Meeting Minutes Subject: Double-Shell Tank Emergency Pumping Guide	
Date of Meeting: 3/19/2014	Location: Ecology/Room 3A Time: 2:00 – 4:00
Attendees: Jeremy Johnson, ORP Mary Burandt, ORP Nina Menard, Ecology Kristi Wold, Ecology Michelle Hendrickson, Ecology David Little, WRPS	Jessica Joyner, WRPS Mike Sheridan, WRPS Tony Miskho, WRPS Todd Blaak, WRPS David Bragg, WRPS Robert Wood, Fowler LLC Al Zindel, WRPS

1. Agenda:

a. Approval of Meeting minutes
Previous meeting minutes were submitted to the ORP TPA project manager meeting coordinator on March 6, 2014, and are entered into the Administrative Record.

b. DST Pumping Guide Schedule: (No proposed changes to schedule)

- Complete Time Deployment Studies: 4/17/2014
- Discuss outcome of Time Deployment Studies with Ecology and resulting revisions to DST Pumping Guide: 4/17/2014—5/30/2014
- Provide draft DST Pumping Guide revision to Ecology for review: 08/29/2014

c. Discussion of Action Items:

- DOE to add drawing reference column to the "DST tank configuration to the first transfer system tie in" work product.
  The work product is provided as Attachment 1. The action will remain open until Ecology can review the work product.

- DOE to provide information on maintaining the list of emergency equipment found in DST Emergency Pumping Guide, Appendix C & F.
  The work product is provided as Attachment 2. The action will remain open until Ecology can review the work product. The work product was provided at the 2/24/2014 meeting.

- DOE/WRPS to prepare a brief description of the proposed scope of the revised DST Emergency Pumping Guide.
  The work product is provided as Attachment 3. The action will remain open until Ecology can review the work product. The intent of the scope is to cover all DST scenarios.

- DOE to provide the planned use of DST Annulus CAMs, specifically whether they will be maintained, used if not maintained and when alarms will be reported to Ecology.
  No discussion occurred. Expected to be discussed at the next meeting. Ecology stated the terms of the SY settlement agreement include CAMs.

- DOE/WRPS to provide a schedule for the redesign of annulus pumps.
  The work product is provided as Attachment 4. The action is closed as of 3/19/2014. An

agenda item will be added as a standing item and periodic updated will be provided.

- Discuss forum for sharing information with Ecology on operations.
  ORP reported that an agenda item has been added to the monthly ORP project manager meetings for DST operations. The action is proposed to be closed but will remain open since the Ecology Project Manager was not in attendance.

d. Review of Issues list (See Section 2)
   See the "Pathforward" added to the issues list in Section 2.

e. Ecology request to revisit Action 2013-09-25-6 to add: "Need to define how other tank farms activities (such as UT activities) will lead to entering the first step of the flowchart."
   The language was added to the action in Section 3.

2. Issues:

a. The 10-day pumping requirement from HNF-3484 was not met once the AY-102 leak was declared (May 30, 2013)
   Pathforward: Revise DST Emergency Pumping Guide

b. A potential difference of interpretation on what leak scenarios are addressed by HNF-3484 (July 30, 2013).
   - Ecology: Specific scenarios listed in HNF-3484 are examples and not meant to be all inclusive. It does not exclude any waste types or leak locations.
   - DOE: HNF-3484 addresses the removal of supernatant only.
   Pathforward: Revise DST Emergency Pumping Guide

c. Need to identify what an emergency is (July 30, 2013).
   Pathforward: Revise DST Emergency Pumping Guide

d. The number of plans needed for revision of the DST Pumping Guide has not been agreed upon (August 26, 2013).
   Pathforward: Revise DST Emergency Pumping Guide

e. Adequacy of DST leak detection from the SY Settlement agreement for meeting requirement to detect "24 hours or as soon as practical" (September 25, 2013).
   Pathforward: See New action from today, 2014-03-19-1.

f. Should leak detection pits (LDPs) be considered in HNF-3484 as a leak detection method. (September 25, 2013).
   Pathforward: To be discussed with issue 2.e

3. Actions:

Action	Description	Status
2013-09-25-2	DOE prepare the 4 pumping templates and 4 time deployment studies. **Expected date of completion 4/17/14.**	**Open**
2013-09-25-6	DOE/WRPS to evaluate the actions necessary to complete the decision blocks and demonstrate timeliness for #3, #4, #5, and #11. Also, DOE/WRPS will add a corrective action box should a leak to the environment be detected. Need to define how other tank farms activities (such as UT activities) will lead to entering the first step of the flowchart. **Expected date of completion 6/15/14.**	**Open**

2013-11-13-1	DOE to prepare revision of logic flowchart after time deployment studies are complete. **Expected date of completion 6/15/14**	**Open**
2013-11-13-3	DOE to add drawing reference column to the "DST tank configuration to the first transfer system tie in" work product.	Open pending Ecology review. Work product provided 3/19/2014
2014-01-08-2	DOE to provide information on maintaining the list of emergency equipment found in DST Emergency Pumping Guide, Appendix C & F.	Open pending Ecology review. Work product provided 3/19/2014
2014-01-08-3	Discuss forum for sharing information with Ecology on operations.	Open, discussed 3/19/2014
2014-01-22-2	DOE to provide the planned use of DST Annulus CAMs, specifically whether they will be maintained, used if not maintained and when alarms will be reported to Ecology. **Expected date of completion 4/16/2014**	**Open**
2014-02-05-1	DOE/WRPS to provide a schedule for the redesign of annulus pumps.	Complete 3/19/2014
2014-02-05-3	DOE/WRPS to prepare a brief description of the proposed scope of the revised DST Emergency Pumping Guide.	Open pending Ecology review. Work product provided 3/19/2014
2014-03-19-1	Ecology to discuss leak detection with regard to the SY Settlement agreement	**New**

4. Agreements:

a. Revision of HNF-3484 is necessary (May 30, 2013).
b. Finalize the minutes in the meetings and then submit the approved meeting minutes for inclusion into the monthly project manager meeting (August 26, 2013).
c. The emergency space limit of 1.265Mgallons will be used in future revisions of the document (August 26, 2013).
d. A decision process flow sheet will be used in the document revision to outline decision points by the agencies in the case of a future event covered by the pumping guide (August 26, 2013).
e. The 4 templates will be reviewed to determine if additional templates addressing configuration

of equipment would be needed (September 25, 2013).

f. The meeting minutes from previous meeting will be reformatted into the following structure: (1) Agenda, (2) Issues, (3) Actions, (4) Agreements, (5) Next Meeting (January 8, 2014).
g. One set of meeting minutes will be prepared for this meeting with the previous meetings as attachments (January 8, 2014)
h. Revision of HNF-3484 is necessary to clarify that it addresses any leak from a DST. (January 22, 2014).
i. Include reference to the SY-Settlement agreement in the document to identify the means of detecting a leaking DST (January 22, 2014).

5. **Next Meeting:** April 16, 2014, 2-4pm

Attachments

Attachment 1

DST tank configuration to the first transfer system tie in

with Drawing number added

Tank	Point A	Point B	References
241-AP			
241-AP-101	AP-01A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-611 connected to nozzle A.	AP-VP, nozzle 18. Multiple jumpers installed in AP-VP connected to nozzle 18.	H-14-107346, Sheet 2
241-AP-102	AP-02D. No jumpers connected to pump. Rigid jumper connected to nozzle A connected to Line SN-622. A jumper will connect pump to existing jumper this fiscal year.	AP-02A, nozzle Q. Rigid jumper to nozzle A connected to Line SN-612.	H-14-107346, Sheet 2
241-AP-103	AP-03A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-613 connected to nozzle A.	AP-VP, nozzle 17. Multiple jumpers installed in AP-VP connected to nozzle 17.	H-14-107346, Sheet 2
241-AP-104	AP-04A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-614 connected to nozzle A.	AP-VP, nozzle 20. Multiple jumpers installed in AP-VP connected to nozzle 20.	H-14-107346, Sheet 2
241-AP-105	AP-05A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-615 connected to nozzle A.	AP-VP, nozzle 24. Multiple jumpers installed in AP-VP connected to nozzle 24.	H-14-107346, Sheet 2
241-AP-106	AP-06A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-616 connected to nozzle A.	AP-VP, nozzle 21. Multiple jumpers installed in AP-VP connected to nozzle 21.	H-14-107346, Sheet 2
241-AP-107	AP-07A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-617 connected to nozzle A.	AP-VP, nozzle 23. Multiple jumpers installed in AP-VP connected to nozzle 23.	H-14-107346, Sheet 2
241-AP-108	AP-08A. Rigid jumper connected to pump, nozzle E and nozzle A. Transfer line SN-618 connected to nozzle A.	AP-VP, nozzle 22. Multiple jumpers installed in AP-VP connected to nozzle 22.	H-14-107346, Sheet 2
241-AW			
241-AW-101	AW-01A. No jumpers connected to pump. Nozzle A connected to transfer line SN-261.	AW-A Valve Pit, nozzle L16. Multiple jumpers installed in AW-A Valve Pit connected to nozzle L16.	H-14-107346, Sheet 3
241-AW-102	AW-02E. Rigid jumper connected to pump, nozzle B. Transfer line SN-269 connected to nozzle B. SN-269 to nozzle 13 in 242-A Evaporator. Current configuration requires waste to be routed through 242-A Evaporator.	242-A Evaporator, nozzle 19 connected to transfer line SL-167 to nozzle R3 in AW-B Valve Pit.	H-14-107346, Sheet 3

Tank	Point A	Point B	References
241-AW-103	AW-03A. No jumpers connected to pump. Nozzle A connected to transfer line SN-263.	AW-A Valve Pit, nozzle L14. Multiple jumpers installed in AW-A Valve Pit connected to nozzle L14.	H-14-107346, Sheet 3
241-AW-104	AW-04A. No jumpers connected to pump. Nozzle A connected to transfer line SN-264.	AW-B Valve Pit, nozzle R14. Multiple jumpers installed in AW-B Valve Pit connected to nozzle R14.	H-14-107346, Sheet 3
241-AW-105	AW-05A. Rigid jumper connected to pump, nozzle G and nozzle A. Transfer line SN-265 connected to nozzle A.	AW-A Valve Pit, nozzle L15. Multiple jumpers installed in AW-A Valve Pit connected to nozzle L15.	H-14-107346, Sheet 3
241-AW-106	AW-06A. Rigid jumper connected to pump, nozzle G and nozzle A. Transfer line SN-266 connected to nozzle A.	AW-B Valve Pit, nozzle R15. Multiple jumpers installed in AW-B Valve Pit connected to nozzle R15.	H-14-107346, Sheet 3
241-AY			
241-AY-101	AY-01A. Rigid/Flex jumper connected to pump discharge nozzle A, B and U13. Transfer line SN-635 connected to nozzle U13.	AY-02A, SN-635 connected to nozzle U12. Flex to Rigid jumper to nozzle U5. Transfer line SN-633 connected to nozzle U5.	H-14-107346, Sheet 5
241-AY-102	AY-02A. Rigid jumper connected to pump discharge nozzle P1, nozzle D and nozzle U5. Transfer line SN-633 connected to nozzle U5.	AZ-VP Valve Pit. Transfer line SN-633 to AZ-VP nozzle F. Jumper manifold connected to nozzle F.	H-14-107346, Sheets 4 & 5
241-AZ			
241-AZ-101	AZ-01A. Rigid jumper connected to nozzle U12. Transfer line SN-632 connected to nozzle U12. No pump installed. Multiple rigid jumpers installed to support transfer into AZ-101 and AZ-102 and transfers out of AZ-102.	AZ-VP Valve Pit, nozzle H. Multiple jumpers installed in AZ-VP Valve Pit connected to nozzle H.	H-14-107346, Sheet 4
241-AZ-102	AZ-02A. Rigid jumper connected to pump, nozzle U13. Transfer line SN-631 connected to nozzle U13.	AZ-01A, nozzle U11 connected to Transfer line SN-631. Rigid jumpers from nozzle U11 to nozzle U12. Transfer line SN-632 connected to nozzle U12.	H-14-107346, Sheet 4
241-AN			
241-AN-101	AN-01A. Flex jumper connected to nozzle D. Multiple jumpers interconnected to nozzle D, which connects to SN-630.	AZ-VP Nozzle A connects to transfer line SN-630 to multiple rigid jumpers connected, including nozzle A.	H-14-107346, Sheets 4 & 6

Tank	Point A	Point B	References
241-AN-102	AN-02A. Chemical addition jumper connected to pump. Transfer line SN-262 connected to nozzle A. A new jumper needed to transfer waste out of tank.	AN-B Valve Pit, nozzle R16 connected to Transfer line SN-262. Multiple jumpers installed in AN-B Valve Pit connected to nozzle R16.	H-14-107346, Sheet 6
241-AN-103	AN-03A. No jumpers installed on pump. Transfer line SN-263 connected to nozzle A.	AN-B Valve Pit, nozzle R14 connected to Transfer line SN-263. Multiple jumpers installed in AN-B Valve Pit connected to nozzle R14.	H-14-107346, Sheet 6
241-AN-104	AN-04A. No jumpers installed on pump. Transfer line SN-264 connected to nozzle A.	AN-A Valve Pit, nozzle L15 connected to transfer line SN-264. Multiple jumpers installed in AN-A Valve Pit connected to nozzle L15.	H-14-107346, Sheet 6
241-AN-105	AN-05A. No jumpers installed on pump. Transfer line SN-265 connected to nozzle A.	AN-A Valve Pit, nozzle L16 connected to transfer line SN-265. Multiple jumpers installed in AN-A Valve Pit connected to nozzle L16.	H-14-107346, Sheet 6
241-AN-106	AN-06A. Rigid/Flex jumper connected to pump discharge nozzle 2 and nozzle A. Transfer line AN-266 connected to nozzle A.	AN-A Valve Pit, nozzle L14 connected to transfer line SN-266. Multiple jumpers installed in AN-A Valve Pit connected to nozzle L14.	H-14-107346, Sheet 6
241-AN-107	AN-07A. Chem A and B flex jumper connected to pump, nozzle G and nozzle K. Flex jumper needed to nozzle A. Transfer line SN-267 connected to nozzle A.	AN-A Valve Pit, nozzle L1 connected to transfer line SN-267. Multiple jumpers installed in AN-A Valve Pit connected to nozzle L1.	H-14-107346, Sheet 6
241-SY			
241-SY-101	SY-PPP Prefabricated Pump Pit. Pump installed to SY-PPP, manifold connected to pump. HIHTL required to connect to SY-AVP.	SY-A needs new jumpers installed.	H-14-107346, Sheet 7
241-SY-102	SY-02A. Flex jumper connected to pump. SN-277, SN-285, SN-286, SL-177 may be utilized to transfer waste.	SY-A needs new jumpers installed.	H-14-107346, Sheet 7
241-SY-103	SY-03A. No jumpers installed to pump. Transfer line SN-279 connected to nozzle A.	SY-B Valve Pit, nozzle R14 connected to transfer line SN-279. No jumpers installed in SY-B Valve Pit.	H-14-107346, Sheet 7

*Configuration above is based on waste being transferred to AW-105.

Attachment 2

Information on maintaining the list of emergency equipment found in DST Emergency Pumping Guide, Appendix C & F

Equipment	Equipment Available?	Status	Comments for WRPS Discussion
Appendix C of HNF-3484 - Spare Primary Tank Pumps			
Vertical Turbine Standard Inlet (49'), AN/AP/AW Compatible: 6411-2225-5672, Cat. ID# 561300, 6411-2225-2P-TX1-XCR-1	Yes*	* Equipment is stored at 2101-M. Pump discharge piping must be upgraded to safety-significant prior to use.	Upgrading the pump discharge piping is not currently scheduled to be performed.
Vertical Turbine Flexible Inlet (33'), AN/AP/AW Compatible: 6411-2225-5677, Cat. ID# 561304, 6411-2225-1P-TX4-XCR-2	Yes*	* Equipment is stored at 2101-M. Pump discharge piping must be upgraded to safety-significant prior to use.	Upgrading the pump discharge piping is not currently scheduled to be performed.
Vertical Turbine Flexible Inlet (33'), Cross-site 241-SY-102: 6411-2187-5655, Cat. ID# 561285, S/N TC-6703 VIN 22534	Yes*	* Equipment is stored at 2101-M. Pump discharge piping must be upgraded to safety-significant prior to use.	Upgrading the pump discharge piping is not currently scheduled to be performed.
Vertical Turbine (45.3'), Evaporator Feed 241-AW-02E: 6411-2225-5676, Cat. ID# 561304, 6411-2225-2P-TX1-XCR-2	Yes*	* Equipment is stored at 2101-M. Pump discharge piping must be upgraded to safety-significant prior to use.	Upgrading the pump discharge piping is not currently scheduled to be performed.
Flex and Float Assembly F/A Pump for Vertical Turbine Flexible Inlet (Pump #3 on above list) – Cat. ID 630851, H-2-38654 and H-2-91943.	Yes	Equipment is stored at 2101-M.	This component does not need to be upgraded prior to use.
Appendix F of HNF-3484 – Annulus Pumping Equipment			
Spare Flexible Metal Jumper - 9900-4254-2001 (599325)	No*	* Three jumpers on hand at 2101-M. Components are general service (QL-0) with insufficient documentation to upgrade components to safety-significant. Design documentation indicates flexes have low design pressure (150 psig) and also allows use of ASTM A269 for corrugated material, which is no longer allowed (see TF-13-NCR-028).	Recommend PUREX connector parts be salvaged from jumpers. When HNF-3484 is updated, spare parts should be changed to maintain additional inventory of 2" and 3" PUREX connector parts.
Spare Flexible Metal Jumper - 9900-4254-2002 (599326)	No*	* Two jumpers on hand at 2101-M. Components are general service (QL-0) with insufficient documentation to upgrade components to safety-significant. Design documentation indicates flexes have low design pressure (150 psig) and also allows use of ASTM A269 for	Recommend PUREX connector parts be salvaged. When HNF-3484 is updated, spare parts should be changed to maintain additional inventory of 2" and 3" PUREX connector parts.

Equipment	Equipment Available?	Status	Comments for WRPS Discussion
		corrugated material, which is no longer allowed (see TF-13-NCR-028).	
Spare Flexible Metal Jumper - 9900-4254-2003 (599327)	No*	* One jumper on hand at 2101-M. Component is general service (QL-0) with insufficient documentation to upgrade components to safety-significant. Design documentation indicates flex has a low design pressure (150 psig) and also allows use of ASTM A269 for corrugated material, which is no longer allowed (see TF-13-NCR-028).	Recommend PUREX connector parts be salvaged. When HNF-3484 is updated, spare parts should be changed to maintain additional inventory of 2" and 3" PUREX connector parts.
Components for 2 Complete Jumpers	Yes	All items currently in stock.	MR-13-01078 replaced components used for tank 241-AY-102 from warehouse stock. MR-13-01075 ordered parts where stock was depleted as a result of the 241-AY-102 pump and jumper fabrication.
4 Submersible Pumps	Yes*	* Two pumps utilized for tank 241-AY-102. Two additional pumps are stored at 2101-M.	The two pumps that are not being utilized for tank 241-AY-102 require maintenance (o-rings must be replaced). This pump design is an obsolete design that can no longer be ordered. A new replacement design should be identified to replenish annulus pumping spare parts.
2 Reciprocating Pumps	No*	* One pump utilized for tank 241-AY-102. The other pump requires substantial repair and is not suitable for use.	This pump design is an obsolete design that can no longer be ordered. A new replacement design should be identified to replenish annulus pumping spare parts.
Components for Pump Assemblies	Yes	Some components deployed for tank 241-AY-102.	MR-13-01078 replaced components used for tank 241-AY-102 from warehouse stock. MR-13-01075 ordered parts where stock was

Equipment	Equipment Available?	Status	Comments for WRPS Discussion
			depleted as a result of the 241-AY-102 pump and jumper fabrication.
Skid for Air and Electrical	Yes	Existing skids that will be used for tank 241-AY-102 are anticipated to be reused. This may change if the pump designs are changed.	

Attachment 3

Brief description of the proposed scope of the revised DST Emergency Pumping Guide

SCOPE:

The purpose of this plan, HNF-3484, *Double-Shell Tank Pumping Guide*, is to provide as much preplanning as practical for pumping waste out of the primary tank system, and/or annulus or secondary containment of double-shell tanks (DST) in the event of a leak, to provide the demonstration required by the Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (WAC). If the primary tank system leaks, waste could accumulate in the secondary containment. The DSTs are currently operating under interim status requirements based on Hanford Facility RCRA Permit, Condition I.A, however, the DSTs will eventually become permitted to operate under the final status standards. The two sets of regulations are as follows:

- Interim status: 40 CFR 265 Subpart J, incorporated by reference at WAC 173-303-400(3)(a), as modified by WAC 173-303-400(3)(b) and WAC 173-303-400(3)(c)(ix)
- Final status: WAC 173-303-640, Tank Systems

	40 CFR 265.196[1]	WAC 173-303-640(7)
Release from a tank system	(b)(1): If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of dangerous waste to the environment and to allow inspection and repair of the tank system to be performed	(7)(b)(i): If the release was from the tank system, the owner/operator must, within twenty-four hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of dangerous waste to the environment and to allow inspection and repair of the tank system to be performed.
Release to secondary containment	(b)(2): If the release was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.	(7)(b)(ii): If the material released was to a secondary containment system, all released materials must be removed within twenty-four hours or in as timely a manner as is possible to prevent harm to human health and the environment.

[1] = Text has been modified, as applicable, by WAC 173-303-400(3)(b) and -400(3)(c)(ix).

APPLICABILITY:

Time deployment studies have been developed to provide a timeline for responding to primary tank waste leaks, dependent upon the waste type that is stored in the leaking DSTs. These time deployment studies represent an estimate of pumping as soon as practicable, consistent with WAC 173-303-640, items (7)(b)(i) and (7)(b)(ii). Specifically, the following four scenarios are defined:

1. Removing supernate from primary tank to another DST;
2. Removing sludge from primary tank to another DST;
3. Removing saltcake from primary tank to another DST; and
4. Removing pumpable liquids from annulus back to primary DST.

When a leak is identified and confirmed, efforts will initially be focused on mitigating the leak, which may include pumping primary tank level below the leak point. If waste cannot be pumped safely below the leak point, the appropriate template for waste tank content type (based upon time deployment study) will be implemented to mitigate the waste leak. The template to pump the annulus will be initiated when a leak is confirmed to ensure equipment is ready as soon as possible.

Pumpable liquid waste in the annulus will be pumped back to the primary tank when sufficient volume has accumulated in the annular space to allow pumping. Additional efforts to stabilize the waste in secondary containment may also be pursued for small leaks where volumes are below the minimum required to initiate pumping of the annulus. This may include efforts to place the waste in secondary containment in a more stable form by increasing evaporation of free liquid, which would leave a solid residue.

Item (b)(2) of 40 CFR 265.196 and item (7)(b)(ii) of WAC 173-303-640 requires all waste material in secondary containment to be removed to prevent harm to human health and the environment. Removal of all waste from secondary containment may not be practical or feasible. For example, the refractory below primary tanks is very porous and capable of retaining a large amount of liquid in the event of a tank leak. Removal of all waste from secondary containment after it has been absorbed by the refractory cannot be accomplished unless the refractory itself is removed. In circumstances where all waste cannot be removed from secondary containment, efforts will be focused on placing the remaining waste in a stable form to prevent subsequent leaks to the environment. Stabilization efforts are recognized as being beyond the scope of this document. Efforts to remove waste from secondary containment that cannot be pumped will be negotiated with the Washington Department of Ecology after liquid waste in the primary tank has been removed to below the leak point as much as reasonably (to the limits of technology) possible.

DEFINITION OF LEAK:

A leak is defined as any waste residue that is confirmed to be present in the DST annulus and has been determined to have originated from the primary DST. Ecology will be notified if a leak is suspected, but pumping will not be initiated until it has been definitively confirmed waste originated from primary tank through sampling and analysis. If a leak point is evident, no sampling or analyses would be required to make this determination.

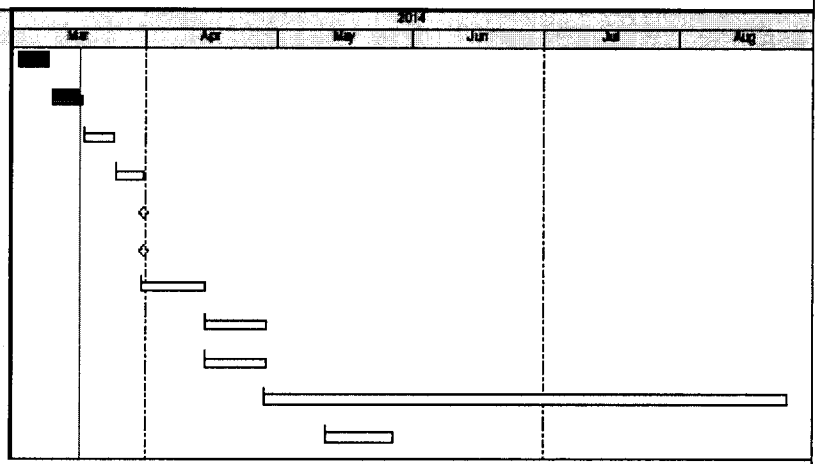
Attachment 4

Draft – DST Annulus Pump Design & Procurement Schedule

DRAFT - DST Annulus Pump Design & Procurement

19-Mar-14

Activity ID	Activity Name	Start	Finish
A1000	DEVELOP/ESTABLISH CRITERIA FOR ANNULUS PUMP	03-Mar-14 A	10-Mar-14 A
A1010	SUBMIT CRITERIA TO PUMP VENDORS FOR PROPOSALS	11-Mar-14 A	17-Mar-14
A1020	OBTAIN PROPOSALS FROM VENDORS	18-Mar-14	24-Mar-14
A1030	EVALUATE PROPOSALS	25-Mar-14	31-Mar-14
A1040	SELECT PUMP(S) FOR ANNULUS PUMPING		31-Mar-14
A1050	PROVIDE INPUT TO TIME DEPLOYMENT STUDY		31-Mar-14
A1060	OBTAIN FUNDING FOR PROCUREMENT	31-Mar-14	14-Apr-14
A1070	PROVIDE ECN/EDT TO ADD PUMP(S) TO DRAWING	14-Apr-14	28-Apr-14
A1080	PROVIDE PROCUREMENT DOCUMENTS FOR PUMP(S)	14-Apr-14	28-Apr-14
A1085	ORDER/RECEIVE PUMP(S)	28-Apr-14	25-Aug-14
A1090	ESTABLISH MAINTENANCE PROGRAM/SHELF-LIFE FOR PUMP(S)	12-May-14	27-May-14



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WRPS, River Protection Project

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