

**FCRD Technical Integration Office (TIO)
 DOCUMENT NUMBER REQUEST
 TRANSMITTAL SHEET**

1. Document Information

Document Title/Description: End of Year Status Report on Concept Evaluation Supports Revision: 0
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 Milestone Number: M31UF040903
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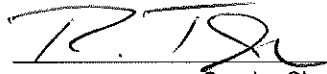
FCRD	SYSTEM:		
<input type="checkbox"/>	FUEL	Advance Fuels	
<input type="checkbox"/>	MPACT	Materials Protection, Accounting, and Control for Transmutation	
<input type="checkbox"/>	RES	Fuel Resources	
<input type="checkbox"/>	SAFE	Regulatory and Safety Crosscut	
<input type="checkbox"/>	SWF	Separations and Waste Forms	
<input type="checkbox"/>	SYSA	System Analysis	
<input type="checkbox"/>	SYSE	System Engineering	
<input type="checkbox"/>	TIO	Technical Integration	
<input type="checkbox"/>	TRANS	Transmutation Technology	
<input checked="" type="checkbox"/>	UFD	Used Fuel Disposition	
<input type="checkbox"/>			
<input type="checkbox"/>	NEAMS	Nuclear Energy Advanced Modeling and Simulation	
<input type="checkbox"/>	ODEV	Options Development	
<input type="checkbox"/>	REAC	Reactor Campaign	

2. Records Management Requirements

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3. Signatures

SENDER: R. T. Jubin  09/02/2011
 Print/Type Sender Name Sender Signature Date
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 ACCEPTANCE/RECEIPT: _____
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Submit to: **Connie.Bates@inl.gov**

FCT Quality Assurance Program Document

Appendix E FCT Document Cover Sheet

Name/Title of Deliverable/Milestone End of Year Status Report on Concept Evaluation Support
Work Package Title and Number Sigma Team for Off-Gas Capture FTOR11UF0409
Work Package WBS Number 1.02.08.04 Milestone Number M31UF040903

Responsible Work Package Manager Bob Jubin 09/02/11
(Name/Signature) (Date Submitted)

Quality Rigor Level for Deliverable/Milestone	<input checked="" type="checkbox"/> QRL-3	<input type="checkbox"/> QRL-2	<input type="checkbox"/> QRL-1 <input type="checkbox"/> Nuclear Data	<input type="checkbox"/> N/A*
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This deliverable was prepared in accordance with R. T. Jubin/ORNL
(Participant/National Laboratory Name)

QA program which meets the requirements of
 DOE Order 414.1 NQA-1-2000 Other: _____

This Deliverable was subjected to:

Technical Review Peer Review

Technical Review (TR)

Review Documentation Provided

Signed TR Report, or
TR Report No.: _____
 Signed TR Concurrence Sheet (attached), or
 Signature of TR Reviewer(s) below

Peer Review (PR)

Review Documentation Provided

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Name and Signature of Reviewers

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*Note: In some cases there may be a milestone where an item is being fabricated, maintenance is being performed on a facility, or a document is being issued through a formal document control process where it specifically calls out a formal review of the document. In these cases, documentation (e.g., inspection report, maintenance request, work planning package documentation, or the documented review of the issued document through the document control process) of the completion of the activity along with the Document Cover Sheet is sufficient to demonstrate achieving the milestone. QRL for such milestones may also be marked N/A in the work package provided the work package clearly specifies the requirement to use the Document Cover Sheet and provide supporting documentation.

 **Publication Tracking System**

This List: Publication List 

Publication Tracking System > Publication List

View Record (Logged in as Jubin, Robert Thomas)

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September 2, 2011

To: Ruth Weiner
Ken Sorenson

From: Robert T. Jubin

Subject: Completion of the ORNL Fuel Cycle Research and Development (FCR&D) Level 3 Milestone – Concept Evaluations - FTOR11UF0409, MS# M31UF040903, “End of Year Status Report on Concept Evaluation Support,” due 9/02/2011

This letter documents the completion of the FCR&D Level 3 milestone for the Concept Evaluations - ORNL work package (FTOR11UF0409), “End of Year Status Report on Concept Evaluation Support” (M31UF040903), due 2 September 2011. A letter report describing the activities of ORNL personnel participating in the Concept Evaluation Team’s efforts on the Facilities Survey, Decision Analysis Methodology, and Implementation Plan is attached to this memo. This milestone was completed on time.

If you have any questions, please contact me at (865) 574-4934, Rob Howard at (865) 241-5750 or John Wagner at (865) 241-3570.

cc: C. V. Bates (INL)
R. L. Howard
D. K. Jensen (INL)
J. C. Wagner

Letter report of the ORNL activities supporting the Concept Evaluation task within the DOE-NE Fuel Cycle Technologies' Used Fuel Disposition Campaign

On November 30, 2010, ORNL hosted a half- day site tour for the Concept Evaluation Team of the relevant hot cell and laboratory areas at ORNL. This included the Irradiated Fuels Examination Lab (Bldg 3525) and Radiochemical Engineering Development Center (Bldg.7920) facilities as well as the LAMDA facility in Bldg. 4508 and the analytical radiochemistry labs in Bldg.4501. This was followed by a day and a half working group meeting. This meeting began the effort to develop the Criteria and Metrics that would ultimately be used to compare the various reference facilities.

Bob Jubin and Bruce Bevard supported the Concept Evaluation site visit teams during the week of December 13 for the visits to PNNL and INL. Key facilities visited at PNNL included the Radiochemical Processing Laboratory (RPL), the Material Science & Technology Building # 3410, the Canister Storage Building (CSB), the Interim Spent Fuel Storage Installation (ISFSI) and a drive by of the Fuels Material and Examination Facility (FMEF). At INL, the team visited the Idaho Nuclear Engineering and Technology Center (INTEC) Unirradiated Fuel Storage Facility (CPP-651), FDP/ Fast Facility (CPP-666), the TMI Storage (CPP-2707), and the Materials and Fuels Complex (MFC) including the Hot Fuel Examination Facility (HFEF) (MFC-785), the Analytical Laboratory (MFC-752) and the Environmental Measurements Laboratory (MFC-774).

John Wagner, Rob Howard, and Bob Jubin participated in the Used Fuel Disposition Campaign Meeting held in Albuquerque on January 19-20, 2011. Prior to the main meeting various team meetings were held at SNL. Rob Howard and Bob Jubin worked with the Concept Evaluation team to develop and refine the criterion and metrics needed to evaluate the facilities that could be used to conduct the needed R&D. An initial pass at developing the weighting factors for the individual criteria was conducted using a modified pairwise methodology. Following the main UFD meeting the Concept Evaluation team met again to review the pairwise methodologies and to develop plans for the follow-on team meetings. A number of sub-teams were established to develop the key working documents. These included the selection of the pairwise methods and tools, the descriptions of the reference facilities and the description of the individual scores for each of the criterion.

Bob Jubin provided an Excel based pairwise evaluation tool that had been successfully used at ORNL for several projects. Rob Howard and Bob Jubin also participated on a series of teleconferences to develop the methodologies and documents as identified at the Albuquerque meeting.

John Scaglione, Rob Howard, and Yong Yan participated in the Used Fuel Disposition (UFD) Storage and Transportation Research and Development Opportunities Workshop, which was held in Las Vegas, Nevada, February 1-3, 2011. The objectives of the meeting were to (1) describe the required R&D approach to close gaps, including preliminary assessment of cost, timeline and essential materials or conditions for success; and (2) outline a reasonable approach/roadmap for the first (and subsequent, if possible) phase(s) of a research program.

The results of the workshop will be used as part of the bases for identifying specific monitoring and testing activities to be performed at a future Test and Validation Complex (TVC).

A preliminary draft of the Hot Cell Survey Summary report was issued by the team at SRS in January 2011. The primary source of data in this report was collected through a questionnaire sent to the National Laboratories and selected industrial facilities during FY 2010. This report summarized the capabilities of each of the National Laboratories that currently have infrastructure to support the envisioned testing program and the observations made during the site visits. ORNL provided corrections to the main body of the report for factual accuracy and updated and expanded our initial response to the questionnaire. The draft document has been revised to reflect comments from each site and is currently undergoing a second round of reviews at ORNL. Additional comments were sent to SRNL in early April 2011.

Bob Jubin and Rob Howard participated in the working group meeting held February 22-24, 2011 in Las Vegas. This 3 day meeting focused on finalizing the criteria that was to be used in comparing the reference facilities. Using these criteria, each of the reference facilities was scored and an initial sensitive study was conducted.

Rob Howard and Bob Jubin participated in a follow-up working group meeting in Washington, D.C on March 22-24, 2011 where the scoring and the sensitivity analysis were reviewed and several changes were made. SNL was tasked with preparing a Level 2 report that summarized the activities of this task. The content of the final reports for this task were discussed and an approach to develop the final Level 2 document was agreed to. Sandia prepared the initial draft report entitled "Summary Plan for Evaluating Used Fuel Storage" and distributed this to the participating laboratories for review. ORNL provided a number of comments and suggestions to this initial draft. The revised draft was then provided to a technical review panel for evaluation and comment.

Bob Jubin and Rob Howard attended the technical peer review meeting for the Level 2 report in Washington, D.C on June 29-30, 2011 where the methodology and conclusions of the team's efforts were reviewed. The peer review team provided a number of suggestions pointing to areas and approaches that could strengthen the report. Following the review meeting, lead authors were identified to draft the revised sections of the report that would address the reviewers' comments. ORNL was tasked to draft the Executive Summary, the Introduction, and the Conclusions to the Level 2 report that was re-titled "Strategic Options for Extended Storage Capability for Used Nuclear Fuel". The first draft of the Executive Summary was provided by Bob Jubin in time for the Joint Separations and Waste Form and Used Fuel Disposition Meeting that was held in Las Vegas on July 12 -14, 2011. Rob Howard attended this meeting. Over the next several weeks the remaining sections were drafted and supplied to the report's lead author at Sandia to be merged with sections being drafted by other laboratories. Rob Howard and Bob Jubin both reviewed various versions of the revised Level 2 report as it was being compiled prior to its redistribution to the review panel.