

## NDA Research Board – NDA Response to Position Paper Recommendations

### NDARB030

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## NDA Response to Recommendations – Review of NDA’s Technology Baseline and Underpinning Research and Development (TBuRD) Process NDARB021

### Issue 1

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April 2017

#### **About the Independent NDA Research Board**

Despite its title, the Research Board has terms of reference which cover the Research and Development (R&D) interests for waste management and decommissioning of the UK, not just the that of the NDA. Given the scale of the NDA’s work in this sphere however, much of its time is dedicated to the NDA’s own programme. Although the Board works cooperatively with the NDA, which provides the secretariat, it is independent. Neither its programme of work or published opinions have to be agreed with the NDA. Its membership comprises experts in the field and senior representatives of key stakeholder organisations such as Government departments and regulatory bodies. Its role is advisory only, reporting to Government departments via their Chief Scientific Advisors and to the main NDA Board. Further information on the Board can be found at [www.gov.uk/nda](http://www.gov.uk/nda).

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## **1 Introduction**

The following text details the NDA responses to the recommendations published in NDA Research Board Position Paper 'Review of NDA's Technology Baseline and Underpinning Research and Development (TBuRD) Process' (NDARB021). The original review document and further information on the NDA Research Board can be found on the NDA public website [www.gov.uk/nda](http://www.gov.uk/nda).

## 2 NDA Response

Recommendation	Detail	Response
1 (Page 8)	The NDA should consider, with the assistance of the NWDRF TBUrD working group, how better TBUrD integration with existing programme management processes can be achieved.	<b>Agreed</b>  The NWDRF TBUrD Working Group has included an activity in its Forward Programme for FY16/17 on this area
2 (Page 9)	The NWDRF TBUrD WG should be asked to review the suggested improvements and, where appropriate, include these in their forward programme.	<b>Agreed</b>  The NWDRF TBUrD Working Group has reviewed the recommendations (2012 and 2014 reviews) and documented the current situation. Majority of recommendations have been implemented or included in forward programme. A small number of recommendations have been rejected. Please see Appendix 1 for further information.
3 (Page 9)	The Cogentus Consulting Ltd assessment of areas of potential collaboration should be provided to the NWDRF technical working groups for their assessment of the priorities for collaboration and integration into their forward programmes.	<b>Accepted</b>  Since the NDARB review was carried out the documents have been shared with the various NWDRF Working Groups. A further review by NDA is being carried out.
4 (Page 9)	A summary of the latest Cogentus Consulting Ltd review should be published. This should promote stakeholder confidence in the process and also allow the supply chain to contribute proposals in areas of R&D need.	<b>Agreed</b>  The report is published on our website <a href="http://www.gov.uk/nda">www.gov.uk/nda</a>

Recommendation	Detail	Response
5 (Page 11)	The NDA should explore the need for and benefit from adding Technology Road Maps to the TBUrd process. It may be that they are only a necessary addition for a complex site such as Sellafield.	<p><b>Agreed</b></p> <p>A review of approaches to Technology Roadmapping will be carried out during FY16/17 and a recommendation on whether to include it in the TBUrd process made.</p>
6 (Page 12)	For the process and the Technology Maps in particular to be of real value it may be necessary to provide even more guidance in EGG10 or supplementary documents on how to judge the entries, with a finer level of detail and examples. Unless the entries are on a consistent basis, the overall picture will be blurred or lost. Adding such additional detail must, of course, be balanced against the need for the guide to be pragmatic and fit for purpose.	<p><b>Accepted</b></p> <p>Following the discussion at NDARB, the Technology Map element of the TBUrd process has been reviewed by NDA. The structure of the Map has been modified to better align with structure of the R&amp;D Table and a new approach to filling the map was trialled in March 2016. The NWDRF TBUrd WG will review the output.</p>
7 (Page 12)	NDA should review the value of the Technology Maps to itself and the sites/SLCs. If this is confirmed it should engage with the sites/SLCs to persuade them of the benefit so as to encourage a quality return.	<p><b>Accepted</b></p> <p>Following the discussion at NDARB, the Technology Map element of the TBUrd process has been reviewed by NDA. The structure of the Map has been modified to better align with structure of the R&amp;D Table and a new approach to filling the map was trialled in March 2016. The NWDRF TBUrd WG will review the output.</p>
8 (Page 13) (Reworded)	In this respect, the Board recommends an analysis of the NDA's total liability costs against technical activities (e.g. sludge retrieval, sludge packaging, contaminated concrete removal etc.). Opportunity related R&D could then be directed at those technical activities that consume greatest cost in a	<p><b>Noted</b></p> <p>We recognise that understanding our liability by technical activity may allow us to prioritise our R&amp;D activities in a different way. However, we also recognise that changing how we categorise future costs could be a very time consuming and expensive project and that the level of programme detail required to do this to the required level</p>

Recommendation	Detail	Response
	search for improved or innovative techniques.	of detail may not be available. We therefore propose to further investigate the feasibility of this recommendation before committing to it.
9 (Page 13) (Reiterated)	<p>The Board also noted that some 16% of R&amp;D was directed at resolution or amelioration of risks, but that almost all of this was directed at issues on the Sellafield site. The Board recommends:</p> <p>a. A review of risks related to liability issues at other sites to ensure that relevant R&amp;D is not being missed.</p> <p>b. Consideration of how more could be done to link risks with the R&amp;D programme.</p>	<p><b>Agreed</b></p> <p>The NWDRF TBuRD Working Group has included an activity in its Forward Programme for FY16/17 on this area</p>
10 (Page 13)	The NDA should examine the causes of this “bow-wave” drift with a view to understanding, if any, what actions should be taken and the impact on the Lifetime Plans.	<p><b>Agreed</b></p> <p>With the March 2016 submission we believe we will have enough data to investigate this issue. A project will therefore be initiated.</p>

## Appendix 1

### Recommendation 2 – NDA Response to Independent TBUrD Review Recommendations

Review	No.	Description	Response
2012	1	The final requirement in EGG10 section 2.1 to provide “any additional processes that support .....” is too vague to ensure compliance. It would be better if these were stated as specific requirements instead. Or, more practically, to remove the requirement altogether.	A review of TMS is underway with a view to updating EGG10. At this moment the statement has not been removed.
2012	2	It should be a requirement that all pages in the TMS are A4 and numbered.	Clarity and accessibility of the information included within the TMS is important. The TMS should be formatted accordingly (e.g. Contents, Page Numbers...etc). This may require the use of pages larger than A4 occasionally but we would not expect anything larger than A3 to be included.
2012	3	Provide wiring diagrams based on plant/facilities, delivery programmes and process steps.	The guidance for PWDs has been updated in the latest version of EGG10.
2012	4	Produce a standard guidance document on the development and production of Technology Maturation Plans (TMPs) for use by all SLCs.	A review of the TMS is underway. This will include looking at how SLCs produce TMPs (or equivalent) and whether additional guidance is required.
2012	5	Refine cell formats and protection in the R&D table. Pre-set a standard date format in just years.	The importance of using standard formats has been reinforced and where practicable protection is used to enforce it. Dates have been aligned with FY so that costs and schedule use a common format.

Review	No.	Description	Response
2012	6	Develop an online database to collect information from the SLCs.	An online database system has not been developed due to i) security concerns with online systems; ii) IT incompatibility between organisations and iii) differences in scale of programme between organisations making common database complex. SL is currently investigating the use of Accolade Roadmapping as a potential solution for their specific issues.
2012	7	Reinforce the requirement for change control.	The importance of change control in the R&D Table has been reinforced. Additional guidance on what to do with previously deleted R&D tasks in future submissions will be included.
2012	8	Add an extra column for "End Date" and change "Target Date" to "Need By Date".	"End Date" column not added as duplicates SLC project planning process. "Target Date" changed to "Need By Date" to support analysis of impact on overall programme.
2012	9	Add a column called "Title".	Included in latest version of R&D Table template
2012	10	Add a new column for NDA ID.	Included in latest version of R&D Table template
2012	11	Split the SLC/Site column into two columns.	Included in latest version of R&D Table template
2012	12	Add an extra column to include NDA Strategy Topic.	Included in latest version of R&D Table template
2012	13	Enhance guidance on the definitions of SR and IWM.	Description of Strategic Themes updated in latest version of EGG10. 'Handover' between Strategic Themes can still cause some issues.
2012	14	Change "Technique" column from free text to drop down.	Drop down was thought to be too restrictive.
2012	15	Change "Key Outputs" column to "Products" which has a pre-configured drop down.	"Products" with drop down was thought to be too restrictive.

Review	No.	Description	Response
2012	16	Add extra information to capture the quantification of Needs, Risks and Opportunities.	The extra information was suggested to allow the TBUrd process to support R&D prioritisation. A review of R&D prioritisation for the NDA Research Board highlighted how complex R&D prioritisation is particularly for publicly funded projects with multiple stakeholders. Adding additional information was therefore considered too complex.
2012	17	Peer Review SLC submissions prior to formal submission.	SLCs review their TBUrd submissions internally prior to submission to NDA. External review by another SLC prior to submission was not thought to be practicable due to resource and time constraints. Peer review post-submission to NDA is however an important task for the TBUrd WG in order to support improvement in future TBUrd submissions.
2012	18	Ensure R&D column has the following three columns to represent the link between the wiring diagram and the R&D Table – Process ID, Plant/Facility ID and Programme Area ID.	For each SLC submission, each R&D task should have a unique ID and also information regarding which PWD covers. This allows the PWD and R&D Table to be linked.
2012	19	Limited cost data for the near terms to allow for improved analysis, covering Y0 (current year, e.g. 2011), Y1 (next year, e.g.2012), Y2 (e.g. 2013) and Remainder.	Cost data has been extended to include current year (Y0), next year (Y1) and outyears (Y2+).
2012	20	Utilise a refined methodology for presenting the “high risk” areas for each SLC.	Updated Technology Map element of R&D Table is currently being trialled. Further investigation of how technical risk can be identified and communicated is underway.
2012	21	Hold training seminars on use of TRLs including the production of standardised checklists to ensure accuracy and consistency of measurement.	A ‘Guide to TRLs’ has been published and a training course run.

Review	No.	Description	Response
2012	22	Generate norms for R&D schedules for the UK and influence the US DOE to do likewise.	Estimating schedule and cost is recognised as extremely difficult. Parametric estimating based upon historical information is recognised as one method. We are aware of the work being carried out by NASA to develop this approach and are monitoring their progress.
2012	23	It is recommended that a tabularised approach be used for successes in the ATR.	Whilst the tabularised approach allows related information (e.g. change in TRL) to be easily report, it is quite restrictive. The choice of approach has therefore been left to the individual organisation.
2012	24	Add a table to specify exactly the cost data required in the ATR. e.g. 2011 (last year), 2012 (current year), 2013 (next year)	The use of a Table has been adopted
2012	25	Review the MSSS Programme with SL.	A review of MSSS with SL was carried out. MSSS has recently changed its technical baseline.
2012	26	Implement a “Measures of Effectiveness” methodology in order to accurately measure R&D performance across the estate.	Whilst the “Measures of Effectiveness” is an interesting approach, we believe including it within the TBUrd process would be overly complex
2012	27	Benefit criteria, scales and mapping described for rec16 is used to develop value for money data for the estate.	The extra information was suggested to allow the TBUrd process to support R&D prioritisation. A review of R&D prioritisation for the NDA Research Board highlighted how complex R&D prioritisation is particularly for publicly funded projects with multiple stakeholders. Adding additional information was therefore considered too complex.
2014	1	Using consistent units for expenditure	All costs are now in £K
2014	2	Using consistent date fields rather than text	Dates are now aligned with FY eg FY 2016/17
2014	3	Using the pre-set lists for content rather than creating additional ones	Pre-set list created and process for requesting new additions agreed
2014	4	Clarifying whether gaps in tables are zero or not known	Gaps not allowed. Current estimate or 0 must be used.

Review	No.	Description	Response
2014	5	Using additional fields for explanatory text rather than extending pre-set fields	Extending pre-set fields is not allowed with agreement with NDA. SLCs are encouraged to use additional fields to make the process more useful to themselves.