

Production of the 2016 UK Radioactive Waste and Materials Inventory, Content for International & UK Public Reporting and Associated Support Activities

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From:	Amec Foster Wheeler
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Title	Production of the 2016 UK Radioactive Waste & Materials Inventory, Content for International & UK Public Reporting and Associated Support Activities
Prepared for	RWM Ltd
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Our Reference	CRM 37347 Issue 01
Date	4 th August 2015
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Executive Summary

This proposal has been prepared in response to NDA's invitation to tender for the Production of the 2016 UK Radioactive Waste & Materials Inventory, Content for International & UK Public Reporting and Associated Support Activities (reference CJ000207), dated 3rd July 2015.

The partnership of Amec Foster Wheeler and Pöyry Energy successfully delivered the 2013 UK Inventory and through reinforcement of this working relationship, we believe we offer NDA a unique combination of previous experience and the ability to provide fresh, innovative ideas to key aspects of the project, at a cost effective price.

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Contents

1	Introduction	1
1.1	Introduction.....	1
2	Project Management and Quality Management	1
2.1	Project Management.....	1
2.2	Quality Assurance	3
2.3	Risk Management	4
2.4	Security	6
2.5	Environmental Assurance	6
3	Approach	6
3.1	Summary of Understanding	6
3.2	List of Tasks	10
4	Project Team and Experience	33
4.1	Project Team	33
4.2	Relevant Experience	37
5	Innovation	39
5.1	Technical Innovation	39
5.2	Encourage the Maintenance of a Live Inventory.....	41
6	Programme	41
6.1	Milestones	41
6.2	Summary Programme.....	42
6.3	Project Resource Profile	43
7	Commercial	45
7.1	Price	45
7.2	Payment	46
7.3	Validity of Proposal	47
7.4	Assumptions.....	47
7.5	Project Interactions and Information Exchange	47
7.6	Termination Prior to Completion	47
7.7	Security	47
7.8	Terms and Conditions	48
7.9	Project Initiation.....	48
7.10	Retention of Records	48
7.11	Legal Status	48
7.12	Contract Data Part 2	48

1 Introduction

1.1 Introduction

Amec Foster Wheeler is delighted to submit this proposal covering the Production of the 2016 UK Radioactive Waste & Materials Inventory, Content for International & UK Public Reporting and Associated Support Activities, in response to NDA's invitation to tender, referenced CJ00027, dated 3rd July 2015.

The NDA in partnership with the s.24 security provides an inventory of radioactive waste and radioactive materials for the United Kingdom (the UK Inventory). Currently the UK Inventory is being updated and published every three years. The latest UK Inventory is based on a stock date of 1 April 2013 ("The 2013 UK Inventory") and the next update is planned to have a stock date of 1 April 2016 ("The 2016 UK Inventory") and to be published at the end of 2016.

We understand NDA will be the contracting authority for the preparation of the 2016 UK Inventory and will consult with DECC on all aspects of the work. The information in our tender is arranged in six sections (Sections 2-7) matching the six criteria in the ITMT for which NDA requests specific information.

2 Project Management and Quality Management

2.1 Project Management

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The organogram for the 2016 UK Inventory, showing key responsibilities, is illustrated in Figure 1. We are proposing:

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The technical aspects of the project can be conveniently divided into five areas. Each area will be overseen by a technical lead responsible for the work and accountable to the Project Technical Manager:

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We have drawn a team together from our extensive resource pool utilising consultants with the most suitable experience matched to the 2016 UK Inventory requirements. We are offering a well-balanced team with complementary skills and with a full range of appropriate experience. The relevant expertise of each of the key people is given in Section 4 of our tender.

The monthly progress reporting will include technical progress and financial status. Periodic progress meetings are also scheduled, and technical progress notes and financial status notes will be circulated ahead of these meetings.

Contract and technical management will rely in a large measure on good communications with NDA, including meetings, technical and financial progress notes.

We have factored in our understanding of what is required to successfully deliver the project management requirements in Task 1 which sets out our approach to the relevant tasks in Section 3.2.1, largely drawing on previous experience but incorporating improvements where identified.

2.2 Quality Assurance

The UK Inventory is classed as a “Critical Spreadsheet” within NDA with the information used to inform business decisions, and by Government, its agencies and across the nuclear industry. It provides essential information on radioactive wastes and materials for the UK to meet its international reporting obligations, for the development of national policies and strategies for waste management, for informing activities on sites where radioactive wastes are produced, and for the planning and operation of waste storage, processing and disposal facilities. Therefore it is vital that high quality assurance standards are upheld in its preparation.

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Compilation of the UK Inventory involves the handling and management of large quantities of data and documentation, as well as a process of continual engagement with the data providers, NDA, DECC and other stakeholders. All of these pieces of information and the many interactions need careful management.

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Recently for the 2013 Derived Inventory, Pöyry Energy and Amec Foster Wheeler have worked closely with RWM to ensure there is a comprehensive and robust audit trail for all data in the inventory. This includes QA records that provide the details and the evidence for data checking and verification. We are proposing to use the same rigorous approach for the 2013 UK Inventory.

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2.3 Risk Management

The exercise to develop the 2016 Inventory is heavily dependent on receiving good-quality, timely inputs from a number of providers; involves the handling of a substantial amount of data and information and requires the production of a number of technical deliverables. There are, therefore, a number of risks associated with the delivery of a project of such complexity.

Project risk management must therefore ensure that project targets (in quality, time, and budget) are not compromised by addressing the following processes:

- Identifying risks and potential problems which could cause delays;
- Evaluating risks (qualitative and quantitative) in terms of impact and likelihood of occurrence;
- Defining the risk mitigation measures and assessing residual risks;
- Implementing mitigating actions; and
- Monitoring and controlling risks.

The Technical Project Manager will be responsible for ensuring proper risk management during the implementation of the technical project work. Any reassessment of project risks will be immediately reported to the Project Contract Manager and then to NDA.

The management of project risks will be facilitated by the development of a project risk register that, following agreement with NDA, will then be regularly updated throughout the project. It will list risk items and categorise the potential risk exposure in terms of the probability of the event occurring and its impact on the programme, on cost and on quality. Actions to prevent or reduce the risk will be identified, and any available fall back plan and secondary risks set out. Our approach to producing and maintaining the comprehensive project risk register as part of Task 1.1 is described in Section 3.2.

A summary of the most significant potential risks to the success of the project and mitigation measures are given in Table 1.

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2.4 Security

Amec Foster Wheeler and Pöyry Energy will maintain the standard of security that is required to prevent any unauthorised disclosure of protectively-marked information. All information provided under any contract resulting from this proposal will be treated as Commercial in Confidence unless otherwise instructed by NDA. Team members from both organisations are experienced in the handling of protectively marked information and have worked with NDA on various other contracts in which the protection of protectively marked information is of utmost importance.

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All staff (from both Pöyry Energy and Amec Foster Wheeler) we are proposing for the 2016 UK Inventory project are vetted to at least SC level.

2.5 Environmental Assurance

Both Amec Foster Wheeler and Pöyry Energy are committed to the protection of the environment and we are all responsible for minimising the impact we have on it. The environmental management arrangements of both organisations have been assessed and approved against the requirements of BS EN ISO 14001:2004 and approval certificates are available on request.

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3 Approach

3.1 Summary of Understanding

Our approach to the work has been developed to meet NDA's stated project objectives, scope of work and deliverables for the tasks describing the project activities. We understand that the UK Inventory provides essential information (in summary and in detail) on radioactive wastes and materials for the UK to meet its international reporting obligations, for the development of national policies and strategies for waste management, for informing activities on sites where radioactive wastes are produced, and for the planning and operation of waste storage, processing and disposal facilities.

The UK Inventory data are used across the nuclear industry: by producers of radioactive wastes, Government, regulators, the NDA, RWM, LLWR, and supply chain organisations. Because the UK Inventory is central to a range of key decision making processes, and underpins safety assessments and permit applications, it must be robust regarding quality, coverage consistency and auditability, and transparent regarding assumptions and uncertainties. The inventory also has an important role in delivering sufficient and

accessible information into the public domain to inform on, for example, why the UK produces radioactive wastes, what these wastes comprise, and the challenges the UK faces in managing them safely for the long term.

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¹ In particular, DECC, NDA, RWM, LLWR and regulators.

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3.1.2 Scope of Work

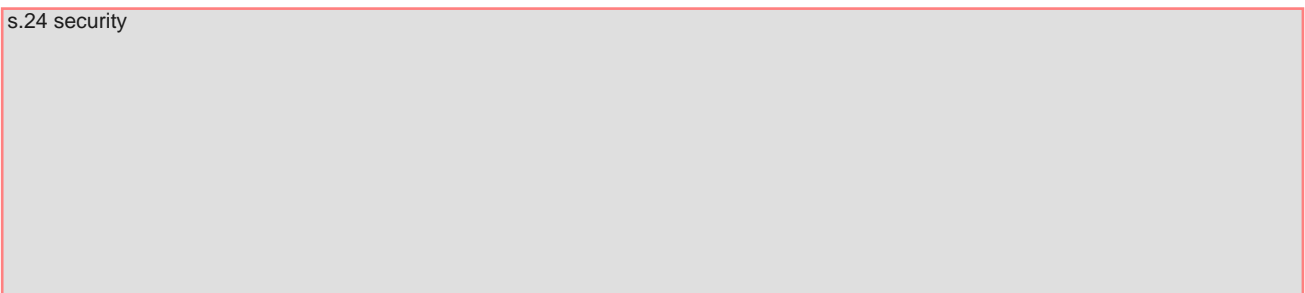
The overall scope of work is as follows:

The 2016 UK Inventory will include data for release into the public domain on radioactive wastes (HLW, ILW, LLW, and VLLW from nuclear licensed sites), safeguarded radioactive materials (spent fuels, plutonium, uranium, thorium) and not fully characterised radioactive substances that may become wastes (e.g. orphan wastes, potentially contaminated ground).

The 2016 UK Inventory will exclude VLLW from non-nuclear licensed sites and other, non-safeguarded radioactive materials and other radioactive substances. It will exclude estimates of waste from new nuclear power stations.

Radioactive wastes and materials will be reported as at 1 April 2016 (i.e. stocks) and forecast after this date (i.e. future arisings).

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The 2016 UK Inventory differs from the 2013 UK Inventory in a number of respects:

The inclusion of a thorough review of data fields to ensure that there are defined users for all data collected, redundant fields are removed, data fields for hazardous substances and non-hazardous pollutants are updated to meet the requirements of the Groundwater Daughter Directive, a better alignment with the NDA Waste Inventory Form (WIF).

Review of the suitability of the existing activity uncertainty bands.

Review of suitability of existing standard assumptions in convention and guidance documents.

Consolidation of the reporting outputs documentation.

Redesign of the improvement plan template so that it is clearer and easier to use.

Invitations to the National Inventory Forum (NIF) meetings for feedback and learning.

Collaboration with the Website Development Contractor to update the data content of the website and to test the data prior to launch.

Our detailed approach to the work is broken down into the various tasks as set out in the ITMT.

3.1.3 Deliverables

Our understanding is that 2016 UK Inventory data and information on radioactive wastes and materials will be provided in a number of project deliverables. The key deliverables are shown in Table 2. (A consolidated list of project deliverables with formats is given in the Technical Specification - this includes project management documents that are not listed here).

The 2016 UK Inventory reporting outputs, data sheets and data set will support the update of the NDA public access UK Inventory website. At the end of the contract a handover package will be delivered to NDA and DECC. This will comprise all key project documents, including all deliverables.

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3.2 List of Tasks

3.2.1 Task 1 – Project management

3.2.1.1 Task 1.1 - Early project management deliverables

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The accepted programme will form the baseline against which progress will be monitored over the duration of the contract. Changes will be made only with the approval of all parties. The project management documents are listed in Table 4.

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3.2.1.2 Task 1.2 - Continuous project management activities

Overall responsibilities

We will carry out all task work in compliance with the agreed Project Plan (and programme of work) and the agreed Quality Plan. The Contract Manager will continually review the Project Plan and the Quality Plan to ensure their continued applicability, and keep documentation up-to-date to account for any changes agreed with NDA and DECC.

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Progress meetings and reporting

We will arrange a start-up meeting with NDA and DECC. In order to keep NDA and DECC informed of the status of the project and the situation with regard to the return and agreement of data from data providers, formal progress meetings between the contractor, NDA and DECC will be held monthly (face-to-face or teleconference). Our tender assumes seven face-to-face meetings will be held. Additional meetings on specific topics may be held as and when appropriate. We will take and distribute draft minutes of all meetings within five working days. Final versions will be distributed upon receipt and incorporation of comments. A proposed agenda will also be submitted seven working days before each meeting.

We will submit by e-mail a regular monthly progress report. This will list all tasks and their status, progress and projected work, and will include the detailed programme of work, an up-to-date contact list, the Risk Register and Transparency Database.

During the period of data return and agreement a Data Return Analysis spreadsheet (see Task 7) will be emailed to NDA weekly. s.43(2) commercial

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We will submit by e-mail a summary monthly financial statement of the project to demonstrate control of the project and to facilitate accurate forecast of expenditure. We will agree with NDA the content of monthly reports and the format of the financial data.

Invoicing

Amec Foster Wheeler will invoice NDA for work completed to an agreed schedule. A proposed schedule is included in Section 7 of our tender.

Monitoring of work

Our tender anticipates three external audits over the duration of the contract: one technical audit, one quality audit and one financial audit. We will provide access to all contract documentation and records for auditing

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Communications with NDA, DECC and other organisations

Pöyry Energy will maintain a log of all technical correspondence in the same manner as for the 2013 UK Inventory. This log will form part of an Excel database (Transparency Database) that will record all correspondence, all issues raised, and the status of all data and contract deliverables. It is a living document that will be kept up-to-date throughout the project.

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We will provide DECC with all documentation, including minutes of meetings, progress reports, schedules, QA plans, the programme of work and other deliverables such as the UK Inventory reports. All communications from / to DECC will be copied to NDA.

We will maintain close contact with all the data providers throughout the period of the contract by means of e-mails, telephone calls and letters, and site visits when necessary. On receipt of data, comments or open publication notices, we will respond stating what has been received and what if anything remains

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Records Management

Electronic and paper filing systems will be maintained (see Communications with NDA, DECC and other organisations above). We will transfer all contracts records to NDA and DECC at the end of the contract.

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Other requirements

From our work in preparing previous inventories, we fully understand that involvement in the UK Inventory is an on-going process that continues beyond the formal period of the contract. The team has the experience in organisation and planning to ensure a smooth transition from one contract to another. The handover package will be kept up-to-date as items become available during the contract period.

During the contract we will maintain an up-to-date knowledge of radioactive waste and material management issues. This will include a library of references to all appropriate (world-wide) radioactive waste and material data. A list of all references will be provided to NDA and DECC at six-monthly intervals, with electronic copies of all documents being provided to NDA. These will form part of the handover package.

During the period of the contract we can provide technical support on directly related 2016 UK Inventory matters to NDA and DECC if requested. Any work will be specified and accounted for separately. We can also carry out other more substantial work of an UK Inventory related nature if required as part of a separate contract.

At the end of the contract we will arrange a project close out meeting with NDA and DECC. This will include a presentation comprising a review of the process highlighting positive outcomes and any problems, feedback from stakeholders, the status of data improvement plans, lessons learned and recommendations for process and data improvements (as presented by the continuous review work – see Task 16).

3.2.2 Task 2 – Preliminary work

3.2.2.1 Task 2.1 - Completion of IT induction and DIQuest training

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3.2.2.2 Task 2.2 - Preliminary work

The team we are proposing to undertake the production of the 2016 UK Inventory has the accumulated experience and the expertise gained in the preparation and production of the 2013 UK Inventory and previous UK Inventories. This means that we have systems and processes already in place, and the relevant knowledge and familiarity with the data, documents, software and procedures, to start productive work on the 2016 UK Inventory immediately on contract award.

Members of the 2016 UK Inventory team that do not have the experience of working on a previous UK Inventory exercise will be brought quickly up to a state of familiarity for their roles in the project.

Nevertheless the Technical Specification specifies an element of preliminary work that entails contacting data providers to establish 2016 UK Inventory co-ordinators, data compilers, data and reporting outputs reviewers and approvers, and to confirm methods of providing data and reporting outputs comments. This list of contacts will be kept up-to-date and included in the monthly progress reporting to NDA.

Process improvements

The Technical Specification states that opportunities for improvements to the process, data and reporting identified by the contractor shall be presented to NDA. Our tender incorporates a number of improvements, which are summarised in Table 4. These are included in our tender price (Section 7).

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Data improvement plans

We are familiar with the data improvement plans supplied to each data provider from our work on the 2013 UK Inventory.

The current improvement plan template is based on a format from earlier RWM work, and we recognise that it can be made clearer and easier to use (e.g. by simplifying the structure and format, and by incorporating guidance information including the RAG designation of priorities). Hence we will prepare a revised template and issue this to NDA and the data providers for comment and agreement.

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We will include data improvement plans as an agenda item for our initial discussions with data providers, and will establish what they can realistically achieve for the 2016 UK Inventory. The outcome of discussions will be reported to NDA.

Furthermore we will engage with NDA and the DIQuest Technical Support Contractor to address DIQuest developments. For example, additional information on hazardous wastes, hazardous substances and non-hazardous pollutants (mass, volume and form) will need to be accommodated in the 2016 UK Inventory data set. We propose that the high level material contents groupings are added to waste stream data in DIQuest so that outputs can be generated for reports.

Any requirements for a data sheet for material streams will also be discussed with NDA.

As a matter of course, the Contract Manager will make suggestions for improvements in the process, with appropriate justifications. This element is part of normal Project Management and is costed under Task 1b.

3.2.3 Task 3 – Preparation of 2016 Inventory guidance

We recognise that a crucial part of the success of any UK Inventory exercise is constructive engagement with data providers at an early stage of the project and the provision of continuing and comprehensive advice, guidance and encouragement on all aspects of the programme. We aim to ensure that liaison with data providers is a key focus of our approach to the 2016 UK Inventory.

As part of this engagement we will prepare and issue to data providers the following information that will help and support the preparation of consistent and robust data submissions:

A note explaining the conventions for the preparation of the 2016 UK Inventory, which will cover streams, waste and material categories, radioactivity, packaging etc. This note will include definitions applicable to the compilation of the data.

Guidance for using the Excel data gathering tool. This will describe the tool, and explain the process of updating the current 2013 UK Inventory data and returning it to the contractor, and how to obtain further assistance.

Detailed guidance for each data item on the Excel data gathering tool explaining the nature of the data required (with a format mirroring that of the tool)

A set of model answers to assist data providers in their responses.

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This information will be written with sufficient background and a level of detail suitable for inventory co-ordinators at the data provider organisations that have had no experience with previous UK Inventory exercises.

We will provide NDA and DECC with draft copies of the guidance material for comment before issuing it to the data providers.

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3.2.4 Task 4 – Preparation and delivery of data gathering tools

The contractor will be responsible for delivering the 2016 UK Inventory data gathering tools to data providers and for managing the process of data return. Our baseline approach to data gathering is to build on our experience in developing the methodology and tools for the 2013 UK Inventory.

We will start work on the preparation of data gathering tools immediately after contract award. This will allow us sufficient time to develop proposals for presenting at the October/November meeting of the NIF.

We are proposing the same data management approach as was adopted for the 2013 UK Inventory. That is, data compilation on Excel spreadsheets, electronic transfer to an Access database and then to DIQuest. Data tables and charts for the reporting outputs and the “Gold Disk” will be generated from DIQuest, and waste stream data sheets will be generated from the Access database.

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We will establish a full methodology for the data providers to complete the Excel spreadsheets for the 2016 UK Inventory (i.e. amend or delete the data, or add new streams). The methodology will include assignment of identification codes for new streams. The methodology will be first issued to NDA for review and approval.

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Following update by the data providers, data sheets will be returned for review and agreement. Following confirmation, the data will be transferred into an Access database using a new import program. The data will then be uploaded to DIQuest as in previous UK Inventories.

We will provide blank data gathering forms for any new streams identified by data providers.

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3.2.4.1 Data collection tool – waste streams

We are proposing to use an updated and improved version of the 2013 UK Inventory Excel data gathering tool. The improvements we are proposing will enhance data compilation and assessment, and provide

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New data fields for hazardous materials, LLW treatment and disposal and other identified items will be accommodated. Also we will recommend to NDA that the waste grouping information is accommodated.

Existing features that warn of knock-on effects of changes; built in checks on material percentages and nuclide masses will be retained.

For the 2013 UK Inventory all data providers used the Excel data gathering tool, apart from Magnox Ltd that used Brims. Recently Magnox Ltd has replaced Brims with a software package called eMWaste. At the start of the project we will discuss with Magnox Ltd their plans for 2016 UK Inventory data submission, and confirm the data transfer process.

We will develop a draft version of the 2016 UK Inventory Excel data gathering tool and present our proposals at the October/November 2015 meeting of the NIF. Feedback from stakeholders will be used to prepare a final version of the Excel tool. We will seek NDA approval before issuing the Excel tool files to data providers.

3.2.4.2 Review of waste stream data collection fields

We will undertake a full review of data collection fields. The purpose of the review is to:

- Validate fields by confirming an end user need.

- Ensure all international reporting requirements can be met.

- Confirm data provider understanding.

The review will focus on:

Identifying redundant fields that could be removed from data gathering tools: Our accumulated experience of working with key stakeholder means we can critically examine inventory data items and identify potentially redundant data fields.

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Reviewing activity uncertainty bands for suitability: The review of activity uncertainty bands will seek the views of data providers on the suitability of existing bands for the information available.

Reviewing standard assumptions (e.g. container payloads and displacement volumes) included in guidance documentation: The review of standard assumptions will consider their current suitability.

Review of the waste groupings: The review of waste groupings will address their suitability for end user needs.

A further consideration when undertaking this task should be whether there are any implications for the waste producers, should the forms be changed. We know, for example, that some of the larger waste producers (e.g. Sellafield and Magnox) maintain their own inventory databases. Amending the forms may have consequences for their data-export process and so consideration should be given to whether this may cause issues (e.g. incomplete reporting) for the 2016 UK RWI exercise.

We will consolidate the results of the reviews into a report that we propose is issued to all key stakeholders (NDA, DECC, RWM, LLWR, data providers, regulators). We also propose a presentation of the results at the

October/November 2015 meeting of the NIF. Feedback from stakeholders will be used to develop a final version of the 2016 UK Inventory Excel data gathering tools.

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3.2.4.3 Data collection - material streams

For the 2013 UK Inventory exercise data on spent fuels and nuclear materials was compiled on Excel spreadsheets using a different template to that for waste streams. The data had a "Restricted" designation and was held on a restricted company network. The data were consolidated for the radioactive material reporting output, and were not transferred into the 2013 UK Inventory Access data set or onto DIQuest.

For the 2016 UK Inventory we will review the approach to the compilation, handling and publication of spent fuel and nuclear materials data in discussions with NDA, DECC and data providers. As was the case for the 2013 UK Inventory, more detailed data may need to be gathered than is included in the reporting outputs. We will identify any such data and propose how it should be handled and address the following potential issues:

Whether any of this detailed data are in fact suitable for release into the public domain.

That while individual pieces of information may be suitable for publication in isolation, they may not be suitable when published together with other data.

We will discuss and agree with RWM data requirements for spent fuels and nuclear materials and how the data should be gathered, managed and used within DIQuest.

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We will propose a template for the gathering of radioactive materials data and a methodology for data management, and seek approvals from NDA and DECC.

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We will present our proposals for gathering and managing information on radioactive materials at the October/November 2015 meeting of NIF.

3.2.4.4 Population of data gathering tools

Following approvals we will populate the 2016 UK Inventory data gathering tool templates with 2013 UK Inventory data where data fields align. New data collection fields will be left blank.

The waste stream data transfer software routines used to automate population of the 2013 UK Inventory Excel data gathering tool from the Access database will be updated. There will be no manual transfer of data. The revised routines will be tested on a small number of waste streams covering all waste types and all data fields to verify error-free data transfer.

Material waste stream Excel spreadsheets will be populated from the 2013 UK Inventory Excel files. Checks will be made on a representative number of streams to verify correct data transfer.

3.2.5 Task 5 – Engagement with data providers and information distribution

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We recognise the importance of maintaining the relationships with the data providers in order to:

- Give details of the programme of work

- Agree a phased submission programme for waste and material stream data.

- Confirm the lists of waste and material streams and ensure that the waste stream identification system is correctly and logically applied.

- Encourage the use of consistent and realistic scenarios taking account of the views of NDA and DECC.

- Explain and agree the data gathering methodology, and provide a demonstration of the tools as well as training for data compilers.

- Provide guidance and advice on the conventions and definitions used in the UK Inventory.

- Discuss data improvements and priorities including the additional data requirements.

- Stress that the data providers are responsible for ensuring that the data they provide has been internally approved and cleared for release into the public domain at the time of its provision, and that NDA is responsible for the clearance of all the data brought together. In this regard we will seek information on data providers' QA arrangements.

- Stress the importance of submitting completed data for waste and material streams on time, and responding speedily to any queries so that data can be agreed by the deadline.

- Continually monitor the rate of return of the data so that areas of difficulty or where assistance is required can be immediately identified.

- Confirm the changes made to data since the 2013 UK Inventory and where these are significant.

- Encourage data providers to contact us at any time for advice or assistance.

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For each data provider all communications will be with the individual co-ordinating the responses from the many compilers, unless alternative arrangements are sanctioned. s.43(2) commercial

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workshops will be maintained in the "Meetings Log". Notes of meetings and workshops will be issued to participants within five working days.

NDA and DECC will be informed immediately of any issues that may affect data providers' abilities to complete data returns effectively or where there may be an impact on the project programme.

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Updated information for a waste stream will be issued to the data provider in the form of waste stream data sheets for approval (or amendment if in error). We will obtain approval of all data sheets (containing the data for release into the public domain) from data providers by 1 July 2016.

For material streams, updated information will also be issued to the custodian / data provider in the form of data sheets for approval. The content and format of the data sheet will be agreed with NDA early in the programme of work.

With the agreement of data providers, we propose to issue all waste stream data sheets as electronic files by e-mail and seek confirmation of receipt by telephone. Material stream data sheets will be handled as OFFICIAL-SENSITIVE and will be sent by post on disk.

3.2.6 Task 6 – Agreement of waste and material producing scenarios

The figures given in the UK Inventory for future waste and material arisings will be projections made by the waste custodians / owners on the basis of their assumptions as to the nature and scale of future operations and activities including anticipated plant shut down dates and decommissioning timetables. Taken as a whole these projections constitute the UK Inventory scenario.

Some waste and material arisings derive from the processing of overseas fuel and other materials. Details will be sought from waste producers for those wastes and materials that may be exported from / to the UK.

With the emphasis on passive long-term storage management options in the UK pending operation of a GDF, we will seek from waste producers their plans for conditioned waste storage, and the quantities of operational and decommissioning radioactive wastes they might generate.

We will produce a draft report on waste producing and material scenarios. The starting point will be the waste producing scenario in the 2013 UK Inventory. This will be updated to account of the latest information available in the public domain, the most recent site lifetime plans, and discussions with data providers. We will consult with each data provider to discuss and agree individual site scenarios for producing radioactive waste and for the usage of radioactive materials. Consistency between site scenarios will be a key consideration during the work. Any inconsistency will be discussed with the data providers with the aim of achieving consistency.

The draft report issued to NDA, DECC and the data providers will include:

- A scenario for each nuclear licensed site where radioactive material is (or will be) used and / or stored and / or radioactive waste is (or will be) produced and / or stored – provided this information does not conflict with national security or commercial sensitivities (i.e. is suitable for release into the public domain).

- Details of the processes that give rise to radioactive wastes.

- For each site, the differences from the 2013 UK Inventory scenario.

- Any unresolved inconsistencies.

A recommended overall scenario on which the 2016 UK Inventory will be based, for acceptance by NDA and DECC.

Should any data provider not be in a position to agree site scenarios to the project programme, we can utilise our expertise to propose a basis from information in the 2016 UK Inventory and from knowledge of subsequent developments.

We will seek agreement from NDA, DECC and the waste providers for a valid and self-consistent final scenario for the 2016 UK Inventory by no later than 1 June 2016.

3.2.7 Task 7 – Agreement of programme for the return and agreement of data on radioactive waste and materials

As part of the early stage engagement with data providers a suitable schedule for return of radioactive wastes and materials data will need to be agreed that meets the requirements of the 2016 UK Inventory programme. This schedule must also be consistent with the resources available to the data provider, and must not introduce unacceptable risk that could jeopardise the overall programme of work.

We will agree a programme for the return of data with each data provider by 11 December 2015. We will seek all data approvals by 1 July 2016 (the data freeze date) to give sufficient time for carrying out the preparation and approval of UK Inventory reporting outputs and other contract deliverables, we will emphasise the need for data providers to return / agree data in a staged manner over a period of weeks and months before 1 June 2016. We will establish a deadline, or a number of staged deadlines, for data submission with each data provider. It is essential that data for large numbers of waste and material streams are not submitted shortly before 1 June 2016, as this will jeopardise the ongoing programme of work.

A "Data Return Analysis" spreadsheet (comprising tables and charts) will be used to monitor the rate of return of data against the agreed schedule in the same manner as for the 2013 UK Inventory. s.43(2) commercial

3.2.8 Task 8 – Ongoing support to data providers and data gathering

3.2.8.1 Task 8.1 – Point of contact and provision of general support

We will provide advice and support to the data providers in using the 2016 UK Inventory Excel data gathering tool and updating the data during the data return and agreement exercise. We will deal with issues raised by the data providers that are due to the misuse and misunderstanding of the spreadsheets and waste stream data sheets. We will identify any potential delays in data return and specific support to mitigate such delays.

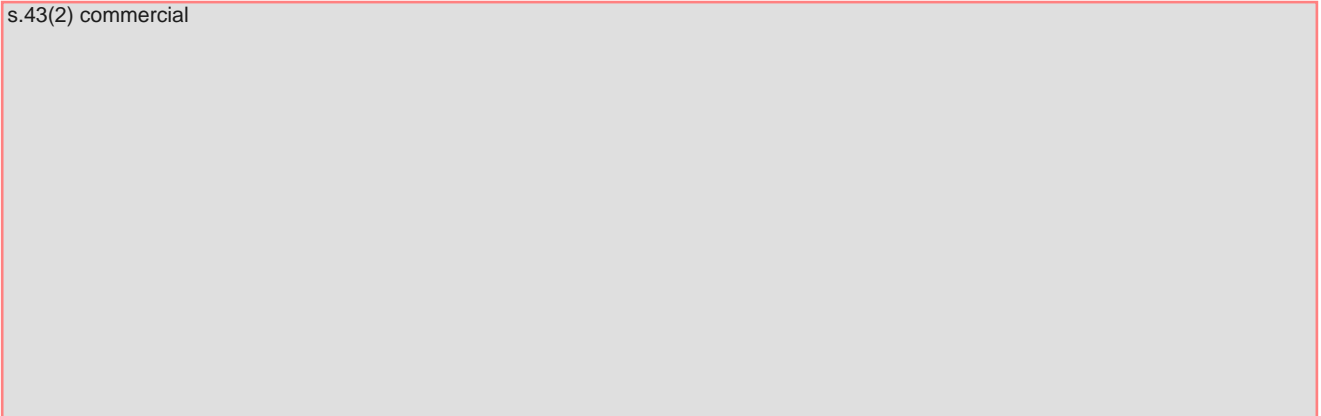
Support may require site visits. In which case, the topics for each visit will be agreed with the data provider beforehand. We will provide NDA with a record of each visit within five working days. NDA will also be informed of any issues affecting or potentially affecting the work programme, the UK Inventory scenario, changes in predicted waste and material arisings and conditioning processes, and the improvement in the quality of the data.

We intend to meet with MoD site waste managers at one (or more if requested) of their periodic meetings. We believe that this is the most productive solution for the many small (in terms of the number of waste streams) MoD sites compiling inventory data. This meeting can then be followed up with site visits if required.

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A "Data Return Analysis" spreadsheet will be used to monitor the rate of return of data against the agreed schedule (see Task 7). This will allow us to act immediately on any shortfall. Furthermore, we will maintain regular contact with data providers so that any difficulties they may have can be identified early and solutions found. Solutions may include additional site visits.

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3.2.8.2 Task 8.2 – Data gathering

The aim of the work is to establish a clear, comprehensive, self-consistent and error-free set of data on DIQuest, suitable for generating reporting outputs and data sheets etc. for use by NDA, DECC, data providers and other parties. Hundreds of thousands of pieces of data will be processed through a number of stages. This requires appropriate technical and management control.

There are four key aspects to the task:

- Data assessment.

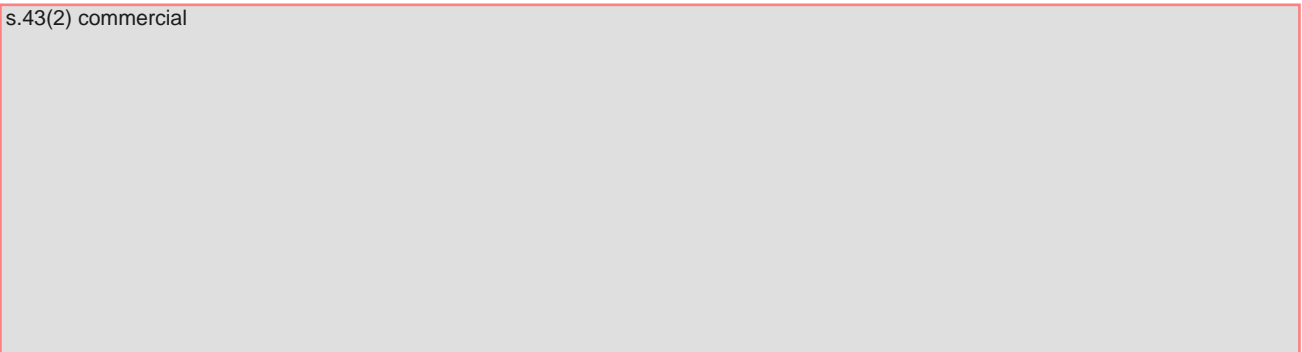
- Resolution of issues with data providers.

- Return of 2016 UK Inventory data to the data providers for approval.

- Potential further data changes.

We will know from our earlier discussions with data providers the type and extent of the revisions and improvements that are planned for the 2016 UK Inventory data. Nonetheless, the assessment of data is a complex procedure that must be carried out in a logical and diligent manner, informed by our experiences of previous UK Inventory exercises.

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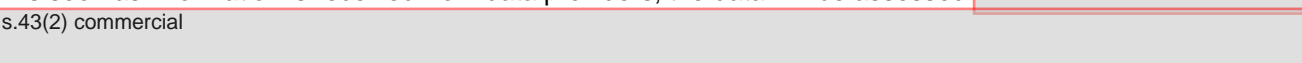
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Data assessment

As soon as information is received from data providers, the data will be assessed. s.43(2) commercial

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Any omissions, inconsistencies, anomalies and apparent errors will be identified and raised with the data provider. All such items will be pursued to a satisfactory resolution. We will keep NDA informed of progress on data resolutions through the monthly progress reports.

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The timing of future waste arisings should be consistent with stated programmes for continuing operations and decommissioning.

The radionuclide composition of the wastes and materials should reflect their source. Thus, for new waste and material streams analyses will be carried out to ensure that isotopic ratios lie within expected ranges (e.g. do uranium and plutonium isotope ratios reflect the expected initial material composition and subsequent irradiation history and processing?). Likewise the chemical composition of the stream should be consistent with its physical characteristics and source.

The loading and payload volumes should be appropriate for the allocated container, and so any changes should be verified against 2013 UK Inventory conditioning and packaging factors. A validation check will be made on all conditioning and packaging factors, as we are aware for example that these are optimistic for certain wastes that are subject to compaction.

The status of LLW should match the suitability of the waste for the management route (e.g. for disposal at the LLWR relevant characteristics include not only radionuclide content, but also the presence or amount of particular materials, e.g. combustible materials).

Resolution of issues with waste producers

Emails will be sent to data providers on the outcome of the assessment and checking work for each waste stream. These will include any issues that need resolving and proposals for resolution. The basis for any proposals will be clearly spelt out. Matters will be speedily resolved to the satisfaction of all parties so that agreement to the data can be reached. All correspondence will be copied to NDA.

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Change control procedure

A change control procedure will be produced and agreed with NDA and DECC. We propose that all changes for a stream are made, verified and recorded on the data gathering tool spreadsheet before data transfer to the Access database. (Requests from data providers for changes to data following data freeze are covered in Task 9.)

Contingency procedure

If a data provider fails to endorse / amend the 2013 UK Inventory waste and material stream data for a specific waste or material stream by the agreed programme return date, our proposal is that the following data will be used:

- 2013 UK Inventory volumes (extrapolated to 2016 using the methodology adopted for the 2013 UK Inventory).

- 2013 UK Inventory activities (decayed to 2016 using the methodologies adopted for the 2013 UK Inventory).

- 2013 UK Inventory physical and chemical properties data (based on the methodology adopted for the 2013 UK Inventory).

Where there are known changes to the 2013 UK Inventory data, these will be included if they pass the definitions used to indicate significance and can be accommodated within the programme timetable (e.g. Letter of Compliance data).

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3.2.9 Task 9 – Data handling and production of master data set

All waste stream and material stream data will be compiled using the 2016 UK Inventory Excel data gathering tools (see Task 4).

We will prepare a master data set by transferring data from the waste and material stream data gathering tool Excel files into an MS Access database. The existing transfer programs will be updated to accommodate the changes in data fields.

3.2.9.1 Waste stream data

We will upload 2016 UK Inventory data from the Excel data gathering tool onto a central Access database in a “2016 UK Inventory Assessment Dataset”. The 2013 UK Inventory data transfer software routines will be updated to accommodate the changes in data fields. The electronic data transfer process will be checked to ensure that the data are transferred correctly.

Any changes made will be checked, and QA records will be produced. We will also maintain a record of all data that have not been transferred onto the Access database with the reasons for their exclusion.

For each waste stream, a waste stream data sheet will be generated from the Access database and issued to the data provider for approval of the data for publication (see Task 8). We will remain in close contact with data providers to ensure that all data sheets are approved by our data freeze date of 1 July 2016.

The format / structure of the waste stream data sheets will need to be revised to take account of the changes to the data collection fields. Additionally we will review the material composition data to provide greater clarity in its presentation. The Access database programs that produce the waste stream data sheets will need to be revised and updated.

Waste stream data sheets will be generated in pdf and Excel versions.

3.2.9.2 Material stream data

All material stream data will be compiled in the Excel data gathering spreadsheets. Following data assessment we will make the agreed changes on the spreadsheets. All changes will be checked.

Only data cleared for release into the public domain will be transferred into the Access database.

Material data sheets will be generated in a process that will be agreed with NDA.

3.2.9.3 Data freeze

Once all waste stream data sheets and material data have been approved for publication by data providers the “2016 UK Inventory Assessment Dataset” can be finalised and the Access database “frozen” (i.e. further data editing will be restricted). Data freeze will take place no later than 1 July 2016 and be agreed with NDA and DECC.

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3.2.10 Task 10 – Transfer of master data set into DIQuest

Following data freeze, the final stream data will be established in a single Access database for transfer to DIQuest as in previous inventories. The Access database will be converted into an older file format compatible with DIQuest before transfer.

Once the review of data fields has been undertaken and the Excel data gathering tool has been finalised (see Task 4) we will engage with NDA and the DIQuest Technical Support Contractor to address the necessary DIQuest developments. Initiating discussions at this stage will allow sufficient time for DIQuest developments to be specified, agreed, implemented and tested prior to data transfer. No development work would be proposed without prior authorisation from NDA.

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3.2.11 Task 11 – Agreement of programme and process to prepare the 2016 UK Inventory reporting outputs and ‘Gold Disk’

The Inventory reporting outputs are the methods of making public the information on radioactive wastes and materials in the UK. (Although it contains cleared data, NDA has not previously published the ‘Gold Disk’.)

The reporting outputs present and disseminate the very large quantity of data held on DIQuest in a clear, concise and easy to use form. The list of 2016 UK Inventory reporting outputs are given under Task 12.

3.2.11.1 Programme for reports

The programme documentation developed and agreed with NDA and DECC at the start of the contract (see Task 1.1) will include programme details for the preparation, review and approval of all the reporting outputs. This programme will be communicated to all report reviewers / approvers for each data provider, and agreement sought.

The initial stages of production will be carried out before the availability of the 2016 UK Inventory data. The aim is to agree the content and format at an early stage (there will be insufficient time in the programme to do this after compilation of the 2016 UK Inventory data).

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The first draft reporting outputs are to be reviewed by NDA and DECC. The second drafts are to be reviewed by NDA, DECC and the reviewers / approvers for each of the waste custodian organisations, plus ONR if required. The third drafts are to be reviewed by NDA and DECC. These cycles are listed below.

Table 7: Cycle of review for reporting outputs

Draft (planned issue date)	Aims / contents
Draft 1 (29 January 2016)	Includes the complete structure and content of the output, the detailed layout of tables, data sheets and sketches of illustrative material, as relevant to the output. The output will include text and other information taken from the 2013 UK Inventory (spaces will be left where data are not available).
s.43(2) commercial	The second draft will contain the frozen 2016 UK Inventory data that have been cleared for publication by the data providers. At the end of this review, we will seek formal agreement from the data providers to the publication of the reporting outputs.
	The third draft reporting outputs will incorporate amendments that have satisfied the comments from all stakeholders on Draft 2, and will be near final versions. At this stage minimal changes may be required by NDA and DECC for publication.
	The final reporting outputs will have been cleared for publication by all stakeholders. They will be submitted to NDA and DECC for approval.

In order to maintain the October 2016 target for the availability of the reporting outputs for the website, we will maintain an engagement with all parties throughout the process so that they are aware at all times of their short-term, medium-term and long-term obligations within the agreed programme.

Changes on areas that have already been addressed and agreed during a previous review cycle will be considered subject to provision of appropriate justification and further funding (if required). We will advise NDA and DECC immediately if the full agreement / approval of any one or more parties is not forthcoming on any area of the reporting outputs. Any delays in obtaining full agreement could lead to programme slippage.

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3.2.11.2 Process for reporting outputs

We will act as the point of contact for the issue of the reporting outputs to the reviewers / approvers in NDA, DECC and the data providers (and possibly ONR) and for the receiving of comments. All comments will be tabulated and cross-referenced to the Correspondence Log in a way to be agreed with NDA.

Proposals will be made to NDA and DECC on how to address each comment with justifications. For each review cycle, we will distribute the full list of comments and actions to all reviewers / approvers for their clearance using a standard format comments response grid as we did for the 2013 UK Inventory. We will distribute the reports and list of comments by e-mail (or by post on CD for the Radioactive Materials reporting output) and seek confirmation of receipt. All drafts of the waste reporting outputs will be marked "Draft – Not for Use in the Public Domain". All drafts of the Radioactive Materials reporting output will be marked "OFFICIAL-SENSITIVE".

3.2.11.3 Process for data compilation

All data compilations for the 2016 UK Inventory reporting outputs and "Gold Disk" spreadsheets will be produced using the DIQuest application.

DIQuest was used to prepare report tables and charts for the 2013 UK Inventory. The Access database was used to prepare waste stream data sheets. We are proposing that the same approach is adopted for the 2016 UK Inventory.

DIQuest queries and reports that were developed for the 2013 UK Inventory will be updated as necessary for the output of 2016 UK Inventory data.

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We will maintain full records of all data calculations for the reporting outputs and "Gold Disk". This will include clear methodologies and assumptions, spreadsheets, and DIQuest queries and outputs.

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Each reporting output will have its own Excel form that acts as a QA record.

Upon request we will arrange a demonstration at NDA to show the nature and extent of the records and that they allow the reproduction of any data compilation and calculations.

3.2.12 Task 12 – Preparation of the 2016 UK Inventory reporting outputs

We will write the reporting outputs for the 2016 UK Inventory and compile the data for these reporting outputs in line with the agreed programme of work (see Task 11). The reporting outputs will comprise:

- Methodology Report.
- UK Radioactive Waste Inventory Report.
- Radioactive Materials Not Reported.
- Summary for International Reporting.
- Summary Brochure.

NDA's proposed scope and general requirements regarding format, markings, etc for each of these reports is given in the Technical Specification.

We will undertake a thorough review of the contents, formats and layouts of the 2013 UK Inventory reporting outputs before we issue 2016 UK Inventory Draft 1 versions for NDA and DECC comment. We will first consult with NDA to confirm the target readerships and additionally with DECC and other stakeholders to confirm the information requirements. We will include in our review consideration of the documentation of other national inventories.

Notwithstanding the outcome of these discussions, we expect to make changes to the structure and layout of the documents to make the information more accessible, to ensure key facts are highlighted, and to include relevant and clear supporting graphical data output and images.

The Summary Brochure will be written for readers with a general interest in the nuclear sector, but with a non-technical background. Our team has experience in writing this type of report. We will bring out a number of key messages supported by facts from the 2016 UK inventory. This is the approach we brought to the recently completed NDA HAW report.

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We will provide NDA and DECC with supporting Excel spreadsheets that demonstrate how waste groupings are assigned to each waste stream in the 2016 UK Inventory.

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For the Radioactive Wastes and Materials Not Reported we will take account of UK security and commercial sensitivities regarding the data for spent fuels and nuclear materials, and develop outputs that are suitable for the public domain.

As part of the work for the International Data reporting output we will:

Set out the methodology and criteria for short-lived low and intermediate level radioactive waste (LILW-SL) and for long-lived low and intermediate level radioactive waste (LILW-LL), and seek NDA and DECC approval.

Fulfil the reporting requirements for the IAEA Status & Trends project (indicative table formats are given in Appendix G of the Technical Specification).

We will provide NDA and DECC with the Excel spreadsheets containing source data that underpin all tables, charts and other data in the reporting outputs. These spreadsheets will include the full audit trail. The spreadsheets will be part of the handover package.

3.2.13 Task 13 – Summary of changes

When data have been agreed with data providers, we will compile a separate short report identifying significant changes since the 2013 UK Inventory. This will be the same in its scope as that prepared for the 2013 UK Inventory.

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3.2.14 Task 14 – Preparation of the ‘Gold Disk’

The “Gold Disk” will comprise the published 2016 UK Inventory data in a number of different formats. A provisional list of the ‘Gold Disk’ contents is given in Appendix E of the Technical Specification, but, in summary, it will include:

Waste stream data sheets (PDF and Excel versions): A data sheet for each waste stream will be prepared using the same contents (subject to amendments for changes to data fields and a 1.4.2016 stock date) produced for the 2013 UK Inventory ‘Gold Disk’. PDF and Excel versions of the waste stream data sheets will be produced.

Site data sheets (Excel) for each storage site and for each organisation will comprise the same sets of tables (subject to changes for a 1.4.2016 stock date) produced for the 2013 UK Inventory ‘Gold Disk’.

A number of Excel spreadsheets (Data; Exact value tables) will be prepared with the same content and format as those produced for the 2013 UK Inventory ‘Gold Disk’ (subject to some minor changes, and amendments for changes to data fields and a 1.4.2016 stock date).

A set of 11 spreadsheets (so called ‘Data spreadsheets’) will contain calculated values for total activities (decayed and undecayed), total masses etc. on a waste stream by waste stream basis and for sites. Eight other ‘Data spreadsheets’ will contain various data items output directly from DIQuest. The data tables for each of the reporting outputs will contain values rounded to 2 or 3 significant figures. We will provide an Excel copy of all these tables with the exact values (so-called ‘Exact Value Tables’).

All Excel spreadsheets will have an initial worksheet describing the data contained in the spreadsheet and any assumptions about the data.

All waste stream identifiers in spreadsheets will be displayed with three digits. Thus all operational waste stream identifiers will be reformatted (e.g. 5B01 will be displayed as 5B001). Therefore, in ordering data by waste stream identifier all operational waste streams will be listed before decommissioning waste streams.

Central Access database holding the published 2016 UK Inventory data, and a Word document listing the Access tables and fields with a description of each field. The Word document will be an update of the 2013 UK Inventory version.

3.2.15 Task 15 – Provision of an audit trail

Our audit trail will comprise three elements:

A Transparency Database.

Data gathering spreadsheets.

A reporting outputs comments file.

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It is expected that comments on the various drafts of the 2013 UK Inventory reporting outputs and other contract deliverables from reviewers / approvers will be provided in Word format on a standard proforma. Individual comments will be listed (with proposed actions and justifications) in Word files – one file for each version of each reporting output. We believe it will make no sense to spend time inputting all this information into Excel spreadsheets. s.43(2) commercial

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The Transparency Database, waste stream QA records and the “Reporting Outputs Comments” Log are important element of the handover package at the end of the contract, and will be an essential part in the continuous improvement of the UK Inventory. The information will inform the continuous review report (see Task 16).

3.2.16 Task 16 – Production of continuous review report

A continuous review of the inventory process is of benefit to NDA in refining and improving the inventory process for the future, and as a vehicle for notifying NDA of any difficulties arising from UK Inventory data management. It also provides crucial insight into the process from the point of view of the contractor.

An MS Excel form will be used as a task management tool to record relevant information, 'lessons learned' and other considerations for the continuous review report. This 'continuous review form', which will be part of the 'Transparency Log', will hold task specific and non-task specific information. It will be an item on the agenda of our weekly project team meetings, ensuring that all observations are captured at the time.

Interim review reports will be developed and updated from the 'continuous review form' every three months. This means that a final report can be completed in a timely manner at the end of the project.

The review report will be issued to NDA at the end of the project. The topics will include, but will not necessarily be limited to:

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3.2.17 Task 17 – Preparation of handover package

We will prepare a handover package for issue to NDA one month after all reporting outputs have been completed. The handover package will provide a complete record of the 2016 UK Inventory.

Its principal purpose is to allow continuity between the 2016 UK Inventory and the next. The contents of the handover package will be agreed with NDA, and we will initiate this task by proposing a contents list. The list will include all deliverables listed in Section 7 of the Technical Specification, with any additional material deemed necessary. Such additional material may include a report on matters not satisfactorily addressed by data providers in the 2016 UK Inventory, or matters that arise after data freeze and are thus not recognised in the inventory data.

The handover package will comprise a CD. This will contain detailed instructions on the contents, use of data, transfer of data and any restrictions covering data not approved for release into the public domain. This CD will be such that it can demonstrably be used by other organisations, thus facilitating any change in Inventory contractor.

3.2.18 Task 18 – Issue of improvement plans to data providers

We will update the improvement plans for each data provider once the 2016 UK Inventory data set have been frozen. We will make a presentation of the plans to NDA and DECC at the next scheduled project progress meetings. This presentation will highlight the positive outcomes, changes as a result of the 2016 UK Inventory exercise, any new improvement measures identified during the project work, and remaining outstanding items.

We will attend the November 2016 NIF meeting to give a presentation of our experience in undertaking the 2016 UK Inventory exercise. This will include the process, engagement, data and reporting, and will address project successes, lessons learnt, data improvement, and the findings and recommendations of the continuous review (Task 16).

The improvement plans will be issued to data providers following approval from NDA and DECC.

3.2.19 Task 19 – Facilitation of updates to UK Inventory website

We will support the update to NDA's UK Inventory website through collaboration with the Website Development Contractor.

The website includes a tool that allows users to interrogate the inventory data. A single spreadsheet containing specific data items sits behind the user interface.

The elements of the support are as follows:

- We will confirm with NDA the data items required for the 2016 UK Inventory website.

- Provide the requisite 2016 UK Inventory data for the Website Development Contractor to update the website.

- Agree a data test plan for the interrogation tool.

- Test the interrogation tool to verify that all data and data processing are correct ahead of the website being launched.

3.2.20 Task 20 – Support to concurrent inventory projects

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3.2.21 Task 21 – Optional work programme: enhanced communication of 2016 UK Inventory summary information

Our approach to Task 21 is set out in a separate document.

4 Project Team and Experience

4.1 Project Team

The team we are proposing for the 2016 UK Inventory project has the technical capabilities to undertake the work. We believe that the combined experience of our team is unique, and will be crucial in successfully meeting the objectives of this important project and in producing high quality deliverables within the challenging time frame. Importantly we have the relevant knowledge to start productive work immediately on contract award.

We believe that our team offers three key benefits to NDA:

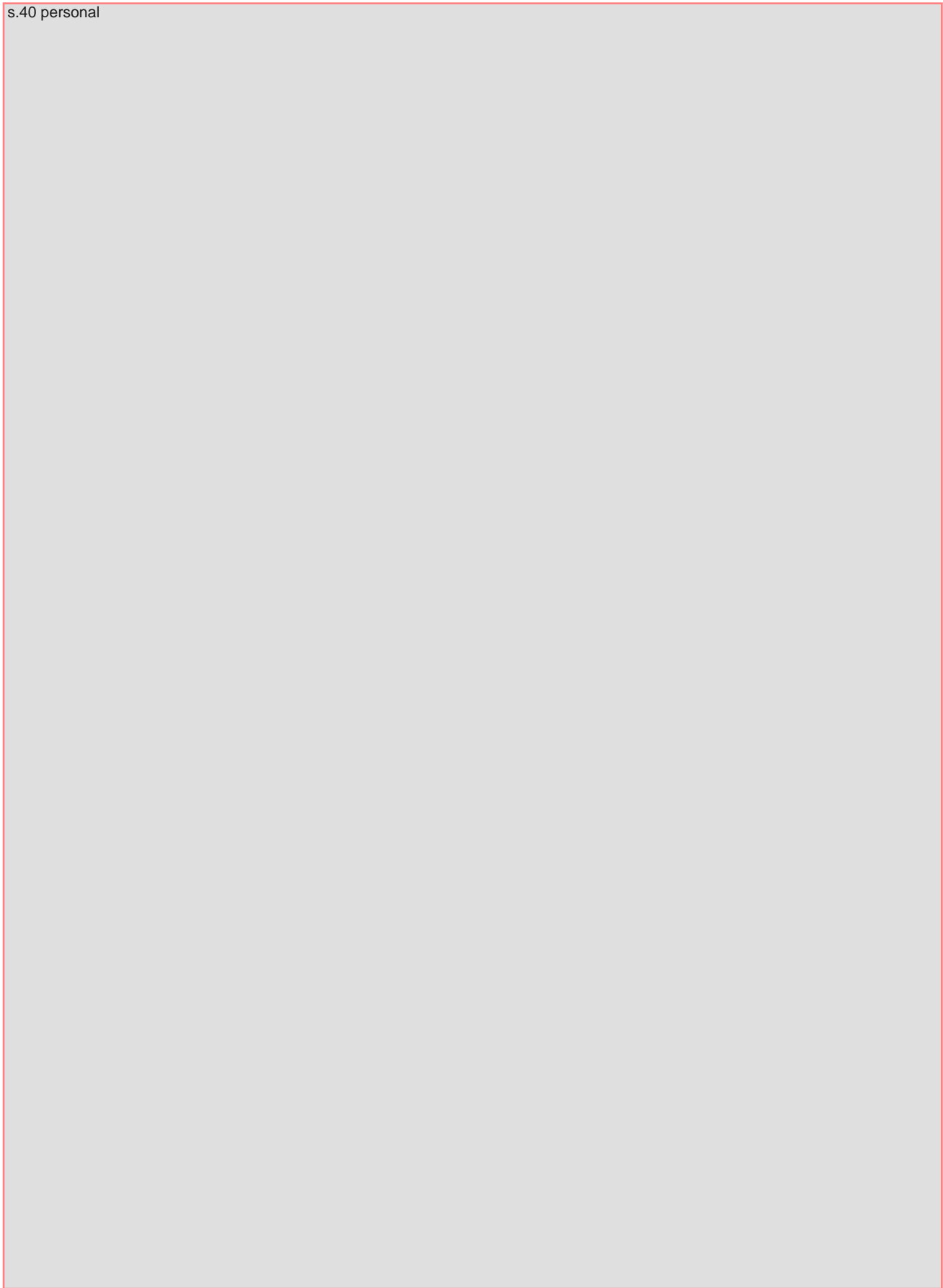
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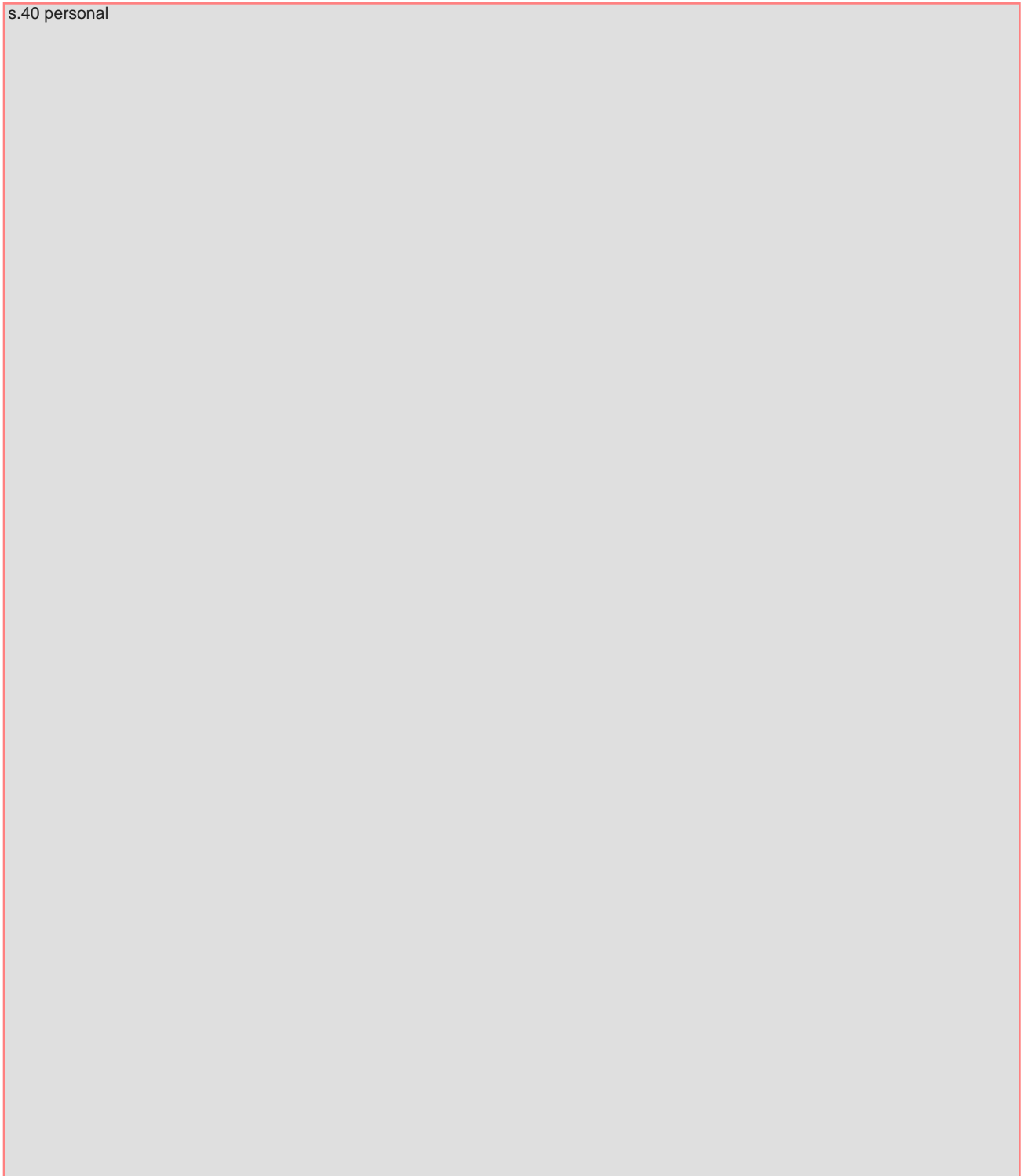
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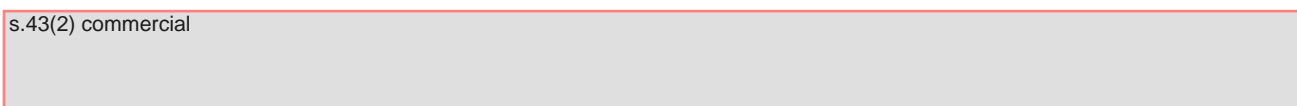
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If replacement staff are required due to reasons outside Amec Foster Wheeler's control (e.g. sickness), then these will be of equivalent qualification and experience and will be agreed with NDA prior to commencing work on the project.

4.2 Relevant Experience

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5 Innovation

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6 Programme

6.1 Milestones

Major milestones including timing of deliverables in our programme are shown in Table 9. There are a number of milestones where we anticipate delivering earlier than the date suggested in the Technical Specification, allowing more time for other tasks.

Table 9: Major project milestones

ID	Milestone	s.43(2) commercial
M0	Assumed project start date	
M1	Deliver project documents	

ID	Milestone	s.43(2) commercial
M2	Issue improvement plan	
M3	Agree programme and process to prepare reporting outputs	
M4	Agree programme for phased data return	
M5	Issue scenarios report (Draft)	
M6	Issue data gathering tool spreadsheets	
M7	Issue reporting outputs (Draft 1)	
M8	Agree waste and material producing scenario	
M9	Data return completed	
M10	Data approved by data providers (frozen master data set)	
M11	Master data set available on DIQuest	
M12	Issue reporting outputs (Draft 2)	
M13	Issue reporting outputs (Draft 3)	
M14	Issue reporting outputs (Final)	
M15	Reporting outputs cleared for publication	
M16	Issue of Gold Disk	
M17	Issue of continuous review report	
M18	Handover package delivered	
M19	Project close out meeting	

(1) These dates are earlier than those indicated in the Technical Specification.

(2) Frozen master data set required on 1 July 2016 to allow sufficient time for transfer to DIQuest, full data analysis and preparation and review of Draft 2 reporting outputs.

6.2 Summary Programme

The project is scheduled to start at the beginning of September 2015 and be completed by early December 2016. This covers a period of 67 weeks. We recognise that the programme is demanding, but confirm that we will be able to deliver within the time frame. A summary programme listing the key activities, milestones and deliverables is shown on page 45.

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Table 10: Activity schedule

Task ID	Description	s.43(2) commercial
1	Task 1 – Project management	
1.1	Task 1.1 – Early project management deliverables	
1.2	Task 1.2 – Continuous project management activities	
2	Task 2 – Preliminary work	
2.1	Task 2.1 – Completion of IT induction and DIQuest training	
2.2	Task 2.2 – Preliminary work	
3	Task 3 – Preparation of 2016 Inventory Guidance	

Task ID	Description	s.43(2) commercial
4	Task 4 – Preparation and Delivery of Data Gathering Tools	
5	Task 5 – Engagement with data providers and Information distribution	
6	Task 6 – Agreement of the waste and material producing scenarios	
7	Task 7 – Agreement of programme for return and agreement of data on radioactive waste and materials	
8	Task 8 – Ongoing support to data providers and data gathering	
8.1	Task 8.1 – Point of contact and provision of general support	
8.2	Task 8.2 – Data gathering	
9	Task 9 – Data handling and production of master data set	
10	Task 10 – Transfer of master dataset into DIQuest	
11	Task 11 – Agreement of programme and process to prepare the 2016 UK Inventory Reporting Outputs and Gold Disk	
12	Task 12 – Preparation of the 2016 UK Inventory Reporting Outputs	
13	Task 13 – Summary of changes	
14	Task 14 - Preparation of the Gold Disk	
15	Task 15 - Provision of an audit trail	
16	Task 16 – Production of continuous review report	
17	Task 17 - Preparation of handover package	
18	Task 18 - Issue of improvement plans to data providers	
19	Task 19 - Facilitation of updates to UK Inventory website	
20	Task 20 - Support to concurrent Inventory projects	
21	Task 21 - Optional work package: Enhanced communication of 2016 UK Inventory summary information	

6.3 Project Resource Profile

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7 Commercial

7.1 Price

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s.40 personal		Day rate £*	No. of days	Total £
			s.43(2) comr	
T&S	-	-	-	
Total				

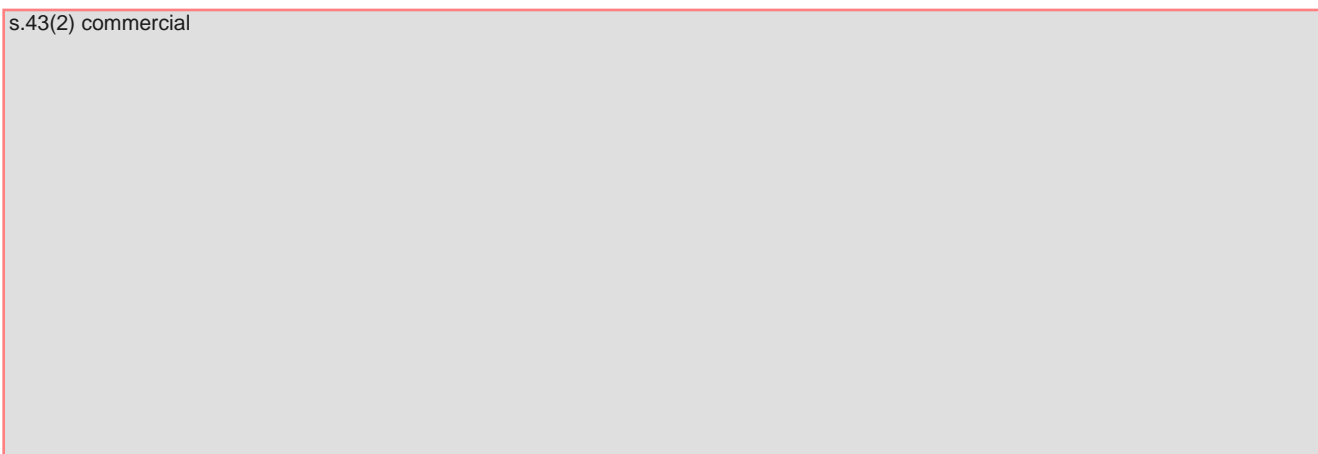
*Pöyry days are 7.5 hours, Amec Foster Wheeler days are 7.4 hours

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7.2 Payment

Invoices will be submitted to NDA for payment within 30 days. We propose the following invoicing schedule:

Week no	Date	Tasks included in invoice	Invoice Value
5	2-Oct-2015	Tasks 1.1, 1.2, 2.2, 4, 5, 15	██████
9	30-Oct-2015	Tasks 1.1, 1.2, 2.2, 4, 5, 6, 11,15, 16, 20	██████
14	4-Dec-2015	Tasks 1.2, 3, 4, 6, 7, 11, 15, 20	██████
18	1-Jan-2016	Tasks 1.2, 3, 4, 6, 8.1, 15, 16	██████
22	29-Jan-2016	Tasks 1.2, 4, 8.1, 8.2, 12, 15, 16	██████
27	4-Mar-2016	Tasks 1.2, 4, 8.1, 8.2, 9, 12, 15, 16, 20	██████

Week no	Date	Tasks included in invoice	Invoice Value
31	1-Apr-2016	Tasks 1.2, 8.1, 8.2, 9, 10, 14, 15	██████
35	29-Apr-2016	Tasks 1.2, 6, 8.1, 8.2, 9, 10, 15, 16	██████
40	3-Jun-2016	Tasks 1.2, 8.1, 8.2, 9, 15, 16	██████
44	1-Jul-2016	Tasks 1.2, 8.2, 9, 10, 13, 15	██████
48	29-Jul-2016	Tasks 1.2, 12, 13, 15, 16	██████
53	2-Sep-2016	Tasks 11, 12, 15, 16, 19	██████
57	30-Sep-2016	Tasks 12, 14, 15, 18, 19	██████
62	4-Nov-2016	Tasks 12, 14, 15, 19	██████
67	9-Dec-2016	Tasks 17, 19	██████
			██████

7.3 Validity of Proposal

This proposal shall remain valid for 90 days and thereafter may be subject to revision at the discretion of Amec Foster Wheeler.

7.4 Assumptions

s.43(2) commercial

s.43(2) commercial

7.5 Project Interactions and Information Exchange

Should any delays occur in NDA supplying project information to Amec Foster Wheeler, then we shall not be responsible for the overall extended duration of the contract associated with NDA's delays. Similarly, Amec Foster Wheeler shall, where practicable, advise the client in the event of any foreseeable delays and provide details of our plans to recover the situation.

7.6 Termination Prior to Completion

If, for any reason outside the control of Amec Foster Wheeler, the contract is cancelled or curtailed prior to completion, NDA shall be liable for all charges related to work executed and any necessary services supplied or ordered prior to termination of the contract.

7.7 Security

Amec Foster Wheeler will maintain the standard of security that is required to prevent any unauthorised disclosure of protectively-marked information. All information provided under any contract resulting from this proposal will be treated as Commercial in Confidence unless otherwise instructed by NDA.

7.8 Terms and Conditions

s.43(2) commercial

7.9 Project Initiation

Work will commence on this project upon acceptance of a valid purchase order.

7.10 Retention of Records

All Quality Assurance records related to a contract arising from this proposal shall be retained for a period of 6 years following completion of the contract. Thereafter, all records will be destroyed or returned to NDA. All project records are provided to NDA at the end of the contract.

7.11 Legal Status

The full legal status and title to be used in contracts is:

Amec Foster Wheeler Nuclear UK Limited, Company Registration No. 1120437, whose registered office is at Booths Park, Chelford Road, Knutsford, Cheshire WA16 8QZ acting through Amec Foster Wheeler, B305 Bridgewater Place, Birchwood Park, Birchwood, Warrington, Cheshire WA3 6XF.

7.12 Contract Data Part 2

Part two – Data provided by the Consultant (Main Option A)

Statements given in all contracts

- The Consultant is
Name AMEC Nuclear UK Limited, a wholly owned subsidiary of Amec Foster Wheeler
Address Booths Park, Chelford Road, Knutsford, Cheshire, WA16 8QZ United Kingdom

- The *key persons* are

(1) Name

Job

Responsibilities

Qualifications

Experience

s.40 personal

See CV.....

See CV

(2) Name

Job

Responsibilities

Qualifications

Experience

s.40 personal

See CV.....

See CV

(3) Name	s.40 personal
Job
Responsibilities	
Qualifications	See CV.....
Experience	See CV
(4) Name	s.40 personal
Job
Responsibilities	
Qualifications	See CV.....
Experience	See CV
(5) Name	s.40 personal
Job
Responsibilities	
Qualifications	See CV.....
Experience	See CV

- The Amec Foster Wheeler *staff rates* are:

name/designation

Senior Consultant £

Senior Engineer: £

Junior Engineer: £

The Pöyry Energy *staff rates* are:

Senior Consultant: £

Principal Engineer: £

Senior Engineer: £

Engineer: £

Junior Engineer: £

- The following matters will be included in the Risk Register:
(see Section 2.3 of proposal)

Optional statements

If the Consultant is to decide the completion date for the whole of the services

- The *completion date* for the whole of the services is (see Section 6.2 of proposal)

If a programme is to be identified in the Contract Data

- The programme identified in the Contract Data is (see Section 6.2 / 6.3 of proposal)

If the Consultant states any expenses

End of document