from:

(a) a substantial portion of the Contract; or

(b) any of the obligations set out in clauses A6, D1, E1, E2, E3, E4, E7, E8 or E10.

“Month” means calendar month.

“NICs” means National Insurance Contributions.

“Occasion of Tax Non-Compliance” means:

(a) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 which is found on or after 1 April 2013 to be incorrect as a result of:

i) a Relevant Tax Authority successfully challenging the Contractor under the General Anti-Abuse Rule or the Halifax Abuse principle or under any tax rules or legislation that have an effect equivalent or similar to the General Anti-Abuse Rule or the Halifax Abuse Principle;

ii) the failure of an avoidance scheme which the Contractor was involved in, and which was, or should have been, notified to the Relevant Tax Authority under the DOTAS or any equivalent or similar regime; and/or

(b) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 gives rise on or after 1 April 2013 to a criminal conviction in any jurisdiction for tax related offences which is not spent at the Commencement Date or to a civil penalty for fraud or evasion.

“Personal Data” has the meaning given in the GDPR.

“Personal Data Breach” has the meaning given in the GDPR.

“Premises” means the location where the Services are to be supplied as set out in the Specification.

“Price” means the price (excluding any applicable VAT) payable to the Contractor by the Authority under the Contract, as set out in Schedule 2 for the full and proper performance by the Contractor of its obligations under the Contract.

“Processor” has the meaning given in the GDPR.

“Prohibited Act” means:

(a) to directly or indirectly offer, promise or give any person working for or engaged by the Authority a financial or other advantage to:

i) induce that person to perform improperly a relevant function or activity; or

ii) reward that person for improper performance of a relevant function or activity;

(b) to directly or indirectly request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with the Contract;

(c) an offence:

i) under the Bribery Act 2010 (or any legislation repealed or revoked by such Act;

ii) under legislation or common law concerning fraudulent acts; or

iii) the defrauding, attempting to defraud or conspiring to defraud the Authority;

(d) any activity, practice or conduct which would constitute one of the offences listed under (c) above if such activity, practice or conduct has been carried out in the UK.

“Protective Measures” means appropriate technical and organisational measures which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it including those outlined in Schedule 8.

“Property” means the property, other than real property, issued or made available to the Contractor by the Authority in connection with the Contract.

“Purchase Order” means the document in which the Authority specifies the Services which are to be supplied by the Contractor under the Contract.

“Quality Standards” means the quality standards published by BSI British Standards, the National Standards Body of the United Kingdom, the International Organisation for Standardization or other reputable or equivalent body (and their successor bodies) that a skilled and experienced operator in the same type of industry or business sector as the Contractor would reasonably and ordinarily be expected to comply with, and as may be further detailed in Schedule 1.

“Receipt” means the physical or electronic arrival of the invoice at the address specified in clause A4.4 or at any other address given by the Authority to the Contractor for the submission of invoices from time to time.

“Regulations” means the Public Contract Regulations 2015 (SI 2015/102).

“Regulatory Body” means a government department and regulatory, statutory and other entities, committees, ombudsmen and bodies which, whether under statute, rules, regulations, codes of practice or otherwise, are entitled to regulate, investigate, or influence the matters dealt with in the Contract or any other affairs of the Authority.

"Relevant Conviction" means a conviction that is relevant to the nature of the Services or as listed by the Authority and/or relevant to the work of the Authority.

“Relevant Requirements” means all applicable Law relating to bribery, corruption and fraud, including the Bribery Act 2010 and any guidance issued by the Secretary of State for Justice pursuant to section 9 of the Bribery Act 2010.

“Relevant Tax Authority” means HMRC or, if applicable, a tax authority in the jurisdiction in which the Contractor is established.

“Replacement Contractor” means any third party supplier appointed by the Authority to supply any services which are substantially similar to any of the Services in substitution for any of the Services following the expiry, termination or partial termination of the Contract.

“Request for Information” means a request for information under the FOIA or the EIR.

“Results” means any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is:

a) prepared by or for the Contractor for use in relation to the performance of its obligations under the Contract; or

b) the result of any work done by the Contractor, the Staff or any Sub-Contractor in relation to the provision of the Services.

“Returning Employees” means those persons agreed by the Parties to be employed by the Contractor (and/or any Sub-Contractor) wholly or mainly in the supply of the Services immediately before the end of the Contract Period.

“Security Policy Framework” means the HMG Security Policy Framework (available from the Cabinet Office’s Government Security Secretariat) as updated from time to time.

“Services” means the services set out in Schedule 1 including any modified or alternative services.

“Specification” means the description of the Services to be supplied under the Contract as set out in Schedule 1 including, where appropriate, the Key Personnel, the Premises and the Quality Standards.

“SSCBA” means the Social Security Contributions and Benefits Act 1992.

“Staff” means all persons employed by the Contractor to perform its obligations under the Contract together with the Contractor’s servants, agents, suppliers and Sub-Contractors used in the performance of its obligations under the Contract.

“Sub–Contract” means a contract between 2 or more suppliers, at any stage of remoteness from the Authority in a sub-contracting chain, made wholly or substantially for the purpose of performing (or contributing to the performance of) the whole or any part of the Contract and “Sub-Contractor” shall be construed accordingly.

“Sub-processor” means any third party appointed to process Personal Data on behalf of the Contractor related to this Contract.

“Tender” means the document submitted by the Contractor to the Authority in response to the Authority’s invitation to suppliers for formal offers to supply the Services.

“TFEU” means the Treaty on the Functioning of the European Union.

“Third Party IP Claim” has the meaning given to it in clause E8.7 (Intellectual Property Rights).

“Third Party Software” means software which is proprietary to any third party which is or will be used by the Contractor to provide the Services including the software and which is specified as such in Schedule 7.

“Treaties” means the Treaty on European Union and the TFEU.

“TUPE” means the Transfer of Undertakings (Protection of Employment) Regulations 2006.

“TUPE Information” means the information set out in clause B17.1.

“Valid Invoice” means an invoice containing the information set out in clause C2.5.

“Variation” means a variation to the Specification, the Price or any of the terms or conditions of the Contract.

“VAT” means value added tax charged or regulated in accordance with the provisions of the Value Added Tax Act 1994.

“Working Day” means a day (other than a Saturday or Sunday) on which banks are open for general business in the City of London.

In the Contract, unless the context implies otherwise:

(a) the singular includes the plural and vice versa;

(b) words importing the masculine include the feminine and the neuter;

(c) reference to a clause is a reference to the whole of that clause unless stated otherwise;

(d) references to a person include an individual, company, body corporate, corporation, unincorporated association, firm, partnership or other legal entity or central Government body;

(e) the words “other”, “in particular”, “for example”, “including” and similar words shall not limit the generality of the preceding words and shall be construed as if they were immediately followed by the words “without limitation”;

(f) headings are included for ease of reference only and shall not affect the interpretation or construction of the Contract;

(g) a reference to any Law includes a reference to that Law as amended, extended, consolidated or re-enacted from time to time; and

(h) references to the Contract are references to the Contract as amended from time to time.

A2 The Authority’s Obligations

A2.1 Save as otherwise expressly provided, the obligations of the Authority under the Contract are obligations of the Authority in its capacity as a contracting counterparty and nothing in the Contract shall operate as an obligation upon, or in any other way fetter or constrain the Authority in any other capacity, and the exercise by the Authority of its duties and powers in any other capacity shall not lead to any liability (howsoever arising) on the part of the Authority to the Contractor.

A3 Contractor's Status

A3.1 The Contractor shall be an independent contractor and nothing in the Contract shall create a contract of employment, a relationship of agency or partnership or a joint venture between the Parties and accordingly neither Party shall be authorised to act in the name of, or on behalf of, or otherwise bind the other Party save as expressly permitted by the terms of the Contract.

A3.2 The Contractor shall not (and shall ensure that any other person engaged in relation to the Contract shall not) say or do anything that might lead any other person to believe that the Contractor is acting as the agent or employee of the Authority.

A4 Notices and Communications

A4.1 Subject to clause A4.3, where the Contract states that a notice or communication between the Parties must be "written" or "in writing" it is not valid unless it is made by letter (sent by hand, first class post, recorded delivery or special delivery) or by email or by communication via Bravo.

A4.2 If it is not returned as undelivered a notice served:

(a) in a letter is deemed to have been received 2 Working Days after the day it was sent; and

(b) in an email is deemed to have been received 4 hours after the time it was sent provided it was sent on a Working Day

or when the other Party acknowledges receipt, whichever is the earlier.

A4.3 Notices pursuant to clauses G3 (Force Majeure), I2 (Dispute Resolution) or to terminate the Contract or any part of the Services are valid only if served in a letter by hand, recorded delivery or special delivery.

A4.4 Notices shall be sent to the addresses set out below or at such other address as the relevant Party may give notice to the other Party for the purpose of service of notices under the Contract:

(a) [redacted]

A5 Mistakes in Information

A5.1 The Contractor is responsible for the accuracy of all drawings, documentation and information supplied to the Authority by the Contractor in connection with the Services and shall pay the Authority any extra costs occasioned by any discrepancies, errors or omissions therein.

A6 Conflicts of Interest

A6.1 The Contractor shall take appropriate steps to ensure that neither the Contractor nor any Staff is placed in a position where, in the reasonable opinion of the Authority, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The Contractor will notify the Authority without delay giving full particulars of any such conflict of interest which may arise.

A6.2 The Authority may terminate the Contract immediately by notice and/or take or require the Contractor to take such other steps it deems necessary if, in the Authority's reasonable opinion, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The actions of the Authority pursuant to this clause A6 shall not prejudice or affect any right of action or remedy which shall have accrued or shall thereafter accrue to the Authority.

B. THE SERVICES

B1 Specification

B1.1 In consideration of the Contractor supplying the Services the Contractor shall be paid the Price.

B2 Provision and Removal of Equipment

B2.1 The Contractor shall provide all the Equipment and resource necessary for the supply of the Services.

B2.2 The Contractor shall not deliver any Equipment to nor begin any work on the Premises without obtaining Approval.

B2.3 All Equipment brought onto the Premises shall be at the Contractor's own risk and the Authority shall have no liability for any loss of or damage to any Equipment unless the Contractor is able to demonstrate that such loss or damage was caused or contributed to by the Authority's Default. The Contractor shall provide for the haulage or carriage thereof to the Premises and the removal of Equipment when no longer required at its sole cost.

B2.4 Unless otherwise agreed, Equipment brought onto the Premises will remain the property of the Contractor.

B2.5 If the cost of any Equipment is reimbursed to the Contractor such Equipment shall be the property of the Authority and shall on request be delivered to the Authority as

directed by the Authority. The Contractor will keep a full and accurate inventory of such Equipment and will deliver that inventory to the Authority on request and on completion of the Services.

B2.6 The Contractor shall maintain all Equipment in a safe, serviceable and clean condition.

B2.7 The Contractor shall, at the Authority's written request, at its own expense and as soon as reasonably practicable:

(a) remove immediately from the Premises Equipment which is, in the Authority's opinion, hazardous, noxious or not supplied in accordance with the Contract; and

(b) replace such item with a suitable substitute item of Equipment.

B2.8 Within 20 Working Days following the end of the Contract Period, the Contractor shall remove the Equipment together with any other materials used by the Contractor to supply the Services and shall leave the Premises in a clean, safe and tidy condition. The Contractor shall make good any damage to those Premises and any fixtures and fitting in the Premises which is caused by the Contractor or Staff.

B3 Delivery

B3.1 The Contractor shall at all times comply with the Quality Standards and, where applicable, shall maintain accreditation with the relevant Quality Standards authorisation body. To the extent that the standard of the Service has not been specified in the Contract, the Contractor shall agree the relevant standard of the Services with the Authority prior to the supply of the Services and, in any event, the Contractor shall perform its obligations under the Contract in accordance with the Law and Good Industry Practice.

B3.2 The Contractor shall ensure that all Staff supplying the Services do so with all due skill, care and diligence and shall possess such qualifications, skills and experience as are necessary for the proper supply of the Services. The Contractor shall ensure that those Staff are properly managed and supervised.

B3.3 N/A

B3.4 N/A

B3.5 N/A

B3.6 During the Contract Period, the Contractor shall:

(a) at all times have all licences, approvals and consents necessary to enable the Contractor and Staff to carry out the installation;

(b) provide all tools and equipment (or procure the provision of all tools and equipment) necessary for completion of the installation; and

(c) not, in delivering the Services, in any manner endanger the safety or convenience of the public.

B4 Key Personnel

B4.1 The Contractor acknowledges that the Key Personnel are essential to the proper provision of the Services.

B4.2 The UKHSA Project Manager shall not be released from supplying the Services without the agreement of the Authority, except by reason of long-term sickness, maternity leave, paternity leave or termination of employment or other similar extenuating circumstances.

B4.3 Any replacement to the UKHSA Project Manager shall be subject to Approval. Such replacements shall be of at least equal status, experience and skills to the Key Personnel being replaced and be suitable for the responsibilities of that person in relation to the Services.

B4.4 The Authority shall not unreasonably withhold its agreement under clauses B4.2 or B4.3. Such agreement shall be conditional on appropriate arrangements being made by the Contractor to minimise any adverse effect on the Services which could be caused by a change in Key Personnel.

B4.5 The Authority may, by notice to the Contractor, ask it to remove any Staff whose presence is, in the Authority's reasonable opinion, undesirable. The Contractor shall comply with any such request immediately.

B5 Contractor's Staff

B5.1 The Authority may, by notice to the Contractor, refuse to admit onto, or withdraw permission to remain on, the Authority's Premises:

(a) any member of the Staff; or

(b) any person employed or engaged by any member of the Staff,

whose admission or continued presence would, in the Authority's reasonable opinion, be undesirable.

B5.2 N/A

B5.3 The decision of the Authority as to whether any person is to be refused access to the Authority's Premises and as to whether the Contractor has failed to comply with clause B5.2 shall be final.

B5.4 The Contractor shall ensure that all Staff who have access to the Authority's Premises, the Authority System or the Authority Data have been cleared in accordance with the BPSS.

B6 Inspection of Premises

B6.1 Save as the Authority may otherwise direct, the Contractor is deemed to have inspected the Premises before submitting its Tender and to have complete due diligence in relation to all matters connected with the performance of its obligations under the Contract.

B7 Licence to Occupy Premises

N/A

B8 Property

B8.1 All Property is and shall remain the property of the Authority and the Contractor irrevocably licenses the Authority and its agents to enter any Premises of the Contractor during normal business hours on reasonable notice to recover any such Property. The Contractor shall not in any circumstances have a lien or any other interest on the Property and the Contractor shall at all times possess the Property as fiduciary agent and bailee of the Authority. The Contractor shall take all reasonable steps to ensure that the title of the Authority to the Property and the exclusion of any such lien or other interest are brought to the notice of all Sub-Contractors and other appropriate persons and shall, at the Authority's request, store the Property separately and ensure that it is clearly identifiable as belonging to the Authority.

B8.2 The Property shall be deemed to be in good condition when received by or on behalf of the Contractor unless the Contractor notifies the Authority otherwise within 5 Working Days of receipt.

B8.3 The Contractor shall maintain the Property in good order and condition (excluding fair wear and tear), and shall use the Property solely in connection with the Contract and for no other purpose without Approval.

B8.4 The Contractor shall ensure the security of all the Property whilst in its possession, either on the Premises or elsewhere during the supply of the Services, in accordance with the Authority's reasonable security requirements as required from time to time.

B8.5 The Contractor shall be liable for all loss of or damage to the Property, unless such loss or damage was caused by the Authority's negligence. The Contractor shall inform the Authority immediately of becoming aware of any defects appearing in, or losses or damage occurring to, the Property.

B9 Offers of Employment

N/A

B10 Employment Provisions

N/A

C PAYMENT

C1 Price

C1.1 In consideration of the Contractor's performance of its obligations under the Contract, the Authority shall pay the Price in accordance with clause C2.

C2 Payment and VAT

C2.1 The Contractor shall submit invoices to the Authority on the dates set out in Schedule 2.

C2.2 The Authority shall, in addition to the Price and following Receipt of a Valid Invoice, pay the Contractor a sum equal to the VAT chargeable on the value of the Services supplied in accordance with the Contract.

C2.3 The Contractor shall add VAT to the Price at the prevailing rate as applicable and shall show the amount of VAT payable separately on all invoices as an extra charge. If the Contractor fails to show VAT on an invoice, the Authority will not, at any later date, be liable to pay the Contractor any additional VAT.

C2.4 All Contractor invoices shall be expressed in sterling or such other currency as shall be permitted by the Authority in writing.

C2.5 Valid Invoices shall include:

(a) the Contractor's full name, address and title of the Contract;

(b) the Purchase Order number

and, if requested by the Authority:

(c) N/A

(d) the name of the individuals to whom the timesheet relates and hourly rates for each;

C2.6 The Contractor may claim expenses only if they are clearly identified, supported by original receipts and Approved.

C2.7 If the Authority pays the Contractor prior to the submission of a Valid Invoice this payment shall be on account of and deductible from the next payment to be made.

C2.8 If any overpayment has been made or the payment or any part is not supported by a Valid Invoice the Authority may recover this payment against future invoices raised or directly from the Contractor. All payments made by the Authority to the Contractor shall be on an interim basis pending final resolution of an account with the Contractor in accordance with the terms of this clause C2.

C2.9 The Authority shall pay all sums due to the Contractor within 30 days of Receipt of a Valid Invoice. Valid Invoices should be submitted for payment to the following address:APinvoices-ENV-U@gov.sscl.com (the Authority's preferred option); or SSCL AP, Environment Agency – Payments Section, PO Box 797, Newport Gwent, NP10 8FZ.

C2.10 If a payment of an undisputed amount is not made by the Authority by the due date, then the Authority shall pay the Contractor interest at the interest rate specified in the Late Payment of Commercial Debts (Interest) Act 1998.

C2.11 The Contractor shall indemnify the Authority on a continuing basis against any liability, including any interest, penalties or costs incurred, which is levied, demanded or assessed on the Authority at any time in respect of the Contractor's failure to account for or to pay any VAT relating to payments made to the Contractor under the Contract. Any amounts due under this clause C2.21 shall be paid by the Contractor to the Authority not less than 5 Working Days before the date upon which the tax or other liability is payable by the Authority.

C2.22 The Contractor shall not suspend the Services unless the Contractor is entitled to terminate the Contract under clause H2.3 for failure to pay undisputed sums of money.

C2.23 The Authority shall not pay an invoice which is not Valid Invoice.

C3 Recovery of Sums Due

N/A
C3.2 Any overpayment by either Party, whether of the Price or of VAT or otherwise, shall be a sum of money recoverable by the Party who made the overpayment from the Party in receipt of the overpayment.

C3.3 The Contractor shall make all payments due to the Authority without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise unless the Contractor has a valid court order requiring an amount equal to such deduction to be paid by the Authority to the Contractor.

C3.4 All payments due shall be made within a reasonable time unless otherwise specified in the Contract, in cleared funds, to such bank or building society account as the recipient Party may from time to time direct.

C4 Price during Extension

C4.1 Subject to Schedule 2 and clause F6, the Price shall apply for the Initial Contract Period and until the end date of any Extension or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

D. STATUTORY OBLIGATIONS

D1 Prevention of Fraud and Bribery

D1.1 The Contractor represents and warrants that neither it, nor to the best of its knowledge any Staff, have at any time prior to the Commencement Date:

(a) committed a Prohibited Act or been formally notified that it is subject to an investigation or prosecution which relates to an alleged Prohibited Act; and/or

(b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act.

D1.2 The Contractor shall not during the Contract Period:

(a) commit a Prohibited Act; and/or

(b) do or suffer anything to be done which would cause the Authority or any of its employees, consultants, contractors, sub-contractors or agents to contravene any of the Relevant Requirements or otherwise incur any liability in relation to the Relevant Requirements.

D1.3 The Contractor shall, during the Contract Period:

(a) establish, maintain and enforce, and require that its Sub-Contractors establish, maintain and enforce, policies and procedures which are adequate to ensure compliance with the Relevant Requirements and prevent the occurrence of a Prohibited Act; and

(b) keep appropriate records of its compliance with its obligations under clause D1.3(a) and make such records available to the Authority on request.

D1.4 The Contractor shall immediately notify the Authority in writing if it becomes aware of any breach of clauses D1.1 and/or D1.2, or has reason to believe that it has or any of the Staff have:

(a) been subject to an investigation or prosecution which relates to an alleged Prohibited Act;

(b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act; and/or

(c) received a request or demand for any undue financial or other advantage of any kind in connection with the performance of the Contract or otherwise suspects that any person directly or indirectly connected with the Contract has committed or attempted to commit a Prohibited Act.

D1.5 If the Contractor notifies the Authority pursuant to clause D1.4, the Contractor shall respond promptly to the Authority's enquiries, co-operate with any investigation, and allow the Authority to audit any books, records and/or any other relevant documentation.

D1.6 If the Contractor is in Default under clauses D1.1 and/or D1.2, the Authority may by notice:

(a) require the Contractor to remove from performance of the Contract any Staff whose acts or omissions have caused the Default; or

(b) immediately terminate the Contract.

D1.7 Any notice served by the Authority under clause D1.6 shall specify the nature of the Prohibited Act, the identity of the party who the Authority believes has committed the Prohibited Act and the action that the Authority has taken (including, where relevant, the date on which the Contract shall terminate).

D2 Discrimination

D2.1 The Contractor shall:

(a) perform its obligations under the Contract in accordance with:

i) all applicable equality Law (whether in relation to race, sex, gender reassignment, age, disability, sexual orientation, religion or belief, pregnancy maternity or otherwise);

ii) the Authority's equality and diversity policy as given to the Contractor from time to time;

iii) any other requirements and instructions which the Authority reasonably imposes in connection with any equality obligations imposed on the Authority at any time under applicable equality Law; and

(b) take all necessary steps and inform the Authority of the steps taken to prevent unlawful discrimination designated as such by any court or tribunal, or the Equality and Human Rights Commission (or any successor organisation).

D3 Rights of Third Parties

D3.1 The provisions of clause E8.3 confer benefits on persons named in such provisions (together "Third Party Provisions") other than the Parties (each person a "Third Party Beneficiary") and are intended to be enforceable by Third Party Beneficiaries by virtue of the Contracts (Rights of Third Parties) Act 1999 ("CRTPA").

D3.2 Subject to clause D3.1, a person who is not a Party has no right under the CRTPA to enforce any provisions of the Contract but this does not affect any right or remedy of any person which exists or is available otherwise than pursuant to the CRTPA and does not apply to the Crown.

D3.3 No Third Party Beneficiary may enforce or take steps to enforce any Third Party Provision without Approval.

D3.4 Any amendments to the Contract may be made by the Parties without the consent of any Third Party Beneficiary.

D4 Health and Safety

D4.1 The Contractor shall perform its obligations under the Contract in accordance with:

(a) all applicable Law regarding health and safety; and

(b) the Authority's health and safety policy while at the Authority's Premises.

D4.2 Each Party shall notify the other as soon as practicable of any health and safety incidents or material health and safety hazards at the Authority's Premises of which it becomes aware and which relate to or arise in connection with the performance of the Contract. The Contractor shall instruct Staff to adopt any necessary associated safety measures in order to manage any such material health and safety hazards.

D5 Environmental Requirements

N/A

D6 Timber and Wood Derived Products

N/A

E PROTECTION OF INFORMATION

E1 Authority Data

E1.1 The Contractor shall not delete or remove any proprietary notices contained within or relating to the Authority Data.

E1.2 The Contractor shall not store, copy, disclose, or use the Authority Data except as necessary for the performance by the Contractor of its obligations under this Contract or as otherwise expressly authorised in writing by the Authority.

E1.3 To the extent that Authority Data is held and/or processed by the Contractor, the Contractor shall supply Authority Data to the Authority as requested by the Authority in the format specified in the Specification.

E1.4 The Contractor shall preserve the integrity of Authority Data and prevent the corruption or loss of Authority Data.

E1.5 The Contractor shall perform secure back-ups of all Authority Data and shall ensure that up-to-date back-ups are stored securely off-site. The Contractor shall ensure that such back-ups are made available to the Authority immediately upon request.

E1.6 The Contractor shall ensure that any system on which the Contractor holds any Authority Data, including back-up data, is a secure system that complies with the Security Policy Framework.

E1.7 If Authority Data is corrupted, lost or sufficiently degraded as a result of the Contractor's Default so as to be unusable, the Authority may:

(a) require the Contractor (at the Contractor's expense) to restore or procure the restoration of Authority Data and the Contractor shall do so promptly; and/or

(b) itself restore or procure the restoration of Authority Data, and shall be repaid by the Contractor any reasonable expenses incurred in doing so.

E1.8 If at any time the Contractor suspects or has reason to believe that Authority Data has or may become corrupted, lost or sufficiently degraded in any way for any reason, then the Contractor shall notify the Authority immediately and inform the Authority of the remedial action the Contractor proposes to take.

E2 Data Protection

E2.1 The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Contractor is the Processor unless otherwise

specified in Schedule 5. The only processing that the Contractor is authorised to do is listed in Schedule 5 by the Authority and may not be determined by the Contractor.

E2.2 The Contractor shall notify the Authority immediately if it considers that any of the Authority's instructions infringe the Data Protection Legislation.

E2.3 The Contractor shall provide all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Authority, include:

(a) a systematic description of the envisaged processing operations and the purpose of the processing;

(b) an assessment of the necessity and proportionality of the processing operations in relation to the Services;

(c) an assessment of the risks to the rights and freedoms of Data Subjects; and

(d) the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

E3 Official Secrets Acts and Finance Act

E3.1 The Contractor shall comply with the provisions of:

(a) the Official Secrets Acts 1911 to 1989; and

(b) section 182 of the Finance Act 1989.

E4 Confidential Information

E4.1 Except to the extent set out in this clause E4 or if disclosure or publication is expressly permitted elsewhere in the Contract each Party shall treat all Confidential Information belonging to the other Party as confidential and shall not disclose any Confidential Information belonging to the other Party to any other person without the other party's consent, except to such persons and to such extent as may be necessary for the performance of the Party's obligations under the Contract.

E4.2 The Contractor hereby gives its consent for the Authority to publish the whole Contract (but with any information which is Confidential Information belonging to the Authority redacted) including from time to time agreed changes to the Contract, to the general public.

E4.3 If required by the Authority, the Contractor shall ensure that Staff, professional advisors and consultants sign a non-disclosure agreement prior to commencing any work in connection with the Contract in substantially the form attached in Schedule 6 and, if applicable, incorporating the requirements of clause E2.11. The Contractor shall maintain a list of the non-disclosure agreements completed in accordance with this clause E4.3.

E4.4 If requested by the Authority, the Contractor shall give the Authority a copy of the list and, subsequently upon request by the Authority, copies of such of the listed non-

disclosure agreements as required by the Authority. The Contractor shall ensure that its Staff, professional advisors and consultants are aware of the Contractor's confidentiality obligations under the Contract.

E4.5 The Contractor may only disclose the Authority's Confidential Information to the Staff who are directly involved in the provision of the Services and who need to know the information, and shall ensure that such Staff are aware of and shall comply with these obligations as to confidentiality.

E4.6 The Contractor shall not, and shall procure that the Staff do not, use any of the Authority's Confidential Information received otherwise than for the purposes of this Contract.

E4.7 Clause E4.1 shall not apply to the extent that:

(a) such disclosure is a requirement of Law placed upon the Party making the disclosure, including any requirements for disclosure under the FOIA or the EIR;

(b) such information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;

(c) such information was obtained from a third party without obligation of confidentiality;

(d) such information was already in the public domain at the time of disclosure otherwise than by a breach of the Contract; or

(e) it is independently developed without access to the other Party's Confidential Information.

E4.8 Nothing in clause E4.1 shall prevent the Authority disclosing any Confidential Information obtained from the Contractor:

(a) for the purpose of the examination and certification of the Authority's accounts;

(b) for the purpose of any examination pursuant to section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Authority has used its resources;

(c) to any Crown Body or any Contracting Authority and the Contractor hereby acknowledges that all government departments or Contracting Authorities receiving such Confidential Information may further disclose the Confidential Information to other government departments or other Contracting Authorities on the basis that the information is confidential and is not to be disclosed to a third party which is not part of any government department or any Contracting Authority;

(d) to any consultant, contractor or other person engaged by the Authority

provided that in disclosing information under clauses E4.8 (c) and (d) the Authority discloses only the information which is necessary for the purpose concerned and requests that the information is treated in confidence and that a confidentiality undertaking is given where appropriate.

E4.9 Nothing in clauses E4.1 to E4.6 shall prevent either Party from using any techniques, ideas or Know-How gained during the performance of its obligations under the Contract in the course of its normal business, to the extent that this does not result in a disclosure of the other Party's Confidential Information or an infringement of the other Party's Intellectual Property Rights.

E4.10 The Authority shall use all reasonable endeavours to ensure that any government department, Contracting Authority, employee, third party or Sub-Contractor to whom the Contractor's Confidential Information is disclosed pursuant to clause E4.6 is made aware of the Authority's obligations of confidentiality.

E4.11 If the Contractor does not comply with clauses E4.1 to E4.6 the Authority may terminate the Contract immediately on written notice to the Contractor.

E4.12 In order to ensure that no unauthorised person gains access to any Confidential Information or any data obtained in the supply of the Services, the Contractor shall maintain adequate security arrangements that meet the requirements of professional standards and best practice.

E4.13 The Contractor will immediately notify the Authority of any breach of security in relation to Confidential Information and all data obtained in the supply of the Services and will keep a record of such breaches. The Contractor will use its best endeavours to recover such Confidential Information or data however it may be recorded. The Contractor will co-operate with the Authority in any investigation as a result of any breach of security in relation to Confidential Information or data.

E4.14 The Contractor shall, at its own expense, alter any security systems at any time during the Contract Period at the Authority's request if the Authority reasonably believes the Contractor has failed to comply with clause E4.12.

E5 Freedom of Information

E5.1 The Contractor and Authority acknowledge that the other is subject to the requirements of the FOIA and the EIR.

E5.2 The Contractor and the Authority shall transfer to the other all Requests for Information that it receives as soon as practicable and in any event within 2 Working Days of receipt:

(a) give the each other a copy of all Information in connection with the Contract in its possession or control in the form that each other requires within 5 Working Days (or such other period as the may be specified) of the other's request;

(b) provide all necessary assistance as reasonably requested by each other to enable each otherto comply with its obligations under the FOIA and EIR;

(c) not respond to directly to a Request for Information unless authorised to do so in writing by the Originator.

E5.3 Both shall determine in their absolute discretion and notwithstanding any other provision in the Contract or any other agreement whether the Commercially Sensitive

Information and any other Information is exempt from disclosure in accordance with the provisions of the FOIA and/or the EIR.

E6 Publicity, Media and Official Enquiries

E6.1 Without prejudice to the each other's obligations under the FOIA, the EIR or any obligations under the Regulations, or any policy requirements as to transparency, neither Party shall make any press announcement or publicise the Contract or any part thereof in any way, except with the written consent of the other Party.

E6.2 Each party shall use its reasonable endeavours to ensure that Staff, professional advisors and consultants comply with clause E6.1.

E7 Security

~~N/A~~

E8 Intellectual Property Rights

E8.1 All Intellectual Property Rights in:

(a) the Results; or

(b) any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is furnished to or made available to the Contractor by or on behalf of the Authority (together with the Results, the "IP Materials")

shall vest in the Authority (save for Copyright and Database Rights which shall vest in Her Majesty the Queen) and the Contractor shall not, and shall ensure that the Staff shall not, use or disclose any IP Materials without Approval save to the extent necessary for performance by the Contractor of its obligations under the Contract.

E8.2 The Contractor hereby assigns:

(a) to the Authority, with full title guarantee, all Intellectual Property Rights (save for Copyright and Database Rights) which may subsist in the IP Materials prepared in accordance with clauses E8.1(a) and (b). This assignment shall take effect on the date of the Contract or (in the case of rights arising after the date of the Contract) as a present assignment of future rights that will take effect immediately on the coming into existence of the Intellectual Property Rights produced by the Contractor; and

(b) to Her Majesty the Queen, with full title guarantee, all Copyright and Database Rights which may subsist in the IP Materials prepared in accordance with clauses E8.1 (a) and (b),

and shall execute all documents and do all acts as are necessary to execute these assignments.

E8.3 The Contractor shall:

(a) N/A

(b) ensure that the third party owner of any Intellectual Property Rights that are or which may be used to perform the Services grants to the Authority a non-exclusive licence or, if itself a licensee of those rights, shall grant to the Authority an authorised sub-licence, to use, reproduce, modify, develop and maintain the Intellectual Property Rights in the same. Such licence or sub-licence shall be non-exclusive, perpetual, royalty-free, worldwide and irrevocable and shall include the right for the Authority to sub-license, transfer, novate or assign to other Contracting Authorities, the Crown, the Replacement Contractor or to any other third party supplying goods and/or services to the Authority ("Indemnified Persons");

(c) not knowingly infringe any Intellectual Property Rights of any third party in supplying the Services.

E9 Audit

E9.1 The Contractor shall keep and maintain until 6 years after the end of the Contract Period, or as long a period as may be agreed between the Parties, full and accurate records of the Contract including the Services supplied under it, all expenditure reimbursed by the Authority, and all payments made by the Authority. The Contractor shall on request afford the Authority or the Authority's representatives such access to those records and processes as may be requested by the Authority in connection with the Contract.

E9.2 The Contractor agrees to make available to the Authority, free of charge, whenever requested, copies of audit reports obtained by the Contractor in relation to the Services.

E9.3 The Contractor shall permit duly authorised representatives of the Authority and/or the National Audit Office to examine the Contractor's records and documents relating to the Contract and to provide such copies and oral or written explanations as may reasonably be required.

E10 Tax Compliance

E10.1 If, during the Contract Period, an Occasion of Tax Non-Compliance occurs, the Contractor shall:

(a) notify the Authority in writing of such fact within 5 Working Days of its occurrence; and

(b) promptly give the Authority:

i) details of the steps it is taking to address the Occasion of Tax Non-Compliance and to prevent the same from recurring, together with any mitigating factors it considers relevant; and

ii) such other information in relation to the Occasion of Tax Non-Compliance as the Authority may reasonably require.

E10.2 If the Contractor or any Staff are liable to be taxed in the UK or to pay NICs in respect of consideration received under the Contract, the Contractor shall:

(a) at all times comply with ITEPA and all other statutes and regulations relating to income tax, and SSCBA and all other statutes and regulations relating to NICS, in respect of that consideration; and

(b) indemnify the Authority against any income tax, NICs and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made in connection with the provision of the Services by the Contractor or any Staff.

F. CONTROL OF THE CONTRACT

F1 Failure to meet Requirements

F1.1 If the Authority informs the Contractor in writing that the Authority reasonably believes that any part of the Services do not meet the requirements of the Contract or differs in any way from those requirements, and this is not as a result of a default by the Authority, the Contractor shall at its own expense re-schedule and carry out the Services in accordance with the requirements of the Contract within such reasonable time as may be specified by the Authority.

F2 Monitoring of Contract Performance

F2.1 The Contractor shall immediately inform the Authority if any of the Services are not being or are unable to be performed, the reasons for non-performance, any corrective action and the date by which that action will be completed.

F2.2 N/A

F2.3 The Contractor shall provide at its own cost any assistance reasonably required by the Authority to perform such Checkpoint Review including the provision of data and information.

F2.4 The Authority may produce a report (a "Checkpoint Review Report") of the results of each Checkpoint Review stating any areas of exceptional performance and areas for improvement in the provision of the Services and where there is any shortfall in any aspect of performance reviewed as against the Authority's expectations and the Contractor's obligations under this Contract.

F2.5 The Authority shall give the Contractor a copy of the Checkpoint Review Report (if applicable). The Authority shall consider any Contractor comments and may produce a revised Checkpoint Review Report.

F2.6 The Contractor shall, within 10 Working Days of receipt of the Checkpoint Review Report (revised as appropriate) provide the Authority with a plan to address resolution of any shortcomings and implementation of improvements identified by the Checkpoint Review Report.

F2.7 Actions required to resolve shortcomings and implement improvements (either as a consequence of the Contractor's failure to meet its obligations under this Contract identified by the Checkpoint Review Report, or those which result from the Contractor's failure to meet the Authority's expectations notified to the Contractor or of which the

Contractor ought reasonably to have been aware) shall be implemented at no extra charge to the Authority.

F3 Remedies for inadequate performance

F3.1 If the Authority reasonably believes the Contractor has committed a Material Breach it may, without prejudice to its rights under clause H2 (Termination on Default), do any of the following:

(a) without terminating the Contract, itself supply or procure the supply of all or part of the Services until such time as the Contractor has demonstrated to the Authority's reasonable satisfaction that the Contractor will be able to supply the Services in accordance with the Specification;

(b) without terminating the whole of the Contract, terminate the Contract in respect of part of the Services only (whereupon a corresponding reduction in the Price shall be made) and thereafter itself supply or procure a third party to supply such part of the Services;

(c) withhold or reduce payments to the Contractor in such amount as the Authority reasonably deems appropriate in each particular case; and/or

(d) terminate the Contract in accordance with clause H2.

F3.2 The Authority may charge the Contractor for any costs reasonably incurred and any reasonable administration costs in respect of the supply of any part of the Services by the Authority or a third party to the extent that such costs exceed the payment which would otherwise have been payable to the Contractor for such part of the Services.

F3.3 If the Authority reasonably believes the Contractor has failed to supply all or any part of the Services in accordance with the Contract, professional or industry practice which could reasonably be expected of a competent and suitably qualified person, or any legislative or regulatory requirement, the Authority may give the Contractor notice specifying the way in which its performance falls short of the requirements of the Contract or is otherwise unsatisfactory.

F3.4 If the Contractor has been notified of a failure in accordance with clause F3.3 the Authority may:

(a) direct the Contractor to identify and remedy the failure within such time as may be specified by the Authority and to apply all such additional resources as are necessary to remedy that failure at no additional charge to the Authority within the specified timescale; and/or

(b) withhold or reduce payments to the Contractor in such amount as the Authority deems appropriate in each particular case until such failure has been remedied to the satisfaction of the Authority.

F3.5 If the Contractor has been notified of a failure in accordance with clause F3.3, it shall:

(a) use all reasonable endeavours to immediately minimise the impact of such failure to the Authority and to prevent such failure from recurring; and

(b) immediately give the Authority such information as the Authority may request regarding what measures are being taken to comply with the obligations in this clause F3.5 and the progress of those measures until resolved to the satisfaction of the Authority.

F3.6 If, having been notified of any failure, the Contractor fails to remedy it in accordance with clause F3.5 within the time specified by the Authority, the Authority may treat the continuing failure as a Material Breach and may terminate the Contract immediately on notice to the Contractor.

F4 Transfer and Sub-Contracting

N/A

F5 Waiver

F5.1 The failure of either Party to insist upon strict performance of any provision of the Contract, or the failure of either Party to exercise, or any delay in exercising, any right or remedy shall not constitute a waiver of that right or remedy and shall not cause a diminution of the obligations established by the Contract.

F5.2 No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party in writing in accordance with clause A4 (Notices and Communications).

F5.3 A waiver of any right or remedy arising from a breach of the Contract shall not constitute a waiver of any right or remedy arising from any other or subsequent breach of the Contract.

F6 Variation

F6.1 If, after the Commencement Date, the Authority's requirements change, the Authority may request a Variation subject to the terms of this clause F6.

F6.2 The Authority may request a Variation by notifying the Contractor in writing of the Variation and giving the Contractor sufficient information to assess the extent of the Variation and consider whether any change to the Price is required in order to implement the Variation within a reasonable time limit specified by the Authority. If the Contractor accepts the Variation it shall confirm it in writing.

F6.3 If the Contractor is unable to accept the Variation or where the Parties are unable to agree a change to the Price, the Authority may:

(a) allow the Contractor to fulfil its obligations under the Contract without the Variation to the Specification; or

(b) terminate the Contract immediately except where the Contractor has already delivered all or part of the Services or where the Contractor can show evidence of substantial work being carried out to fulfil the requirements of the Specification; and in such case the Parties shall attempt to agree upon a resolution to the matter. If a resolution

cannot be reached, the matter shall be dealt with under the Dispute Resolution procedure detailed in clause I2 (Dispute Resolution).

F6.4 No Variation will take effect unless and until it is recorded in a validly executed CCN. Execution of a CNN is made via electronic signature as described in clause 1.2 of Section 1 of the Contract.

F6.5 A CCN takes effect on the date on which both Parties communicate acceptance of the CCN via Bravo. On the date it communicates acceptance of the CCN in this way the Contractor is deemed to warrant and represent that the CCN has been executed by a duly authorised representative of the Contractor in addition to the warranties and representations set out in clause G2.

F6.6 The provisions of clauses F6.4 and F6.5 may be varied in an emergency if it is not practicable to obtain the Authorised Representative's approval within the time necessary to make the Variation in order to address the emergency. In an emergency, Variations may be approved by a different representative of the Authority. However, the Authorised Representative shall have the right to review such a Variation and require a CCN to be entered into on a retrospective basis which may itself vary the emergency Variation.

F7 Severability

F7.1 If any provision of the Contract which is not of a fundamental nature is held invalid, illegal or unenforceable for any reason by any court of competent jurisdiction, such provision shall be severed and the remainder of the provisions of the Contract shall continue in full force and effect as if the Contract had been executed with the invalid, illegal or unenforceable provision eliminated.

F8 Remedies Cumulative

F8.1 Except as expressly provided in the Contract all remedies available to either Party for breach of the Contract are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

F9 Entire Agreement

F9.1 The Contract constitutes the entire agreement between the Parties in respect of the matters dealt with therein. The Contract supersedes all prior negotiations between the Parties and all representations and undertakings made by one Party to the other, whether written or oral, except that this clause shall not exclude liability in respect of any fraudulent misrepresentation.

F10 Counterparts

F10.1 The Contract may be executed in counterparts, each of which when executed and delivered shall constitute an original but all counterparts together shall constitute one and the same instrument.

G LIABILITIES

G1 Liability, Indemnity and Insurance

G1.1 Neither Party limits its liability for:

(a) death or personal injury caused by its negligence;

(b) fraud or fraudulent misrepresentation;

(c) any breach of any obligations implied by section 2 of the Supply of Goods and Services Act 1982;

(c) any breach of clauses D1, E1, E2 and E4;

(d) Schedule 8; or

(e) any liability to the extent it cannot be limited or excluded by Law.

G1.2 Subject to clauses G1.3 and G1.4, the Contractor shall indemnify the Authority and keep the Authority indemnified fully against all claims, proceedings, demands, charges, actions, damages, costs, breach of statutory duty, expenses and any other liabilities which may arise out of the supply, or the late or purported supply, of the Services or the performance or non-performance by the Contractor of its obligations under the Contract or the presence of the Contractor or any Staff on the Premises, including in respect of any death or personal injury, loss of or damage to property, financial loss arising from any advice given or omitted to be given by the Contractor, or any other loss which is caused directly by any act or omission of the Contractor.

[redacted]

G1.4 The Contractor shall not be responsible for any injury, loss, damage, cost or expense if and to the extent that it is caused by the negligence or wilful misconduct of the Authority or by breach by the Authority of its obligations under the Contract.

G1.5 N/A

G1.6 Subject to clauses G1.1 and G1.5, neither Party shall be liable to the other for any:

(a) loss of profits, turnover, business opportunities or damage to goodwill (in each case whether direct or indirect); or

(b) indirect, special or consequential loss.

G1.7 Unless otherwise specified by the Authority, the Contractor shall, with effect from the Commencement Date for such period as necessary to enable the Contractor to comply with its obligations herein, take out and maintain with a reputable insurance company a policy or policies of insurance providing an adequate level of cover in respect of all risks which may be incurred by the Contractor, arising out of the Contractor's performance of its obligations under the Contract, including death or personal injury, loss of or damage to property or any other loss. Such policies shall include cover in respect of any financial loss arising from any advice given or omitted to be given by the Contractor. Such insurance

shall be maintained for the duration of the Contract Period and for a minimum of 6 years following the end of the Contract.

G1.8 N/A

G1.9 N/A

G1.10 If the Contractor does not give effect to and maintain the insurances required by the provisions of the Contract, the Authority may make alternative arrangements to protect its interests and may recover the costs of such arrangements from the Contractor.

G1.11 The provisions of any insurance or the amount of cover shall not relieve the Contractor of any liabilities under the Contract.

G1.12 N/A

G2 Warranties and Representations

G2.1 The Contractor warrants and represents on the Commencement Date and for the Contract Period that:

(a) it has full capacity and authority and all necessary consents to enter into and perform the Contract and that the Contract is executed by a duly authorised representative of the Contractor;

(b) in entering the Contract it has not committed any fraud;

(c) as at the Commencement Date, all information contained in the Tender or other offer made by the Contractor to the Authority remains true, accurate and not misleading, save as may have been specifically disclosed in writing to the Authority prior to execution of the Contract and in addition, that it will advise the Authority of any fact, matter or circumstance of which it may become aware which would render such information to be false or misleading;

(d) no claim is being asserted and no litigation, arbitration or administrative proceeding is presently in progress or, to the best of its knowledge and belief, pending or threatened against it or any of its assets which will or might have an adverse effect on its ability to perform its obligations under the Contract;

(e) it is not subject to any contractual obligation, compliance with which is likely to have a material adverse effect on its ability to perform its obligations under the Contract;

(f) no proceedings or other steps have been taken and not discharged (nor, to the best of its knowledge, are threatened) for the winding up of the Contractor or for its dissolution or for the appointment of a receiver, administrative receiver, liquidator, manager, administrator or similar officer in relation to any of the Contractor’s assets or revenue;

(g) as far as it is aware, it owns, or has obtained or is able to obtain valid licences for, all Intellectual Property Rights that are necessary for the performance of its obligations under the Contract;

(h) any person engaged by the Contractor shall be engaged on terms which do not entitle them to any Intellectual Property Right in any IP Materials;

(i) in the 3 years (or period of existence where the Contractor has not been in existence for 3 years) prior to the date of the Contract:

i) it has conducted all financial accounting and reporting activities in compliance in all material respects with the generally accepted accounting principles that apply to it in any country where it files accounts;

ii) it has been in full compliance with all applicable securities and tax laws and regulations in the jurisdiction in which it is established; and

iii) it has not done or omitted to do anything which could have a material adverse effect on its assets, financial condition or position as an ongoing business concern or its ability to fulfil its obligations under the Contract;

(j) it has and will continue to hold all necessary (if any) regulatory approvals from the Regulatory Bodies necessary to perform its obligations under the Contract; and

(k) it has notified the Authority in writing of any Occasions of Tax Non-Compliance and any litigation in which it is involved that is in connection with any Occasion of Tax Non-Compliance.

G3 Force Majeure

G3.1 Subject to the remaining provisions of this clause G3, a Party may claim relief under this clause G3 from liability for failure to meet its obligations under the Contract for as long as and only to the extent that the performance of those obligations is directly affected by a Force Majeure Event. Any failure or delay by the Contractor in performing its obligations under the Contract which results from a failure or delay by an agent, Sub-Contractor or supplier shall be regarded as due to a Force Majeure Event only if that agent, Sub-Contractor or supplier is itself impeded by a Force Majeure Event from complying with an obligation to the Contractor.

G3.2 The Affected Party shall as soon as reasonably practicable issue a Force Majeure Notice, which shall include details of the Force Majeure Event, its effect on the obligations of the Affected Party and any action the Affected Party proposes to take to mitigate its effect.

G3.3 If the Contractor is the Affected Party, it shall not be entitled to claim relief under this clause G3 to the extent that consequences of the relevant Force Majeure Event:

(a) are capable of being mitigated by any of the Services, but the Contractor has failed to do so; and/or

(b) should have been foreseen and prevented or avoided by a prudent provider of services similar to the Services, operating to the standards required by the Contract.

G3.4 Subject to clause G3.5, as soon as practicable after the Affected Party issues the Force Majeure Notice, and at regular intervals thereafter, the Parties shall consult in good

faith and use reasonable endeavours to agree any steps to be taken and an appropriate timetable in which those steps should be taken, to enable continued provision of the Services affected by the Force Majeure Event.

G3.5 The Parties shall at all times following the occurrence of a Force Majeure Event and during its subsistence use their respective reasonable endeavours to prevent and mitigate the effects of the Force Majeure Event. Where the Contractor is the Affected Party, it shall take all steps in accordance with Good Industry Practice to overcome or minimise the consequences of the Force Majeure Event.

G3.6 If, as a result of a Force Majeure Event:

(a) an Affected Party fails to perform its obligations in accordance with the Contract, then during the continuance of the Force Majeure Event:

i) the other Party shall not be entitled to exercise its rights to terminate the Contract in whole or in part as a result of such failure pursuant to clause H2.1 or H2.3; and

ii) neither Party shall be liable for any Default arising as a result of such failure;

(b) the Contractor fails to perform its obligations in accordance with the Contract it shall be entitled to receive payment of the Price (or a proportional payment of it) only to the extent that the Services (or part of the Services) continue to be performed in accordance with the terms of the Contract during the occurrence of the Force Majeure Event.

G3.7 The Affected Party shall notify the other Party as soon as practicable after the Force Majeure Event ceases or no longer causes the Affected Party to be unable to comply with its obligations under the Contract.

G3.8 Relief from liability for the Affected Party under this clause G3 shall end as soon as the Force Majeure Event no longer causes the Affected Party to be unable to comply with its obligations under the Contract and shall not be dependent on the serving of notice under clause G3.7.

H DEFAULT, DISRUPTION AND TERMINATION

H1 Termination on Insolvency and Change of Control

N/A

H2 Termination on Default

H2.1 The Authority may terminate the Contract with immediate effect by notice if the Contractor commits a Default and:

(a) the Contractor has not remedied the Default to the satisfaction of the Authority within 25 Working Days or such other period as may be specified by the Authority, after issue of a notice specifying the Default and requesting it to be remedied;

(b) the Default is not, in the opinion of the Authority, capable of remedy; or

(c) the Default is a Material Breach.

H2.2 If, through any Default of the Contractor, data transmitted or processed in connection with the Contract is either lost or sufficiently degraded as to be unusable, the Contractor shall be liable for the cost of reconstitution of that data and shall reimburse the Authority in respect of any charge levied for its transmission and any other costs charged in connection with such Default.

H2.3 If the Authority fails to pay the Contractor undisputed sums of money when due, the Contractor shall give notice to the Authority of its failure to pay. If the Authority fails to pay such undisputed sums within 25 Working Days of the date of such notice, the Contractor may terminate the Contract in writing with immediate effect, save that such right of termination shall not apply where the failure to pay is due to the Authority exercising its rights under clause C3.1 (Recovery of Sums Due) or to a Force Majeure Event.

H3 Termination on Notice

H3.1 The Authority may terminate the Contract at any time by giving 30 days' notice to the Contractor.

H4 Other Termination Grounds

H4.1 The Authority may terminate the Contract on written notice to the Contractor if:

(a) the Contract has been subject to a substantial modification which requires a new procurement procedure pursuant to regulation 72(9) of the Regulations;

(b) the Contractor was, at the time the Contract was awarded, in one of the situations specified in regulation 57(1) of the Regulations, including as a result of the application of regulation 57 (2), and should therefore have been excluded from the procurement procedure which resulted in its award of the Contract;

(c) the Contract should not have been awarded to the Contractor in view of a serious infringement of the obligations under the Treaties and the Regulations that has been declared by the Court of Justice of the European Union in a procedure under Article 258 of the TFEU; or

(d) the Contractor has not, in performing the Services, complied with its legal obligations in respect of environmental, social or labour law.

H5 Consequences of Expiry or Termination

H5.1 If the Authority terminates the Contract under clauses H2 or H4 and makes other arrangements for the supply of the Services the Authority may recover from the Contractor the cost reasonably incurred of making those other arrangements incurred by the Authority throughout the remainder of the Contract Period.

H5.2 If Contract is terminated under clauses H2 or H4 the Authority shall make no further payments to the Contractor (for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the

Authority), until the Authority has established the final cost of making the other arrangements envisaged under this clause.

H5.3 If the Authority terminates the Contract under clause H3 the Authority shall make no further payments to the Contractor except for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority.

H5.4 Save as otherwise expressly provided in the Contract:

(a) termination or expiry of the Contract shall be without prejudice to any rights, remedies or obligations accrued under the Contract prior to termination or expiration and nothing in the Contract shall prejudice the right of either Party to recover any amount outstanding at such termination or expiry; and

(b) termination of the Contract shall not affect the continuing rights, remedies or obligations of the Authority or the Contractor under clauses C2 (Payment and VAT), C3 (Recovery of Sums Due), D1 (Prevention of Fraud and Bribery), E2 (Data Protection), E3 (Official Secrets Acts 1911 to 1989, Section 182 of the Finance Act 1989), E4 (Confidential Information), E5 (Freedom of Information), E8 (Intellectual Property Rights), E9 (Audit), F9 (Remedies Cumulative), G1 (Liability, Indemnity and Insurance), H5 (Consequences of Expiry or Termination), H7 (Recovery upon Termination) and I1 (Governing Law and Jurisdiction).

H6 Disruption

H6.1 The Contractor shall take reasonable care to ensure that in the performance of its obligations under the Contract it does not disrupt the operations of the Authority, its employees or any other contractor employed by the Authority.

H6.2 The Contractor shall immediately inform the Authority of any actual or potential industrial action, whether such action be by its own employees or others, which affects or might affect its ability at any time to perform its obligations under the Contract.

H6.3 If there is industrial action by the Staff, the Contractor shall seek Approval to its proposals to continue to perform its obligations under the Contract.

H6.4 If the Contractor's proposals referred to in clause H6.3 are considered insufficient or unacceptable by the Authority acting reasonably, then the Contract may be terminated with immediate effect by the Authority by notice.

H6.5 If the Contractor is unable to deliver the Services owing to disruption of the Authority's normal business, the Contractor may request a reasonable allowance of time, and, in addition, the Authority will reimburse any additional expense reasonably incurred by the Contractor as a direct result of such disruption.

H7 Recovery upon Termination

H7.1 On termination of the Contract for any reason, the Contractor shall at its cost:

(a) immediately return to the Authority all Confidential Information, Personal Data and IP Materials in its possession or in the possession or under the control of any permitted

suppliers or Sub-Contractors, which was obtained or produced in the course of providing the Services;

(b) immediately deliver to the Authority all Property (including materials, documents, information and access keys) provided to the Contractor in good working order;

(c) immediately vacate any Authority Premises occupied by the Contractor;

(d) assist and co-operate with the Authority to ensure an orderly transition of the provision of the Services to the Replacement Contractor and/or the completion of any work in progress; and

(e) promptly provide all information concerning the provision of the Services which may reasonably be requested by the Authority for the purposes of adequately understanding the manner in which the Services have been provided and/or for the purpose of allowing the Authority and/or the Replacement Contractor to conduct due diligence.

H8 Retendering and Handover

H8.1 Within 21 days of being requested by the Authority, the Contractor shall provide, and thereafter keep updated, in a fully indexed and catalogued format, all the information necessary to enable the Authority to issue tender documents for the future provision of the Services.

H8.2 The Authority shall take all necessary precautions to ensure that the information referred to in clause H8.1 is given only to potential providers who have qualified to tender for the future provision of the Services.

H8.3 The Authority shall require that all potential providers treat the information in confidence; that they do not communicate it except to such persons within their organisation and to such extent as may be necessary for the purpose of preparing a response to an invitation to tender issued by the Authority; and that they shall not use it for any other purpose.

H8.5 The Contractor shall allow access to the Premises in the presence of the Authorised Representative, to any person representing any potential provider whom the Authority has selected to tender for the future provision of the Services.

H8.6 If access is required to the Contractor's Premises for the purposes of clause H8.5, the Authority shall give the Contractor 7 days' notice of a proposed visit together with a list showing the names of all persons who will be visiting. Their attendance shall be subject to compliance with the Contractor's security procedures, subject to such compliance not being in conflict with the objectives of the visit.

H8.7 The Contractor shall co-operate fully with the Authority during any handover at the end of the Contract. This co-operation shall include allowing full access to, and providing copies of, all documents, reports, summaries and any other information necessary in order to achieve an effective transition without disruption to routine operational requirements.

H8.8 Within 10 Working Days of being requested by the Authority, the Contractor shall transfer to the Authority, or any person designated by the Authority, free of charge, all

computerised filing, recording, documentation, planning and drawing held on software and utilised in the provision of the Services. The transfer shall be made in a fully indexed and catalogued disk format, to operate on a proprietary software package identical to that used by the Authority.

H9 Exit Management

H9.1 Upon termination the Contractor shall render reasonable assistance to the Authority to the extent necessary to effect an orderly assumption by a Replacement Contractor in accordance with the procedure set out in clause H10.

H10 Exit Procedures

H10.1 Where the Authority requires a continuation of all or any of the Services on expiry or termination of this Contract, either by performing them itself or by engaging a third party to perform them, the Contractor shall co-operate fully with the Authority and any such third party and shall take all reasonable steps to ensure the timely and effective transfer of the Services without disruption to routine operational requirements.

H10.2 The following commercial approach shall apply to the transfer of the Services if the Contractor:

(a) does not have to use resources in addition to those normally used to deliver the Services prior to termination or expiry, there shall be no change to the Price; or
.
(b) reasonably incurs additional costs, the Parties shall agree a Variation to the Price based on the Contractor's rates either set out in Schedule 2 or forming the basis for the Price.

H10.3 When requested to do so by the Authority, the Contractor shall deliver to the Authority details of all licences for software used in the provision of the Services including the software licence agreements.

H10.4 Within one Month of receiving the software licence information described above, the Authority shall notify the Contractor of the licences it wishes to be transferred, and the Contractor shall provide for the approval of the Authority a plan for licence transfer.

H11 Knowledge Retention

H11.1 The Contractor shall co-operate fully with the Authority in order to enable an efficient and detailed knowledge transfer from the Contractor to the Authority on the completion or earlier termination of the Contract and in addition, to minimise any disruption to routine operational requirements. To facilitate this transfer, the Contractor shall provide the Authority free of charge with full access to its Staff, and in addition, copies of all documents, reports, summaries and any other information requested by the Authority. The Contractor shall comply with the Authority's request for information no later than 15 Working Days from the date that that request was made.

I DISPUTES AND LAW

I1 Governing Law and Jurisdiction

I1.1 Subject to the provisions of clause I2 the Contract, including any matters arising out of or in connection with it, shall be governed by and interpreted in accordance with English Law and shall be subject to the jurisdiction of the Courts of England and Wales.

I2 Dispute Resolution

I2.1 The Parties shall attempt in good faith to negotiate a settlement to any dispute between them arising out of or in connection with the Contract within 20 Working Days of either Party notifying the other of the dispute and such efforts shall involve the escalation of the dispute to the finance director of the Contractor and the commercial director of the Authority.

I2.2 Nothing in this dispute resolution procedure shall prevent the Parties from seeking from any court of competent jurisdiction an interim order restraining the other Party from doing any act or compelling the other Party to do any act.

I2.3 If the dispute cannot be resolved by the Parties pursuant to clause I2.1 either Party may refer it to mediation pursuant to the procedure set out in clause I2.5.

I2.4 The obligations of the Parties under the Contract shall not cease, or be suspended or delayed by the reference of a dispute to mediation (or arbitration) and the Contractor and the Staff shall comply fully with the requirements of the Contract at all times.

I2.5 The procedure for mediation and consequential provisions relating to mediation are as follows:

(a) a neutral adviser or mediator (the “Mediator”) shall be chosen by agreement between the Parties or, if they are unable to agree upon a Mediator within 10 Working Days after a request by one Party to the other or if the Mediator agreed upon is unable or unwilling to act, either Party shall within 10 Working Days from the date of the proposal to appoint a Mediator or within 10 Working Days of notice to either Party that he is unable or unwilling to act, apply to the Centre for Effective Dispute Resolution to appoint a Mediator;

(b) the Parties shall within 10 Working Days of the appointment of the Mediator meet with him in order to agree a programme for the exchange of all relevant information and the structure to be adopted for negotiations. If appropriate, the Parties may at any stage seek assistance from the Centre for Effective Dispute Resolution to provide guidance on a suitable procedure;

(c) unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the Parties in any future proceedings;

(d) if the Parties reach agreement on the resolution of the dispute, the agreement shall be recorded in writing and shall be binding on the Parties once it is signed by their duly authorised representatives;

(e) failing agreement, either of the Parties may invite the Mediator to provide a non-binding but informative written opinion. Such an opinion shall be provided on a without

prejudice basis and shall not be used in evidence in any proceedings relating to the Contract without the prior written consent of both Parties; and

(f) if the Parties fail to reach agreement within 60 Working Days of the Mediator being appointed, or such longer period as may be agreed by the Parties, then any dispute or difference between them may be referred to the Courts unless the dispute is referred to arbitration pursuant to the procedures set out in clause I2.6.

I2.6 Subject to clause I2.2, the Parties shall not institute court proceedings until the procedures set out in clauses I2.1 and I2.3 have been completed save that:

(a) The Authority may at any time before court proceedings are commenced, serve a notice on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause I2.7;

(b) if the Contractor intends to commence court proceedings, it shall serve notice on the Authority of its intentions and the Authority shall have 21 days following receipt of such notice to serve a reply on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause I2.7; and

(c) the Contractor may request by notice to the Authority that any dispute be referred and resolved by arbitration in accordance with clause I2.7.

I2.7 If any arbitration proceedings are commenced pursuant to clause I2.6,

(a) the arbitration shall be governed by the provisions of the Arbitration Act 1996 and the Authority shall give a notice of arbitration to the Contractor (the “Arbitration Notice”) stating:

(i) that the dispute is referred to arbitration; and

(ii) providing details of the issues to be resolved;

(b) the London Court of International Arbitration (“LCIA”) procedural rules in force at the date that the dispute was referred to arbitration in accordance with I2.7(b) shall be applied and are deemed to be incorporated by reference to the Contract and the decision of the arbitrator shall be binding on the Parties in the absence of any material failure to comply with such rules;

(c) the tribunal shall consist of a sole arbitrator to be agreed by the Parties;

(d) if the Parties fail to agree the appointment of the arbitrator within 10 days of the Arbitration Notice being issued by the Authority under clause I2.7(a) or if the person appointed is unable or unwilling to act, the arbitrator shall be appointed by the LCIA;

(e) the arbitration proceedings shall take place in London and in the English language; and

(f) the arbitration proceedings shall be governed by, and interpreted in accordance with, English Law.

SCHEDULE 1 - SPECIFICATION

INTRODUCTION

1. In support of its regulatory role under the Environmental Permitting Regulations 2016 (EPR 16), the Environment Agency carries out a programme of independent analysis of radioactive effluents from industrial premises (mainly nuclear licensed sites) in England and Wales. The programme is mainly focused on liquid effluent discharges, although there is a smaller amount of work associated with gaseous effluent discharges. This programme is managed by the Environment Agency's Reactor Assessment and Radiological Monitoring Team and the results are used in comparison with Operator data to ensure analytical standards are maintained.

2. The present contract for the Effluent Monitoring Programme covers analysis work up to the end of the calendar year 2022. This document specifies the technical requirements for a new contract for the analysis programme covering the four calendar years 2023 to 2026, with options to extend for an additional two, 2-year periods based on the contractor's performance.

3. There are developments happening, within Government and the nuclear industry at present, which may have an effect on the work required by the Environment Agency. Hence contractors need to be aware that the scope of work on this contract may change. The possible changes include, but may not be limited to:

   - Currently we work jointly with Natural Resources Wales, but if they decide to undertake their own independent monitoring this could result in the removal of the Welsh sites from this contract. Conversely keeping a joined-up programme of work for England and Wales, but requiring additional monitoring.
   - Existing nuclear sites moving from an operational state through post-operational hazard reduction and into care and maintenance may result in reduced or changed monitoring requirements for these sites.
   - Where a nuclear site operator's analysis of effluents is accredited to the MCERTS performance standard for radioanalytical testing of environmental and waste waters [Ref 1], the Environment Agency will reduce its independent check monitoring at that site.

PROGRAMME OBJECTIVE AND BACKGROUND

Overall Objective

4. The overall objective of the Independent Effluent Monitoring Programme is as follows:

   > To provide assurance, so far as is reasonably practicable, that the major discharges of liquid radioactive effluent to inland and coastal waters and sewers, which are declared by operators, are a true measure of the actual discharges within the 95% confidence limits of the sampling and analytical error.

Background

5. Nuclear sites which are regulated by the Environment Agency under the Environmental Permitting Regulations 2016 (EPR 16) to discharge radioactive effluents (liquids and gaseous) are subject to requirements to carry out their own programme of self-monitoring as stipulated by the Environment Agency under the terms of their permit. In order to provide assurances that operator self-monitoring arrangements are satisfactory, the Environment Agency carries out (via Contractors) a certain amount of independent check monitoring.

6. The Independent Effluent Monitoring Programme includes a schedule of effluent samples and analyses/determinands for each nuclear site. These schedules match with (or are a sub-set of) the sampling/analytical schedules carried out by the operator as part of their self-monitoring programmes. Hence, comparisons between the analytical results produced by the Environment Agency's Contractor under this programme and the relevant analytical results provided by each nuclear site operator, can be undertaken. These results are mainly

in the form of radioactivity concentrations (e.g. Bq/litre). The samples on the Independent Effluent Monitoring Programme are a mixture of compliance samples and specially prepared composite bulks (e.g. quarterly bulks). The two sets of analytical results need to be compared in order to provide the Environment Agency with a check on operator's discharge declarations and to provide insights into operators' quality assurance (QA) procedures and analytical methods.

WORK PROGRAMME OVERVIEW

1. It is important to the Environment Agency that there is no break in effluent analysis at the changeover of contracts. To enable the programme to continue efficiently from the 1st January 2023, it is anticipated that the contract will start on 1st November 2022, allowing time for the new Contractor to prepare their facilities, resources and arrangements. The sampling and analytical components of the contract are to cover the next four calendar years from 1st January 2023 to 31st December 2026 inclusive (the contract will run until 30th April 2027 to allow for final reporting activities associated with 2026). Subject to satisfactory Contractor performance and prevalent Environment Agency policy, the Environment Agency may wish to extend the contract for 2 x2 year extensions, to cover effluent monitoring up to the end of calendar year 2030, with reporting by end of April 2031.

Main Programme Activities

2. A number of different tasks are required in carrying out the Independent Effluent Monitoring Programme as follows (and detailed in later sections):
    - Task 1 – Witness sample collection
    - Task 2 - Laboratory analysis of samples
        - Task 2A – Analysis of EPR16 liquid monitoring samples
        - Task 2B – Analysis of EPR16 gaseous monitoring samples
    - Task 3 - Results reporting
    - Task 4 – Results comparison and investigation
    - Task 5 – Additional work
    - Task 6 – Programme management and performance reporting

DETAILED WORK PROGRAMME

3. Appendix 2 contains the schedule for routine sampling and analytical requirements including the following information:
    - Details of operator, site/location and plants whose effluent discharges are to be analysed.
    - Sample details: frequency, type, stabilisation (if appropriate), volume and information on type of sample container required (if appropriate). Where relevant, some guidance is provided on typical activity levels (e.g. for high tritium activities).
    - Determinands/analyses required.
    - Detection limits required.

Task 1 – Witness sample collection

4. The Contractor shall undertake a programme of visits to operator sites in order to fulfil the sample witnessing and collection requirements in accordance with the schedules shown in Appendix 2. Appendix 1, Price Adjustment section provides more information on required performance. During site visits the Contractor shall oversee/witness the taking of samples by the operator. *(Note: the Contractor does not take the samples themselves*). By doing so, the Contractor shall check the extent to which the operators are complying with the sampling arrangements stipulated by the Environment Agency (as reflected in the wording of the schedules in Appendix 2).

5. The contractor must have personnel who will be acceptable for admittance on to Nuclear Licensed Sites within England and Wales. This will require appropriate security clearance and vetting. At the start of the contract the contractor will ascertain the individual Nuclear Licensed Site requirements and make arrangements for the witnessing staff to meet these.

6. The Contractor shall ensure that operators provide accurate and clear documentation for the samples – this covers sample bottle labels and consignment notes.

7. The Contractor shall arrange for transport of samples from the operator sites back to their analytical laboratory in a safe, secure and sustainable manner. There will be instances/sites where the contractor cannot take the samples off site themselves (due to the time taken for sample clearance procedures to be undertaken). In these cases, the samples must be sealed with uniquely identified tamper evident seals and arrangements made with the site operator for their transport to the Contractor's analytical laboratory. See Appendix 1 for further information on requirements covering legal aspects of the work programme, sample "chain of custody", sample transport/storage etc.

8. The Contractor shall deduce the required logistics of the sample collection and analysis programme based on the sampling/analysis schedules contained in Appendix 2.

9. During the contract the Contractor shall liaise with the operators/sites in order to carry out detailed scheduling and make detailed arrangements for visits to the site/plant at the appropriate times for the purpose of carrying out Task 1 activities. There may be occasions where the witnessing needs to be undertaken at short notice (for site operational reasons).

10. Some further details on requirements for Task 1 are given in Appendix 3.

Task 2 – Laboratory analysis of samples

- Task 2A – Analysis of EPR16 liquid monitoring samples
- Task 2B – Analysis of EPR16 gaseous monitoring samples

Generic requirements for sub-tasks 2A and 2B

11. The Contractor shall undertake routine analyses as detailed in the schedules shown in Appendix 2. The Contractor shall schedule their laboratory analyses in the most efficient manner which fits in with the programme of site visits for sample collection and which meets all the Environment Agency's reporting timescales and requirements.

12. See Appendix 2 for comments regarding sample volumes.

13. The required limits of detection for each sample type are included in the schedule shown in Appendix 2. Although there is a degree of consistency across the analytical schedules, by necessity, there are instances where limits of detection for particular determinands for particular effluent streams are lower (or higher) than the norm. Details for and a definition of detection limit used shall also be included, these shall be consistent with the ISO standard for determination of detection limits [Ref 2]. For any instances where the tenderer is unable to meet the required limits of detection, this must be clearly stated, and the tenderer must provide alternative method-specific detection limits.

14. The Environment Agency reserves the right to review the Contractor's procedures in detail prior to contract award.

15. After the contract has been awarded and prior to commencing work on year 2023 samples, the Contractor shall submit detailed analytical procedures, by 31st December 2022, for approval by the Environment Agency's Programme Manager (PM). See further details below under "Quality Assurance".

Specific requirements for accreditation

16. Analysis methods employed on the contract shall meet the requirements of BS EN ISO/IEC 17025 (latest version) 'General requirements for the competence of testing and calibration laboratories' and shall be accredited by the United Kingdom Accreditation Service (UKAS) or equivalent organisation. This is explained in greater detail below under "Quality Assurance".

17. The Environment Agency has published an MCERTS performance standard for the radioanalytical testing of environmental and waste waters [Ref 1]. During the first 2 years of the contract (calendar years 2023 and 2024) the contractor will be expected to achieve accreditation to the MCERTS standard for appropriate effluent matrices, at two appropriate concentrations, for the radionuclides/methods identified in the Tender Return Document.

18. For these methods we expect full compliance with the requirements of the standard e.g. validation, including the determination of performance criteria, and accreditation and the ongoing quality assurance of the results. An equivalent quality approach shall be operated for all other determinands.

19. Throughout the life time of the contract MCERTS accreditation may be required for further radionuclides/methods, based on the number of analyses performed using a certain method and the impact of the effluent stream / radionuclide. These shall be notified to the contractor and a timetable agreed to implement their accreditation.

Other specific requirements

20. The Environment Agency requires that all sources of uncertainty are included along with the reported results at the 95 % confidence level (i.e. 1.96σ). A clear statement on the sources of uncertainty considered and the way these are assessed and combined shall be included with the method summaries (Question TM1).

21. The Contractor shall strive to make continual improvements in analysis methodologies over the entire duration of the contract. This is particularly relevant to Task 4 – it is expected that on occasion the Contractor may be required to adjust their analytical methods in the light of discussions held with operator analysts concerning results discrepancies which appear to stem from differences in analytical methods. For methods that are accredited to the MCERTS standard the Operator would need a compelling argument for the Contractor method to be changed.

Task 2A – specific comments

22. The EPR16 liquid monitoring is by far the largest component of the Independent Effluent Monitoring Programme and accounts for around 90% of the samples.

Task 2B – specific comments

23. This part of the analytical programme involves the routine analysis of bubbler liquors.

Task 3 - Results reporting

24. Routine reports shall be provided on a quarterly basis. However, on occasion a Nuclear Regulator may wish to see specific analytical results at the earliest opportunity (e.g. as a result of an incident). This fact will be communicated to the Contractor and agreement reached as to when those results shall be made available (maximum of 28 days from date of request, except in exceptional circumstances).

25. Any results significantly different to previous results shall be notified to the Environment Agency PM by email as soon as they are available. Criteria and arrangements for such notification will be established by agreement with the Contractor.

26. The following information is required each calendar quarter:

- ***Quarterly Analytical Results*** – Results of all contractor laboratory analyses (Tasks 2A and 2B) to be presented including their uncertainties. The Environment Agency requires the contractor to utilize an Excel spreadsheet for this reporting requirement (a template will be provided). This spreadsheet can also be used to include the operator data and thus also serve as the quarterly comparisons report (see Task 4 below) - Appendix 4 includes an extract from the current Excel spreadsheet that is used for this reporting.
- ***Quarterly Sampling / Witnessing Report*** – This report shall provide a comment on the operators' degree of compliance with the Environment Agency's sampling and witnessing requirements and any specific problems or issues which should be brought to the Environment Agency's attention regarding sampling (Task 1). A separate section should be produced for samples from each site.

27. Appendix 1 specifies requirements for delivery and approval of reports, reporting timescales and administrative aspects of reporting.

Task 4 – Results comparison and investigation

28. The focus of the programme is to maintain analytical standards and provide confidence in the data produced by the nuclear site operators. This is achieved through an inter-comparison of results produced by our programme and the Operator's own programme and the following up on discrepancies to identify issues affecting data quality.

29. To achieve this, comparisons need to be made between both sets of data on a quarterly basis. These comparisons are to be made by the Contractor, looking for discrepancies and following these up in a timely manner. The process is described below.

30. The initial quarterly Operator results are submitted to the Environment Agency in a Microsoft Excel spreadsheet similar to that to be used for the electronic reporting of results by the Contractor. The Operator results will be forwarded to the Contractor. This will be the formal notification route, however where clarification is required direct contact can be made between the Contractor and Operator. From past experience it is known that Operator results can change, and it is the responsibility of the Contractor to ensure that the final results are tracked (and notified to the Environment Agency). The Contractor shall collate the final results on to one template spreadsheet (this can be the same as they use for reporting).

31. Once each quarter's results have been received, the Contractor will make a quarterly comparison between the Operator results and our own. It is envisaged this will be by use of the Microsoft Excel spreadsheet used for reporting analytical results. Where the Contractor sees there is a discrepancy (criteria to be agreed at contract start-up, currently set at ±30% taking account of uncertainties and limits of detection values, but for methods which are accredited to the MCERTS standard a more stringent criterion may be set) the Operator is to be notified, this is a quick check to ensure that no slip has been made and may result in the Operator submitting a new value. If the Contractor is unhappy with their own result this should also be investigated.

32. Following confirmation of the results, where there seems to be a number of discrepancies associated with a particular method, Operator or waste-stream (judgement to be used) these should be followed up through discussions with the Operator analysts. The Environment Agency programme manager will approve plans to resolve discrepancies with Operators. Note it may take data from a few quarters before an issue can be identified, or some may be evident immediately. It is expected that the Contractor will have to visit Operator sites in order to conduct the necessary discussions, data comparisons or to examine equipment/methods used by Operators at first hand. The investigations will sometimes lead to a requirement for the Contractor to carry out further activities such as making up reference samples and conducting analytical inter-comparisons with Operator analysts. The information yielded by this process may on occasion lead to a requirement for the Contractor to adjust/develop a specific analytical procedure for this programme. It may be necessary for the Contractor to hold meetings with the Environment Agency programme manager, Environment Agency Nuclear Regulator and Operator analysts. The outcomes of discussions or findings of these investigations should be reported to the Environment Agency along with any further actions for our programme or the Operator's.

33. The comparison aspect of Task 4 is regarded by the Environment Agency as being important to help make improvements to the Independent Effluent Monitoring Programme. The Contractor should allow for a level of commitment equivalent to around 5-10 days per quarter for this aspect of Task 4.

34. The Contractor shall provide the Environment Agency with a copy of the spreadsheet comparing the Contractor's results to those of the Operators', along with a description of actions taken and plans for action on a quarterly basis – a Quarterly Comparisons Report (see Appendix 1).

35. The results of these quarterly comparisons and investigations shall be reported to the Environment Agency. Appendix 1 specifies requirements for delivery and approval of reports and for reporting timescales.

Task 5 – Additional work

36. On occasion the Environment Agency may require additional work to be undertaken (over and above that required for Tasks 1 to 4). This may be additional one-off analytical work or provision of expert technical advice to the Environment Agency on matters related to effluent monitoring, sampling and analysis.

37. Charges for such additional work would be made in accordance with the individual analytical costs, staff hourly rates and mileage rates to be specified by Contractor in the Tender Return Document. Appendix 1 describes reporting requirements for additional work.

38. In the case of significan*t* additional pieces of work, these will be dealt with on a case-by-case basis. The Contractor shall agree the specification, reporting requirements and costing for such work with the Environment Agency PM in advance of commencing the work.

39. The Contractor shall clearly describe what processes are in place to ensure that expertise is kept up to date and how improvements are kept abreast of in the relevant disciplines (Question QS3). Information on participation in analytical working groups and those formed to produce and advise on standards should also be included.

Task 6 - Programme Management and Performance Reporting

40. The Contractor shall manage the work undertaken in accordance with this specification, including the general administrative functions specified in Appendix 1 – General Contract Arrangements. In particular the Contractor shall attend quarterly progress meetings and provide contract/programme performance information. If separate project management costs are envisaged these should be included separately in the returnable price schedules.

41. For any consortium bids where elements of the work are delivered by different companies it is essential that the partners work together to achieve an efficient and effective delivery of the results and services required.

42. Interfaces that need considering include:

- Sample handling to allow analysis to be completed to time and to allow short lived radionuclides to be analysed before significant decay takes place.
- How consistency will be maintained across the different partners, for example in sample preparation and analysis.
- Provision of appropriate paperwork and information to maintain a robust chain of custody is required.
- Co-operation for investigations into unusual results.

43. For consortium bids, please provide information on how you propose to ensure the interfaces between the partners will work well and what arrangements you would put in place to facilitate good working with the other party. Please also provide evidence of collaborative working, including how the commercial and legal elements between all key parties would work within your proposed offer (Question PS2).

ADDITIONAL REQUIREMENTS

44. Regarding the access to analytical laboratories for services required on this contract, account will be taken of the practicalities of where analytical facilities are located. The Environment Agency has a number of considerations in this regard as follows:

- As the Environment Agency we need to apply one of our principle aims as set out in the Environment Act 1995, which is to discharge our functions towards the objective of achieving sustainable development. Our policies endeavour to minimise our carbon impacts and we would expect the same commitment from our supply chain. Evidence shall be presented to demonstrate your commitment to achieving an environmental outcome in line with this principle, to also include consideration of the impacts of transport of samples (Question ES1).
- Some of the radionuclides for which we are analysing have short radioactive half-lives and so there needs to be minimum delay between sampling and analysis.
- The work is likely to lead to a number of small shipments of samples and we would need to be reassured that efficient and legally compliant transfrontier shipments (where applicable) can be undertaken.

- Samples must be disposed of in compliance with appropriate legislation. Evidence shall be provided to show that you have a compliant disposal route available. Appendix 5 provides a summary of the range of activity concentrations potentially present in the effluent samples.

QUALITY ASSURANCE

Company Quality Management System

45. After Contract award the Contractor's Quality Assurance manual for internal quality control, participation in external quality control schemes and information on accreditation under UKAS (or equivalent) shall be made available to the Environment Agency PM on request.

Quality Plan for contract

46. Following contract award, the Contractor shall submit a Quality Plan for the contract (including interfaces between consortium partners where appropriate), a draft shall be provided to the Environment Agency's PM for approval within one month of the start of the contract. The main objective of the Quality Plan will be to demonstrate how the Contractor will meet the requirements of the work scope activities as stipulated in this Technical Specification. The Quality Plan shall include details of:
    - The quality objectives to be attained.
    - The Contractor's company/consortium/team structure (for relevant staff involved on the contract).
    - Allocation of specific responsibilities to work scope activities and authority throughout the contract.
    - List of relevant procedures, methods and working instructions etc.
47. The Quality Plan, once agreed by the Contractor and the Environment Agency, shall stand for the life of the contract. Amendments shall only be made by mutual consent and agreement.

UKAS and MCERTS accreditation

48. The Contractor shall hold and maintain accreditation to BS EN ISO/IEC 17025 (latest version) 'General requirements for the competence of testing and calibration laboratories' (from UKAS or equivalent body) for all the analysis methods involved in the work programme, listed in the Tender Return Document, for the lifetime of the contract. The Contractor, and any subcontractor used by the Contractor, shall achieve such UKAS accreditation within 6 months of the date of contract award. It is expected that the Contractor will already hold some/most of the necessary UKAS accreditations at contract award and they will be judged favourably. The target date for accreditation to MCERTs is the end of 2024. The Environment Agency is ensuring arrangements are being put in place with UKAS to allow MCERTs accreditation to occur on this timescale.
49. As the MCERTS performance standard for Radioanalytical Testing of Environmental and Waste Waters is only recently published there is no expectation for contractors to be currently accredited.
50. The list of UKAS accredited determinands/methods will be continuously reviewed during the lifetime of the contract. The Environment Agency may require the Contractor, at their cost, to obtain/hold UKAS accreditation for additional determinands/methods should the need arise. Conversely, it is possible that the Environment Agency may agree to determinands/methods being deleted from the list of requirements in the event that they are no longer needed. All changes to UKAS accreditation requirements shall be agreed with the Environment Agency's PM.
51. Failure to achieve the required accreditations to the BS EN ISO/IEC 17025 (latest version) and MCERTS standards within the agreed time periods shall be deemed to be a breach of contract, unless circumstances are outside the control of the Contractor. The Environment Agency reserves the right to have samples analysed at a UKAS accredited laboratory at the Contractor's expense if BS EN ISO/IEC 17025 accreditation for the analyses is not achieved in the required time period and reduced payments made for those methods where MCERTS accreditation in not achieved.

Documentation

52. Operating procedures will be required from the Contractor to cover:
    - Sample collection – arrangements for witnessing operator sampling
    - Analysis (determinands listed in the schedules provided in Appendix 2).
53. These are to specify the details of methods used and where appropriate detection limits and uncertainties. Also evidence of how the results will be representative and traceable. Sampling procedures, where appropriate, shall detail the optimum conditions under which samples are to be stored to eliminate or minimise loss of the principle constituents under investigation.
54. Brief summary descriptions of procedures are required with the Contract tender.
55. Detailed procedures shall be provided to the Environment Agency PM by 31st December 2022. Following approval of these procedures, the Contractor is required to issue the Environment Agency's PM with controlled copies of the procedures. Updates for these procedures shall be required when substantial changes are made. The Environment Agency reserves the right to review the Contractors procedures in detail prior to Contract award.
56. Only members the Environment Agency's Reactor Assessment and Radiological Monitoring Team will have access to the procedures. The procedures will be treated in confidence and information will not be divulged to third parties without express written permission from the Contractor. We envisage there would be occasions where Environment Agency Nuclear Regulators or Site Inspectors would request details of a method, again permission would be sought before providing this information. The procedures will be returned at the end of the Contract.

Inter-comparisons

57. The Contractor's laboratory is to participate in a minimum of two national/inter-national inter-laboratory comparisons exercises per year (e.g. NPL or equivalent). Where possible inter-comparisons should be chosen which relate not only to relevant determinands, but also relevant media. The results, along with their interpretation, identification of anomalies and recommendations for improvement are to be made available to the Environment Agency PM in a written report within 3 months of the inter-comparison exercise. These results will be treated in confidence
58. Evidence of performance (results and acceptability) in all the inter-comparison exercises, with determinands relevant to the requirements of this contract, in which you have participated for the last 3 years shall be provided in the bid documents. We expect these to include gamma spectrometry and a range of appropriate alpha and beta emitting radionuclides. (Question QA2)
59. The contractor may also be required to take part in Environment Agency initiated inter-comparisons with other contract laboratories to assess compatibility between monitoring results, and inter-comparisons with operators as necessitated by Task 4 requirements.

Personnel

60. The Contractor shall provide suitably experienced and qualified personnel to undertake this contract. Information on the availability of personnel to this contract and possible conflicting requirements on their time are also to be provided. The personnel and their commitment to the contract will be approved by the Environment Agency and once the contract is let, all proposed changes of personnel shall be notified to the Environment Agency PM and are subject to his/her approval (Questions QS1 and QS2).

Equipment

61. The Contractor shall provide suitable equipment to undertake this contract. Information on the amount and type of equipment for use on this contract and possible conflicting requirements on its use are also to be provided. Clearly describe the equipment that will be used and what provision is made for maintaining, repairing and replacing equipment, we reserve the right to examine relevant maintenance records (Question QE1). The suitability

of the equipment proposed for the contract will be approved by the Environment Agency PM.

Calibration

68. All equipment and instruments used whether on-site or within a laboratory, are to be suitably and regularly calibrated, labelled with the due date and carry calibration records.

Standards

69. Where they exist, British Standards or other internationally recognised standards should be used. During the course of the contract, the Contractor shall make the Agency aware of any additional or new technologies or techniques which become available if they are considered to be superior to current methods or otherwise relevant to work on the contract.

HEALTH, SAFETY AND ENVIRONMENT

70. Health and safety is a prime concern for this contract and the successful contractor will need to demonstrate a clear commitment to maintaining a high standard on all health and safety matters. There will be a regular requirement to show how H&S training is being carried out, company reporting procedures are being maintained along with evidence of your continued commitment to the process.

Company Policy

71. The Contractor (and any sub-contractors used by the Contractor) shall operate health, safety and environmental policies which are acceptable to the Environment Agency and consistent with the Environment Agency's own policies, values and practices.

72. The Environment Agency has developed a set of core H&S values, which it expects its staff and contractors to work to: "All of us have the right to remain healthy and injury free at work. We are all vital to improving health and safety and we will:

- prevent all injuries and occupational illnesses
- all be responsible for health and safety
- always check and learn from what we are doing
- challenge and respond to challenge."

73. Linked to the Environment Agency Core Health and Safety values, the contractor shall provide information on how you plan to ensure your standards are maintained and monitored, including day to day supervision. Also provide information on the main issues and concerns in respect to Health and Safety, linked to the provision of this contract (for example include a table of top risks). In particular how you will a) mitigate any perceived risks/issues b) how you will monitor and record those risks and c) how you might improve on your health and safety results annually.

General Requirements

74. The Contractor will be a representative of the Environment Agency and as such high standards of attitudes to safety, behaviour and professionalism are required. The Contractor is required to provide adequately trained, safety conscious and experienced staff for execution of all work under the contract – both at the Contractor's laboratory and when visiting operator sites for sample collection witnessing. All equipment used by the Contractor on the contract shall meet all necessary safety standards required.

75. The Contractor is to regularly monitor his/her own health and safety performance in respect of this contract and must be able to demonstrate this to the Environment Agency's PM on request.

76. Contractor's staff (and any sub-contractors used by the Contractor) involved in visits to operator sites (for Task 1) should not normally work for more than 10 hours per day, including travel time. Under exceptional and infrequent circumstances this can be extended to 12 hours.

77. The Contractor is to have satisfactory health and safety procedures and training in respect of staff driving vehicles to/from sampling/monitoring locations.

78. The Contractor is to provide a contact name and telephone number for emergency use outside of normal working hours.

Risk Assessments

Work away from the laboratory

79. The Contractor shall ensure that risk assessments are carried out where appropriate for contract activities undertaken away from the laboratory. In such instances the risk assessment must be completed in advance of undertaking the activity and reviewed after completion of those activities to ensure that all risks are identified and managed appropriately. In most cases generic risk assessments are adequate – however, it may be necessary to carry out some site-specific risk assessments (e.g. for particular operator sites/plant). Issues to be considered for risk assessment include, but are not limited to:

    - Travelling/driving to and from sampling/monitoring operator sites.
    - Risks present at operator sites whilst witnessing sample collection (e.g. hazardous parts of operator's plant)
    - Sample handling hazards
    - Carrying samples (some of which contain acids/preservatives) in vehicles from operator sites to the Contractor's laboratory.

80. The risk assessments shall be made available to the Environment Agency's PM on request. If for any reason during work away from the laboratory the conditions are deemed unsafe, work must not be carried out and the Environment Agency PM shall be notified immediately.

Laboratory-based

81. All laboratory based work is to be undertaken following and in accordance with an appropriate COSHH assessment. Where appropriate, work shall also be undertaken in accordance with the Ionising Radiation Regulations 1999 and the Environmental Permitting Regulations 2016 (EPR 16).

Training

82. The Contractor shall provide adequate and regularly updated training to staff engaged in work on the contract with respect to all aspects of health, safety and environmental matters. Please provide details of health and safety training provided in the last 3 years to all managers and staff who will be employed and working for this particular contract. Please also include details of your plans for further training if you win the contract (Question HS4).

Reporting of Incidents

83. The contractor shall provide information on their arrangements for reporting and recording incidents and how they would react to an incident linked to this contract. Safety accidents/incidents shall be reported to the Environment Agency PM as soon as possible after the event, but certainly on the same day. A copy of the Contractors incident report shall be faxed/emailed to the PM within one working day of the incident.

84. "Near-misses" (an unplanned event that did not result in injury, illness or damage, but had the potential to do so) shall also be reported to the Environment Agency's PM within 3 working days.

Environment and Sustainability Performance

85. The Environment Agency places particular importance on maintaining good public relations with the individuals and communities with whom it works and expects all its suppliers to maintain the highest levels of environmental and sustainability performance. It is particularly important that suppliers know and fully understand the role of the Environment Agency as a regulator and champion in relation to the environment and we expect all of our suppliers to rigorously ensure that works for us do not give rise to pollution or other environmental incidents through high standards of environmental management.

86. The contractor shall provide information on their understanding of the environmental impacts from this work and on how they are planning to improve their environment and

sustainability performance and minimise the impact of activities on the environment, both, on and off site (Question ES2).

87. The Contractor shall hold and maintain independent certification of their Environmental Management System under ISO 14001 or equivalent, for the lifetime of the contract. The contractor shall achieve accreditation within 12 months of contract award.

AUDITS

88. It is expected that the Contractor's will periodically carry out both internal Quality Assurance Audits and Safety, Health and Environment Audits appropriate to the contract (or on the department which carries out work on this contract). The Contractor shall provide details of such audits (in particular, non-compliances, observations and corrective actions) to the Environment Agency's PM upon request.

89. The Environment Agency reserves the right to audit the Contractor periodically. The main focus of Environment Agency audits is to ensure that the Contractor (and any sub-contractors) is fully compliant with the requirements of the contract as laid down in this technical specification. Environment Agency audits will pay particular attention to both Quality Assurance (QA) and Safety, Health and Environment (SHE) issues. The Environment Agency audits will be complementary to UKAS surveillance audits and may cover aspects which are not subject to UKAS accreditation in order to provide additional reassurance to the quality of the work. To facilitate this, the Contractor shall make available any UKAS audit report findings relating to this contract.

90. Audits will normally be carried out by qualified Environment Agency staff, although the Environment Agency reserves the right to involve third party organisations in audits if it so wishes. Audits may cover sample collection activities (i.e. Task 1) as well as work carried out at the Contractor's laboratory. Audits may take place on an unannounced basis.

91. Environment Agency audits will be followed by audit reports which will be copied to the Contractor. As well as making general comments and recommendations the audit reports will specify any non-compliances and observations found. The Contractor is under obligation to rectify all non-compliances on a timescale to be agreed at the time with the Environment Agency's Programme Manager.

SUB-CONTRACTING

92. Any intentions to use sub-contractors for work scope activities, other than those already agreed at the time of contract award (if any), must have the prior approval of the Environment Agency's PM. The Environment Agency reserves the right to refuse permission for such sub-contractors – however, permission shall not be unreasonably withheld.

93. Where sub-contractors are used, details including the sub-contractor's staff, facilities, equipment, QA/QC, methods must be provided to the Environment Agency and should at least be of comparable quality to those of the main Contractor.

CONFIDENTIALITY AND DATA SECURITY

94. During execution of this contract there may be requirements to handle sensitive nuclear information. The contractor, including any sub-contractors, must have processes in place to manage, handle and store this information to comply with Government guidelines (including on marking) and ensure no unauthorised access to, or disclosure of, the information. In the case of Reportable OFFICIAL and/or OFFICIAL-SENSITIVE documents, they must be stored in a secure location. If the contractor is required to receive, store, process or forward Official Information on any PC, Laptop or other IT system, that system must be designed, implemented and operated securely. Removable media shall not be used for storage and if used for transferring data they must be encrypted. (Question OC4).

CONFLICTS OF INTEREST

95. The successful Contractor will not have an unacceptable level of conflict of interest. In this context a conflict would be undertaking a nuclear site's effluent monitoring programme as

specified under the site's EPR permit. If this was being done for a number of sites, the cumulative effect could result in this being an unacceptable level of conflict of interest.

96. Throughout the period of the contract, the Contractor shall continuously check for any emerging or apparent conflicts of interest with regard to radioactive effluent monitoring. This assessment shall include, but not be exclusively limited to, previous work, current work in hand or planned work in the future for the operators of nuclear sites included in the work programme under this contract (these are listed in the schedules shown in Appendix 2). The Environment Agency's PM must be notified immediately if a potential conflict of interest arises. The Contractor must not carry out radioactive effluent monitoring work related to the nuclear site operators listed in the contract for any party other than the Environment Agency without making the Environment Agency aware of the intention to do so. If the Environment Agency does not approve the work, but the contractor wishes to proceed with the work for the nuclear site operator the Environment Agency reserves the right to withdraw the affected site(s) from the contractor. Arrangements will be made for the work(s) to be undertaken by a sub-contractor appointed by the Environment Agency. All costs for the work will be recharged to the contractor on a cost reimbursable basis.

97. In the case of other types of work related to radioactivity monitoring (e.g. environmental radioactivity monitoring), the Contractor shall inform the Environment Agency's PM of any work which it intends to carry out for the listed nuclear site operators. The Environment Agency's PM will assess such instances for any undue conflict of interest. However, the Environment Agency will only require the sub-contracting of the work (at the contractor's expense) to a contractor appointed by the Environment Agency in extreme circumstances.

REFERENCES

1. Performance Standard for Organisations Undertaking Radioanalytical Testing of Environmental and Waste Waters. (MCERTS) Environment Agency, May 2012.
2. Determination of the detection limit and decision threshold for ionising radiation measurement - Part 7 Fundamentals and general applications ISO 11929-7 (2005).

APPENDIX 1

GENERAL CONTRACT ARRANGEMENTS

DESIGNATED ENVIRONMENT AGENCY RESPONSIBILITIES

Programme Manager

1. The Environment Agency's Programme Manager (PM) / Contract Supervisor is the single focus of contact between the Environment Agency and the Contractor. Any contact with others including Environment Agency staff, must be reported to the Contract PM immediately.

Nuclear Regulator and Inspectors

2. This refers to the Environment Agency's Nuclear Regulators who regulate particular operators/sites with respect to the Environment Agency's Radioactive Substances Regulation (RSR) Function and RSR Officers who regulate non-nuclear sites (e.g. hospitals, universities) for the same Function.
3. The Contractor may occasionally have direct dealings with the Nuclear Regulators or RSR Officers related to the environmental monitoring programme. The Contractor is required to keep the PM appraised of all discussions/issues arising.

Contractor Liaison

4. In respect of the programme of work, its execution, scope and pricing, the Environment Agency's PM or his/her authorised (in writing) representative(s) shall be the sole person(s) authorised to issue instructions to the Contractor on behalf of the Environment Agency. Requests from Nuclear Regulators, Site Inspectors etc for changes to the scope must be agreed with the PM before undertaking the work. Failure to do so may result in non-payment for that part of the work.

Communications

5. It is expected that all normal communication methods will be employed between the Environment Agency and the Contractor i.e. telephone, email, faxes. Documents produced in electronic format must be produced using the Microsoft (MS) Office suite of software including MS Word (for documents)and MS Excel (for spreadsheets) It would be advantageous if the Contractor also used MS Project (Gantt chart programmes) and MS Powerpoint (presentations).

WORK SCOPE / CHANGE CONTROL

Scope Changes

6. During the course of the contract it is possible that changes to the work scope specified in the Technical Specification may be required.
7. Arrangements for change control on the routine sampling/analysis schedules are described below. These will be used for small-to-medium "routine" changes to the work scope. In the case of any major or non-routine changes to the work scope, these will be discussed with the Contractor on a case-by-case basis if/when they arise.

Change control for routine sampling/analysis schedules

8. The individual prices for analyses, staff time, T & S etc. (Returnable Price Schedule) provided for the contract will be used for costing work to be added/deleted from the specification. In cases where the Environment Agency requires to add determinands which are not included in the individual prices, the cost will be agreed with the Environment Agency's PM prior to commencement of the work.
9. For more substantial changes, which may be necessitated by issues identified in the Introduction (paragraph 3), costs will be negotiated based round the individual site charges and proportionate change. For example any removal of sites to meet requirements of Natural Resources Wales based on the individual site costs given in the costings tables (Returnable Price Schedule)
10. Change control will be notified by the PM to the Contractor formally in writing. Periodically (at the PM's discretion), when there have been a significant number of changes to the

routine sampling/analysis schedule (Appendix 2), an updated version of the schedule will be produced by the PM and copied to the Contractor.

CONTRACT MANAGEMENT AND PROGRESS REPORTING

Meetings

11. The Contractor shall attend regular meetings with the Environment Agency PM to discuss progress and other issues relating to the Contract. These meetings will normally alternate between the PM's office and the Contractor's office (the default being the PM's office).
12. The Contractor shall take the minutes of all meetings and provide a draft version to the Environment Agency PM for approval within 4 weeks of the meeting.

Start-up meeting

13. Following the award of contract the PM will arrange a start-up meeting. Issues to be covered at this meeting include a detailed review of the technical specification to confirm mutual understanding. Any technical issues will be discussed.

Progress Meetings

14. These meetings are normally held at quarterly intervals. Issues to be discussed will include the current progress status and technical issues arising from this, health and safety, contractual, financial and quality assurance matters.

Close-out Meeting

15. At the end of the contract period, when the PM is satisfied that the contract deliverables have been satisfactorily delivered, a meeting will be held to review the work undertaken on the contract and any outstanding issues. A review of any technical, safety and QA/QC issues arising will be undertaken with the aim of learning from the contract.

Performance Reporting

16. To enable the Environment Agency to track the performance of the contract, quarterly progress reports are required. A single report should be provided which covers the following main areas:

General programme and contract status

- Any general comments regarding the programme/contract and any associated management issues
- Information on any work carried out under Task 4

Financial Reports

- Actual spend against budgeted spend for the appropriate quarter.
- A breakdown of costs by nuclear site to enable recharging information to be calculated. It is envisaged that this will be undertaken using an Excel spreadsheet for each Financial Year – updated on a quarterly basis.
- Any costs arising in the quarter from non-routine commitments (e.g. work under Tasks 4 and 5).

Performance Parameters

- A summary of the number of samples that have been collected is to be provided compared to the expected number of samples for the appropriate quarter (broken down by general sample type: EPR16 liquid monitoring and EPR16 gaseous monitoring.
- A summary of the number of samples that have been analysed is to be provided compared to the expected number of analyses for the appropriate quarter (broken down as above).

RESULTS REPORTING: ROUTINE REPORTS

Report Production

17. Reports as detailed in the 'Results Reporting' section of the Technical Specification shall be produced by the Contractor. The quarterly analytical results and comparison reports can be effectively produced as an Excel spreadsheet (a template will be provided and Appendix 4 shows an extract), with a commentary to cover actions taken and plans for action on a

quarterly basis. This spreadsheet (or alternative agreed paper copy and/or electronic copy) will be forwarded to the PM for comment and approval (see below). After approval, the spreadsheet (or agreed alternative) will be finalized. Onward results distribution is intended to be electronically.

Timescales

[redacted]

Final Version

21. For all the above reports once the Environment Agency PM has notified the Contractor that the report has been approved, the required copies (amended if necessary) are to be dispatched within 5 working days.

Timeliness / Late Reporting

22. The results reports are required from the Contractor within the timescale set out above to enable the Environment Agency to take appropriate action on those results in the exercise of its regulatory responsibilities. Time is therefore of the essence and the Environment Agency reserves the right to reject reports on the basis of late delivery and adjust or with-hold payment accordingly.

Approval Process

23. An initial Excel spreadsheet (or alternatively agreed paper copy and/or electronic copy report) of the results will be forwarded to the PM for comment and approval. Comments and queries will be made via the use of a test plan and approval given when the test plan is finalised. The Environment Agency and the Contractor will develop a system for sign-off of report(s) following contract award – ideally by using electronic signatures if their security can be ensured. The PM will complete the report sign-off when he/she is satisfied with the report, and this is to be included with the issued report.

RESULTS REPORTING: ADDITIONAL REPORTS

Report Production

24. In the case of additional non-routine work carried out under Task 4 which requires reporting this shall be in an electronic format, but provision should be made to produce hardcopy reports on request (no more than two copies).

Timescales

25. Individual timescales will be agreed prior to commencing the job, these will take into account the complexity of the analysis and the scale of the work required.

Approval Process

26. An initial final quality checked electronic copy of the report will be forwarded to the PM for approval. The Environment Agency and the Contractor will develop a system for sign-off of report(s) following contract award – ideally by using electronic signatures if their security can be ensured. The Environment Agency PM will review the reports and any major comments or corrections will be fed back to the Contractor; correct versions of the report must be produced within 2 weeks of receiving requests for changes.

ARCHIVING

Sample Archiving

27. The Environment Agency may wish to request repeat analysis at a later date, for example if there are discrepancies between the Contractor's result and the sibling operator result. The Contractor shall retain all effluent samples of all types for a minimum archive period of 12 months from the date of reporting of the results. During this time samples must be kept securely and under appropriate storage conditions. The Contractor should seek approval from the Environment Agency PM before disposing of samples.

Paperwork Archiving

28. All documents pertaining to the contract shall be kept for the duration of the contract and for a period of 12 months following the end of the contract.

Electronic Archiving

29. All electronic files pertaining to the contract shall be kept for the duration of the contract and for a period of 12 months following the end of the contract.

INVOICING

Procedure for Invoicing

30. All invoices relating to this contract should be submitted to:

    SSCL
    Environment Agency
    PO Box 797
    Newport
    NP10 8FZ

    Supporting documentation (i.e. an Advice Note) giving a breakdown of the amount being claimed on each invoice should be submitted to the Programme Manager / Contract Supervisor for authorisation prior to any invoice being submitted. In order to ensure prompt payment all invoices should quote the relevant order number.

31. The advice notes are to be sent at quarterly intervals to the Environment Agency PM for each completed issue of reports. They should not be submitted until the work is completed i.e. results reports have been issued.

32. Advice notes involving a change to the Contract price shall be accompanied by the information necessary to support that change.

Price Adjustment

33. In the event that effluent samples are not obtained from specified sites when required, and hence analyses are not undertaken, a price adjustment will be made to the quarterly invoice for analysis costs. The adjustment will be based on the individual prices given in the Returnable Price Schedule.

34. The Environment Agency will monitor the performance of the Contractor with regard to missing samples to ensure that no sites are being regularly missed. A success rate of less than 95 % will require explanation from the Contractor and if this situation continues to occur may be deemed a breach of contract.

Period of Payment

35. The Environment Agency shall pay each invoice within 30 days of receipt of Invoice as detailed in the Conditions of Contract.

Overpayment

36. In the event of overpayment for any reason, such over payment shall be recoverable by the Environment Agency from the Contractor. Credit notes of similar format to the invoices will be issued.

LEGAL ASPECTS OF WORK PROGRAMME

Chain of Custody and Audit Trail

37. An audit trail of all samples shall be maintained from the point of collection to final analysis. It should be possible to demonstrate that samples and the analytical process cannot be tampered with at any stage of the process.

38. A chain of custody record is required for all samples taken. The record must give the sampling date and time and the identity of the person taking, and witnessing**,** the samples. The record will show the identity of the person taking responsibility for the custody of the samples. The record must be continuous and show the time and date when samples were passed from one person to the next. The samples must be sealed and kept under lock and key in such a way that the custodian is the only person with access. If there are any special storage requirements, there should be procedures to ensure that these are maintained.

39. In the event of a prosecution being brought by the Environment Agency, evidence of the operation of this system may be required by the Court. The Contractor may be called by the Court to give evidence.

Storage and transport

40. The samples shall be transported to and stored in the laboratory in a secure manner under storage conditions that minimise or eliminate loss or change of the principal constituents under investigation. The methods employed for secure transport, storage and stabilisation shall be rigorous enough to withstand scrutiny in a court of law.

Data protection

41. Any personal data held by the Contractor on behalf of the Environment Agency shall be held in compliance with the General Data Protection Regulation (GDPR) – Data Protection Act 2018

42. The Environment Agency requires the Contractor to hold a specified level of insurance for professional indemnity and third party insurance.

APPENDIX 2

DETAILED SAMPLE/ANALYTICAL SCHEDULE

Introduction

The sampling and analytical schedule is comprised of three components:

- Notes (Part 1)
- Sampling/witnessing and analytical requirements (Part 2)
- Limits of detection (Part 3)

Notes

To put the schedule in context for contractor and Operator.

Sampling/witnessing and analytical requirements

This section identifies the samples/witnessing and analytical requirements for Task 2 (Laboratory Analysis), encompassing the requirements for sub-tasks 2A and 2B.

The requirements for each site/plant/effluent stream are shown. These include requirements for sampling point and whether witnessing is required or not, sample details (type, size, form and frequency) and what analysis are to be undertaken. Information is also given on the corresponding operator samples.

The sample volumes quoted are those agreed currently with the site operators and have been set so that they allow sufficient sample volume to provide the Contractor with two aliquots for the required analyses – one for the initial analysis and a spare aliquot in case there is a need for analyses to be repeated. In the event that the Contractor requires any sample volumes to be adjusted (upwards or downwards), this can be done with the agreement of the Environment Agency PM and the operator, within any operational constraints (e.g. availability of sufficient effluent volume at the plant sampling point).

Limits of Detection

The detection limits sections specifies the required analytical limits of detection for all the analyses.

PART 1 NOTES

Use of these documents: These schedules are issued to and for the use of: (a) the Environment Agency's check monitoring contract laboratory, (b) Environment Agency Nuclear Regulators and (c) nuclear site Operators (relevant portions of the documentation only). It should be noted that some of the information contained is primarily for the use of one party only – e.g. the limits of detection quoted only apply to the Environment Agency's check monitoring laboratory.

Environment Agency's contract lab: The contractor appointed by the Environment Agency following competitive tendering. Contract programme commences with samples for calendar year 2023.

Operator requirements: Requirements on Operators as stipulated in this document should be read **in conjunction with** Agency requirements stipulated in the permit specific CEAR documents (Compilation of Environment Agency Requirements) In the event of any inconsistencies between documents, the requirements as stated in the CEARs should take precedence.

Operators are required to provide analytical results to the Reactor Assessment and Radiological Monitoring Team each calendar quarter (or other frequency, as appropriate) for the Operator's samples which are siblings to the samples taken for independent check-monitoring. Except where otherwise stated, the Operator is required to report analytical results for the same suite of determinands as stipulated for the Environment Agency's contract laboratory - but note that the Operator is not required to work to the same limits of detection as specified for the Environment Agency's contract laboratory. Results must be reported in Bq /litre (except where Bq/gramme or Bq/filter is appropriate). Measurement uncertainties must be quoted in the form of a ± figure at 95% confidence limits. Operators should state whether quoted uncertainties account for all sources of uncertainty or are based solely on counting statistics. Results determined to be below limit of detection should be quoted in the format "< x" where x is the limit of detection. Results should be decay-corrected (where possible) to a reference date. For spot samples, the reference date should be the sample collection date. For bulk/composite samples, the relevant reference date should usually be the mid-point of the bulking period.

Operator analysis results should be reported using the Environment Agency's results spreadsheet template – a new version will be provided by the Environment Agency's project manager for each calendar year. (Note: Operators must not submit results using the results template from the previous year). The spreadsheet provides guidance notes to Operators regarding completion of the spreadsheet. Completed Operator results spreadsheets should be sent via e-mail to the Environment Agency at the following address: Radeffluents@environment-agency.gov.uk

Witnessed samples: These are samples whose collection must be witnessed by the Environment Agency's check monitoring contractor. More details on sample collection witnessing are described in Appendix 3. The Environment Agency's check monitoring contractor is authorised by the Environment Agency to witness sampling and to remove samples from the Operator's site on the Environment Agency's behalf. The

precise day of witnessed sampling on each occasion will be agreed in advance between the contractor and the Operator.

- In most instances the contractor shall place the sample(s) in a polythene bag with a tamper-proof seal (the contractor will hold supplies of the seal-clips). The Operator is then required to dispatch the sample(s) to the contractor's laboratory at their own cost, as soon as possible after the sampling day.
- Alternatively, there may be occasions (where this is feasible) when the contractor may remove such samples from the plant/site and take them back to their laboratory premises on the day of collection.

Non-witnessed samples: These are samples whose collection need not (or cannot) be witnessed by the contractor. In such instances the Operator is required to dispatch the sample(s) to the contractor's laboratory at their own cost, as soon as possible after sampling.

Limits of detection: Part 3 provides details of the limits of detection which apply to the Environment Agency's check monitoring contractor - these should be read in conjunction with the analytical requirements shown in the 7th column of the following tabular schedules. Note that these limits of detection **do not** apply to the Operators' analyses.

PART 2 SAMPLING/WITNESSING AND ANALYTICAL REQUIREMENTS

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using method as agreed in the CEAR documents)	General comments
C1.1.1 Magnox Berkeley Power Station FMDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	On an aliquot of as-received effluent ▪ Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively. ▪ Other activity (defined as total activity minus Cs137). ▪ Aqueous tritium by distillation. ▪ Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Other activity; aqueous tritium; Cs137	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.1.2 Magnox Berkeley Power Station FMDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs); Quarterly spot tank sample.	Bi-annually (2 times per year)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA Contractor and for Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. ▪ Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively. ▪ Other activity (defined as total activity minus Cs137). ▪ Aqueous tritium by distillation. ▪ Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Other activity; aqueous tritium; Cs137	Not part of Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.3.1 Magnox Dungeness A Power Station FDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Delay Tanks (FDTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	On an aliquot of as-received effluent ▪ Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively. ▪ Other activity (defined as total activity minus Cs137). ▪ Aqueous tritium by distillation. ▪ Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Other activity; aqueous tritium; Cs137	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.3.2 Magnox Dungeness A Power Station FDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Delay Tanks (FDTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA Contractor and for Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. ▪ Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively. ▪ Other activity (defined as total activity minus Cs137). ▪ Aqueous tritium by distillation. ▪ Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Other activity; aqueous tritium; Cs137	Not part of Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.4.1 EDF Energy Dungeness B Power Station FMDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium. Co60	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.4.2 EDF Energy Dungeness B Power Station FMDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). Quarterly spot tank sample.	Bi-annually (2 times per year per)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA Contractor and Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium. Co60	Not part of the Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.4.3 EDF Energy Dungeness B Power Station TWST Bulk samples [EPR16]	No	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	25	Bulk collected over the appropriate quarter. Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis. Required analyses are: Tritium and S35 Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Part of Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.
C1.4.4 EDF Energy Dungeness B Power Station TWST Spot samples [EPR16]	Yes	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	25	Pre-discharge tank spot sample to be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork. EA contractor to witness dilution on day of sampling. Nominally identical aliquots required for EA contractor and Station analysis.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Tritium and S35. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Not part of the Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.5.1 EDF Energy Hartlepool Power Station FMDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium; Co60	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.5.2 EDF Energy Hartlepool Power Station FMDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). Quarterly spot tank sample.	Bi-annually (2 times per year per)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA Contractor and Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium. Co60	Not part of the Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.5.3 EDF Energy Hartlepool Power Station TWST Bulk samples [EPR16]	No	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	25	Bulk collected over the appropriate quarter. Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis. Required analyses are: Tritium and S35 Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Part of Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.
C1.5.4 EDF Energy Hartlepool Power Station TWST Spot samples [EPR16]	Yes	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	25	Pre-discharge tank spot sample to be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork. EA contractor to witness dilution on day of sampling. Nominally identical aliquots required for EA contractor and Station analysis.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Tritium and S35. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Not part of the Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.6.1 **EDF Energy Heysham-I Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**Total Activity (excluding tritium) – using the BEGL triple label window method.** **Aqueous tritium by distillation; Co60; Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Total Activity (excl. tritium).** **aqueous tritium.** **Co60**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.6.2 **EDF Energy Heysham-I Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year per)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** **Total Activity (excluding tritium) – using the BEGL triple label window method.** **Aqueous tritium by distillation; Co60; Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Total Activity (excl. tritium).** **aqueous tritium.** **Co60**	**Not part of the Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.6.3 EDF Energy Heysham-I Power Station TWST Bulk samples [EPR16]	No	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	25	Bulk collected over the appropriate quarter. Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis. Required analyses are: Tritium and S35 Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Part of Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.
C1.6.4 EDF Energy Heysham-I Power Station TWST Spot samples [EPR16]	Yes	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	25	Pre-discharge tank spot sample to be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork. EA contractor to witness dilution on day of sampling. Nominally identical aliquots required for EA contractor and Station analysis.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Tritium and S35. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Not part of the Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.7.1 **EDF Energy Heysham-II Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**Total Activity (excluding tritium) – using the BEGL triple label window method.** **Aqueous tritium by distillation; Co60; Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Total Activity (excl. tritium).** **aqueous tritium.** **Co60**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.7.2 **EDF Energy Heysham-II Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year per)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** **Total Activity (excluding tritium) – using the BEGL triple label window method.** **Aqueous tritium by distillation; Co60; Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Total Activity (excl. tritium).** **aqueous tritium.** **Co60**	**Not part of the Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.7.3 EDF Energy Heysham-II Power Station TWST Bulk samples [EPR16]	No	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	25	Bulk collected over the appropriate quarter. Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis. Required analyses are: Tritium and S35 Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Part of Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.
C1.7.4 EDF Energy Heysham-II Power Station TWST Spot samples [EPR16]	Yes	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	25	Pre-discharge tank spot sample to be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork. EA contractor to witness dilution on day of sampling. Nominally identical aliquots required for EA contractor and Station analysis.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Tritium and S35. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Not part of the Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.8.1 (a & b) **Magnox Hinkley Pt. A Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Bi annually** **(2 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**Two batches of analyses to be carried out by EA contract lab:** **a) On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using H3 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **b) On particulate obtained by filtering as-received effluent through a 0.45-micron cellulose nitrate filter (results to be reported as Bq per litre of original effluent sample)** ▪ **Total alpha (as natural uranium)** ▪ **Total beta (as Cs-137)** ▪ **Sr90** ▪ **Co60** ▪ **Cs137** ▪ **Any other radionuclides detected by gamma spectrometry** ▪ **Particulate density (kg/litre of as-received liquid effluent sample)** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137** **[*There is no requirement for the Operator to carry out analysis on filtered particulate*]**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.8.2 (a & b) **Magnox Hinkley Pt. A Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and for Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** **Two batches of analyses to be carried out by EA contract lab:** **a) On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using H3 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **b) On particulate obtained by filtering as-received effluent through a 0.45-micron cellulose nitrate filter (results to be reported as Bq per litre of original effluent sample)** ▪ **Total alpha (as natural uranium)** ▪ **Total beta (as Cs-137)** ▪ **Sr90** ▪ **Co60** ▪ **Cs137** ▪ **Any other radionuclides detected by gamma spectrometry** ▪ **Particulate density (kg/litre of as-received liquid effluent**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137** **[*There is no requirement for the Operator to carry out analysis on filtered particulate*]**	**Not part of Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

						sample) EA contract lab limits of detection are specified in Part 3.		

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.9.1 EDF Energy Hinkley Pt. B Power Station FMDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium. Co60	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.9.2 EDF Energy Hinkley Pt. B Power Station FMDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). Quarterly spot tank sample.	Bi-annually (2 times per year per)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA Contractor and Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Co60; Cs137 EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). aqueous tritium. Co60	Not part of the Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.9.3 EDF Energy Hinkley Pt B Power Station TWST Bulk samples [EPR16]	No	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	25	Bulk collected over the appropriate quarter. Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis. Required analyses are: Tritium and S35 Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Part of Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.
C1.9.4 EDF Energy Hinkley Pt B Power Station TWST Spot samples [EPR16]	Yes	Diluted liquid effluent (liquor) from the Tritiated Water Storage Tanks (TWSTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	25	Pre-discharge tank spot sample to be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Acid stabilisation not required; Ideally, samples to be provided in glass bottles with screw cap to minimise diffusion & adsorption effects. Samples to be provided in diluted form (1000:1 dilution) – dilution factors to be provided in sample consignment paperwork. EA contractor to witness dilution on day of sampling. Nominally identical aliquots required for EA contractor and Station analysis.	Total tritium and S35 by direct dual channel liquid scintillation counting. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Tritium and S35. Activity concentrations to be reported in Bq/litre as measured on the as-diluted samples.	Not part of the Operator's existing "QA Programme". Tritium activities in diluted samples are typically 1 to 5 MBq/litre.

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.10.1 **Magnox Oldbury Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.10.2 **Magnox Oldbury Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and for Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137**	**Not part of Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.11.1 **Magnox Sizewell A Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.11.2 **Magnox Sizewell A Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and for Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity (defined as total activity minus Cs137).** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity; aqueous tritium; Cs137**	**Not part of Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.12.1 EDF Energy Sizewell B Power Station FMDT Bulk samples [EPR16]	No	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs) "QA Programme" representative quarterly bulk sample.	Quarterly (4 times per year)	250	A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter. Stabilised with nitric acid.	Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Cs137; Co58; Co60. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). Aqueous tritium.	Part of Operator's existing "QA Programme". Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February
C1.12.2 EDF Energy Sizewell B Power Station FMDT Spot samples [EPR16]	Yes	Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs). Quarterly spot tank sample.	Bi-annually (2 times per year)	250	Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank. To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals). Nominally identical aliquots required for EA contract lab and Station analysis. Stabilisation not required prior to providing to EA contractor.	EA contract lab may need to stabilise sample upon receipt – see comments. Total Activity (excluding tritium) – using the BEGL triple label window method. Aqueous tritium by distillation; Cs137; Co58; Co60. EA contract lab limits of detection are specified in Part 3.	Results to be reported are from the Station's own analysis on the as-sampled effluent. Required analyses are: Total Activity (excl. tritium). Aqueous tritium.	Not part of the Operator's existing "QA Programme". Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done. Analysis to be carried out by all labs as per schedule below: Q1 samples: mid-May Q2 samples: mid-August Q3 samples: mid-November Q4 samples: mid-February

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.13.1 **Magnox Trawsfynydd Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity** **[defined as total activity minus Cs137].** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** ▪ **Total activity.** ▪ **Other activity** **[defined as total activity minus Cs137].** ▪ **Aqueous tritium by distillation.** ▪ **Cs137**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.13.2 **Magnox Trawsfynydd Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and for Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** ▪ **Total activity (excluding tritium) by liquid scintillation counting using C14 and Cs137 standards for low energy and high energy windows respectively.** ▪ **Other activity** **[defined as total activity minus Cs137].** ▪ **Aqueous tritium by distillation.** ▪ **Cs137** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** ▪ **Total activity.** ▪ **Other activity** **[defined as total activity minus Cs137].** ▪ **Aqueous tritium by distillation.** ▪ **Cs137**	**Not part of Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-Februar**

Agency C-ref Site/Plant & Effluent Stream	Witnessed By contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C1.14.1 **Magnox Wylfa Power Station FMDT Bulk samples** **[EPR16]**	**No**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **"QA Programme" representative quarterly bulk sample.**	**Quarterly** **(4 times per year)**	**250**	**A sample to be collected during each FMDT discharge by flow-proportional sampler; over the course of a calendar quarter a composite bulk is made up of all the discharge samples for that particular quarter.** **Stabilised with nitric acid.**	**On an aliquot of as-received effluent** ▪ **Total activity (excluding tritium) by liquid scintillation counting using H3 and C14 standards for low energy and high energy windows respectively.** ▪ **Aqueous tritium by distillation.** **["Other activity" is the same quantity as "total activity excl. tritium" in the case of Wylfa]** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity & aqueous tritium.**	**Part of Operator's existing "QA Programme".** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**
C1.14.2 **Magnox Wylfa Power Station FMDT Spot samples** **[EPR16]**	**Yes**	**Aqueous liquid effluent (may contain some suspended solids) from the Final Monitoring & Delay Tanks (FMDTs).** **Quarterly spot tank sample.**	**Bi-annually** **(2 times per year)**	**250**	**Pre-discharge "drip" sample to be taken from the tap/valve on the FMDT tank.** **To be collected on date in quarters agreed between Operator and EA contractor (will usually be at six-month intervals).** **Nominally identical aliquots required for EA Contractor and for Station analysis.** **Stabilisation not required prior to providing to EA contractor.**	**EA contract lab may need to stabilise sample upon receipt – see comments.** ▪ **Total activity (excluding tritium) by liquid scintillation counting using H3 and C14 standards for low energy and high energy windows respectively.** ▪ **Aqueous tritium by distillation.** **["Other activity" is the same quantity as "total activity excl. tritium" in the case of Wylfa]** **EA contract lab limits of detection are specified in Part 3.**	**Results to be reported are from the Station's own analysis on the as-sampled effluent.** **Required analyses are:** **Other activity & aqueous tritium.**	**Not part of Operator's existing "QA Programme".** **Not practical for EA contractor to witness stabilisation (acidification) of check monitoring samples on the day of collection. Hence, if this needs to be done, it will be carried out by the EA contract lab themselves prior to analysis. EA contractor must allow for dilution factors if stabilisation done.** **Analysis to be carried out by all labs as per schedule below:** **Q1 samples: mid-May** **Q2 samples: mid-August** **Q3 samples: mid-November** **Q4 samples: mid-February**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C2.1.1 **Sellafield Limited -** **Sellafield SIXEP Quarterly Bulks: Stabilised [EPR16]**	**No**	**Aqueous liquid effluent (with a small burden of suspended solids).** **Bulk**	**Quarterly (4 times per year)**	**250 (each aliquot)**	**Bulked over the first month of each calendar quarter.** ***One stabilised aliquot (250ml) plus one non-stabilised aliquot (250ml).*** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	***Stabilised aliquot:*** **Total alpha (as Pu239); Total beta (as Sr90/Y90); Sr90; Tc99; Pu241** **By alpha spectrometry: Pu238; Pu239/240; Am241;** **[If sum of individual alphas is significantly less than total alpha, presence of additional alpha emitters to be investigated & reported]** **By gamma spectrometry: Co60; Ru106; Cs137; Plus, any other gamma emitters detected** ***Non-stabilised aliquot:*** **Aqueous tritium by distillation.** **C14** **EA contract lab limits of detection are specified in Part 3.**	**Same determinants (except total tritium).** **Compliance samples for Tc99, H3, C14, I129 and Cm nuclides.** **For other nuclides SL to provide monthly summations derived from twice-monthly bulks**	**Alpha emitters may be present in significant quantities.** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**
C2.1.2 **Sellafield Limited –** **Sellafield SIXEP Spot compliance samples [EPR16]**	**Yes**	**Aqueous liquid effluent (with a small burden of suspended solids);** **Spot compliance**	**Quarterly (4 times per year)**	**250**	**Duplicate of daily compliance sample from a month in the calendar quarter;** **Non-stabilised;** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	**EA contract lab to undertake stabilisation if required.** **Total alpha (as Pu239); Total beta (as Sr90/Y90);** **By gamma spectrometry: Co60; Ru106; Cs137; Plus, any other gamma emitters detected.** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands;** **SL to report results from sibling daily compliance sample.**	**Alpha emitters may be present in significant quantities;** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C3.1.1 **Sellafield Limited –** **Sellafield SETP Quarterly Bulks: Stabilised [EPR16]**	**No**	**Aqueous liquid effluent (with a significant burden of suspended solids, chiefly iron);** **Bulk**	**Quarterly (4 times per year)**	**250 (each aliquot)**	**Bulked over the first month of each calendar quarter;** ***One stabilised aliquot (250ml) plus one non-stabilised aliquot (250ml);*** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	***Stabilised aliquot:*** **Total alpha (as Pu239); Total beta (as Sr90/Y90); Sr90; Pu241** **By alpha spectrometry: Pu238; Pu239/240; Am241;** **[If sum of individual alphas is significantly less than total alpha, presence of additional alpha emitters to be investigated & reported]** **By gamma spectrometry: Co60; Ru106; Cs137; Plus, any other gamma emitters detected** ***Non-stabilised aliquot:*** **Aqueous tritium by distillation; C14; I129** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands (except total tritium);** **Compliance samples for Tc99, H3, C14, I129 and Cm nuclides;** **For other nuclides SL to provide monthly summations derived from twice-monthly bulks**	**Alpha emitters may be present in significant quantities;** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**
C3.1.2 **Sellafield Limited –** **Sellafield SETP Spot compliance samples [EPR16]**	**Yes**	**Aqueous liquid effluent (with a significant burden of suspended solids, chiefly iron);** **Spot compliance**	**Quarterly (4 times per year)**	**250**	**Duplicate of daily compliance sample from a month in the calendar quarter;** **Non-stabilised;** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	**EA contract lab to undertake stabilisation if required.** **Total alpha (as Pu239); Total beta (as Sr90/Y90);** **By gamma spectrometry: Co60; Ru106; Cs137; Plus any other gamma emitters detected.** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands;** **SL to report results from sibling daily compliance sample.**	**Alpha emitters may be present in significant quantities;** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C4 **Sellafield Limited -** **Sellafield Factory Sewer Bulks [EPR16]**	**No**	**Aqueous liquid effluent (with suspended solids, including sewage);** **Bulk**	**Quarterly (4 times per year)**	**250 (each aliquot)**	**Bulked over first month of calendar quarter;** ***One stabilised aliquot (250ml) plus one non-stabilised aliquot (250ml);***	***Stabilised aliquot:*** **Total alpha (as Pu239); Total beta (as K40); Sr90; Tc99** **By gamma spectrometry: Cs-137 plus any other gamma emitters detected.** ***Non-stabilised aliquot:*** **Aqueous tritium by distillation** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands.**	
C5.3 **RSRL – Harwell** **Lydebank Brook [EPR16]**	**No**	**Aqueous liquid effluent containing suspended solids;** **Weekly proportional bulk compliance sample**	**Quarterly (4 times per year) - if available**	**2000**	**Weekly proportional bulk sample;** **stabilised with nitric acid;**	**Total alpha (as natural uranium); Total beta (as natural uranium); Aqueous tritium by distillation; Co60; Cs137;** **Any other radionuclides detected by gamma spectrometry** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	**Required if a sample is available**
C5.4 **RSRL – Harwell discharge to sewer (RSA-93)**	**Yes**	**Aqueous liquid effluent;** **Spot compliance sample**	**Quarterly (4 times per year)**	**2000**	**Spot compliance sample;** **Non-stabilised;**	**Total alpha (as natural uranium); Total beta (as Cs137); Aqueous tritium by distillation; Co60; Cs137;** **Any other radionuclides detected by gamma spectrometry** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C6.1.1 **Springfields Fuels Ltd Trade Effluent (FRS10) monthly bulk samples [EPR16]**	**No**	**Aqueous liquid effluent (containing suspended solids);** **Compliance monthly bulk sample.**	**Bi-annually: once every 6 months** **(2 times per year)** **– usually, April and October**	**2500**	**To be acidified and homogenised prior to dispatch to EA contract lab (so that sample is as identical as possible to the sibling sample analysed by SFL).**	**Total uranium alpha (by summation of U234, U235 and U238);** **Th228 plus daughters (to be determined by scaling Th228 result by x5); Th230; Th232; Th234; Tc99; Po210;** **Np237; Pa231; Pa234m;** **Any other radionuclides detected by gamma spectrometry.** **EA contract lab limits of detection are specified in Part 3.** **Notes:** • **Sample mainly consists of unsupported Th234/Pa234m and must be analysed immediately on receipt at EA contract lab** • **Short half-life radionuclides (e.g., Th234, Pa234m) must be decay corrected to 0830hrs on the last day of the month for consistency with SFL procedures** • **Method for deriving "Th228 plus daughters" follows SFL practice and allows for additional activity (besides Th228) resulting from rapid establishment of secular equilibrium of the decay chain down to Pb208.** • **EA contract lab to use agreed gamma abundance reference values for Pa234m and Th234 (as per SFL)**	**Total uranium alpha; Th228 plus daughters; Th230; Th232; Th234; Tc99; Po210; Np237; Pa231; Pa234m; "Beta activity" (defined as Th234+Pa234m+Th231)**	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C6.1.2 **Springfields Fuels Ltd Trade Effluent (FRS 10) spot samples [EPR16]**	**Yes**	**Aqueous liquid effluent (containing suspended solids);** **Spot sample.**	**Bi-annually: once every 6 months** **(2 times per year)** **– usually, April and October**	**2500**	**Sample to be taken from the pit/tank which collects effluent prior to discharge;** **EA contractor to witness collection – date to be agreed between EA contractor and SFL, but ideally should be during same month as C6.1.1;** **Must collect enough effluent to provide a sample for EA contract lab and for SFL;** **EA contractor to witness SFL acidification and homogenised prior to provision of sample <u>if this is possible to arrange on day of sampling</u>. [If not – sample to be provided without acidification – in which case EA contractor will carry out equivalent acidification at their lab]**	**Total uranium alpha (by summation of U234, U235 and U238);** **Th228 plus daughters (to be determined by scaling Th228 result by x5); Th230; Th232; Th234; Tc99; Po210;** **Np237; Pa231; Pa234m;** **Any other radionculides detected by gamma spectrometry.** **EA contract lab limits of detection are specified in Part 3.** **Notes** • **If sample is provided by SFL without acidification, then EA contractor must carry out appropriate acidification prior to analysis to ensure sample homogeneity and consistently with SFL procedures.** • **Other comments as for C6.1.1 above.**	**Total uranium alpha; Th228 plus daughters; Th230; Th232; Th234; Tc99; Po210; Np237; Pa231; Pa234m;** **"Beta activity" (defined as Th234+Pa234m+Th231)**	
C6.2 **Springfields Fuels Ltd Site Drainage (FRS 17) monthly bulk samples [EPR16]**	**No**	**Aqueous liquid effluent (containing suspended solids);** **Compliance monthly bulk sample.**	**Bi-annually: once every 6 months** **(2 times per year)** **– usually, April and October** **[No sample if draught conditions mean no effluent.]**	**2500**	**To be sampled in same month as C6.1;** **No acidification required.** **SFL to provide a natural U standard to EA contractor along with each sample**	**Total alpha (as natural uranium); Total beta (as natural uranium).** **EA contract lab limits of detection are specified in Part 3.** **Notes** • **Total alpha analysis to be carried out using natural U standard supplied by SFL.**	**Total alpha; Total beta.**	**It has been agreed that SFL will provide some of its natural U standard along with each sample. Both EA contract lab and SFL will use this same natural U standard in their respective total alpha analyses.**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C7.1.1 **Sellafield Limited –** **Sellafield THORP Receipt and Storage Pond Quarterly Bulks [EPR16]**	**No**	**Aqueous liquid effluent;** **Bulk**	**Quarterly (4 times per year)**	**250 (each aliquot)**	**Bulked over the first month of each calendar quarter;** ***One stabilised aliquot (250ml) plus one non-stabilised aliquot (250ml);*** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	***Stabilised aliquot:*** **Total alpha (as Pu239); Total beta (as Sr90/Y90); Pu241** **By alpha spectrometry: Pu238; Pu239/240** **[If sum of individual alphas is significantly less than total alpha, presence of additional alpha emitters to be investigated & reported]** **By gamma spectrometry: Co60; Ru106; Cs137; Plus, any other gamma emitters detected** ***Non-stabilised aliquot:*** **Aqueous tritium by distillation;** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands (except total tritium);**	**.**
C7.1.2 **Sellafield Limited -** **Sellafield THORP Receipt and Storage Pond Spot compliance samples [EPR16]**	**Yes**	**Aqueous liquid effluent;** **Spot compliance**	**Quarterly (4 times per year)**	**250**	**Duplicate of daily compliance sample from a month in the calendar quarter;** **Non-stabilised;** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	**EA contract lab to undertake stabilisation if required.** **Total alpha (as Pu239); Total beta (as Sr90/Y90);** **By gamma spectrometry: Co60; Ru106; Cs137; Plus, any other gamma emitters detected** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands;** **SL to report results from sibling daily compliance sample.**	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C8.1 Urenco UK Ltd - Capenhurst Liquid Effluents. Daily spot witnessed samples. [EPR16]	Yes	Aqueous liquid effluent (containing suspended solids); Spot sample.	Bi-annually - once every 6 months (2 times per year)	2000	Spot sample to be taken from the final effluent discharge system;	Total alpha (as natural U); U234; U235; U238; Total uranium alpha (by summation of U analyses). Tc99; EA contract lab limits of detection are specified in Part 3.	Total U (by XRF); Other alphas (by mass spec); Tc99 To be analysed on sibling spot sample taken at the same time.	
C8.2 Urenco UK Ltd - Capenhurst Liquid Effluents. Monthly bulk samples. [EPR16]	No	Aqueous liquid effluent (containing suspended solids); Monthly compliance bulk sample.	Bi-annually - once every 6 months (2 time per year)	2000	Bulked over the appropriate month;	Total alpha (as natural U); U234; U235; U238; Total uranium alpha (by summation of U analyses). Tc99; EA contract lab limits of detection are specified in Part 3.	Total U (by XRF); Other alphas (by mass spec); Tc99 To be analysed on sibling spot sample taken at the same time.	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C10.2 **AWE Aldermaston Trade waste [EPR16]**	**No**	**Trade waste aqueous liquid effluent;** **Tank compliance sample**	**Quarterly (4 times per year)**	**1000**	**The first tank compliance sample of trade waste taken in the mid-month of each calendar quarter**	**Total alpha (as natural uranium); Total beta (Cs-137); Aqueous tritium by distillation; Total U-alpha (by summation of individual U234, U235, U238); Total Pu-alpha (by summation Pu238, Pu239/240);** **EA contract lab limits of detection are specified in Part 3.** ***Note*: results for individual U and Pu isotopes should not be reported**	**Total alpha; Total beta; Tritium**	
C10.3 **AWE Aldermaston Discharges to Aldermaston Stream [EPR16]**	**No**	**Surface water and groundwater – compliance sample**	**Quarterly (4 times per year)**	**1000**	**Compliance sample taken from the discharge point to the Blue Circle Ponds (which ultimately discharge to Aldermaston Stream) taken in the mid-month of each calendar quarter**	**Aqueous tritium by distillation; Total Pu-alpha (by summation Pu238, Pu239/240);** **EA contract lab limits of detection are specified in Part 3.** ***Note:* results for individual Pu isotopes should not be reported**	**Total alpha; Total beta; Tritium**	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C12 **RSRL Winfrith Inner Pipeline Effluent [EPR16]**	**Yes**	**Aqueous liquid effluent containing suspended solids**	**Every six months (2 per year)**	**1000**	**Pre-discharge compliance sample;** **Stabilised with nitric acid**	**Total alpha (as natural uranium);** **Total beta (as Co60);** **Aqueous tritium by distillation;** **Pu 239/240 by alpha spectrometry [only required if total alpha exceeds 5 Bq/litre];** **If the sum of the individual alpha emitters is measured to be significantly less than the total alpha result, the presence of additional alpha emitting radionuclides should be investigated and results reported;** **By gamma spectrometry: Co60, Zn65, Cs137;** **Any other radionuclides detected by gamma spectrometry** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	
C13 **RSRL Winfrith Outer Pipeline Effluent [EPR16**	**No**	**Aqueous liquid effluent containing suspended solids**	**Every six months (2 per year)**	**1000**	**Daily bulk compliance sample;** **Stabilised with nitric acid**	**Total alpha (as natural uranium);** **Total beta (as K40);** **Aqueous tritium by distillation;** **Any radionuclides detected by gamma spectrometry** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	**Low activities discharged – need not be witnessed.**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C14.1.1 **Sellafield Limited –** **Sellafield EARP Bulks: Quarterly Bulk [EPR16]**	**No**	**Aqueous liquid effluent;** **Bulk**	**Quarterly (4 times per year)**	**250 (each aliquot)**	**Bulked over the first month of each calendar quarter;** ***One stabilised aliquot (250ml) plus one non-stabilised aliquot (250ml);*** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	***Stabilised aliquot:*** **Total alpha (as Pu239); Total beta (as Sr90/Y90); Sr90; Tc99; Pu241** **By alpha spectrometry: Pu238; Pu239/240; Am241;** **[If sum of individual alphas is significantly less than total alpha, presence of additional alpha emitters to be investigated & reported]** **By gamma spectrometry: Ru106; Cs137; Plus, any other gamma emitters detected** ***Non-stabilised aliquot:*** **Aqueous tritium by distillation; C14** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands (except total tritium);** **Compliance samples for Tc99, H3, C14, I129 and Cm nuclides;** **For other nuclides SL to provide monthly summations derived from twice-monthly bulks**	**Alpha emitters may be present in significant quantities;** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**
C14.1.2 **Sellafield Limited –** **Sellafield EARP Bulks: Spot compliance [EPR16]**	**Yes**	**Aqueous liquid effluent;** **Spot compliance**	**Quarterly (4 times per year)**	**250**	**Duplicate of daily compliance sample from a month in the calendar quarter;** **Non-stabilised;** **Ideally to be provided in a glass bottle with a screw cap designed to minimise diffusion/adsorption.**	**EA contract lab to undertake stabilisation if required.** **Total alpha (as Pu239); Total beta (as Sr90/Y90);** **By gamma spectrometry: Ru106; Cs137; Plus any other gamma emitters detected** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands;** **SL to report results from sibling daily compliance sample.**	**Alpha emitters may be present in significant quantities;** **Beta activity may be of order kBq/l;** **Tritium may be present at kBq/l and MBq/l levels.**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C15.2 GE Healthcare Amersham Grove Centre: Tank compliance sample [EPR16]	No	Aqueous liquid effluent; Tank compliance sample	Annually	500	A beta/gamma tank discharge compliance sample to be taken any time during the quarter.	Total alpha (as Pu239); Total beta (as Cs137) By gamma spectrometry: Zn65; Cr51; Co58 EA contract lab limits of detection are specified in Part 3. Sample to be analysed by both labs within a week of collection. All results to be decay-corrected to mid-day on the date on which the sample was taken.	Same determinands. Decay correction arrangements as per EA contract lab.	
C16.2 Sellafield Limited – Sellafield EARP Concentrat esEPR16]	Yes	Aqueous liquid effluent; Spot sample	As and when requested by EA	75	Duplicate of spot compliance sample taken from batch specified by EA; Ideally to be provided in glass bottles with a screw cap designed to minimise diffusion/adsorption.	Total alpha (as Pu239); Total beta (as Sr90/Y90); Sr90; Tc99; Pu241 Aqueous tritium by distillation; C14; I129; By alpha spectrometry: Pu238; Pu239/240; Am241; [If sum of individual alphas is significantly less than total alpha, presence of additional alpha emitters to be investigated & reported] By gamma spectrometry: Ru106; Cs137; Plus, any other gamma emitters detected EA contract lab limits of detection are specified in Part 3.	Same determinands	Alpha emitters may be present in significant quantities; Beta activity may be of order kBq/l; Tritium may be present at kBq/l and MBq/l levels.
C17.1 Sellafield Limited – Sellafield Magnox Separation Area-Stormwater Lagoon and Laundry Composite Bulks [EPR16]	No	Aqueous liquid effluent; Bulk	Quarterly (4 times per year)	500	Bulked over first month of calendar quarter; Operator to provide 500ml sample in non-stabilised form. Upon receipt, PHE will stabilise one half of the sample (using acidification protocol as per operator).	Stabilised aliquot: Total alpha (as Pu239); Total beta (as K40); Sr90 Tc-99 Non-stabilised aliquot: Aqueous tritium by distillation By alpha spectrometry Am-241 By gamma spectrometry Cs-137 plus any other gamma emitters detected EA contract lab limits of detection are specified in Part 3.	Same determinands.	EA have agreed with SL that the 500ml sample will be sent to LGC in non-stabilised form. Upon receipt, LGC must stabilise half of the sample volume so that there is 250ml in stabilised form and 250ml in non-stabilised form.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C17.2 Laundry	No	Aqueous liquid effluent - Bulk	Quarterly			Total alpha (as Pu-239) and Total Beta as (K-40)		
C20.3a Sellafield Limited - SAV Bottle 1 [EPR16]	No	Bubbler liquor sample; Compliance samples.	Quarterly (4 times per year)	10 – 15 (each sample)	A "weekly sample" taken in the middle month of each calendar quarter; Sample required from pre-furnace bubbler Bottle 1	Tritium by direct liquid scintillation counting; Aqueous tritium by distillation; C14 by chemical separation method. EA contract lab limits of detection are specified in Part 3.	Aqueous tritium; C14;	EA lab method for C14 changed from direct liquid scintillation counting to chemical separation method for Q1-2007 onwards in order to align method more closely with that used by SL.
C20.3b Sellafield Limited – SAV Bottle 2 [EPR16]	No	Bubbler liquor sample; Compliance sample.	Quarterly (4 times per year)	10 – 15 (each sample)	A "weekly sample" taken in the middle month of each calendar quarter; Sample required from pre-furnace bubbler Bottle 2	Tritium by direct liquid scintillation counting; Aqueous tritium by distillation; C14 by chemical separation method. EA contract lab limits of detection are specified in Part 3.	Aqueous tritium; C14;	EA lab method for C14 changed from direct liquid scintillation counting to chemical separation method for Q1-2007 onwards in order to align method more closely with that used by SL.
C20.3a Sellafield Limited - SAV Bottle 1 [EPR16]	No	Bubbler liquor sample; Compliance samples.	Quarterly (4 times per year)	10 – 15 (each sample)	A "weekly sample" taken in the middle month of each calendar quarter; Sample required from pre-furnace bubbler Bottle 1	Tritium by direct liquid scintillation counting; Aqueous tritium by distillation; C14 by chemical separation method. EA contract lab limits of detection are specified in Part 3.	Aqueous tritium; C14;	EA lab method for C14 changed from direct liquid scintillation counting to chemical separation method for Q1-2007 onwards in order to align method more closely with that used by SL.
C20.3b Sellafield Limited – SAV Bottle 2 [EPR16]	No	Bubbler liquor sample; Compliance sample.	Quarterly (4 times per year)	10 – 15 (each sample)	A "weekly sample" taken in the middle month of each calendar quarter; Sample required from pre-furnace bubbler Bottle 2	Tritium by direct liquid scintillation counting; Aqueous tritium by distillation; C14 by chemical separation method. EA contract lab limits of detection are specified in Part 3.	Aqueous tritium; C14;	EA lab method for C14 changed from direct liquid scintillation counting to chemical separation method for Q1-2007 onwards in order to align method more closely with that used by SL.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C22.1a Devonport Royal Dockyard (Babcock Marine) Effluent Treatment Plant: Natural (acidic) sample [EPR16]	Yes	Aqueous effluent samples in natural (acidic) form; Pre-discharge compliance samples	Every six months (2 times per year)	1000	Pre-discharge compliance sample; Provided in natural form (acidic).	Total alpha (as Am241); Aqueous tritium by distillation; Fe55; Ni63; Co60; Any other radionuclides detected by gamma spectrometer. EA contract lab limits of detection are specified in Part 3.	Same determinands	Natural (acidic) form of same sample as C22.1b
C22.1b Devonport Royal Dockyard (Babcock Marine Effluent Treatment Plant: Alkaline sample [EPR16]	Yes	Aqueous effluent samples in alkaline form; Pre-discharge compliance samples	Every six months (2 times per year)	1000	Pre-discharge compliance sample; To be converted into alkaline form.	C14 EA contract lab limits of detection are specified in Part 3.	Same determinand	Alkaline form of same sample as C22.1a C14 analysis: EA contract lab method is oxidation (followed by LSC). DML currently use direct LSC, but they are developing the oxidation method and will switch to this eventually.
C22.2 Devonport Royal Dockyard (Babcock Marine Laundry Tanks [EPR16]	Yes	Aqueous effluent sample; Compliance samples	Every six months (2 times per year)	1000	"1 in 5" Laundry Tank compliance samples	Total alpha (as Am241); Aqueous tritium by distillation; C14; Fe55; Ni63; Co60; Any other radionuclides detected by gamma spectrometry EA contract lab limits of detection are specified in Part 3.	Same determinands	C14 analysis: EA contract lab method is oxidation (followed by LSC). DML currently use direct LSC, but they are developing the oxidation method and will switch to this eventually.

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C24 **Rolls-Royce Derby (RRMPOL): NFPP Effluent**	**No**	**Aqueous effluent sample;**	**Quarterly (4 times per year)**	**100**	**NFPP spot effluent sample.**	**Total alpha (as natural uranium)** **EA contract lab limits of detection are specified in Part 3.**	**Total alpha** **(Note that Rolls-Royce use their own natural uranium reference standard).**	**For security reasons, the check monitoring analysis must be undertaken at a "List X" laboratory.**
C25.2 **Low-Level Waste Repository (LLWR) at Drigg:** **Marine Holding Tanks - Monthly Bulks [EPR16]**	**No**	**Aqueous effluent containing suspended solids;** **Monthly bulk of weekly bulk compliance samples.**	**Quarterly (4 times per year)**	**1000**	**Taken in the first month of the calendar quarter;** **Stabilised.**	**Total alpha (as Pu239);** **Total beta (as K40);** **Aqueous tritium by distillation;** **Any radionuclides detected by gamma spectrometry.** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	**Analytical requirements changed (reduced) in March 2007. CEAR revised accordingly.** **Calibration nuclide for Total Beta changed from Cs137 during May 2016**
C26 **UKAEA JET (Culham) Effluents [EPR16]**	**Yes**	**Aqueous liquid effluent;** **Pre-discharge compliance sample.**	**Quarterly (4 per year)**	**1000**	**Pre-discharge compliance sample taken each calendar quarter.**	**Total tritium by direct liquid scintillation;** **Any radionuclides detected by gamma spectrometry.** **EA contract lab limits of detection are specified in Part 3.**	**Same determinands**	

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.1.1a **Magnox Dungeness A Power Station Reactor 1 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.1.1b **Magnox Dungeness A Power Station Reactor 1 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.1.2a **Magnox Dungeness A Power Station Reactor 2 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.1.2b **Magnox Dungeness A Power Station Reactor 2 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);To be collected on a date during the year - to be agreed between the Operator and the EA contractor** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.2.1a **EDF Energy Dungeness B Power Station Reactor 21 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.2.1b **EDF Energy Dungeness B Power Station Reactor 21 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor. Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.2.2a **EDF Energy Dungeness B Power Station Reactor 22 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.2.2b **EDF Energy Dungeness B Power Station Reactor 22 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.3.1a **EDF Energy Hartlepool Power Station Reactor 1 Gas circuit bubblers; Trap 1 – Water -trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **De-ionised water bubbler (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.3.1b **EDF Energy Hartlepool Power Station Reactor 1 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.3.2a EDF Energy Hartlepool Power Station Reactor 2 Gas circuit bubblers; Trap 1 – Water - trap samples [EPR16]	Yes	Compliance gas bubbler in-reactor circuit samples; "QA Programme" samples.	Annual (1 sample per year)	15 (min.)	One of the spot compliance bubbler samples (typically 20-minute bubbling). To be collected on a date during the year - to be agreed between the Operator and the EA contractor. De-ionised water bubbler (for purpose of trapping tritium and S35). EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles; Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.	Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting; EA contract lab limits of detection are specified in Part 3.	Tritium and S35; Results to be provided from Station analyses on sibling bubbler samples.	Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.
C27.3.2b EDF Energy Hartlepool Power Station Reactor 2 Gas circuit bubblers; Trap 3 - Alkaline trap samples [EPR16	Yes	Compliance gas bubbler in-reactor circuit samples; "QA Programme" samples.	Annual (1 sample per year)	15 (min.)	One of the spot compliance bubbler samples (typically 20-minute bubbling); To be collected on a date during the year - to be agreed between the Operator and the EA contractor. Alkaline liquor fraction (for purpose of trapping C14). EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles. Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.	C14 and Cl36 by direct dual channel liquid scintillation counting; EA contract lab limits of detection are specified in Part 3.	C14 only. Results to be provided from Station analysis on sibling bubbler sample.	Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be. [Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.4.1a **EDF Energy Heysham-I Power Station Reactor 1 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.4.1b **EDF Energy Heysham-I Power Station Reactor 1 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.4.2a **EDF Energy Heysham-I Power Station Reactor 2 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.4.2b **EDF Energy Heysham-I Power Station Reactor 2 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.5.1a **EDF Energy Heysham-II Power Station Reactor 7 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.5.1b **EDF Energy Heysham-II Power Station Reactor 7 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.5.2a **EDF Energy Heysham-II Power Station Reactor 8 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.5.2b **EDF Energy Heysham-II Power Station Reactor 8 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.6.1a **EDF Energy Hinkley Pt. B Power Station Reactor 3 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.6.1b **EDF Energy Hinkley Pt. B Power Station Reactor 3 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.6.2a **EDF Energy Hinkley Pt. B Power Station Reactor 4 Gas circuit bubblers; Trap 1 - Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling).** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles;** **Nominally identical aliquots required for analysis by the EA contract lab and by the Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analyses on sibling bubbler samples.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.6.2b **EDF Energy Hinkley Pt. B Power Station Reactor 4 Gas circuit bubblers; Trap 3 - Alkaline trap samples** **[EPR16**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.7.1a **Magnox Oldbury Power Station Reactor 1 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.7.1b **Magnox Oldbury Power Station Reactor 1 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.7.2a **Magnox Oldbury Power Station Reactor 2 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.7.2b **Magnox Oldbury Power Station Reactor 2 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.8.1a **Magnox Sizewell 'A' Power Station Reactor 1 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.8.1b **Magnox Sizewell 'A' Power Station Reactor 1 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C27.8.2a **Magnox Sizewell 'A' Power Station Reactor 2 Gas circuit bubblers Trap 1 – Hydrogen peroxide water-trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Hydrogen peroxide dosed liquor fraction (for purpose of trapping tritium and S35);** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**Total tritium, S35 and Cl36 by direct triple channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**Tritium and S35;** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.**
C27.8.2b **Magnox Sizewell 'A' Power Station Reactor 2 Gas circuit bubblers Trap 3 - Alkaline trap samples** **[EPR16]**	**Yes**	**Compliance gas bubbler in-reactor circuit samples;** **"QA Programme" samples.**	**Annual** **(1 sample per year)**	**15 (min.)**	**One of the spot compliance bubbler samples (typically 20-minute bubbling);** **To be collected on a date during the year - to be agreed between the Operator and the EA contractor.** **Alkaline liquor fraction (for purpose of trapping C14).** **EA contractor will witness extraction of the liquor sample from the bubbler pots and transfer to sample bottles.** **Nominally identical aliquots required for analysis by EA contract lab and by Station lab. If insufficient liquor volume to split, must bubble fresh liquor for a further 20 mins.**	**C14 and Cl36 by direct dual channel liquid scintillation counting;** **EA contract lab limits of detection are specified in Part 3.**	**C14 only.** **Results to be provided from Station analysis on sibling bubbler sample.**	**Witnessed bubbler samples can be one and the same as the annual operator "QA Programme" bubbler samples, but they do not have to be.** **[Note: "alkaline" bubbler liquor fraction is not deliberately made alkaline – it is neutralised to sodium bicarbonate by the carbon dioxide during bubbling on the reactor plant];**

Agency C-ref Site/Plant & Effluent Stream	Witnessed by contractor Yes/No?	Sample type and information	Sampling frequency	Volume of check monitoring sample (ml)	Sampling & pre-treatment requirements	Agency contract lab analytical requirements	Operator analysis & reporting requirements (using where relevant methods specified in the permit.)	General comments
C33.2 Magnox Trawsfynydd Decom. Site: Discharge of storm water from the Diversion Culvert (Sample point: SH 69346 38285) [WRA91 Consent No CG0087701	No	Storm water; Spot sample.	Quarterly (4 times per year)	1000	Taken in appropriate month of each calendar quarter by the Operator; Sample to be collected from the SW side of the sump towards the W corner; Collected in 1 litre plastic bottle with screw cap - filled to capacity.	pH; Total suspended solids (measured after drying at 105 °C) Visual check for any sign of oil or grease EA contract lab limits of detection are specified in Appendix 2d.	Not applicable;	Monitoring related to Agency discharge consents authorised under the Water Resources Act 1991. Analysis is for chemical determinands (not radioactivity). As these samples are expected to contain low levels of radioactivity, they are to be analysed by a contract laboratory equipped to handle and dispose of radioactive samples - hence, they have been added to the radioactive effluent check monitoring programme. Sampling to be carried out by Magnox. Samples to be dispatched to EA contract lab.
C34 BAE Systems Barrow Shipyard Active effluent discharge sample [EPR16]	No	Aqueous effluent; Pre-discharge tank sample.	As and when requested by EA (Typically, once every two years)	500	Pre-discharge tank sample. Sibling sample to be provided by BAE Systems to LGC.	Aqueous tritium by distillation; C14 (by chemical separation method); Any radionuclides detected by gamma spectrometry EA contract lab limits of detection are specified in Part 3.	Same determinands	Sample to be provided when there is a tank discharge – this is usually upon completion of each vessel building programme. Periodicity is variable but is typically once every 2 years. First sample due Summer 2008.
C35 Imperial College Reactor Silwood Park	No	Aqueous effluent from holding tank	When a discharge of aqueous effluent is to be made. Sampling frequency is no more than once per year.*	500	Sample to be taken from the Holding Tank either prior to or during the discharge of the tank.	Aqueous tritium by liquid scintillation; Other beta/gamma by gamma spectrometry	Same determinands	No sample required in years when a discharge is not made. Sample to be dispatched by Operator to LGC within 4 days of the sample being taken.

PART 3 LIMITS OF DETECTION

a) Required Limits of Detection for the Environment Agency's Contract Laboratory: All EPR-16 samples

Determinand	**Limit of Detection([1]) in Bq/litre (unless otherwise stated)**	**Effluent streams (C-reference)**
Total alpha (against various reference standards)	High (H): 0.5	C8, C24
	Low (L): 0.1	C1([2]), C2, C3, C4, C5, C6, C7, C10.2, , C12, C13, C14, C15, C16, C17, C22, C25.2
Total beta (against various reference standards)	High (H): 100	C2, C3, C7, C14, C16
	Low (L): 0.5	C1([2]), C4, C5, C6, C10.2, C12, C13, C17, C25.2
Total/other activity by LSC	10	C1
Total tritium (by oxidation/combustion, or by direct LSC)	30	C1, C2, C3, C7, C14, C16, C19, C20, C21.2, C26, C27
Aqueous tritium (by distillation)	High (H): 30	C1, C2, C3, C7, C12, C13, C14, C16, C19, C22
	Low (L): 5	C4, C5, C8, C10, C15, C17, C25.2, C34
C-14	High (H): 100	C2, C3, C7, C14, C16, C19.1
	Low (L): 30	C19.2, C20, C21.2, C22, C27, C34
S-35	30	C1, C27
Cl-36	30	C27
Fe-55	10	C22
Ni-63	10	C22
Sr-90	High (H): 100	C1([2]), C2, C3, C7, C14, C16
	Low (L): 1	C4, C17
Tc-99	High (H): 100	C2, C3, C7, C14, C16
	Medium (M): 1	C4, C17
	Low (L): 0.1	C6, C8

Determinand	Limit of Detection(1) in Bq/litre (unless otherwise stated)	Effluent streams (C-reference)
I-125	0.05	C15.1
I-129	10	C2, C3, C7, C14, C16
Pa-231 & Pa-234m	20	C6
Np-237	0.1	C6, C8
Pu-241	100	C2, C3, C7, C14, C16
Am-241	0.1	C2, C3, C7, C14, C16
Alpha spectrometry – including: Po-210, Th-228, Th-230/232, U-234, U-235, U-238, Pu-238, Pu-239/240, Cm-242, Cm-243/244	0.1	C2, C3, C6, C7, C8, C12, C14, C16
Total U-alpha (by summation of individual U analyses) & Total Pu-alpha (by summation of individual Pu analyses)	0.5	C6, C8, C10
Total U-alpha (by summation of individual U analyses) & Total Pu-alpha (by summation of individual Pu analyses)	0.5	C6, C8, C10
Gamma spectrometry – including: Cr-51, Co-57, Co-58, Co-60, Zn-65, Ga-67, Nb-95, Zr-95, Ru-103, Ru-106, In-111, Sb-125, Cs-134, Cs-137, Ce-144, Tl-201, Th-234	High (H): 100	C2, C3, C4, C7, C14, C16
	Medium (M): 10	C1(2), C6, C5 (other gammas), C8, C12, C13, C15, C25.2, C26
	Low (L): 1	C5 (Co60 & Cs137 only), C22, C34

Notes

These limits of detection apply to the Agency's Contract laboratory only - they do not apply to the Operators.

(1) Some determinands only have one LoD (the figure shown); in all other instances there are two or more LoDs as follows:

- L = Low LoD value
- H = High LoD value
- M = Medium LoD value

(2) In the case of C1 filtered particulate sub-samples, the indicated LoDs are notional/target values. Actual LoDs achieved by the EA contract lab may be higher in instances where the mass of particulate obtained by filtering is small.

c) Required Limits of Detection for the Environment Agency's Contract Laboratory –Trawsfynydd WRA91 Samples (C33)

Determinand	Limit of Detection (mg / litre)
Total suspended solids	3

Note

These limits of detection apply to the Agency's Contract laboratory only - they do not apply to the Operator.

APPENDIX 3

TASK 1 – WITNESS SAMPLE COLLECTION: FURTHER DETAILS

Where there is a requirement for the Environment Agency's check monitoring Contractor to witness the Operator collecting samples, the requirements on the Contractor are set out below.

The primary aim of this task is to ensure that operators are complying with the Environment Agency's basic requirements for provision of the correct clearly labelled samples (as stated in the schedule shown in Appendix 2) and that they are transported back to the Contractor's laboratory safely and securely. In this way, the Environment Agency can be assured that the samples have not been tampered with in any way (thus fulfilling the Euratom Article 35 requirements). In practice, these checks should encompass the following aspects:

Mandatory - basic checks against explicit requirements in schedules shown as Appendix 2

To at least include the following:

Check sampling point is correct (e.g. on correct plant)

Check timing of the sampling - e.g. mid-quarter or stipulated tank discharge

Check for correct sample type (e.g. duplicate of daily compliance sample or tank sample)

Check sample volume – as required by schedule and adequate for Contractor's analytical requirements

Check for any required pre-treatment of the sample - e.g. stabilisation, addition of preservatives, acidification

Check that any other specific Environment Agency requirements in the schedules are followed

Where there is a mixture of Witnessed and Non-Witnessed samples at a specific site/plant, during sample witnessing visits the Contractor is required to take the opportunity to carry out checks on the Operator's arrangements and procedures relating to the Non-Witnessed samples – for example, checking on sample collection and bulking arrangements.

Mandatory - other basic checks

To at least include the following:

Check sampling procedure ensures that sample is as representative as possible - e.g. agitation/mixing of tank contents to ensure homogenisation

Check that Operator uses a suitable sample container and seal arrangement - e.g. glass bottles for samples with very high tritium content

Check Operator uses accurate and clear sample bottle labelling

Check Operator uses accurate and clear accompanying documentation (sample dispatch note); ensure that required information is shown (e.g. sampling point, sampling date, sample type etc)

Non-mandatory checks

Other aspects of checking are over and above the minimum requirements and will depend on what "added value" the Contractor is able to bring to Task 1 as a result of expertise/experience of their staff in the field of effluent sampling procedures and equipment. This could encompass:

- Check on sampling equipment used by Operator (e.g. flow proportional samplers) - adequacy and fitness for purpose
- Check correct usage of the sampling equipment by the operator
- Check sampling procedures being followed by operators

Other Information

It is envisaged that from time-to-time the Environment Agency's Nuclear Regulators may wish to attend/witness operator sampling in conjunction with the Contractor. On such occasions the

Environment Agency's Programme Manager will notify the Contractor in advance so that the relevant arrangements can be made.

The operators are required to provide appropriate documentation to accompany the samples and label sample bottles clearly. However, it is also required that the Contractor shall have a rigorous and clear system for recording/logging details for samples which have been collected in their presence. Mandatory features of this Contractor system include:

- All samples to be given a unique identification number by the Contractor which can be traced through the Contractor's laboratory and is included in the results reports produced by the Contractor.
- All samples and results quoted must **also** be identified by the **operator's** unique sample identification number (so that operator results can be easily matched to the equivalent results produced by the Contractor).

APPENDIX 4

FORMAT FOR RESULTS REPORTING

As indicated in Tasks 3 and 4 the following reports are required:

- Quarterly analytical results reports
- Quarterly comparisons reports
- Quarterly sampling / witnessing reports

- Example formats, which could be used, available from the Effluent Radiological Monitoring database, are given in the following pages for:
    - Quarterly analytical results report
    - Quarterly comparisons report

Note the quarterly analytical results and comparison reports could also be produced from a suitably formatted version of the template results Excel spreadsheet – example sheet given.

The quarterly sampling / witnessing report format is to be suggested by the Contractor and agreed with the Environment Agency PM.

Agency Laboratory Analytical Results

C10.2 Aldermaston

Quarter: 1
Waste Stream: Trade Waste
Effluent ID: 35
Sample Type: Liquid Effluent

Sample No: C10.2-2010Q1
Date Sampled: 14/02/2010
Sample Info:
Laboratory No: K3001119
Witnessed? No
Units Bq/l

	Result:	Decay Date:	Comment:
Total alpha (as natural U)	<0.1		
Total beta (as natural uranium)	0.47 +/- 0.08		
Aqueous Tritium	<6	15/02/2010	
Total uranium alpha	<0.5	15/02/2010	
Total plutonium alpha	<0.1		

C10.2 Aldermaston

Quarter: 2
Waste Stream: Trade Waste
Effluent ID: 35
Sample Type: Liquid Effluent

Sample No: C10.2-2010Q2
Date Sampled: 15/05/2010
Sample Info:
Laboratory No: K3003689
Witnessed? No
Units Bq/l

	Result:	Decay Date:	Comment:
Total alpha (as natural U)	0.074 +/- 0.032		
Total beta (as natural uranium)	0.61 +/- 0.1		
Aqueous Tritium	<5.4	15/05/2010	
Total uranium alpha	<0.5	15/05/2010	
Total plutonium alpha	<0.5	15/05/2010	

Spec Ref	Site	Waste Stream	Sample Type	Q	Nuclide	Agency Lab Result	Operator Result	Units	% Diff-erence	LOD con-sistent	Within 95% conf	Comparison Result	Comments
C10.2	Aldermaston	Trade Waste	Liquid Effluent	1	Total alpha (as natural U)	<0.1	0.04 +/- 0.03	Bq/l	-1.00	yes	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	1	Total beta (as natural uranium)	0.47 +/- 0.08	0.38 +/- 0.11	Bq/l	21.18	N/A	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	1	Aqueous Tritium	<6	<2.6	Bq/l	-1.00	yes	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	2	Total alpha (as natural U)	0.074 +/- 0.032	0.06 +/- 0.03	Bq/l	20.90	N/A	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	2	Total beta (as natural uranium)	0.61 +/- 0.1	0.52 +/- 0.12	Bq/l	15.93	N/A	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	2	Aqueous Tritium	<5.4	<2.7	Bq/l	-1.00	yes	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	3	Total alpha (as natural U)	0.1 +/- 0.04	0.08 +/- 0.04	Bq/l	22.22	N/A	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	3	Total beta (as natural uranium)	0.7 +/- 0.12	0.29 +/- 0.11	Bq/l	82.83	N/A	no	Poor - Op < Agency lab	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	3	Aqueous Tritium	23 +/- 7.5	14 +/- 2.7	Bq/l	48.65	N/A	yes	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	4	Total alpha (as natural U)	0.08 +/- 0.034	0.05 +/- 0.04	Bq/l	46.15	N/A	yes	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	4	Total beta (as natural uranium)	0.55 +/- 0.09	0.42 +/- 0.12	Bq/l	26.80	N/A	N/A	Good	
C10.2	Aldermaston	Trade Waste	Liquid Effluent	4	Aqueous Tritium	<5.5	<2.6	Bq/l	-1.00	yes	N/A	Good	
C10.3	Aldermaston	Discharges to Aldermaston Stream	Liquid Effluent	1	Aqueous Tritium	<5.5	<7	Bq/l	-1.00	yes	N/A	Good	
C10.3	Aldermaston	Discharges to Aldermaston Stream	Liquid Effluent	2	Aqueous Tritium	<5.5	<6	Bq/l	-1.00	yes	N/A	Good	
C10.3	Aldermaston	Discharges to Aldermaston Stream	Liquid Effluent	3	Aqueous Tritium	11 +/- 7	<6	Bq/l	58.82	no	yes	Good	
C10.3	Aldermaston	Discharges to Aldermaston Stream	Liquid Effluent	4	Aqueous Tritium	<5.5	<6	Bq/l	-1.00	yes	N/A	Good	

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1					EA Contractor Results				Operator Results							
2	SpecRef	Site	WasteStream	Nuclide	LessThan	Result (Bq/l)	Error (Bq/l)		Op LessTh ar	Op Result (Bq/l)	Op Error (Bq/l)	% Diff	EA Contractor Notes and Comments on Results	Operator Notes and Comments on Results	EA Comments on Comparisons or Other Remarks	Miscellaneous Gui Notes
3	C1.1.1	Berkeley	FMDT bulk	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide
4	C1.1.1	Berkeley	FMDT bulk	Other Activity - Total activity excl Cs-137												
5	C1.1.1	Berkeley	FMDT bulk	Aqueous Tritium												
6	C1.1.1	Berkeley	FMDT bulk	Caesium-137												
7	C1.1.1	Berkeley	FMDT bulk	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide
8	C1.1.1	Berkeley	FMDT bulk	Other Activity - Total activity excl Cs-137												
9	C1.1.1	Berkeley	FMDT bulk	Aqueous Tritium												
10	C1.1.1	Berkeley	FMDT bulk	Caesium-137												
11	C1.1.1	Berkeley	FMDT bulk	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide
12	C1.1.1	Berkeley	FMDT bulk	Other Activity - Total activity excl Cs-137												
13	C1.1.1	Berkeley	FMDT bulk	Aqueous Tritium												
14	C1.1.1	Berkeley	FMDT bulk	Caesium-137												
15	C1.1.1	Berkeley	FMDT bulk	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide
16	C1.1.1	Berkeley	FMDT bulk	Other Activity - Total activity excl Cs-137												
17	C1.1.1	Berkeley	FMDT bulk	Aqueous Tritium												
18	C1.1.1	Berkeley	FMDT bulk	Caesium-137												
19	C1.1.2	Berkeley	FMDT spot	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide. Witnessed sp twice per year (ie no sa quarters).
20	C1.1.2	Berkeley	FMDT spot	Other Activity - Total activity excl Cs-137												Witnessed spot sample year (ie no sample in tw
21	C1.1.2	Berkeley	FMDT spot	Aqueous Tritium												Witnessed spot sample year (ie no sample in tw
22	C1.1.2	Berkeley	FMDT spot	Caesium-137												Witnessed spot sample year (ie no sample in tw
23	C1.1.2	Berkeley	FMDT spot	Total Activity (as C-14 and Cs-137 by scintillation)												Operator not required nuclide. Witnessed sp twice per year (ie no sa quarters).
24	C1.1.2	Berkeley	FMDT spot	Other Activity - Total activity excl Cs-137												Witnessed spot sample year (ie no sample in tw
25	C1.1.2	Berkeley	FMDT spot	Aqueous Tritium												Witnessed spot sample year (ie no sample in tw

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Name Box

	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1													
2	SampleRef	Effluent ID	Date Sample Collected	Date Sample Received at EA Contract Lab	Witness-ed?	Date Witnessed	EA Contractor Sample Number/Identifier	Operator's Sample Number/Identifier	Quarter	Nuclide Ref	(EA Contractor) Date Sample Analysed	(EA Contractor) Decay Correction Date	(Operator) Date Sample Analysed	(Operator) Decay Correction Date
3	C1.1.1-2012Q1	10			No				1	93				
4	C1.1.1-2012Q1								1	139				
5	C1.1.1-2012Q1								1	120				
6	C1.1.1-2012Q1								1	14				
7	C1.1.1-2012Q2	10			No				2	93				
8	C1.1.1-2012Q2								2	139				
9	C1.1.1-2012Q2								2	120				
10	C1.1.1-2012Q2								2	14				
11	C1.1.1-2012Q3	10			No				3	93				
12	C1.1.1-2012Q3								3	139				
13	C1.1.1-2012Q3								3	120				
14	C1.1.1-2012Q3								3	14				
15	C1.1.1-2012Q4	10			No				4	93				
16	C1.1.1-2012Q4								4	139				
17	C1.1.1-2012Q4								4	120				
18	C1.1.1-2012Q4								4	14				
19	C1.1.2-2012Q1	93			Yes				1	93				
20	C1.1.2-2012Q1								1	139				
21	C1.1.2-2012Q1								1	120				
22	C1.1.2-2012Q1								1	14				
23	C1.1.2-2012Q2	93			Yes				2	93				
24	C1.1.2-2012Q2								2	139				
25	C1.1.2-2012Q2								2	120				

APPENDIX 5

EFFLUENT ACTIVITY CONCENTRATION RANGES

The table presents typical values for the main radionuclide activity concentrations found in effluent samples throughout 2021 as a guide to help with understanding Health and Safety, handling and disposal requirements.

Determinand	Minimum (Bq / litre)	Maximum (Bq / litre)	Mean (Bq / litre)
Total alpha			
As Pu-239	0.1	145	41
As U	0.1	65	2.5
As Am-241	0.1	0.3	0.1
Total beta			
As Sr-90	429	46000	7512
As Cs-137	0.64	18.4	9.3
As Co-60	17.6	17.6	17.6
As K-40	0.50	1418	348
Tritium	1.80	2390000	150900
Carbon-14	30	4073	694
Sulphur-35	30	3600	1920
Cobalt-60	1	186	48
Strontium-90	1	24200	2593
Technietium-99	0.12	17776	2426
Ruthenium-106	10	476	141
Iodine-129	43	62	53
Caesium-137	0.50	11546	1109
Thorium-232	0.1	0.1	0.1
Thorium-234	10	65	38
Protactinium-234m	61	687	271
Plutonium-241	100	1294	593
Plutonium-238	1.0	28	12
Plutonium-239/240	1.5	79	25
Neptunium-237	0.1	3	1.14

SCHEDULE 2 – PRICING

A set of fixed prices shall be provided for the first year of the contract (based on the calendar year). Costs are based on the sampling/analytical programme shown in Appendix 2 of the Technical Specification (and MCERTS requirements). The summary table requires total costs and a breakdown for:

- Task 1 – Witness sample collection
- Task 2A – Laboratory analysis of EPR16 liquid monitoring samples (including MCERTS as applicable)
- Task 2B – Laboratory analysis of EPR16 gaseous monitoring samples
- Task 3 - Results reporting
- Task 4 – Results comparison and investigation
- Task 6 – Programme management and performance reporting

Notes: Task 4: For the purpose of these costings the level of resourcing required to carry out this activity should be as stated in the main text for Task 4 i.e. around 5-10 days per quarter. Travel and subsistence costs should be excluded from this item ("actuals" will be charged to the Environment Agency for this).

Task 5: This is excluded here since the scope of work cannot be defined in advance. Charging for such work will be either based on the unit prices in Table 3 or (for significant pieces of work) will be costed on a case-by-case basis.

For the ongoing years of the contract and If extensions are offered for the 5th-8th years, the Environment Agency would negotiate a price adjustment factor no more than (L-B)/B where L is the last published value of the CPI (was RPIX) in October of that year according to www.statistics.gov.uk and B is the last value of the index published for 1st April of the preceding financial year.

The Environment Agency would expect that cost efficiency savings as a result of expertise and knowledge gained during the initial stages of the contract would be reflected in the proposed pricing mechanism.

Table 1: Summary overall contract costs - Independent Monitoring of Radioactivity in Effluent Samples

	2023
Task 1 – Witness sample collection	[redacted]
Task 2A – Analysis on EPR-16 liquids*	[redacted]
Task 2B – Analysis on EPR-16 gaseous	[redacted]
Task 3 – Results reporting	[redacted]
Task 4 – Results comparison and investigation	[redacted]
Task 6 – Programme management and performance reporting	[redacted]
Total	**£135,051**

* Including MCERTS requirements where applicable

Table 2: Detailed breakdown of contract costs by site

Site	Activities*	2023
Capenhurst	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Sellafield	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Springfields	Witness sample collection:	[redacted]
	Analysis:	[redacted]
JET (Culham)	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Harwell	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Winfrith	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Berkerley	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Dungeness A	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Dungeness B	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Hartlepool	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Heysham 1	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Heysham 2	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Hinkley Point A	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Hinkley Point B	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Oldbury	Witness sample collection:	[redacted]
	Analysis:	[redacted]

Sizewell A	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Sizewell B	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Trawsfynydd	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Wylfa	Witness sample collection:	[redacted]
	Analysis:	[redacted]
AWE Aldermaston	Witness sample collection:	
	Analysis:	[redacted]
DML Devonport	Witness sample collection:	[redacted]
	Analysis:	[redacted]
Rolls Royce Derby	Witness sample collection:	
	Analysis:	[redacted]
GE Healthcare, Amersham	Witness sample collection:	
	Analysis:	[redacted]
LLWR at Drigg	Witness sample collection:	
	Analysis:	[redacted]
Task 3 – Results reporting		[redacted]
Task 4 – Results comparison and investigation		[redacted]
Task 6 – Programme management and performance reporting		[redacted]
Total		£135,051

[redacted]

[redacted]

[redacted]

SCHEDULE 3 - CHANGE CONTROL

Contract Change Note	
CCN Number	
Contract Reference Number and Title	
Variation Title	
Number of Pages	

WHEREAS the Contractor and the Authority entered into a Contract for the supply of [project name] dated [dd/mm/yyyy] (the "Original Contract") and now wish to amend the Original Contract

IT IS AGREED as follows

1. The Original Contract shall be amended as set out in this Change Control Notice:

Contract Change Details		
Change Requestor/Originator	[x]	
Summary of Change	[x]	
Reason for Change	[x]	
Revised Contract Value	Original contract value	[£x]
	Previous contract change values	[£x]
	Contract Change Note [x] value	[£x]
	New revised contract value	[£x]
Revised Payment Schedule	[x]	
Revised Specification	[x]	
Revised Contract Period	[x]	
Change in Contract Manager	[x]	
Other Changes	[x]	

2. Save as amended all other terms of the Original Contract shall remain effective.

3. This CCN takes effect from the date on which both Parties communicate acceptance of its terms via Bravo.

SCHEDULE 4 - COMMERCIALLY SENSITIVE INFORMATION

1.1 Without prejudice to the Authority's general obligation of confidentiality, the Parties acknowledge that theymay have to disclose Information in or relating to the Contract following a Request for Information pursuant to clause E5 (Freedom of Information).

1.2 In this Schedule the Parties have sought to identify the Contractor's Confidential Information that is genuinely commercially sensitive and the disclosure of which would be contrary to the public interest.

1.3 Where possible the Parties have sought to identify when any relevant Information will cease to fall into the category of Information to which this Schedule applies.

1.4 Without prejudice to the Parties obligations to disclose Information in accordance with the FOIA and the EIR, the Parties will, acting reasonably but in discretion, seek to apply the commercial interests exemption set out in s.43 of the FOIA to the Information listed below.

SCHEDULE 5 - NON DISCLOSURE AGREEMENT

THIS NON DISCLOSURE AGREEMENT is made the [insert day] day of [insert date] (the "Commencement Date"

BETWEEN:

[Insert full name of contractor] of [insert full address but if registered company please insert the following - (registered in England and Wales under number [insert company number]) whose registered office is situated at [ ] (the "Contractor");

and

[Insert name and address of the Staff member, professional advisor or consultant of the Contractor] (the "Disclosee").

(each a "Party" and together the "Parties").

WHEREAS:

(a) The Contractor has contracted with the Secretary of State for Environment, Food and Rural Affairs (the "Authority") to provide services to the Authority in an agreement dated [insert date] (the "Contract").

(b) The Contract places an obligation of confidentiality on the Contractor. The Disclosee is an [insert employee, professional advisor or consultant] of the Contractor engaged in the provision of services to the Authority in support of or in connection with the services to be provided by the Contractor under the Contract.

(c) The Disclosee may therefore, have communicated to it, certain Confidential Information belonging to the Authority which is proprietary and must be held in confidence. Accordingly, the Contract requires the Contractor to ensure that the Disclosee enters into a non-disclosure agreement with the Contractor on the terms set out herein.

(d) Any Confidential Information disclosed by the Authority or the Contractor to the Disclosee, whether contained in original or copy documents, will at all times remain the property of the Authority together with all notes, memoranda and drawings that have been made as a result of access to such Confidential Information.

NOW IT IS AGREED as follows:

Definition and Interpretation

1. In this Agreement:

a) "Confidential Information" means: any information which has been designated as confidential by the Authority in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) whether commercial, financial, technical or otherwise including (without limitation) information belonging to or in respect of the Authority which relates to research, development, trade secrets, formulae, processes, designs, specifications, the Authority data, internal management, information technology and infrastructure and requirements, price lists and lists of, and information

about, customers and employees, all materials and information belonging to third parties in respect of which the Disclosee owes obligations of confidence; information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person, intellectual property rights or know-how of the Authority and all personal data within the meaning of the General Data Protection Regulation (Regulation (EU) 2016/679), whether or not that information is marked or designated as confidential or proprietary; whether arising prior to, on or after the Commencement Date;

b) "Law" means any applicable Act of Parliament, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, exercise of the royal prerogative, enforceable community right within the meaning of Section 2 of the European Communities Act 1972, regulatory policy, guidance or industry code, judgment of a relevant court of law, or directives or requirements of any regulatory body of which the Contractor is bound to comply.

2. In construing this Agreement the general words introduced or followed by the word include(s) or including or in particular shall not be given a restrictive meaning because they are followed or preceded (as the case may be) by particular examples intended to fall within the meaning of the general words.

3. Unless the context requires otherwise, the singular shall include the plural and vice versa, and the masculine shall include the feminine and vice versa.

4. Reference to any legislative and statutory requirement or similar instrument shall be deemed to include reference to any subsequent amendment to them.

5. References to any person shall, as the context may require, be construed as a reference to any individual, firm, company, corporation, government department, agency, or any association or partnership (whether or not having a separate legal personality).

CONFIDENTIALITY

6. The Disclosee undertakes to: keep confidential all Confidential Information and safeguard it accordingly; and that any Confidential Information supplied will not be used by it for any purpose other than in connection with the Contractor's delivery of the services under the Contract without the prior written permission of the Authority.

7. The Disclosee will take all necessary precautions to ensure that the Confidential Information is held in confidence and will provide proper and secure storage for all information and any papers, drawings or other materials which relate to or are compiled from such information.

8. The Disclosee shall, with respect to any Confidential Information it receives directly from or on behalf of the Authority or from the Contractor, comply, with all instructions and/or guidelines produced and supplied by or on behalf of the Authority from time to time for the handling and storage of Confidential Information, generally or for specific items.

9. The Disclosee will not disclose any Confidential Information or any part thereof to any third party.

10. Where the Disclosee is an employee, breach of the obligations set out herein in this Agreement shall be a cause of disciplinary proceedings, and the Contractor shall institute

and enforce such disciplinary proceedings as against the Disclosee in relation to such breach.

11. Where the Disclosee is a professional advisor or consultant, breach of the obligation set out herein shall entitle the Contractor to terminate the contract of engagement with the Disclosee immediately, and the Contractor shall enforce such right of termination as against the Disclosee in relation to such breach.

12. All Confidential Information in tangible form received hereunder together with all copies thereof shall be destroyed or returned immediately to the Contractor or where so required by the Authority and notified to the Disclosee, to the Authority, upon request or upon completion of the task for the purposes of which such Confidential Information was released.

13. The Confidential Information will not be used by the Disclosee for any purpose or in any way other than under this Agreement.

14. The following circumstances shall not constitute a breach of the obligations of confidentiality contained in this Agreement:

14.1 Disclosure of Confidential Information by the Disclosee when required to do so by Law or pursuant to the rules or any order having the force of Law of any court, of competent jurisdiction;

14.2 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information has, except as a result of breach of confidentiality, become publicly available or generally known to the public at the time of such disclosure;

14.3 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information is already lawfully in the possession of a recipient or lawfully known to it prior to such disclosure;

14.4 Possession of Confidential Information by the Disclosee where it has been acquired from a third party who is not in breach of any obligation of confidence in providing that Confidential Information;

provided that, in no event shall information relating to the affairs of any identifiable person be disclosed or released from the obligations herein without the prior written consent of the Authority.

15. The Disclosee shall: notify the Contractor and the Authority promptly of the date and circumstances of the loss or unauthorised disclosure, if any, of the Confidential Information or any part of the Confidential Information and in addition, the action being taken to rectify that loss or unauthorised disclosure.

16. The obligations contained in this Agreement shall continue until notified in writing by the Authority or the Confidential Information becomes public knowledge (other than by breach of the terms of this Agreement).

17. No licence of any intellectual property rights (including but not limited to patent rights, copyrights, trademarks and rights in proprietary information and/or know-how and whether registrable or unregistrable) is granted hereby, beyond that necessary to enable

use of the Confidential Information for the purpose for which the Confidential Information was released.

18. Nothing in this Agreement shall be construed as compelling any of the Parties to disclose any Confidential Information or to enter into any further contractual relationship with any other party.

19. No representation or warranties are given regarding the accuracy, completeness or freedom from defects of the Confidential Information or with respect to infringement of any rights including intellectual property rights of others.

20. Without affecting any other rights or remedies that the other Parties may have, the Disclosee acknowledges and agrees that damages alone would not be an adequate remedy for any breach of any of the provisions of this Agreement.

GENERAL

21. No failure or delay by any Party to this Agreement in exercising any of its rights hereunder shall operate as a waiver of such rights, nor shall any single or partial exercise preclude any further exercise of such rights. Any waiver by a Party of any breach or non-compliance with any term of this Agreement shall not constitute a waiver of any subsequent breach of non-compliance with the same or any other term of this Agreement.

22. No Party may assign this Agreement or any of its rights and obligations hereunder without the prior written consent of the Authority.

23. Any notice under this Agreement shall be in writing and shall be delivered by post, fax or e-mail to the address of the Party in question set out at the beginning of this Agreement or such other address (or e-mail address or fax number) as the Parties may notify one another from time to time.

24. No term of this Agreement shall be enforceable, by virtue of the Contracts (Rights of Third Parties) Act 1999, by any person who is not a party to this Agreement other than the Authority. The Parties shall only with the prior written consent of the Authority be entitled to vary any of the provisions of this Agreement without notifying or seeking the consent of any third party and the rights conferred by section 2 of the Contracts (Rights of Third Parties) Act 1999 are excluded.

25. This Agreement shall be governed by and shall be interpreted in accordance with the laws of England.

26. The courts of England have exclusive jurisdiction to settle any disputes which may arise out of or in connection with this Agreement and accordingly that any proceedings, suit or action arising out of or in connection therewith shall be brought in such courts.

This Agreement has been entered into on the date first written above.

SIGNED by the authorised signatory for and on behalf of the Contractor:

SIGNED by the Disclosee: