



## U.S. Department of Energy

P.O. Box 450, MSIN H6-60  
Richland, Washington, 99352

12-WTP-0041

JAN 31 2012

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004-2901

DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) RECOMMENDATION 2010-2  
IMPLEMENTATION PLAN (IP) QUARTERLY PROGRESS REPORT FOR OCTOBER THROUGH  
DECEMBER 2011

Dear Mr. Chairman:

Reference: DOE-HQ letter from S. Chu to P. S. Winokur, DNFSB, "Department of Energy Plan to Address Waste Treatment and Immobilization Plant Vessel Mixing Issues, Revision 0, Implementation Plan for Defense Nuclear Safety Board Recommendation 2010-2," dated November 10, 2011.

The Quarterly Progress Report to the DNFSB on Recommendation 2010-2 for the period October through December 2011 is attached. This report meets Commitment 6.3.1 of the IP to provide quarterly progress reports and describes the status of activities undertaken, and results achieved to meet the U. S. Department of Energy's (DOE) commitments as described in Reference 1.

DOE has made good progress this quarter toward closing safety issues related to Pulse Jet Mixing at the Waste Treatment and Immobilization Plant. In accordance with the IP, no deliverables were completed or due during this reporting period.

Details may be found in the attached report.

If you have any questions, please contact me at (509) 376-6727 or your staff may contact Ben Harp, WTP Start-up and Commissioning Integration Manager at (509) 376-1462.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale E. Knutson".

Dale E. Knutson, Federal Project Director  
Waste Treatment and Immobilization Plan

WTP:WRW

Attachment

Hon. Peter S. Winokur  
12-WTP-0041

-2-

cc w/attach

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W. W. Gay, BNI  
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ATTACHMENT  
to  
12-WTP-0041

DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB)  
RECOMMENDATION 2010-2 IMPLEMENTATION PLAN (IP)  
QUARTERLY PROGRESS REPORT FOR  
OCTOBER THROUGH DECEMBER 2011

(Total Number of Pages including coversheet: 25)

<b>CSP-VSL-0004</b>	<b>CSP-VSL-0004</b>	<b>HOP-VSL-00903904</b>	<b>RIP-VSL-0002A/B/C</b>	<b>RID-VSL-0007</b>	<b>RID-VSL-0008</b>	<b>COP-VSL-0003</b>	<b>CPF-VSL-0002A/B</b>	<b>COP-VSL-0002A/B/C</b>	<b>CPF-VSL-0001A/B</b>	<b>PEP-VSL-00017A/B</b>	<b>FWD-VSL-00015</b>	<b>FWD-VSL-00044</b>	
<b>FWD-VSL-00033</b>	<b>FWD-VSL-00043</b>	<b>HLP-VSL-00027A/B</b>	<b>TLP-VSL-00009A/B</b>	<b>HLP-VSL-00028</b>	<b>TCP-VSL-00001</b>	<b>HLP-VSL-00022</b>							

DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
RECOMMENDATION 2010-2 QUARTERLY PROGRESS REPORT

PULSE JET MIXING AT THE WASTE TREATMENT  
AND IMMOBILIZATION PLANT

OCTOBER 1 TO DECEMBER 31, 2011

BEST AVAILABLE COPY

## EXECUTIVE SUMMARY

On December 17, 2010, the Defense Nuclear Facility Safety Board (DNFSB) issued Recommendation 2010-2, *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*. The recommendation addressed the need for the U. S. Department of Energy (DOE) to ensure that the Hanford Waste Treatment and Immobilization Plant (WTP), in conjunction with the Hanford tank farm waste feed delivery system, will operate safely and effectively during a 40-year operating life to eliminate the safety hazards posed by Hanford Site tank wastes.

On November 10, 2011, DOE Secretary Chu forwarded the DOE Implementation Plan (IP) for DNFSB recommendation 2010-2 to Chairman Winokur. This IP includes Commitment 6.3.1 to provide quarterly progress reports and briefings to the DNFSB and DNFSB staff, including updates on the status of completing actions identified in the IP. This quarterly report is for the period from October through December 2011, meeting the Commitment 6.3.1.

No IP deliverables were due or provided during this quarterly reporting period. DOE expects to submit IP deliverables on schedule during the next period.

DOE has made good progress this quarter towards meeting IP objectives. WTP foundation documents were issued this period consisting of the Integrated Pulse Jet Mixed (PJM) Vessel Design and Control Strategy, Project Execution Plan for the Vessel Completion Team (VCT), Charter for the Large Scale Integrated Mixing System Expert Review Team, and Experimental Data Gap Analysis for Computational Fluid Dynamics (CFD) Verification and Validation. Modifications to the scaled test platform at Mid-Columbia Engineering were initiated to support testing in an 8-ft acrylic vessel and ground was broken for construction of test facilities to house the 14-ft vessel for testing. Washington River Protection Solutions LLC (WRPS) prepared a draft of the Waste Feed Delivery Mixing and Sampling Program Plan identifying test requirements for addressing risks with waste feed delivery. The External Review Team (ERT) was actively engaged with review of both WTP and WRPS programs.

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## 1. PURPOSE

On December 17, 2010, the DNFSB issued *Recommendation 2010-2, Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*. The recommendation identified safety issues associated with PJM vessels mixing, sampling, and transfer capabilities in WTP and issues with the integration of Tank Farm feed staging system mixing, sampling, and transfer system capabilities.

The DOE commitments, outlined in *Implementation Plan for Defense Nuclear Safety Board Recommendation 2010-2*, submitted to the DNFSB on November 10, 2011, are fulfilled by a program of tests, analyses, and other activities. Each DOE commitment has a corresponding deliverable and a due date falling between January 30, 2012, and May 9, 2016. During this period, Commitment 6.3.1 to DNFSB requires quarterly progress reports on the completion of IP milestones and deliverables, together with the status of ongoing and planned activities, and a description of issues and risks identified and how they are being managed and closed. This Quarterly Progress Report fulfills that commitment.

## 2. HIGHLIGHTS FOR THIS QUARTER

### 2.2 DELIVERABLES SUBMITTED

On November 10, 2011, Secretary Chu forwarded the DOE Implementation Plan for DNFSB Recommendation 2010-2 to Chairman Winokur. No other deliverables were due during this period.

### 2.3 WORK COMPLETED

WTP

#### Foundation Documents

On October 27, 2011, WTP issued Revision 1 to 24590-WTP-RPT-ENG-10-001, *Integrated Pulse Jet Mixed Vessel Design and Control Strategy*. This revision addresses management of the technical risks associated with verification of the designs of the PJM mixed vessels, including activities to be completed before installing the 11 remaining vessels in the WTP Pretreatment and High-Level Waste Vitrification Facilities.

On November 30, 2011, WTP issued Revision 1 to 24590-WTP-PL-MGT-11-0001, *Project Execution Plan for the Vessel Completion Team*. The Vessel Completion Team (VCT) was established to complete the design verification and pre-installation tasks associated with PJM vessels. The scope includes supporting DOE in meeting the commitments of the 2010-2 IP, resolving outstanding vessel technical issues and conducting Large-Scale Integrated Testing (LSIT) for selected vessels. The VCT was staffed and an integrated schedule established for its scope.

conducting Large-Scale Integrated Testing (LSIT) for selected vessels. The VCT was staffed and an integrated schedule established for its scope.

On December 16, 2011, ORP, WTP, and WRPS issued Revision 2 to WTP-CH-MGT-11-001, *Charter for the Large Scale Integrated Mixing System Expert Review Team*. This revision extended the scope of the ERT, originally formed to provide independent advice and counsel on WTP PJM mixing testing programs, to include WRPS tank farm testing programs for retrieval and sampling of staged waste.

On November 18, 2011, WTP issued WTP-RPT-ENG-11-152, Revision 1, *Experimental Data Gap Analysis for CFD Verification & Validation*, identifying additional data needed from testing to support Verification and Validation (V&V) of the CFD code to be used in support of PJM mixed vessels design completion. Plans for this testing are being completed, and an independent review of the document is scheduled by the National Energy Technology Laboratory (NETL).

#### Testing and Design Related Activities

Modifications of the scaled test platform at Mid-Columbia Engineering were initiated to install and support testing in an 8 ft acrylic vessel, in addition to the existing 4 ft vessel capability.

A contract was let, and ground broken, for construction of an Engineering Laboratory Building at WSU Tri-Cities. This building will house the 14-ft vessel for large scale integrated testing of PJM-mixed vessel mixing, sampling, and transfer capabilities.

A concept was developed for a modification to the PJM control strategy to allow positive identification of the end of stroke condition. If successful, this approach could significantly reduce the potential for inadvertent overblows of PJMs. Engineering evaluation of the concept will continue in parallel with progress on the existing design.

A subcontract for Test Operations support to the WTP large scale integrated test program was placed with Energy Solutions, LLC.

A series of monthly telecons on large scale integrated testing program status was established with the DNFSB Technical Staff to improve communications.

A review plan which ensures adequate internal and external review of Defense Nuclear Facilities Safety Board Recommendation 2010-2 Implementation Plan commitments was prepared and transmitted to the Office of River Protection (ORP). The plan will be incorporated into the VCT Project Execution Plan at its next revision.

The ERT was actively engaged with review of both WTP and WRPS programs. The ERT issued reports to WTP concerning their reviews of CFD V&V plans; the document underpinning the assumption that Newtonian techniques can be used to assess aspects of non-Newtonian vessel performance, and the approach to testing



the assumption; and the draft request for technology development to support CFD V&V testing. The ERT issued a review report to WRPS on their deliverable on waste feed test requirements.

### WRPS

On December 5, 2011, ORP issued Contract Modification 143 directing WRPS to perform the work identified in the IP with a not to exceed \$1M limitation. WRPS began work on the early commitments and developed an Advanced Work Authorization Baseline Change Request (RPP-12-054) for the initial \$1M. The majority of the work will occur in FY12 and FY13, but final closure of IP commitments is not expected until 2016. A certified cost and pricing proposal is on track for submittal to DOE-ORP by January 27, 2012.

On December 8, 2011, ORP requested a review plan which ensures adequate internal WRPS and external DOE review of DNFSB Recommendation 2010-2 IP Commitments. The review plan, *Washington River Protection Solutions LLC 2010-2 Commitment Document Review Plan*, was prepared and transmitted to ORP on December 20, 2011.

On December 13, 2011, WRPS completed a draft of the Waste Feed Delivery Mixing and Sampling Program Plan and Test Requirements. This document is being prepared to satisfy Commitment 5.5.3.4 of the Implementation Plan. Comments were due on December 31, 2011, and have been received by the ERT and required project reviewers. Comments have been incorporated and the document has been approved. It is currently on schedule for delivery to the DNFSB by the commitment due date of January 31, 2012.

On January 2, 2012, WRPS began mobilizing teams to initiate work on the next three commitments, 5.5.3.2 Evaluation of Waste Transferred to WTP, 5.5.3.5 Definition of Simulants for Tank Farm Performance Testing, and 5.5.3.6 Test Plan to Establish Tank Farm Performance Capability. Resources are being identified and contracts are being placed to begin the work.

## 3. SUMMARY OF TEST RESULTS

### 3.2 TANK FARM FEED STAGING MIXING, SAMPLING, AND TRANSFER TESTS

Nothing to report

### 3.3 WTP PJM MIXING, SAMPLING, AND TRANSFER TESTS

A concept for testing to support demonstration of the assumption that Newtonian techniques can be used to assess aspects of non-Newtonian vessel performance was developed. Initial proof-of-concept tests were performed. These tests were aimed

at determining if the test could be run in a meaningful manner, and to provide input to management on whether to proceed to build a larger scale test apparatus. Test results were not consistent with predicted performance, so construction of the larger scale test apparatus was suspended pending data evaluation, and a determination of whether the experiment should be redesigned or the test approach abandoned. Results of that analysis and an assessment of the implications to the DOE 2010-2 IP are underway.

## 4. DISCUSSION

### 4.2 IMPACT OF THE RESULTS ON WTP DESIGN AND CONTROL

Nothing to report

### 4.3 ISSUES AND RISKS IN MIXING, SAMPLING, AND TRANSFER

#### 4.3.1 IDENTIFIED ISSUES AND RISKS

##### Tank Farm Issues and Risks

The TOC has identified two critical risks TOC-08-65 and TOC-12-64 per the TFC-PLN-39 (*Risk Management Plan*, Rev. F-11) which address emerging Waste Acceptance Criteria (WAC) and sampling method requirements. These risks are being addressed in RPP-PLAN-41807, Waste Feed Delivery Mixing and Sampling Program Plan and Test Requirements (Commitment 5.5.3.4) and follow-on actions. Detailed issues and risks associated with the tank waste feed mixing, sampling, and transfer systems will be included in this section of the report as they are identified.

##### WTP Issues and Risks

WTP drafted the 24590-PTF-PL-ENS-11-0007, Plan and Schedule to Systematically Evaluate the Hazards of Known Technical Issues, M3 Vessel Assessment Summary Reports, LOAM Benchmark Data and LSIT – Response to DNFSB Recommendation 2010-2 Implementation Plan Commitment 5.7.3.1. The final document (due January 30, 2012), will include a list of known technical issues that will be updated and statused in future revisions of the quarterly report.

## 5. FORWARD LOOK

DOE expects to submit conditional IP deliverables associated with CFD V&V testing (e.g.; requests for technology development, test specs, test plans, simulant basis documents, etc.)

during the period from January to March 2012. Additionally, there are six 'date firm' IP deliverables due during this period. These are summarized below:

<u>Commitment</u>	<u>Title</u>	<u>Date</u>	<u>Status</u>
5.7.3.4	Identify key inputs, assumptions, safety margin uncertainties, and nuclear safety parameters required to be included in the WAC	January 15, 2012	Submitted
5.7.3.1	Establish the plan and schedule to systematically evaluate the hazards of known technical issues, M3 vessel summary reports, LOAM benchmark data, and LSIT results	January 30, 2012	Submitted
5.5.3.4	Identification of tank farm sampling and transfer capability test requirements document	January 31, 2012	Submitted
5.3.3.4	Analysis of data sets required to support CFD V&V	February 1, 2012	On Track
5.1.3.2	Issue responses to recommendations from key stakeholders	March 31, 2012	On Track
5.6.3.1	Define functional design criteria for heel management system	March 31, 2012	On Track
5.5.3.5	Definition of simulants for tank farm performance testing	March 31, 2012	On Track

## 6. ACRONYMS

ASME	American Society of Mechanical Engineers
ASX	WTP's automatic sampling system
BNI	Bechtel National, Inc.o
CFD	Computational Fluid Dynamics
CFR	Code of Federal Regulations
CCN	Correspondence Control Number
cP	Centipoise
CRESP	Consortium for Risk Evaluation with Stakeholder Participation
CSER	Criticality Safety Evaluation Report
DBE	Design Basis Event
DNFSB	Defense Nuclear Facility Safety Board
DOE	U.S. Department of Energy
DQO	Data Quality Objective

DSA	Documented Safety Analysis
DST	Double Shell Tank
EFRT	External Flowsheet Review Team
EM	Environmental Management
EPA	Environmental Protection Agency
ERT	Expert Review Team
FEP-17	Evaporator Feed Vessel 17
FLUENT	Software made by ANSYS Corporation used to model flow, turbulence, heat transfer, and chemical reactions
FRP-02	Feed Receipt Vessel 02
ft	Feet
FY	Fiscal Year
HAR	Hazards Analysis Report
HLP-22	High level waste feed vessel 22
HLW	High Level Waste
HPAV	Hydrogen in Piping and Ancillary Vessels
ICD	Interface Control Document
IDF	Interim Disposal Facility
IP	Implementation Plan
ISARD	Integrated Sampling and Analysis Requirements Document
LAW	Low Activity Waste
LOAM	Low Order Accumulation Model
LSIT	Large-Scale Integrated Testing
ml	Milliliter
NETL	National Energy Technology Laboratory
ORP	Office of River Protection
Pa	Pascal
PDSA	Preliminary Documented Safety Analysis
PJM	Pulse Jet Mixer
PNNL	Pacific Northwest National Laboratory
PTF	Pretreatment Facility
RTD	Request for Technology Development
SAC	Specific Administrative Control
SDS	Safety Design Strategy
SRD	Safety Requirements Document
SRNL	Savannah River National Laboratory
SSC	Structures, Systems, and Components
TOC	Tank Farm Operations Contractor
UFP-01	Ultrafilter Feed Preparation Vessel 01
VCT	Vessel Completion Team
V&V	Verification and validation
WAC	Waste Acceptance Criteria
WRPS	Washington River Protection Solutions, Limited Liability Corporation (the Hanford Tank Farms Operations Contractor)
WTP	Waste Treatment and Immobilization Plant

## 7. ATTACHMENTS –

VCT Summary Schedule (Attached, Pages 1-15)

# VCT Summary Schedule

Activity ID	Start	Finish	Ship Nation	Vessel No	2013	2014	2015	2016	2017	
<b>WP 00 Summary</b>										
<b>01 Summary</b>										
2BPRLA05	14-Nov-11 A	25-Jun-14	French	2350	2BPRL0807					1746
2BPRLA413	14-Mar-12	14-Mar-12	French	2340	2BPRL0215					
2BPRLA409	02-Apr-12	02-Apr-12	French	2327	2BPRL0210					
2BPRLA411	06-Apr-12	06-Apr-12	French	2323	2BPRL0259					
2BPRLA407	21-May-12	21-May-12	French	2320	2BPRL0186					
2BPRLA433	28-Jun-12	28-Jun-12	French	2305	2BPRLV0271					
2BPRLA401	16-Nov-11 A	28-Jun-12	French	2305	2BPRLV3395					
2BPRLA431	09-Aug-12	09-Aug-12	French	2330	2BPRLV3511					
2BPRLA429	23-Aug-12	23-Aug-12	French	2226	2BPRLV3179					
2BPRLA428	20-Aug-12	20-Aug-12	French	2222	2BPRL0110					
2BPRLA435	07-Sep-12	07-Sep-12	French	2216	2BPRLV0204					
2BPRLA429	21-Sep-12	21-Sep-12	French	2206	2BPRLV0429					
2BPRLA427	05-Oct-12	05-Oct-12	French	2196	2BPRLV0261					
2BPRLA434	18-Oct-12	18-Oct-12	French	2187	2BPRL0122					
2BPRLA432	13-Nov-12	13-Nov-12	French	2169	2BPRL0121					
2BPRLA403	24-May-12	26-Nov-12	French	1525	2BPRL0R161					
2BPRLA403	12-Dec-12	12-Dec-12	French	2150	2BPRLV0306					
2BPRLA425	22-Feb-13	22-Feb-13	French	2102	2BPRL0221					
2BPRLA421	22-Mar-13	22-Mar-13	French	3017	2BPRLV1399					
2BPRLA422	14-May-13	14-May-13	French	2045	2BPRL0R121					
2BPRLA424	20-May-13	20-May-13	French	2041	2BPRL0110					
2BPRLA430	11-Jun-13	11-Jun-13	French	2041	2BPRL0124					
2BPRLA428	11-Jun-13	11-Jun-13	French	2026	2BPRL0120					
2BPRLA422	02-Jul-13	02-Jul-13	French	2011	2BPRL0117					
2BPRLA401	19-Feb-14	19-Feb-14	French	1853	2BPRL0169					
2BPRLA404	05-Jun-13	11-Apr-14	French	1396	2BPRL0R227					
2BPRLA419	22-Jul-14	22-Jul-14	French	1746	2BPRL0270					
2BPRLA419	16-May-11 A	01-Oct-13	French	1648	2BPRL0297					
2BPRLA301	13-Feb-12	13-Feb-12	French	2351	2BPRL0C315					
2BPRLA302	03-Apr-12	03-Apr-12	French	2226	2BPRL0790					
2BPRLA301	17-Apr-12	17-Apr-12	French	2316	2BPRL0C204					
2BPRLA304	11-Jun-12	11-Jun-12	French	2278	2BPRL0SM114					
2BPRLA302	27-Jun-12	27-Jun-12	French	2266	2BPRL01660					
2BPRLA303	13-Jul-12	13-Jul-12	French	2255	2BPRL07796					

# VCT Summary Schedule

Category ID	Item	Start	Finish	Resp Person	Year/Heel	Predecessors	2017	2018	2019	2020
	2BPRTL0A334	30-Aug-12	French	2221	2BPRTL0A334					
	2BPRTL0A012	09-Apr-12	French	588	2BPRTL0A012, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A305	19-Sep-12	French	2208	2BPRTL0A012					
	2BPRTL0A333	04-Oct-12	French	2187	2BPRTL0A012					
	2BPRTL0A011	16-May-11	French	719	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A022	28-Jun-12	French	553	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A335	11-Dec-12	French	2151	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A021	29-Jan-11	French	553	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A023	29-Jan-13	French	465	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A307	29-Jan-13	French	475	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A306	01-Oct-13	French	1948	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	2BPRTL0A308	01-Oct-13	French	1948	2BPRTL0A011, 2BPRTL0A016, 2BPRTL0A020					
	08 Foot Vessel	24-Oct-11	17-Oct-13	1956						
	2BPRTL0A301	09-Jan-12	French	2386	2BPRTL0A300					
	2BPRTL0A304	03-Feb-12	French	2387	2BPRTL0A300					
	2BPRTL0A002	14-Feb-12	French	2360	2BPRTL0A300					
	2BPRTL0A303	16-Feb-12	French	-231	2BPRTL0A300, 2BPRTL0A304, 2BPRTL0A308					
	2BPRTL0A305	16-Feb-12	French	2358	2BPRTL0A300					
	2BPRTL0A001	24-Oct-11	French	2346	2BPRTL0A300					
	2BPRTL0A341	12-Mar-12	French	2342	2BPRTL0A300, 2BPRTL0A304					
	2BPRTL0A312	13-Apr-12	French	2318	2BPRTL0A300					
	2BPRTL0A342	17-May-12	French	2304	2BPRTL0A300					
	2BPRTL0A313	24-May-12	French	2289	2BPRTL0A300					
	2BPRTL0A314	16-Jun-12	French	2273	2BPRTL0A300					
	2BPRTL0A344	19-Jun-12	French	2272	2BPRTL0A300					
	2BPRTL0A340	22-Jun-12	French	2269	2BPRTL0A300					
	2BPRTL0A301	13-Jul-12	French	2265	2BPRTL0A300					
	2BPRTL0A003	04-Sep-12	French	-250	2BPRTL0A300, 2BPRTL0A306, 2BPRTL0A308					
	2BPRTL0A307	04-Sep-12	French	2219	2BPRTL0A300					
	2BPRTL0A302	20-Sep-12	French	2207	2BPRTL0A300					
	2BPRTL0A315	26-Sep-12	French	2203	2BPRTL0A300					

# VCT Summary Schedule

Activity ID	Start	Finish	Lead Person	Total Hours	Predecessors	2012	2013	2014	2015	2016	2017
2BPRTLA07	16-Apr-12	26-Sep-12	French	-384	2BPRTSM127 2BPRTSM130						
2BPRTLA07	17-Apr-12	27-Sep-12	French	-250	2BPRTSM154 2BPRTSM156						
2BPRTLA345	27-Sep-12	27-Sep-12	French	202	2BPRTSM156						
2BPRTLA026	09-Jan-12	18-Oct-12	French	-384	2BPRTLB818 2BPRTLC340						
2BPRTLA026	09-Jan-12	26-Oct-12	French	-353	2BPRTLB824 2BPRTLB871						
2BPRTLA384	28-Nov-12	28-Nov-12	French	2162	2BPRTSM184						
2BPRTLA356	28-Nov-12	28-Nov-12	French	2160	2BPRTLB818						
2BPRTLA383	10-Dec-12	10-Dec-12	French	2132	2BPRTLB968						
2BPRTLA004	07-May-12	12-Dec-12	French	-182	2BPRTL2227 2BPRTL2226						
2BPRTLA029	31-Oct-11 A	27-Dec-12	French	225	2BPRTLF101 2BPRTLF170						
2BPRTLA006	12-Sep-12	28-Jan-13	French	-384	2BPRTL154 2BPRTL154						
2BPRTLA037	28-Jan-13	28-Jan-13	French	2120	2BPRTL154						
2BPRTLA028	25-Oct-12	28-Jan-13	French	-384	2BPRTHL344 2BPRTHL345						
2BPRTLA047	28-Jan-13	28-Jan-13	French	2120	2BPRTHL345						
2BPRTLA035	05-Mar-13	05-Mar-13	French	2022	2BPRTSM190						
2BPRTLA036	21-Sep-12	05-Mar-13	French	161	2BPRTSM181 2BPRTSM182 2BPRTSM183						
2BPRTLA025	30-May-12	08-Apr-13	French	161	2BPRTLB941 2BPRTLB941						
2BPRTLA037	28-Dec-12	13-May-13	French	161	2BPRTHL364 2BPRTHL365						
2BPRTLA037	13-May-13	13-May-13	French	2045	2BPRTHL365						
2BPRTLA029	03-Jan-13	14-May-13	French	-255	2BPRTHL348 2BPRTLG971						
2BPRTLA029	14-May-13	14-May-13	French	2045	2BPRTLG958						
2BPRTLA029	25-Oct-12	14-May-13	French	45	2BPRTL1542 2BPRTL1252						
2BPRTLA046	14-May-13	14-May-13	French	2045	2BPRTLG976						
2BPRTLA036	17-Oct-13	17-Oct-13	French	1900	2BPRTLG929						
14 Foot Vessel	05-Jun-12	15-Feb-17		1959							
2BPRTLA015	09-Jan-12	23-Apr-12	French	2386	2BPRTCS167						
2BPRTLA051	23-Apr-12	23-Apr-12	French	2312	2BPRTLC989						
2BPRTLA021	26-Apr-12	26-Apr-12	French	2309	2BPRTLC959						
2BPRTLA071	08-Jun-12	2279	2BPRTLC429								
2BPRTLA022	02-Aug-12	2241	2BPRTLB830								
2BPRTLA022	21-Sep-12	2006	2BPRTLB990								
2BPRTLA024	19-Oct-12	2186	2BPRTSM134								
2BPRTLA023	24-Oct-12	2183	2BPRTLB838								
2BPRTLA034	27-Nov-12	2161	2BPRTSM164								
2BPRTLA033	07-Dec-12	2133	2BPRTLB998								
2BPRTLA025	01-Feb-13	2116	2BPRTSM140								
2BPRTLA017	17-Aug-12	10	2BPRTSM134 2BPRTSM135								



# VCT Summary Schedule

Activity ID	Start	Finish	Lead Person	Total Hours	Predecessors	2012	2013	2014	2015	2016	2017
2BPRI1A016	07-Mar-12	05-Mar-13	French	3	2BPRI1L830, 2BPRI1L031						
2BPRI1A031	24-Sep-12	11-Mar-13	French	220	2BPRI1SM164, 2BPRI1SM170						
2BPRI1A355	13-Mar-12	09-Apr-13	French	2091	2BPRI1SM170						
2BPRI1A030	13-Mar-12	09-Apr-13	French	564	2BPRI1L860, 2BPRI1L0224						
2BPRI1A391	16-Jun-14	24-Jun-14	French	1870	2BPRI1L920						
2BPRI1A372	10-Feb-14	10-Feb-14	French	1859	2BPRI1L605						
2BPRI1A032	01-Apr-13	10-Feb-14	French	10	2BPRI1L304, 2BPRI1L305, 2BPRI1L306						
2BPRI1A357	10-Feb-14	10-Feb-14	French	1859	2BPRI1L305						
2BPRI1A374	31-Mar-14	18-May-14	French	1825	2BPRI1SM194						
2BPRI1A394	15-Apr-14	17-Apr-14	French	1814	2BPRI1SM174						
2BPRI1A373	17-Apr-14	17-Apr-14	French	1812	2BPRI1L946						
2BPRI1A363	29-Apr-14	05-May-14	French	1804	2BPRI1L612						
2BPRI1A037	01-Apr-13	05-May-14	French	74	2BPRI1L574, 2BPRI1L474, 2BPRI1L474						
2BPRI1A327	05-May-14	05-Jun-14	French	1800	2BPRI1L574						
2BPRI1A033	24-Dec-13	11-Jun-14	French	345	2BPRI1L0988, 2BPRI1L306, 2BPRI1L0986						
2BPRI1A356	11-Jun-14	11-Jun-14	French	1774	2BPRI1L0986						
2BPRI1A375	05-Jun-14	05-Jun-14	French	1755	2BPRI1SM200						
2BPRI1A042	27-Jan-14	06-Jun-14	French	469	2BPRI1SM195, 2BPRI1SM195						
2BPRI1A366	24-Jun-14	24-Jun-14	French	1744	2BPRI1SM190						
2BPRI1A047	26-Mar-14	24-Jun-14	French	134	2BPRI1SM175, 2BPRI1SM177						
2BPRI1A041	27-Apr-12	01-Aug-14	French	270	2BPRI1L0986, 2BPRI1L946						
2BPRI1A046	05-Jun-13	18-Aug-14	French	55	2BPRI1L612						
2BPRI1A326	20-Aug-14	20-Aug-14	French	1725	2BPRI1L0958						
2BPRI1A019	22-Apr-13	20-Aug-14	French	372	2BPRI1L662, 2BPRI1L477						
2BPRI1A043	02-Dec-14	02-Dec-14	French	1654	2BPRI1L816						
2BPRI1A050	04-May-13	04-May-15	French	83	2BPRI1L532, 2BPRI1L539						
2BPRI1A376	18-May-15	18-May-15	French	1539	2BPRI1L038						
2BPRI1A044	04-Jun-14	18-May-15	French	66	2BPRI1L0297, 2BPRI1L581						
2BPRI1A397	04-Mar-16	04-Mar-16	French	1339	2BPRI1L907						
2BPRI1A048	17-Jun-15	04-Mar-16	French	74	2BPRI1L907, 2BPRI1L907						
2BPRI1A396	27-May-16	27-May-16	French	1279	2BPRI1L0986						
2BPRI1A049	07-Mar-16	15-Feb-17	French	74	2BPRI1L0986						
Test 5	10-Oct-11 A	03-Jul-12		38							
2BPRI1A006	25-Oct-11 A	17-Feb-12	French	58	2BPRI1L823, 2BPRI1L929						
2BPRI1A002	01-Feb-12	28-Feb-12	French	47	2BPRI1L667, 2BPRI1L0719						

# VCT Summary Schedule

Activity ID	Start	Finish	Relay Person	Total Foot	Processions	2012	2013	2014	2015	2016	2017
2BPRLU027	10-Oct-11 A	28-Feb-12	French	-47	2BPRLU0711 2BPRLU0679						
2BPRLU021	31-Oct-11 A	14-Mar-12	French	-58	2BPRLU0304 2BPRLU0701						
2BPRLU028	15-Mar-12	03-Apr-12	French	-58	2BPRLU0701						
2BPRLU023	30-Jan-12	23-Apr-12	French	-58	2BPRLU0593 2BPRLU0705						
2BPRLU054	19-Apr-12	14-May-12	French	-53	2BPRLU0747 2BPRLU0602						
2BPRLU029	24-Apr-12	03-Jul-12	French	-58	2BPRLU0602 2BPRLU0608						
<b>WP 10 - EPC</b>											
01 Summary	12-Sep-11 A	28-Mar-12		-412							
2BPRLU016	02-Jan-12 A	25-Jan-12	Omni	412	0 2BPRLU0567 2BPRLU0316						
2BPRLU055	17-Oct-11 A	13-Mar-12	Omni	0	2BPRLU0216						
2BPRLU053	06-Mar-12	01-May-12	Omni	0	2BPRLU0217 2BPRLU0218 2BPRLU0219						
2BPRLU057	03-Apr-12	01-May-12	Omni	-362	2BPRLU0226 2BPRLU0228						
2BPRLU051	13-Sep-11 A	10-Oct-12	Omni	528	2BPRLU0557						
2BPRLU050	02-Nov-11 A	18-Oct-12	Underhill	36	2BPRLU0524 2BPRLU0525						
2BPRLU050	07-Nov-11 A	18-Oct-12	Underhill	36	2BPRLU0526 2BPRLU0527						
2BPRLU051	19-Feb-13	19-Feb-13	Omni	-45	2BPRLU0446						
2BPRLU059	28-Feb-12	20-Mar-13	Omni	-74	2BPRLU0206 2BPRLU0315 2BPRLU0316						
04 Foot Vessel	28-Feb-12	10-Oct-12		528							
2BPRLU105	28-Feb-12	07-Mar-12	Omni	0	2BPRLU1001						
2BPRLU122	07-Mar-12	07-Mar-12	Omni	0							
2BPRLU123	07-Mar-12	07-Mar-12	Omni	0							
2BPRLU110	22-Mar-12	02-Apr-12	Omni	0	2BPRLU1001 2BPRLU1005						
2BPRLU121	01-May-12	01-May-12	Omni	0							
2BPRLU133	01-May-12	01-May-12	Omni	0							
2BPRLU111	10-Oct-12	10-Oct-12	Anderson	528	2BPRLU0252 2BPRLU1114						
08 Foot Vessel	15-Feb-12	01-May-12		-38							
2BPRLU225	15-Feb-12	01-Mar-12	Omni	-179							
2BPRLU224	01-Mar-12	01-Mar-12	Omni	-159							
2BPRLU210	09-Mar-12	09-Mar-12	Omni	-350	2BPRLU2058 2BPRLU2071 2BPRLU2101						
2BPRLU215	13-Mar-12	01-May-12	Anderson	-346	2BPRLU2023 2BPRLU2103						
2BPRLU216	02-Apr-12	02-Apr-12	Omni	-262							
2BPRLU221	02-Apr-12	02-Apr-12	Omni	-233							
2BPRLU222	01-May-12	01-May-12	Omni	-170							
2BPRLU223	01-May-12	01-May-12	Omni	-135							
2BPRLU226	02-Jul-12	29-Sep-13	Omni	-29							
14 Foot Vessel	02-Jul-12	02-Jul-12	Omni	0							

PT - RST - Integrated Testing - Test 5 - 34 Inch - Summary - Test Preparations.  
 PT - RST - Integrated Testing - Test 5 - 34 Inch - Summary - Testing.  
 PT - RST - Integrated Testing - Test 5 - 34 Inch - Summary - Test Results / Reporting.  
 PT - RST - Integrated Testing - Test 5 - 12 Foot - Summary - Test Results / Reporting.  
 PT - RST - Integrated Testing - Construction Spec - 14 Foot Summary.  
 PT - RST - Integrated Testing - Large Scale - 8 Foot Platform EPC Summary.  
 PT - RST - Integrated Testing - Large Scale - 4 Foot Platform Array Summary.  
 PT - RST - Integrated Testing - Large Scale - 8 Foot Platform Array Summary.  
 PT - RST - Integrated Testing - Large Scale - 4 Foot Platform EPC Summary.  
 PT - RST - Integrated Testing - 14 Foot Vessel - CMI - ICN Hardware/Software Summary.  
 PT - RST - Integrated Testing - 14 Foot Vessel - CMI - PPI Hardware/Software Summary.  
 PT - RST - Integrated Testing - Large Scale - 14 Foot Platform Array Summary.  
 PT - RST - Integrated Testing - Large Scale - 14 Foot Platform EPC Summary.  
 PT - RST - Integrated Testing - Large Scale - ES - 42 Inch - Modification Complete.  
 PT - RST - Integrated Testing - Large Scale - WTP - 4 Foot - UFP-02 Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 4 Foot - RLD-08 Array.  
 PT - RST - Integrated Testing - Large Scale - ES - 42 Inch - Platform Ready to Test.  
 PT - RST - Integrated Testing - Large Scale - WTP - 4 Foot - HLP-27 Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 4 Foot - HLP-22 Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 42 Inch - Platform Ready to Test.  
 PT - RST - Integrated Testing - Large Scale - WTP - 8 Foot - RLD-08 Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 8 Foot - UFP-02 Array.  
 PT - RST - Integrated Testing - Large Scale - ES - 8 Foot - Construction Complete.  
 PT - RST - Integrated Testing - Large Scale - ES - 8 Foot - Platform Ready to Test.  
 PT - RST - Integrated Testing - Large Scale - WTP - 8 Foot - Platform Ready to Test.  
 PT - RST - Integrated Testing - Large Scale - WTP - CFD RLD-08 Full Scale Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - CFD RLD-08 Scaled Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 8 Foot - HLP-27 Array.  
 PT - RST - Integrated Testing - Large Scale - WTP - 8 Foot - HLP-22 Array.  
 PT - RST - Integrated Testing - Large Scale - ES - 14 Foot - Procurement of 14 Foot Heads.

# VCT Summary Schedule

Activity ID	Start	Finish	Miss Person	Year (End)	Progression	2012	2013	2014	2015	2016	2017
2BPRLU005		02-Jul-12	Omni	0	PT - R&T - Integrated Testing - Large Scale - ES - 14 Foot - Procurement of 14 Foot Vessel						
2BPRLU010		31-Aug-12	Omni	0	PT - R&T - Integrated Testing - Large Scale - ES - 14 Foot - Distribution Complete						
2BPRLU026		15-Feb-13	Omni	0	PT - R&T - Integrated Testing - Large Scale - WTP - 14 Foot - HLP-27 Army						
2BPRLU036		15-Feb-13	Omni	0	PT - R&T - Integrated Testing - Large Scale - WTP - 14 Foot - RLD-08 Army						
2BPRLU056		15-Feb-13	Omni	0	PT - R&T - Integrated Testing - Large Scale - WTP - 14 Foot - HLP-22 Army						
2BPRLU036		15-Feb-13	Omni	-45	PT - R&T - Integrated Testing - Large Scale - WTP - 14 Foot - UFP-02 Army						
2BPRLU016		29-Mar-13	Omni	-74	PT - R&T - Integrated Testing - Large Scale - ES - 14 Foot - Platform Ready to Test						
2BPRLU016		29-Mar-13	Anderson	-74	PT - R&T - Integrated Testing - Large Scale - WTP - 14 Foot - Platform Ready to Test						
<b>WP A Vessel Pl:</b> 20-Sep-12 - 10-Apr-14											
<b>01 Summary</b>											
2BPRLA117	20-Sep-12	20-Sep-12	French	0	PT - Vessel Installation - UFP-18						
2BPRLA112	20-Sep-12	20-Sep-12	French	86	PT - R&T - Integrated Testing - DOE Vessel Release - RLD-08						
2BPRLA110	29-Nov-12	29-Nov-12	French	88	PT - R&T - Integrated Testing - DOE Vessel Release - RLD-07 (Early)						
2BPRLA112	29-Nov-12	29-Nov-12	French	88	PT - R&T - Integrated Testing - DOE Vessel Release - RLD-08 (Early)						
2BPRLA112	29-Nov-12	29-Nov-12	French	86	PT - R&T - Integrated Testing - DOE Vessel Release - RLD-08 (Early)						
2BPRLA110	20-Dec-12	20-Dec-12	French	73	PT - R&T - Integrated Testing - DOE Vessel Release - RLD-07						
2BPRLA121	24-Dec-12	24-Dec-12	French	0	PT - Vessel Installation - HLP-28						
2BPRLA126	02-Jan-13	02-Jan-13	French	0	PT - Vessel Installation - UFP-1A						
2BPRLA116	10-Jan-13	10-Jan-13	French	0	PT - Vessel Installation - PMO-44						
2BPRLA146	10-Jan-13	10-Jan-13	French	0	PT - Vessel Installation - HLP-22						
2BPRLA133	13-Feb-13	13-Feb-13	French	0	PT - Vessel Installation - HLP-27A						
2BPRLA123	25-Feb-13	25-Feb-13	French	5	PT - Vessel Installation - HLP-27B						
2BPRLA125	25-Feb-13	25-Feb-13	French	0	PT - Vessel Installation - HLP-27B						
2BPRLA134	09-Apr-13	09-Apr-13	French	0	PT - Vessel Installation - RLD-07						
2BPRLA136	09-Apr-13	09-Apr-13	French	0	PT - Vessel Installation - RLD-08						
2BPRLA114	04-Jun-13	04-Jun-13	French	-101	PT - R&T - Integrated Testing - DOE Vessel Release - PMO-44 (Early)						
2BPRLA107	04-Jun-13	04-Jun-13	French	-177	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-18 (Early)						
2BPRLA107	04-Jun-13	04-Jun-13	French	-107	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-1A (Early)						
2BPRLA107	25-Jun-13	25-Jun-13	French	-192	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-18						
2BPRLA114	25-Jun-13	25-Jun-13	French	-116	PT - R&T - Integrated Testing - DOE Vessel Release - PMO-44						
2BPRLA115	25-Jun-13	25-Jun-13	French	-122	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-1A						
2BPRLA109	25-Jun-13	25-Jun-13	French	132	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-2A (Early)						
2BPRLA113	25-Jun-13	25-Jun-13	French	188	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-2B (Early)						
2BPRLA109	17-Jul-13	17-Jul-13	French	117	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-2A						
2BPRLA111	17-Jul-13	17-Jul-13	French	103	PT - R&T - Integrated Testing - DOE Vessel Release - UFP-2B						
2BPRLA113	17-Jul-13	17-Jul-13	French	-100	PT - R&T - Integrated Testing - DOE Vessel Release - HLP-22						
2BPRLA103	17-Jul-13	17-Jul-13	French	-96	PT - R&T - Integrated Testing - DOE Vessel Release - HLP-27A (Early)						
2BPRLA105	17-Jul-13	17-Jul-13	French	-101	PT - R&T - Integrated Testing - DOE Vessel Release - HLP-27B (Early)						

# VCT Summary Schedule

Activity ID	Start	Finish	Keep Person	Total Hours	Predecessors
2BPRLA1A01	17-Jul-13	French	142	2BPRLA1E130	
2BPRLA1A05	07-Aug-13	French	-116	2BPRLA1E157, 2BPRLA1E162, 2BPRLA1E161	
2BPRLA1A03	07-Aug-13	French	-111	2BPRLA1E152, 2BPRLA1E153, 2BPRLA1E154	
2BPRLA1A10	07-Aug-13	French	-157	2BPRLA1E06A, 2BPRLA1E111	
2BPRLA1A19	06-Jan-14*	French	0	2BPRLA1A06, 2BPRLA1A03, 2BPRLA1A11	
2BPRLA1A31	10-Apr-14*	French	0	2BPRLA1A11	
<b>WP B - E&amp;NS</b>					
<b>01 Summary</b>					
2BPRLA1E150	14-Nov-11 A	19-Feb-14	Bucche	1803	PT - R&T - Update Plan for Nuclear Safety Parameters in WAC.
2BPRLA1E160	18-Nov-11 A	11-Jun-12	Bucche	0	PT - R&T - Update Plan to Evaluate Hazards.
2BPRLA1E270	21-Nov-11 A	23-Jun-12	Bucche	-166	PT - R&T - Integrated Testing - E&NS Questions for LSIT Resolution - Summary
2BPRLA1E070	14-Nov-11 A	06-Mar-12	Caml	2246	PT - R&T - Integrated Testing - E&NS Questions for LSIT Resolution - Summary
2BPRLA1E170	05-Apr-12	19-Feb-14	Bucche	-284	PT - R&T - CSER Summary.
<b>WP 101 HLP-28</b>					
2BPRLA1E03	15-Feb-13	02-Oct-13	Bucche	1647	PT - R&T - HLP-28 - E&NS - NS Evaluate Results.
2BPRLA1E04	15-Feb-13	15-Mar-13	Bucche	-110	PT - R&T - HLP-28 - E&NS - Issue 148/ACCSR.
2BPRLA1E05A	18-Mar-13	10-Jun-13	Bucche	-110	PT - R&T - HLP-28 - E&NS - Update PSDA (JCDPI / ABAR) - Prep.
2BPRLA1E05B	11-Jun-13	05-Aug-13	Bucche	1947	PT - R&T - HLP-28 - E&NS - Update PSDA (JCDPI / ABAR) - Prep.
2BPRLA1E06	07-Aug-13	02-Oct-13	Bucche	1947	PT - R&T - HLP-28 - E&NS - Update PSDA (JCDPI / ABAR) - DOE Approve.
<b>WP C - Design C</b>					
<b>WP 101 HLP-28</b>					
2BPRLV0001	31-Oct-11 A	25-Jun-13	Osbon	2016	PT - R&T - VCT - HLP-28 - Develop Input for CFD Analysis.
2BPRLV0002	14-Nov-11 A	15-Feb-13	Underhill	2106	PT - R&T - VCT - HLP-28 - Perform CFD Analysis.
2BPRLV0003	07-Mar-12	25-Jun-13	Osbon	33	PT - R&T - VCT - HLP-28 - Design Calculation Update.
<b>WP 102 PWD-44</b>					
2BPRLV0004	18-Nov-11 A	13-Mar-12	Osbon	-54	PT - R&T - VCT - PWD-44 - Develop Input for CFD Analysis.
2BPRLV0005	17-Feb-12	15-Feb-13	Underhill	-157	PT - R&T - VCT - PWD-44 - Perform CFD Analysis.
2BPRLV0006	07-Mar-12	13-May-13	Osbon	1	PT - R&T - VCT - PWD-44 - Design Calculation Update.
<b>WP 103 HLP-27AB</b>					
2BPRLV0007	28-Nov-11 A	25-Jun-13	Osbon	2016	PT - R&T - VCT - HLP-27AB - Develop Input for CFD Analysis.
2BPRLV0008	19-Mar-12	15-Feb-13	Underhill	-48	PT - R&T - VCT - HLP-27AB - Perform CFD Analysis.
2BPRLV0009	07-Mar-12	25-Jun-13	Osbon	94	PT - R&T - VCT - HLP-27AB - Design Calculation Update.
<b>WP 104 UFP-02AB</b>					
2BPRLV0010	12-Dec-11 A	04-Jun-13	Osbon	2031	PT - R&T - VCT - UFP-02AB - Develop Input for CFD Analysis.
2BPRLV0011	05-Mar-12	15-Feb-13	Underhill	-142	PT - R&T - VCT - UFP-02AB - Perform CFD Analysis.
2BPRLV0012	07-Mar-12	04-Jun-13	Osbon	23	PT - R&T - VCT - UFP-02AB - Design Calculation Update.
<b>WP 105 UFP-01AB</b>					
2BPRLV0013	12-Dec-11 A	13-Mar-12	Underhill	-57	PT - R&T - VCT - UFP-01AB - Develop Input for CFD Analysis.
2BPRLV0014	17-Feb-12	15-Feb-13	Underhill	-102	PT - R&T - VCT - UFP-01AB - Perform CFD Analysis.

# VCT Summary Schedule

Activity ID	Start	Finish	Days	Weeks	Total Hours	Predecessors	2012	2013	2014	2015	2016	2017
2BPRTV5015	07-Mar-12	13-May-13	Olson		-50	2BPRTV5302, 2BPRTV5307						
WP 106 HLW RLD-07	03-Jan-12 A	05-Nov-12	Olson		2174							
2BPRTV5016	03-Jan-12 A	30-Jan-12	Olson		-17	2BPRTV5303, 2BPRTV5321, 2BPRTV5307						
2BPRTV5017	17-Jan-12	13-Aug-12	Underhill		-79	2BPRTV5307						
2BPRTV5018	27-Feb-12	06-Nov-12	Olson		-26	2BPRTV5343, 2BPRTV5359						
WP 107 HLW RLD-08	03-Jan-12 A	11-Oct-12	Olson		2169							
2BPRTV5019	03-Jan-12 A	30-Jan-12	Olson		-17	2BPRTV5365						
2BPRTV5020	17-Jan-12	18-Jul-12	Underhill		-61	2BPRTV5361, 2BPRTV5369						
2BPRTV5021	27-Feb-12	11-Oct-12	Olson		-25	2BPRTV5369						
WP 108 HLP-22	05-Mar-12	04-Jun-13	Olson		2001							
2BPRTV5022	05-Mar-12	03-Apr-12	Olson		-56	2BPRTV5401, 2BPRTV5401						
2BPRTV5023	05-Mar-12	15-Feb-13	Underhill		-142	2BPRTV5417						
2BPRTV5024	07-Mar-12	04-Jun-13	Olson		23	2BPRTV5427, 2BPRTV5437						
WP 109 CNP-VSL-00003	10-Aug-12	16-Sep-13	Olson		1824							
2BPRTV5025	19-Feb-13	11-Mar-13	Olson		1579	2BPRTV5447						
2BPRTV5026	12-Mar-13	20-Jun-13	Underhill		1579	2BPRTV5445, 2BPRTV5445						
2BPRTV5027	10-Aug-12	16-Sep-13	Olson		1146	2BPRTV5467, 2BPRTV5467, 2BPRTV5461						
WP 110 CNP-VSL-00004	24-Aug-12	05-Mar-14	Olson		1718							
2BPRTV5028	05-Mar-13	01-Apr-13	Olson		1824	2BPRTV5485, 2BPRTV5485						
2BPRTV5029	26-Mar-13	05-Jul-13	Underhill		1590	2BPRTV5495						
2BPRTV5030	24-Aug-12	05-Mar-14	Olson		1719	2BPRTV5511, 2BPRTV5511, 2BPRTV5519						
WP 111 CNP-VSL-00004	10-Aug-12	14-Oct-13	Olson		1864							
2BPRTV5031	19-Mar-13	22-Apr-13	Olson		1619	2BPRTV5525						
2BPRTV5032	09-Apr-13	19-Jul-13	Underhill		1619	2BPRTV5529						
2BPRTV5033	10-Aug-12	14-Oct-13	Olson		1824	2BPRTV5537, 2BPRTV5537, 2BPRTV5538						
WP 112 CNP-VSL-00005A/B/C	24-Aug-12	04-Nov-13	Olson		1769							
2BPRTV5034	02-Apr-13	13-May-13	Olson		1634	2BPRTV5609						
2BPRTV5035	20-Apr-13	09-Aug-13	Underhill		1634	2BPRTV5611, 2BPRTV5611						
2BPRTV5036	24-Aug-12	04-Nov-13	Olson		1799	2BPRTV5609						
WP 113 UFP-VSL-00002A/B/C	10-Aug-12	21-Nov-13	Olson		1749							
2BPRTV5037	16-Apr-13	04-Jun-13	Olson		1851	2BPRTV5605						
2BPRTV5038	07-May-13	30-Aug-13	Underhill		1851	2BPRTV5617, 2BPRTV5617						
2BPRTV5039	10-Aug-12	21-Nov-13	Olson		1746	2BPRTV5611, 2BPRTV5611, 2BPRTV5631						
WP 114 FEV-VSL-00017A/B	24-Aug-12	24-Dec-13	Olson		1738							
2BPRTV5040	30-Apr-13	25-Jun-13	Olson		1860	2BPRTV5649						
2BPRTV5041	21-May-13	27-Sep-13	Underhill		1860	2BPRTV5645, 2BPRTV5657						
2BPRTV5042	24-Aug-12	24-Dec-13	Olson		1735	2BPRTV5659						

# VCT Summary Schedule

Agency ID	Start	End	Task	Responsible	2012	2013	2014	2015	2016	2017
WP 115 FRP-VSL-00002A/B	10-Sep-12	31-Jan-14	1740	1660 2BPRIV5883, 2BPRIV5987, 2BPRIV5987, 2BPRIV5985, 2BPRIV5985, 2BPRIV5709						
WP 116 ROP-VSL-00002A/B	10-Sep-12	06-Jun-14	1735	1735 2BPRIV5733, 2BPRIV5717						
WP 117 HOP-VSL-00003R/Q	24-Sep-12	07-Feb-14	1735	1675 2BPRIV5737, 2BPRIV5737, 2BPRIV5741, 2BPRIV5745, 2BPRIV5745, 2BPRIV5751						
WP 118 TCP-VSL-00001	24-Sep-12	03-Mar-14	1720	1670 2BPRIV5771, 2BPRIV5775, 2BPRIV5775, 2BPRIV5775, 2BPRIV5786						
WP 119 TLP-VSL-00009A/B	24-Sep-12	07-Apr-14	1685	1685 2BPRIV5807, 2BPRIV5805, 2BPRIV5811, 2BPRIV5811, 2BPRIV5831, 2BPRIV5833						
WP 120 PWD-VSL-00016/16	03-Oct-12	27-Apr-14	1685	1660 2BPRIV5947, 2BPRIV5847, 1660 2BPRIV5851, 2BPRIV5837, 1685 2BPRIV5889, 2BPRIV5889						
WP 121 PWD-VSL-00033	08-Oct-12	12-May-14	1670	1660 2BPRIV5985, 2BPRIV5981, 1660 2BPRIV5981, 2BPRIV5890						
WP 122 PWD-VSL-00043	07-Aug-13	03-Jul-14	1633	1670 2BPRIV5697, 2BPRIV5901						
WP D - Design I	27-Jul-12	03-Jul-13	703							
WP 101 HLP-28	25-Apr-13	03-Jul-13	457							
WP 102 PWD-44	25-Apr-13	02-Jul-13	116							
WP 103 HLP-27A/B	10-Apr-13	02-Jul-13	116							
WP 104 HLP-27A/B	10-Apr-13	02-Jul-13	116							

# VCT Summary Schedule

Activity ID	Start	Finish	Lead Person	Year	2012	2013	2014	2015	2016	2017
<b>WP 104 UFF-02A/B</b>	20-Mar-13	11-Jun-13		117						
2BPRL1E100	20-Mar-13	11-Jun-13	Osborn	117						
2BPRL1E433	20-Mar-13	11-Jun-13	Osborn	117						
<b>WP 105 UFF-01A/B</b>	27-Feb-13	20-May-13		-105						
2BPRL1E124	27-Feb-13	20-May-13	Osborn	-105						
2BPRL1E433	27-Feb-13	20-May-13	Osborn	-105						
2BPRL1E434	27-Feb-13	20-May-13	Osborn	-105						
<b>WP 106 HLW RLD-07</b>	22-Aug-12	13-Apr-12		73						
2BPRL1E121	22-Aug-12	13-Apr-12	Osborn	73						
2BPRL1E108	27-Jul-12	18-Oct-12		91						
2BPRL1E122	27-Jul-12	18-Oct-12	Osborn	91						
2BPRL1V3365	27-Jul-12	18-Oct-12	Osborn	91						
2BPRL1V3362	27-Jul-12	18-Oct-12	Osborn	91						
<b>WP 108 HLP-22</b>	20-Mar-13	11-Jun-13		-108						
2BPRL1E123	20-Mar-13	11-Jun-13	Osborn	-108						
2BPRL1V423	20-Mar-13	11-Jun-13	Osborn	-108						
2BPRL1V429	20-Mar-13	11-Jun-13	Osborn	-108						
<b>WP E Program [</b>	22-Dec-10 A	14-Feb-17		57						
01 Summary	22-Dec-10 A	14-Feb-17		57						
2BPRL1HL440	12-Dec-11 A	29-Jul-13	Osborn	700						
2BPRL1HL448	12-Dec-11 A	29-Jul-13	Osborn	700						
2BPRL1HL446	12-Dec-11 A	29-Jul-13	Osborn	700						
2BPRL1T009	22-Dec-10 A	15-Feb-17	French	67						
2BPRL1A073	22-Dec-10 A	15-Feb-17	French	67						
<b>WP F - DNFSB 2</b>	14-Jun-12 A	30-Jun-13		839						
5.0.1 - Safety Basis Approval	05-Apr-12	29-Jun-12		0						
2BPRL1J102	05-Apr-12	29-Jun-12	Burche	0						
2BPRL1J103	05-Apr-12	29-Jun-12	Burche	0						
2BPRL1J102	05-Apr-12	29-Jun-12	Burche	0						
<b>5.1.3 - Large Scale Test Plan</b>	08-Feb-12	20-May-16		-1279						
2BPRL1J122	08-Feb-12	20-May-16	Osborn	-24						
2BPRL1J209	08-Feb-12	20-May-16	Osborn	-24						
2BPRL1J123	08-Feb-12	20-May-16	Osborn	-24						
2BPRL1J222	12-Mar-12	14-Mar-12	Damenow	2342						
2BPRL1J202	12-Mar-12	14-Mar-12	Damenow	2342						
2BPRL1J202	12-Mar-12	14-Mar-12	Damenow	2342						
2BPRL1J152	12-Mar-12	14-Mar-12	Budde	2342						
2BPRL1J151	14-Mar-12	14-Mar-12	Damenow	872						
2BPRL1J201	14-Mar-12	14-Mar-12	Hanson	872						
2BPRL1J201	14-Mar-12	14-Mar-12	Hanson	872						
2BPRL1J151	14-Mar-12	14-Mar-12	Hanson	-27						
2BPRL1J221	14-Mar-12	14-Mar-12	Damenow	2340						
2BPRL1J151	14-Mar-12	14-Mar-12	Burche	2340						
2BPRL1J221	14-Mar-12	14-Mar-12	Damenow	2340						
2BPRL1J21	30-Mar-12	02-Apr-12	Osborn	0						
2BPRL1J242	02-Apr-12	02-Apr-12	Hanson	-40						
2BPRL1J240	30-Apr-12	30-Apr-12	Hanson	0						
2BPRL1J230	30-Apr-12	30-Apr-12	Omel	-39						
2BPRL1J330	30-Apr-12	30-Apr-12	Hanson	0						
2BPRL1J132	17-May-12	17-May-12	Osborn	-8						
2BPRL1J133	17-May-12	17-May-12	Osborn	-9						

- ◆ PT - R&T - DNFSB - 5.0.1 - Develop Safety Basis Approval Strategy Document
- ◆ PT - R&T - DNFSB - 5.1.3.02.01 - Issue Responses to recommendations from key stakeholders - CRESP Response
- ◆ PT - R&T - DNFSB - 5.1.3.02.02 - Issue Responses to recommendations from key stakeholders - PNKL Vulnerabilities Respons
- ◆ PT - R&T - DNFSB - 5.1.3.12.02 - Test Specifications - CFD V&V
- ◆ PT - R&T - DNFSB - 5.1.3.10.02 - Documented test objectives - CFD V&V
- ◆ PT - R&T - DNFSB - 5.1.3.06.02 - Develop test plans - CFD V&V
- ◆ PT - R&T - DNFSB - 5.1.3.05.02 - Define and document functional requirements - CFD V&V
- ◆ PT - R&T - DNFSB - 5.1.3.06.01 - Develop test plans - Test 5
- ◆ PT - R&T - DNFSB - 5.1.3.13.01 - Documented test objectives - Test 5
- ◆ PT - R&T - DNFSB - 5.1.3.13.01 - Scaling Basis Target - C&S Scaling Basis
- ◆ PT - R&T - DNFSB - 5.1.3.05.01 - Define and document functional requirements - Test 5
- ◆ PT - R&T - DNFSB - 5.1.3.02 - Issue Responses to recommendations from key stakeholders
- ◆ PT - R&T - DNFSB - 5.1.3.14.01 - Vessel Configurations for testing Target - C&S Vessel Selection Basis
- ◆ PT - R&T - DNFSB - 5.1.3.14 - Vessel Configurations for testing
- ◆ PT - R&T - DNFSB - 5.1.3.11 - Construction specifications Target
- ◆ PT - R&T - DNFSB - 5.1.3.13 - Scaling Basis
- ◆ PT - R&T - DNFSB - 5.1.3.03.01 - Documentation of stakeholder acceptance of recommendation dispositions - CRESP Concur
- ◆ PT - R&T - DNFSB - 5.1.3.03.02 - Documentation of stakeholder acceptance of recommendation dispositions - PNKL Concur

# VCT Summary Schedule

Activity ID	Start	Finish	Resp Person	Year/Proj	2012	2013	2014	2015	2016	2017
2BPRTLJ110										
2BPRTLJ211	21-May-12	08-Jun-12	Osbon	-10	2BPRTLJ209					
2BPRTLJ111	30-May-12	07-Jun-12	Omel	0	2BPRTLJ200					
2BPRTLJ131	01-Aug-12	01-Sep-12	Osbon	0	2BPRTLJ240					
2BPRTLJ164	18-Oct-12	08-Nov-12	Damrow	719	2BPRTLJ211					
2BPRTLJ165	18-Oct-12	08-Nov-12	Damrow	719	2BPRTLJ212					
2BPRTLJ224	18-Oct-12	08-Nov-12	Damrow	2187	2BPRTLJ214					
2BPRTLJ225	18-Oct-12	08-Nov-12	Damrow	2187	2BPRTLJ217					
2BPRTLJ204	18-Oct-12	08-Nov-12	Hanson	719	2BPRTLJ218					
2BPRTLJ205	18-Oct-12	08-Nov-12	Hanson	719	2BPRTLJ219					
2BPRTLJ154	18-Oct-12	08-Nov-12	Buache	2187	2BPRTLJ220					
2BPRTLJ155	18-Oct-12	08-Nov-12	Buache	2187	2BPRTLJ221					
2BPRTLJ228	26-Oct-12	08-Nov-12	Damrow	2181	2BPRTLJ222					
2BPRTLJ156	26-Oct-12	08-Nov-12	Buache	2181	2BPRTLJ223					
2BPRTLJ208	26-Oct-12	08-Nov-12	Hanson	713	2BPRTLJ224					
2BPRTLJ168	26-Oct-12	08-Nov-12	Damrow	709	2BPRTLJ225					
2BPRTLJ157	11-Jan-13	08-Feb-13	Buache	2130	2BPRTLJ226					
2BPRTLJ227	11-Jan-13	08-Feb-13	Damrow	2130	2BPRTLJ227					
2BPRTLJ207	11-Jan-13	08-Feb-13	Hanson	682	2BPRTLJ228					
2BPRTLJ167	11-Jan-13	08-Feb-13	Damrow	658	2BPRTLJ229					
2BPRTLJ206	05-Mar-13	08-Apr-13	Damrow	2095	2BPRTLJ230					
2BPRTLJ156	05-Mar-13	08-Apr-13	Hanson	627	2BPRTLJ231					
2BPRTLJ166	05-Mar-13	08-Apr-13	Buache	2095	2BPRTLJ232					
2BPRTLJ223	08-Apr-13	08-May-13	Damrow	2071	2BPRTLJ233					
2BPRTLJ163	08-Apr-13	08-May-13	Hanson	603	2BPRTLJ234					
2BPRTLJ203	08-Apr-13	08-May-13	Damrow	603	2BPRTLJ235					
2BPRTLJ153	08-Apr-13	08-May-13	Buache	2071	2BPRTLJ236					
2BPRTLJ229	09-Apr-13	08-May-13	Damrow	2070	2BPRTLJ237					
2BPRTLJ159	09-Apr-13	08-May-13	Buache	2070	2BPRTLJ238					
2BPRTLJ209	09-Apr-13	08-May-13	Hanson	602	2BPRTLJ239					
2BPRTLJ169	09-Apr-13	08-May-13	Damrow	599	2BPRTLJ240					
2BPRTLJ175	14-May-13	08-Jun-13	Hanson	682	2BPRTLJ241					
2BPRTLJ178	14-May-13	08-Jun-13	Hanson	682	2BPRTLJ242					
2BPRTLJ251	01-Aug-13	08-Sep-13	Damrow	637	2BPRTLJ243					
2BPRTLJ174	01-Oct-13	08-Nov-13	Hanson	585	2BPRTLJ244					
2BPRTLJ177	01-Oct-13	08-Nov-13	Hanson	585	2BPRTLJ245					

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# VCT Summary Schedule

Casey ID	Start	Finish	Resp Person	Total Hours	Predecessors	2012	2013	2014	2015	2016	2017
2BPRTLJ173				563	2BPRTLQ228						
2BPRTLJ141	17-Oct-13		Hanson	0	2BPRTLJ140						
2BPRTLJ140	31-Dec-13*		Busche	43	2BPRTL169						
2BPRTLJ253	19-Feb-14		Busche	43	2BPRTL169						
2BPRTLJ253	28-Mar-14		Daniel	413	2BPRTL372						
2BPRTLJ179	11-Jun-14		Hanson	421	2BPRL10988						
2BPRLJ215	01-Aug-14		Danrow	1738	2BPRL10836						
2BPRLJ144	01-Aug-14		Busche	1738	2BPRL10836						
2BPRLJ245	01-Aug-14		Danrow	270	2BPRL10944						
2BPRLJ245	01-Aug-14		Hanson	270	2BPRL10836						
2BPRLJ171	18-Aug-14		Busche	374	2BPRL10658						
2BPRLJ147	18-Aug-14		Danrow	1727	2BPRL10705						
2BPRLJ216	18-Aug-14		Danrow	1127	2BPRL10839						
2BPRLJ172	18-Aug-14		Hanson	374	2BPRL1055						
2BPRLJ220	18-Aug-14		Hanson	259	2BPRLC269						
2BPRLJ220	18-Aug-14		Danrow	1227	2BPRL1222						
2BPRLJ150	18-Aug-14		Busche	1727	2BPRL1215						
2BPRLJ180	18-Aug-14		Danrow	259	2BPRL1167						
2BPRLJ246	18-Aug-14		Hanson	259	2BPRL1165						
2BPRLJ176	20-Aug-14		Hanson	372	2BPRL10958						
2BPRLJ252	27-Mar-15		Daniel	222	2BPRL1562						
2BPRLJ135	18-May-15		Hanson	186	2BPRL1038						
2BPRLJ254	17-Aug-15		Daniel	123	2BPRL1881						
2BPRLJ170	27-May-16		Hanson	74	2BPRL1172						
2BPRLJ186	27-May-16		Underhill	74	2BPRL1202						
2BPRLJ196	27-May-16		Hanson	74	2BPRL10998						
2BPRLJ250	27-May-16		Daniel	74	2BPRL1007						
2BPRLJ190	27-May-16		Underhill	74	2BPRL1150						
2BPRLJ190	27-May-16		Underhill	74	2BPRL1589						
<b>5.2.3 - Waste Simulant</b>											
2BPRLJ272	12-Mar-12		Hanson	869	2BPRL10928						
2BPRLJ271	14-Mar-12		Hanson	867	2BPRL10925						
2BPRLJ251	06-Apr-12		Hanson	43	2BPRL10259						
2BPRLJ260	01-May-12*		Hanson	0	2BPRL1261						
2BPRLJ273	18-Oct-12		Hanson	654	2BPRL10917						
2BPRLJ274	18-Oct-12		Hanson	834	2BPRL10814						
2BPRLJ277	26-Oct-12		Hanson	626	2BPRL10624						
2BPRLJ276	11-Jan-13		Hanson	777	2BPRL10827						
						<ul style="list-style-type: none"> <li>PT - R&amp;T - DNFSB - 5.1.3.07.03 - Analysis of Test Results - Single PAM</li> <li>PT - R&amp;T - DNFSB - 5.1.3.04 - Update the CSER</li> <li>PT - R&amp;T - DNFSB - 5.1.3.04 - Update the CSER Target</li> <li>PT - R&amp;T - DNFSB - 5.1.3.15.03 - Decision point on the need for larger scale testing - Heel Management</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.09 - Analysis of Test Results - 14 Foot Heel Mgmt Test</li> <li>PT - R&amp;T - DNFSB - 5.1.3.12.08 - Test Specifications - Integrated 14 Foot Operations</li> <li>PT - R&amp;T - DNFSB - 5.1.3.05.10 - Define and document functional requirements - Performance Limits Testing</li> <li>PT - R&amp;T - DNFSB - 5.1.3.06.11 - Develop test plans - Performance Limits Test</li> <li>PT - R&amp;T - DNFSB - 5.1.3.06.11 - Documented test objectives - Integrated 14 Foot Operations</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.01 - Analysis of Test Results - Test 5</li> <li>PT - R&amp;T - DNFSB - 5.1.3.05.11 - Define and document functional requirements - Performance Limits Testing</li> <li>PT - R&amp;T - DNFSB - 5.1.3.06.11 - Develop test plans - Performance Limits Test</li> <li>PT - R&amp;T - DNFSB - 5.1.3.12.08 - Test Specifications - Performance Limits Testing</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.02 - Analysis of Test Results - CFD V&amp;V</li> <li>PT - R&amp;T - DNFSB - 5.1.3.10 - Documented test objectives</li> <li>PT - R&amp;T - DNFSB - 5.1.3.12 - Test Specifications</li> <li>PT - R&amp;T - DNFSB - 5.1.3.05 - Define and document functional requirements</li> <li>PT - R&amp;T - DNFSB - 5.1.3.06 - Develop test plans</li> <li>PT - R&amp;T - DNFSB - 5.1.3.10.11 - Documented test objectives - Performance Limits Testing</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.06 - Analysis of Test Results - 14 Foot Performance Test</li> <li>PT - R&amp;T - DNFSB - 5.1.3.15.02 - Decision point on the need for larger scale testing - Performance and Scaling</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.10 - Analysis of Test Results - Integrated 14 Foot Test</li> <li>PT - R&amp;T - DNFSB - 5.1.3.15.04 - Decision point on the need for larger scale testing - Integrated 14 Foot Operational</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07 - Analysis of Test Results</li> <li>PT - R&amp;T - DNFSB - 5.1.3.06 - Assess the need to test 14 instrument and F</li> <li>PT - R&amp;T - DNFSB - 5.1.3.07.11 - Analysis of Test Results - Performance</li> <li>PT - R&amp;T - DNFSB - 5.1.3.15 - Decision point on the need for larger scale</li> <li>PT - R&amp;T - DNFSB - 5.1.3.09 - Rpt addressing extn of PAM level extension</li> </ul>					
						<ul style="list-style-type: none"> <li>PT - R&amp;T - DNFSB - 5.2.3.02.02 - Qualification reports for simulators - CFD V&amp;V</li> <li>PT - R&amp;T - DNFSB - 5.2.3.02.01 - Qualification reports for simulators - Test 5</li> <li>PT - R&amp;T - DNFSB - 5.2.3.01 - Physical properties important to mixing and scaling Target</li> <li>PT - R&amp;T - DNFSB - 5.2.3.01 - Physical properties important to mixing and scaling</li> <li>PT - R&amp;T - DNFSB - 5.2.3.03 - Qualification reports for simulators - Performance and Scaling - 4 Foot</li> <li>PT - R&amp;T - DNFSB - 5.2.3.02.04 - Qualification reports for simulators - Performance and Scaling - 6 Foot</li> <li>PT - R&amp;T - DNFSB - 5.2.3.02.07 - Qualification reports for simulators - Heel Management - 6 Foot</li> <li>PT - R&amp;T - DNFSB - 5.2.3.02.06 - Qualification reports for simulators - Heel Management - 4 Foot</li> </ul>					

# VCT Summary Schedule

Activity ID	Start	Finish	Resp Person	Total Hours/Predecessors	2013	2014	2015	2017
2BPRTLJ275	05-Mar-13		Hanson	742 2BPRTLJ080				
2BPRTLJ279	06-Apr-13		Hanson	718 2BPRTLJ081				
2BPRTLJ278	09-Apr-13		Hanson	717 2BPRTLJ080				
2BPRTLJ204	01-Aug-14		Hanson	385 2BPRTLQ930				
2BPRTLJ205	18-Aug-14		Hanson	374 2BPRTLQ930				
2BPRTLJ270	18-Aug-14		Hanson	374 2BPRTLJ277 2BPRTLJ204				
<b>6.3.3 - Model Verification and Validation</b>								
2BPRTLJ310	01-Feb-12	27-Mar-12	Underhill	222				
2BPRTLJ311	01-Feb-12	Underhill	0 2BPRTLJ311					
2BPRTLJ321	06-Mar-12	ORP	0 2BPRTLW116					
2BPRTLJ331	04-May-12	ORP	0					
2BPRTLJ320	30-May-12	ORP	0 2BPRTLJ310 2BPRTLJ321					
2BPRTLJ291	07-Jun-12	Olson	0 2BPRTLQ930 2BPRTLJ277					
2BPRTLJ330	31-Jul-12	ORP	0 2BPRTLJ320					
2BPRTLJ321	07-Aug-12	Hanson	0 2BPRTLJ331 2BPRTLJ330					
2BPRTLJ292	29-Aug-12	Olson	-58 2BPRTLJ310 2BPRTLJ330					
2BPRTLJ290	31-Aug-12	Olson	0 2BPRTLJ292 2BPRTLJ291					
2BPRTLJ291	03-Oct-12	ORP	0 2BPRTLJ290					
2BPRTLJ340	31-Oct-12	Underhill	0 2BPRTLJ341 2BPRTLJ330					
2BPRTLJ370	31-Oct-12	Hanson	0 2BPRTLJ371 2BPRTLJ370					
2BPRTLJ301	30-Nov-12	ORP	0 2BPRTLJ310					
2BPRTLJ341	12-Dec-12	Underhill	-88 2BPRTLW206					
2BPRTLJ351	19-Dec-12	ORP	-13 2BPRTLW207					
2BPRTLJ290	31-Dec-12	ORP	0 2BPRTLJ291 2BPRTLJ290					
2BPRTLJ300	28-Feb-13	ORP	0 2BPRTLJ290					
2BPRTLJ350	28-Feb-13	ORP	0 2BPRTLJ301 2BPRTLJ340					
2BPRTLJ361	06-Jun-13	Daniel	0 2BPRLW306					
2BPRTLJ381	06-Jun-13	Underhill	0 2BPRLW308					
2BPRTLJ360	30-Aug-13	Daniel	0 2BPRTLJ361 2BPRTLJ350					
2BPRTLJ380	30-Aug-13	Underhill	0 2BPRTLJ381 2BPRTLJ370					
2BPRTLJ390	27-Mar-15	Underhill	222 2BPRTLJ380 2BPRTLJ390					
<b>6.4.3 - Sampling in Vessels</b>								
2BPRTLJ411	05-Jul-12	24-Feb-16		53				
2BPRTLJ431	05-Jul-12	Olson	0					
2BPRTLJ410	12-Jul-12	Olson	-5 2BPRTLJ448					
2BPRTLJ430	28-Sep-12	Olson	0 2BPRTLJ411 2BPRTLJ102					
2BPRTLJ440	28-Sep-12	Olson	0 2BPRTLJ103 2BPRTLJ102					
2BPRTLJ401	29-Mar-13	Buchhe	0 2BPRTLJ102 2BPRTLJ102					
2BPRTLJ401	02-Oct-13	Stammag	0					

# VCT Summary Schedule

Activity ID	Start	Finish	Res Person	Total Hours	Predecessors	2012	2013	2014	2015	2016	2017
2BPR1L400		30-Dec-13	Staabhaug	0	2BPR1L400						
2BPR1L420		31-Dec-13*	Buchse	0	2BPR1L421 2BPR1L402						
2BPR1L441		19-Feb-14	Buchse	-284	2BPR1LE189						
2BPR1L421		19-Feb-14	Buchse	-63	2BPR1LE189						
2BPR1L450		31-Mar-14	Damerow	532	2BPR1LE955 2BPR1L440						
2BPR1L460		18-May-15	Hanson	240	2BPR1LE956 2BPR1L450						
2BPR1L470		06-Jul-15	Hanson	53	2BPR1L440						
2BPR1L480		24-Feb-16	Hanson	53	2BPR1L3888 2BPR1L470 2BPR1HL450						
<b>5.6.3 - Representative Sump</b>	14-Jan-12 A	30-Jan-18		669							
2BPR1L528	14-Jan-12 A	26-Jan-12	Then	0	2BPR1L527						
2BPR1L520		31-Jan-12*	Then	0	2BPR1L529						
2BPR1L529		31-Jan-12	Then	0	2BPR1L628						
2BPR1L531		30-Mar-12*	Then	0	2BPR1L521						
2BPR1L541		31-May-12*	Then	0	2BPR1L520 2BPR1L531						
2BPR1L500		29-Jun-12*	Then	0							
2BPR1L491		03-Oct-12	Staabhaug	0							
2BPR1L490		31-Dec-12*	Staabhaug	0	2BPR1L491 2BPR1L500						
2BPR1L561		31-Dec-12*	Then	0							
2BPR1L551		29-Mar-13*	Then	0	2BPR1L541						
2BPR1L571		05-Jun-14	Then	0							
2BPR1L570		29-Aug-14*	Then	0	2BPR1L561 2BPR1L571						
2BPR1L581		05-Mar-15	Staabhaug	0							
2BPR1L580		29-May-15*	Staabhaug	0	2BPR1L581 2BPR1L570						
2BPR1L510		30-Jan-16	Staabhaug	659	2BPR1L570 2BPR1L420						
<b>5.6.3 - Functional Design Cr</b>	17-Mar-12	26-May-15		1534							
2BPR1L591		12-Mar-12	Olson	-40	2BPR1HL428						
2BPR1L601		14-Mar-12	Olson	-6	2BPR1HL409						
2BPR1L590		30-Mar-12*	Olson	0	2BPR1L591						
2BPR1L600		30-May-12*	Olson	0	2BPR1L591 2BPR1L590						
2BPR1L611		05-Sep-12	Olson	0	2BPR1HL428						
2BPR1L610		30-Nov-12*	Olson	0	2BPR1L611 2BPR1L600						
2BPR1L620		29-Mar-13*	Buchse	0	2BPR1L610						
2BPR1L640		09-Apr-13	Damerow	596	2BPR1L621 2BPR1L610						
2BPR1L621		24-Jul-13	Buchse	-141	2BPR1LE554 2BPR1LE554						
2BPR1L650		11-Jun-14	Hanson	301	2BPR1L6488						
2BPR1L660		02-Dec-14	Olson	361	2BPR1L650 2BPR1HL430						
2BPR1L670		03-Feb-15	Olson	259	2BPR1HL490 2BPR1L160						

# VCT Summary Schedule

Activity ID	Start	Finish	Resp Person	Total Hours	2012	2013	2014	2015	2016	2017
2BPRTLJ630										
5.7.3 - Technical & Safety R	30-Jan-12	27-May-16	1834, 2BPRTLJ620, 2BPRTLJ617	14						
2BPRTLJ690	30-Jan-12	27-May-16	0	0						
2BPRTLJ691	30-Jan-12	27-May-16	0	0						
2BPRTLJ720	30-Jan-12	27-May-16	0	0						
2BPRTLJ682	30-Jan-12	27-May-16	0	0						
2BPRTLJ683	30-Jan-12	27-May-16	0	0						
2BPRTLJ702	01-Feb-16	ORP	0	0						
2BPRTLJ703	12-Feb-16	ORP	0	0						
2BPRTLJ704	12-Feb-16	ORP	0	0						
2BPRTLJ705	12-Feb-16	ORP	0	0						
2BPRTLJ706	12-Feb-16	ORP	0	0						
2BPRTLJ707	12-Feb-16	ORP	0	0						
2BPRTLJ700	09-May-16	ORP	0	0						
2BPRTLJ701	27-May-16	ORP	14	14						
6.3.1 - Reporting	30-Jan-12	31-Oct-14	0	0						
2BPRTLJ720	30-Jan-12	ORP	0	0						
2BPRTLJ726	30-Apr-12	ORP	0	0						
2BPRTLJ740	31-Jul-12	ORP	0	0						
2BPRTLJ745	31-Oct-12	ORP	0	0						
2BPRTLJ750	30-Jan-13	ORP	0	0						
2BPRTLJ755	30-Apr-13	ORP	0	0						
2BPRTLJ760	31-Jul-13	ORP	0	0						
2BPRTLJ765	31-Oct-13	ORP	0	0						
2BPRTLJ770	30-Jan-14	ORP	0	0						
2BPRTLJ775	30-Apr-14	ORP	0	0						
2BPRTLJ780	31-Jul-14	ORP	0	0						
2BPRTLJ785	31-Oct-14	ORP	0	0						

- ◆ PT - R&T - DNFSB - 5.7.3.01 - Establish plan and sched. to eval the hazard of known tech issues - 2012
- ◆ PT - R&T - DNFSB - 5.7.3.02 - Strengthen IMP to improve the integrated mgmt of the tech & safety risks
- ◆ PT - R&T - DNFSB - 5.7.3.01 - Update plan and sched. to eval the hazard of known tech issues - 2013
- ◆ PT - R&T - DNFSB - 5.7.3.05 - Conduct independent review of the IMP strengthened under Com 5.7.3.02 to eval effectiveness
- ◆ PT - R&T - DNFSB - 5.7.3.01 - Update plan and sched. to eval the hazard of known tech issues - 2014
- ◆ PT - R&T - DNFSB - 5.7.3.01 - Update plan and sched. to eval the hazard of known tech issues - 2015
- ◆ PT - R&T - DNFSB - 5.7.3.01 - Update plan and sched. to eval the hazard of known tech issues - 2016
- ◆ PT - R&T - DNFSB - 5.7.3.02 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03.04 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03.05 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03.06 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03.07 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03 - Eval the closure doc for each sub-recommendation to
- ◆ PT - R&T - DNFSB - 5.7.3.03.01 - Eval the closure doc for each sub-recommendation to

- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jan 2012
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Apr 2012
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jul 2012
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Oct 2012
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jan 2013
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Apr 2013
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jul 2013
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Oct 2013
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jan 2014
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Apr 2014
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Jul 2014
- ◆ PT - R&T - DNFSB - 6.3.1 - Quarterly Progress Report and briefing to the DNFSB and staff - Oct 2014