

0061873

Meeting Minutes Transmittal/Approval
Tri-Party Agreement Milestone Review Meeting
EPA Conference Room
March 24, 1998

Appvl.: Manuel Tenenkiller for Date: 4-28-98
Jackson E. Kinzer, RL
IAMIT Representative

Appvl.: Michael A. Wilson Date: 4/28/98
Michael A. Wilson, Ecology
IAMIT Representative

Appvl.: Douglas R. Sherwood Date: 4/28/98
Douglas R. Sherwood, EPA
IAMIT Representative

Prepared by
Appvl.: _____ Date: _____
Larry D. Arnold
Fluor Daniel Hanford, Inc.

Distribution

Blazek, M. L.	ODOE	Oregon	Julian, R.	Ecology	B5-18
Brown, W. R.	FDH	G3-27	Kinmark, J.	Ecology	B5-18*
Donnelly, J.	Ecology	B5-18	Knollmeyer, P.	RL	A5-11
Faulk, D.	EPA	B5-01	Miera, F. R.	RL	A5-15*
Furman, M.	RL	H0-12	Reddick, G.	FDH	N1-26
Gerton, R. E.	RL	H0-12*	Sanders, G. H.	RL	A5-15
Godfrey, S. D.	BWHC	S4-49	Sautter, S.	ODOE	Oregon*
Gonzalez, R.	RL	R3-79	Sherwood, D. R.	EPA	B5-01*
Hajner, R. S.	BHI	H0-11	Skinnarland, R.	Ecology	B5-18
Hayner, G.	B&W	L5-65	Staats, P.	Ecology	B5-18
Holten, R.	Ecology	B5-18	Wilson, M. A.	Ecology	B5-18*
Hopkins, A. M.	FDH	N1-26	Wooley, T.	Ecology	B5-18
Hughes, M. C.	BHI	H0-09	Yerxa, J. K.	RL	A5-15*
Jackson, D. E.	RL	A5-15*	EDMC		H6-08

* W/Attachments

RECEIVED
JUN 15 2004

MILSTN02.24

EDMC

TRI-PARTY AGREEMENT MAJOR MILESTONE MANAGEMENT REVIEW
March 24, 1998

M-26-01, M-19-00, and M-91-00

R. F. Guercia, DOE-RL presented current status on M-26-01, M-19-00, and M-91-00. (Attachment 1 and 2)

M-32-00

Paul Carter, DOE-RL presented current status on Interim Status Dangerous Waste Tank Systems activities(M-32-00) (Not including M-32 TWRS scope of work) (Attachment 3).

M-20 Permits and Closures

E. M. Mattlin, DOE-RL presented status on M-20, RCRA Permits and Closures. (Attachment 4).

M-34 Spent Nuclear Fuel

Bob Holt and Beth Sellers, DOE-RL, and Nancy Williams, FDH presented quarterly program status (Attachment 5). A Schedule is due April 15, 1998 in support of DOE-HQ financial planning requirements. Tri-Party Agreement negotiations are tentatively planned for April 20, 1998 through May 31, 1998.

ATTENDEES

TPA MILESTONE REVIEW

DATE: 3/24/98

<u>NAME</u>	<u>ORGANIZATION</u>	<u>MAILSTOP</u>	<u>(✓) FOR ATTACHMENTS</u>
<u>Larry Censor</u>	<u>FOH/TPAI</u>		
<u>Jim Rasmussen</u>	<u>DOE/ESH</u>	<u>A5-15</u>	<input checked="" type="checkbox"/>
<u>Mike Wilson</u>	<u>Ecology</u>		<input checked="" type="checkbox"/>
<u>Doug Sherwood</u>	<u>EPA</u>	<u>B5-01</u>	<input checked="" type="checkbox"/>
<u>Laura Cusack</u>	<u>Ecology</u>		<input checked="" type="checkbox"/>
<u>ROGER STANLEY</u>	<u>Ecology</u>		<input checked="" type="checkbox"/>
<u>MOSES JARAYSI</u>	<u>Ecology</u>	<u>B5-18</u>	<input checked="" type="checkbox"/>
<u>Rudy Guercia</u>	<u>RL</u>	<u>S7-55</u>	<input checked="" type="checkbox"/>
<u>FELIX R. MIERA</u>	<u>RL/EAP</u>	<u>A5-15</u>	<input checked="" type="checkbox"/>
<u>THOMAS L. BAKER</u>	<u>WMH</u>	<u>H6-06</u>	
<u>Greg Sinton</u>	<u>RL/WPD</u>	<u>S7-55</u>	
<u>Dale Black</u>	<u>WMH</u>	<u>H6-20</u>	
<u>KEVIN D. BAZZELL</u>	<u>RL/WPD</u>	<u>S7-55</u>	
<u>STEVE SAUTTER</u>	<u>OREGON-ENERGY</u>		<input checked="" type="checkbox"/>

ATTENDEES

TPA MILESTONE REVIEW

DATE: 3/24/98

<u>NAME</u>	<u>ORGANIZATION</u>	<u>MAILSTOP</u>	<u>(✓) FOR ATTACHMENTS</u>
<u>Beth Bilson</u>	<u>DOE-RL-WPD</u>	<u>S7-55</u>	
<u>Paul Carter</u>	<u>DOE-WPD</u>	<u>S7-55</u>	
<u>ELLEN MATTLIN</u>	<u>DOE-RL</u>	<u>A5-15</u>	
<u>ROGER BOWMAN</u>	<u>WMH</u>	<u>H6-24</u>	
<u>Tony M. KARNIS</u>	<u>DOE-EAP</u>	<u>A5-15</u>	
<u>Shirwood</u>	<u>WMH</u>	<u>H6-26</u>	
<u>Beth Seeger</u>	<u>DOE-SFD</u>		
<u>NANCY WILLIAMS</u>	<u>FDH-SFD</u>	<u>S7-41</u>	
<u>Marc Stevenson</u>	<u>FDH/PAZ</u>		
<u>Bob Holt</u>	<u>RL/SFD</u>	<u>S7-41</u>	

3/24/98 + Minutes Review +

~~M36-01~~ - R.F. Garcia DOE recent visit status on M26-01, M19-00, and M91-00. (See Handout) Terminated for Enforcement.

M-32-00, Paul Carter DOE presented visit status on Interim Status Dangerous Waste Tank systems M-32-00 (not including M32-7 WAS scope of work).

M-20 - Permits & closures - current status was presented by E.M. HATTLIN of DOE/RL. (See Handout)

NOTE - M34 spent Nuclear Fuel - BETH SELLERS DOE/RL A.G. Holt DOE/RL

WIG GERRON NANCY WILLIAMS FDN PROJECT DIRECTION

NANCY WILLIAMS PRESENTED STRY PROGRAM STATUS. (See Handout)

6-04-008² Schedule due 4/15/98 in support of OCH/HQ financial planning requirements.

Regulatory questions regarding cost, schedule and design engineering completing when?

TRK negotiation tentatively planned for

April 20 - ~~May~~ 1, 1998.

AGENDA

TRI-PARTY AGREEMENT MAJOR MILESTONE MANAGEMENT REVIEW (CHAIRPERSON: D. R. SHERWOOD)

TUESDAY, MARCH 24, 1998

Location: EPA Conference Room
712 Swift Blvd. Richland

<u>TIME</u>	<u>MILESTONE</u>	<u>TITLE</u>	<u>RL DIVISION DIRECTOR</u>	<u>CONTRACTOR MANAGER</u>	<u>PRESENTER</u>
9:00am	M-26-01	LDR Annual Report	H. E. Bilson	J. A. Winterhalder	G. L. Sinton
	M-19-00	WRAP II	H. E. Bilson	D. E. McKenney	G. L. Sinton
	M-91-00	Acquisition of Facilities to TSD TRU/TRUM, LLMW and GTC3	H. E. Bilson	D. E. McKenney	G. L. Sinton
10:00am	M-20-00	Part B and Closure Plans	J. E. Rasmussen	S. M. Price	E. M. Mattlin
10:20am	M-32-00	Waste Tanks/ Corrective Action (non TWRS milestones)	J. E. Rasmussen	S. M. Price	A. R. Sherwood
10:40am	M-34-00	Spent Nuclear Fuel	E. D. Sellers	D. J. Watson	R. G. Holt
11:30am		ADJOURN			

[857] From: Ronald D (Ron) Morrison at -HANFORD09C 3/20/98 2:50PM (5570 bytes: 9
ln, 1 fl)

To: Helen E (Beth) Bilson at -HANFORD04D, Robert G Holt at -EXCHANGE,
Jackson E (DOE) Kinzer at -EXCHANGE, Ellen M Mattlin at -HANFORD14A,
Dale E McKenney at -HANFORD01A, C J (Jim) Petersen at -EXCHANGE, Susan M Price
at -EXCHANGE, James E (Jim) Rasmussen at -HANFORD14A, W A (Bill) Rutherford at
-HANFORD22A, George H Sanders at -HANFORD14B, T O (Theo) Schmeeckle at
-EXCHANGE, Elizabeth D Sellers at -EXCHANGE, Ana R Sherwood at -HANFORD21A,
Doug R Sherwood at -HANFORD02A, Gregory L Sinton at -HANFORD04C,
David J (Dave) Watson at -HANFORD12C, Michael A (Mike) Wilson at
Ecology Lacey, John A Winterhalder at -HANFORD19F

cc: Ronald D (Ron) Morrison, Joy M Kinmark at -HANFORD02A, Laura J Cusack at
-HANFORD02A

Subject: Revised 3/24/98 Tri-Party Agreement Milestone Review Agenda.

----- Message Contents -----

Text item 1:

Distribution list 1 of 4.

NOTE: the only two changes made to the attached revised agenda are:

The deletion of the M-35-00 "Data Management" discussion.

The time slot for the discussion of M-34-00 "Spent Nuclear Fuel" has moved up
to the 10:40am time slot.

[858] From: Ronald D (Ron) Morrison at -HANFORD09C 3/20/98 2:58PM (6750 bytes: 9
ln, 1 fl)

cc: William D (Bill) Adair at -HANFORD08A, Carol J Alderman at -HANFORD12B,
Steven M Alexander at -HANFORD02A, Larry D Arnold, Becky A Austin at
-HANFORD01D, Thomas L Baker at -HANFORD01A, Kevin D Bazzell at -HANFORD10D,
Dale G Black at -HANFORD15D, Roger C Bowman at -EXCHANGE,
Walter R (Russ) Brown at -HANFORD09A, Clifford E (Cliff) Clark at -HANFORD22B,
Laura J Cusack at -HANFORD02A, Audrey D Dove at -HANFORD02A, David R Einan at
-HANFORD02A, Geneva Ellis-balone at -HANFORD14E, Don L Flyckt at -HANFORD10A,
Eric W Gerber at -HANFORD04D, Christine E Goody at -EXCHANGE, William F Heer
at -EXCHANGE, Kathryn M Hintzen at -HANFORD14B, Ken L Hladek at -HANFORD01A,
Dale E Jackson at -HANFORD14A, Joy M Kinmark at -HANFORD02A, Steve Manley at
-EXCHANGE, Carl G (Gus) Mattsson at -HANFORD16D, M A (Mary Ann) McLaughlin,
Estella (Stella) Mendoza at -EXCHANGE, Felix R Miera at -HANFORD14A,
Steven R Morgan at -HANFORD01D, Ronald D (Ron) Morrison, Linda L Powers at
-HANFORD09E, Fred A III Ruck at -EXCHANGE, Yvonne T Sherman at -HANFORD02C,
E R (Ron) Skinnarland at -HANFORD07B, Jerome O (Jerry) Skolrud at -HANFORD15D,
Roger F Stanley at Ecology Lacey, Marc W Stevenson, T R (Tammy) Szelmezcza at
-EXCHANGE, Larrie K Trent at -HANFORD01A, Patrick W Willison at -HANFORD22A
Subject: Revised 3/24/98 Tri-Party Agreement Milestone Review Agenda.

----- Message Contents -----

Text item 1:

Distribution list 2 of 4.

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to the 10:40am time slot.

[859] From: Ronald D (Ron) Morrison at -HANFORD09C 3/20/98 3:00PM (6841 bytes: 8
ln, 1 fl)

cc: Jay M Augustenborg at -EXCHANGE, Russell L (Russ) Bisping at -EXCHANGE,
Philip J (Phil) Brulotte at -EXCHANGE, Drusilla H (Dru) Butler at -HANFORD01D,
Laura J Cooper at -EXCHANGE, Laura J Cusack at -HANFORD02A,
Richard H Engelmann at -HANFORD01E, Bradley G Erlandson at -HANFORD24A,
Robert J Giroir at -HANFORD03E, James W (Jim) Golden at -HANFORD16D,
Rudolph F (Rudy) Guercia at -HANFORD10D, Carolyn C Haass at -EXCHANGE,
Charles A Hansen at -EXCHANGE, Joy M Kinmark at -HANFORD02A,
Edward E (Ed) Mayer at -HANFORD08B, Tammie A McClure at -HANFORD07E,
Kent M McDonald at -HANFORD03E, E S II (Skip) McGinley at -EXCHANGE,
Ronald D (Ron) Morrison, Jon C Peschong at -HANFORD05C, C D (Cathy) Poynor at
-EXCHANGE, Mark L Ramsay at -HANFORD05C, Duane L Renberger at -HANFORD08B,
Gary E Rothenberger at -HANFORD01E, Ami B Sidpara at -HANFORD05C,
Steven J Skurla at -HANFORD02A, Roger F Stanley at Ecology Lacey,
Harry J Jr Sterling at -EXCHANGE, Kenneth J (Ken) Svoboda at -EXCHANGE,
William J Taylor at -HANFORD05C, Kathleen S Tollefson at -HANFORD01E,
Ruthann S Townsend at -HANFORD02C, David B Van Leuven at -HANFORD01E,
James H Jr Wicks at -HANFORD10E, Richard T Wilde at -HANFORD19F,
~~Nancy H Williams at -EXCHANGE, Michael K (Mike) Yates at -HANFORD01E,~~
~~Jon K Yerxa at -HANFORD14A~~

Subject: Revised 3/24/98 Tri-Party Agreement Milestone Review Agenda.

----- Message Contents -----

Text item 1:

Distribution list 3 of 4.

NOTE: the only two changes made to the attached revised agenda are:

The deletion of the M-35-00 "Data Management" discussion.

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to the 10:40am time slot.

[860] From: Ronald D (Ron) Morrison at -HANFORD09C 3/20/98 3:02PM (4718 bytes: 8
ln, 1 fl)

cc: Terry D Cress at -EXCHANGE, Laura J Cusack at -HANFORD02A,
Bradley G Erlandson at -HANFORD24A, Carolyn C Haass at -EXCHANGE,
Joy M Kinmark at -HANFORD02A, Owen S Kramer, Anthony C (Tony) McKarns at
-HANFORD14E, Ronald D (Ron) Morrison, Edward W Jr Penn at -HANFORD01D,
Michael J Royack at -HANFORD05C, Nancy L Schreckhise at -EXCHANGE
Subject: Revised 3/24/98 Tri-Party Agreement Milestone Review Agenda.

----- Message Contents -----

Text item 1:

Distribution list 4 of 4.

NOTE: the only two changes made to the attached revised agenda are:

The deletion of the M-35-00 "Data Management" discussion.

The time slot for the discussion of M-34-00 "Spent Nuclear Fuel" has moved up
to the 10:40am time slot.

File item 2: MSAGENDA.MAR 3/19/98 4:25PM

WASTE Feb 98

M-19-00 & M-91-00

WASTE PROGRAMS DIVISION

R. F. Guercia

February 1998

<p>TPA MILESTONE REVIEW</p>	<p>WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT</p>	<p>FEBRUARY 1998</p>
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MILESTONE DESCRIPTION

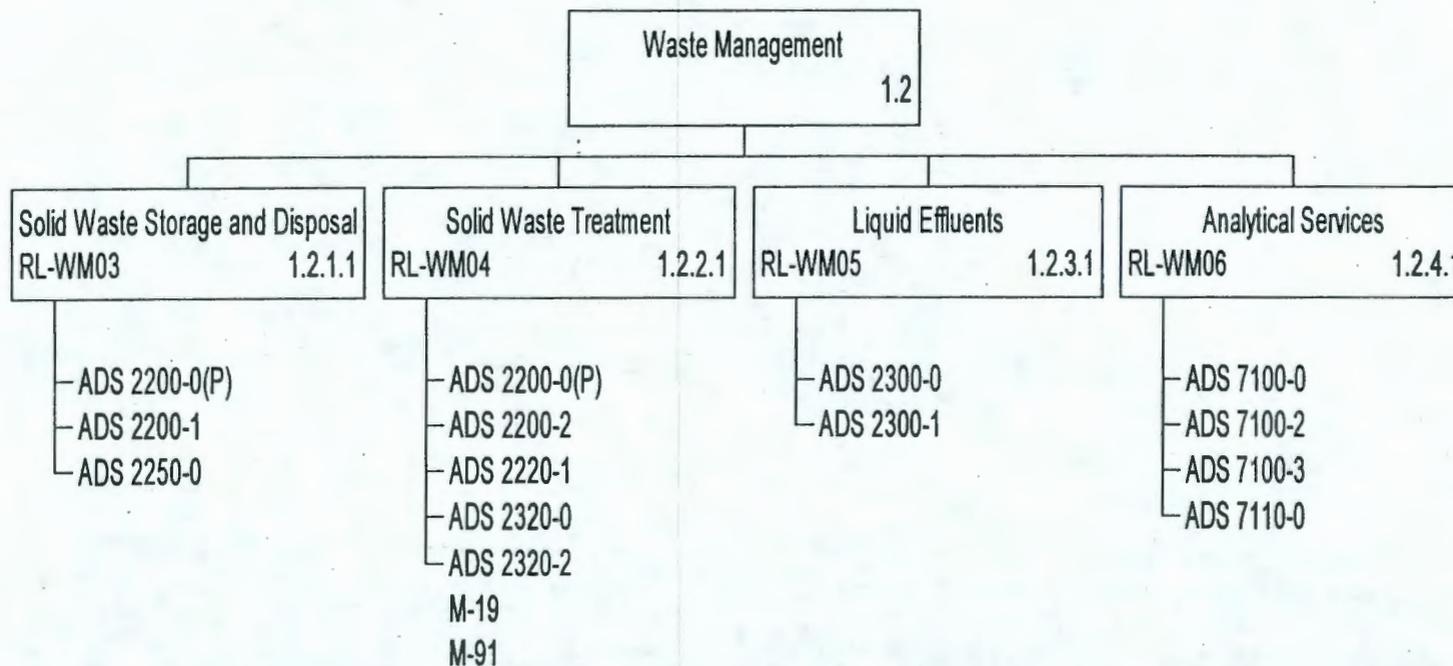
<p>TPA MILESTONE</p>	<p>DESCRIPTION</p>
<p>M-19-00</p>	<p>Complete treatment and/or direct disposal of at least 1,644 cubic meters of Contact Handled Low Level Mixed Waste already in storage as of October 1, 1995, as well as newly generated Hanford Site low level mixed waste.</p> <p>Cumulative treatment and/or direct disposal rates will be at least 246 cubic meters by the end of FY 2000, 822 cubic meters by the end of FY 2001, and 1,644 cubic meters by the end of FY 2002.</p>
<p>M-91-00</p>	<p>Complete the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal of all Hanford site TRU/TRUM, LLMW, and GTC3.</p>

TPA MILESTONE
REVIEW

WASTE MANGEMENT FEDERAL
SERVICES OF HANFORD, INC.
1.2.2.1 SOLID WASTE TREATMENT

FEBRUARY 1998

WORK BREAKDOWN STRUCTURE



(P) Represents an ADS split between 2 PBSs

TPA MILESTONE
REVIEW

WASTE MANGEMENT FEDERAL
SERVICES OF HANFORD, INC.
1.2.2.1 SOLID WASTE TREATMENT

FEBRUARY 1998

MILESTONE SCHEDULE

WBS (PBS)	BASELINE DATE	FISCAL YEAR 1998																
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.2.2.1 (RL-WM04) Solid Waste Treatment																	(M-19-01-T03) Complete all NEPA requirements related to commercial contract for LLMW stabilization	 I (Target)  RL
<p>MILESTONE TYPES:</p>  M TPA MILESTONE  I TPA INTERIM  DOE-HQ  FO DOE-FO  FORECAST  RL DOE-RL																		
<p>FOOTNOTES: * indicates current month activity</p>																		

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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MILESTONE EXCEPTION REPORT

FUTURE MILESTONES IN JEOPARDY

M-91-04 "Complete construction of small container Contact Handled (CH) TRU/TRUM retrieval facility(s) and initiate (Project W-113) retrieval of small container TRU/TRUM from 200 Area burial grounds" by September 2000.

M-91-07 "Complete Project W-113 for Post 1970 CH TRU/TRUM retrieval" by September 2004.

Baseline capital construction for the TRU Retrieval activities would require \$834 K in FY 1998 and \$15.9 million in FY 1999. A change request is in process to provide \$100K in expense funding in FY 1998 to explore simplified retrieval alternatives to meet required start and completion dates.

M-91-02 "Initiate processing of contact-handled TRU and TRU(M) waste at the Waste Receiving and Processing Facility" by December 1998.

Sources of expense funding to support preparation of the WRAP facility to meet this milestone commitment have been identified. A change request is in process to provide funding to meet this milestone.

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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M-19 ACCOMPLISHMENTS

WBS 1.2.2.1	<div style="text-align: center;"> <p>M-19-00</p> <p><u>LOW LEVEL MIXED WASTE TREATMENT</u></p> </div> <p>Nothing to report.</p>
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TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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M-19-00 SCORECARD

	"Treat and/or directly dispose of at least 1,644 cubic meters of CH-LLMW by September 2002"		
	WMH TREATMENT AND DIRECT DISPOSAL ACTIVITIES (QUANTITY IN M ³)		
	<u>TREATMENT/DISPOSAL ACTIVITY</u>	<u>FY 1997</u> <u>ACTUAL</u>	<u>FY 1998</u> <u>PLANNED</u>
	Macroencapsulation Pilot	185	
	Long Length Equipment	28	
	Backlog Soils Disposal	56	225
	Macro-Secure Demonstration		32
	Mixed Waste from PNNL		1
	TOTAL TREATED/DISPOSED	269	258

<p>TPA MILESTONE REVIEW</p>	<p>WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT</p>	<p>FEBRUARY 1998</p>
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M-91 ACCOMPLISHMENTS

<p>WBS 1.2.2.1</p>	<p style="text-align: center;"><u>M-91-00</u> <u>FACILITIES FOR STORAGE, TREATMENT/PROCESSING AND DISPOSAL OF TRU/TRUM, LLMW AND GTC3</u></p> <p>Nothing to Report.</p>
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TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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PLANNED ACTIONS

TPA MILESTONE SUPPORTED	DESCRIPTION	SCHEDULED COMPLETION DATE
M-19-00	Complete Macro-Secure demonstration using proven commercial technology to macroencapsulate 150 drums (32 cubic meters) of mixed waste debris in compacted drums or concrete rubble.	9/30/98
M-19-00	Dispose of the balance of the non-PCB Backlog Soils as LLW -- 225 cubic meters.	9/30/98
M-19-01-T02	Complete all NEPA requirements related to the commercial treatment contract.	9/30/98
M-91-04	RL is pursuing more cost effective alternatives for TRU container retrieval based upon similar projects at Savannah River and Los Alamos. Alternative sources for funding, including expense cost savings, are being explored.	9/30/00

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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EXPENSE COST PERFORMANCE

(\$ inMillions)

WBS (ADS)	FY 1998 TO DATE					AT COMPLETION					COMMENTS
	BUDGETED COST		ACTUAL COST	VARIANCE		BAC BCWS	EAC	FYSF	EXPECTED FUNDS FY98	PROJECTED CARRYOVER WORKSCOPE	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST						
1.2.2.1 MW & TRU TREATMENT (2200-00)	0.7	0.5	0.2	(0.2)	0.3	4.4	2.1	2.1	4.4	2.3	2.3 carryover is T for C

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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EXPENSE COST VARIANCE ANALYSIS

WBS (ADS)	COST VARIANCE \$252K	
1.2.2.1	<p><u>(Description and Cause:)</u></p> <p>Early in Fiscal Year 1998, activities relating to MLLW treatment contracting were limited to planning. Emphasis has since shifted to contract implementation and the variance will be reduced or eliminated by the end of the Fiscal Year.</p>	<p><u>(Impacts and Corrective Action:)</u></p> <p>No impacts. The funding for Mixed Waste Treatment is still required for FY 1998.</p>

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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EXPENSE SCHEDULE VARIANCE ANALYSIS

WBS (ADS)	SCHEDULE VARIANCE \$(168K)	
1.2.2.1	<u>(Description and Cause:)</u> The Macro-Secure project is on hold pending resolution of the carbonaceous waiver, and the 183-H Empty Bag project is awaiting approval of a change request to revise the workscope.	<u>(Impacts and Corrective Action:)</u> No corrective action is necessary.

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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M-19 ISSUES

TPA MILESTONE	DATE IDENT	ISSUE	IMPACT	STATUS
M-19-00	1/97	State Organic Carbonaceous LDR requires combustible debris to be incinerated.	Prevents macroencapsulation of combustible debris (90 - 95% of Hanford debris).	<p>RL received an exemption for 883 drums of mixed waste debris to facilitate macro-encapsulation of debris at T Plant during August and September 1997.</p> <p>An exemption will be required by March 1998 to complete the Macro-secure project as planned in FY 1998.</p> <p>The debris portion of the non thermal treatment contract may have to be amended or terminated if an exemption is not obtained before treatment starts in FY 1999.</p> <p>The exemption application process is currently being defined.</p>

TPA MILESTONE REVIEW	WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC. 1.2.2.1 SOLID WASTE TREATMENT	FEBRUARY 1998
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M-91 ISSUES

TPA MILESTONE	DATE IDENT	ISSUE	IMPACT	STATUS
M-91-04 & M-91-07	10/97	No funding for TRU Retrieval activities in FY 1998 and 1999.	Will impact baseline capital construction in later years and place M-91-04 and M-91-07 in jeopardy.	A change request is in process to provide \$100K in expense funding in FY 1998 to explore simplified retrieval alternatives to meet required start and completion dates.
M-91-02	10/97	WRAP operations and WIPP certification were not funded in FY 1998	Cannot meet M-91-02 due date without this funding.	A change request to fund WRAP operations and WIPP certification from FY 1998 savings is in final approval process.

<p style="text-align: center;">LAND DISPOSAL RESTRICTIONS ANNUAL REPORT</p> <p style="text-align: center;">M-26-01</p> <p style="text-align: center;">WASTE PROGRAMS DIVISION R. F. Guercia March 24, 1998</p>	<p><u>Milestone Description</u></p> <ul style="list-style-type: none"> M-26-01 Submit an annual Hanford Site LDR Report in accordance with the LDR Plan to cover the period from April 1 through March 31 Deliverables Submit the "1998 Hanford Site Land Disposal Restrictions for Mixed Waste" to EPA and Ecology (M-26-01H) Schedule Report submitted annually by April 30. 																								
<p><u>RL Program Manager's Assessment of Contractor Performance</u></p> <ul style="list-style-type: none"> Satisfactory performance, on schedule. <p><u>Accomplishments</u></p> <ul style="list-style-type: none"> Developed new format for 1998 report, in response to Ecology comments. Waste stream data sheet developed. Contractor review complete, currently in RL review. 	<p><u>Planned Actions</u></p> <ul style="list-style-type: none"> Complete RL review, incorporate comments, and issue report. <p><u>Milestone Assessment</u> - schedule and technical</p> <ul style="list-style-type: none"> On schedule <p><u>Non-TPA Regulatory Issues. Potential Impacts on TPA</u></p> <ul style="list-style-type: none"> None. 																								
<p><u>Budget</u></p> <ul style="list-style-type: none"> Budget versus actual cost (\$ in 000's) <table border="1" data-bbox="314 1136 946 1307"> <thead> <tr> <th></th> <th>Oct</th> <th>Nov</th> <th>Dec</th> <th>Jan</th> <th>Feb</th> </tr> </thead> <tbody> <tr> <td>FYTD Budget</td> <td>7</td> <td>16</td> <td>23</td> <td>30</td> <td>38</td> </tr> <tr> <td>FYTD Actual</td> <td>7</td> <td>17</td> <td>25</td> <td>34</td> <td>47</td> </tr> <tr> <td>FYTD Variance</td> <td>0</td> <td>-1</td> <td>-2</td> <td>-4</td> <td>-9</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Estimate-at-completion: \$98K 		Oct	Nov	Dec	Jan	Feb	FYTD Budget	7	16	23	30	38	FYTD Actual	7	17	25	34	47	FYTD Variance	0	-1	-2	-4	-9	<p><u>Summary of Changes for 1998 report</u></p> <ul style="list-style-type: none"> One waste stream per profile sheet. Approximately 33 streams (23 at CWC). Narrative supporting each stream or group of streams. Narrative provides required information that is not on data sheet. Summary tables included (inventory, path forward, generation).
	Oct	Nov	Dec	Jan	Feb																				
FYTD Budget	7	16	23	30	38																				
FYTD Actual	7	17	25	34	47																				
FYTD Variance	0	-1	-2	-4	-9																				

R.B.
EXT 2 A

**Interim Status Dangerous Waste Tank
Systems Hanford Federal Facility
Agreement and Consent Order
Milestone M-32-00**

March 24, 1998

Milestone Description

"Complete Identified Dangerous Waste Tank Corrective Actions" - September 1999

M-32-00 establishes Tri-Party Agreement compliance schedules for correcting known compliance deficiencies in certain Hanford interim status dangerous waste tank systems while allowing the continued operation of those tank systems.

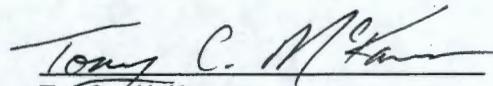
Deliverables and Baseline Schedules

- M-32-01 Complete PFP Actions - Dec 94**
- M-32-02 Complete 219-S Actions - April 99***
*Per TPA Change Request M-32-97-01
- M-32-03 Complete T Plant Actions - Sept 99**
- M-32-04 Complete DST Actions - June 94**
- M-32-05 Complete 242-A Evaporator Actions - one month after
hot restart**
- M-32-06 Complete 244-AR Actions - prior to restart**
- M-32-07 Complete B Plant Actions - June 96**
- M-32-08 Complete Grout Actions - prior to processing waste**

**Interim Status Dangerous Waste Tank Systems
Milestone M-32-00
Project Manager's Assessment**

Interim Milestone	Description	RCRA Compliance	Customer	Technical	Schedule	Cost
M-32-01	Complete PFP Actions	<input type="checkbox"/>				
M-32-02	Complete 219-S Action	<input type="checkbox"/>				
M-32-03	Complete T Plant Actions	<input type="checkbox"/>				
M-32-04	Complete DST Actions	<input type="checkbox"/>				
M-32-05	Complete B Plant Actions	<input type="checkbox"/>				

Legend:
 Good Performance
 ↓ Worsened Future Outlook


 T. C. McKarns
 RL Project Manager

3/23/98
 Date

Milestone Assessment

- **Milestones Due But Not Complete (next six months)**

None

- **Milestones in Jeopardy (beyond six months)**

None

Interim Milestone M-32-02 219-S (222-S Lab)

Significant Accomplishments (last three months)

- **Project W-178 (tank system upgrades): Completed mobilization for Phase II construction. Initiated construction of access facility.**
- **Project W-087 (line replacement): Completed first underground transfer to Tank Farms.**
- **Project W-087 was selected as the 1997 Project of the Year by the Tri-Cities/Columbia Basin Chapter of the Project Management Institute.**

Significant Planned Activities (next six months)

- **Project W-178 (tank system upgrades): Incorporate VE initiatives into project baseline. Empty tanks 101 and 102. Start Phase II construction. Remove tanks 101 and 102.**
- **Project W-087 (line replacement): Complete as-built documentation and closeout project.**

Budget/Cost Status

- **Project W-178 (tank system upgrades):**
 - **Budgeted to date \$5.1M**
 - **Cost to date \$2.8M**
 - **Estimate at completion \$5.1M (with project completion date of 4/99)**

- **Project W-087 (line replacement):**
 - **Budgeted to date \$11.4M**
 - **Cost to date \$11.2M**
 - **Estimate at completion \$11.4M**

Issues - None

Interim Milestone M-32-03

T-Plant

Significant Accomplishments (last three months)

- **Project W-259 (2706-T upgrades): Completed extension of fire sprinkler system into the HVAC/ELEC room and construction of 2706-TB foundation. Installed new sumps/liners in 2706-T and two new storage tanks in 2706-TB. Filled in 2706-T automotive pit and installed new sump/liner in rail pit. Installed new 500 KVA transformer separating the 2706-T Complex (2706-T, -TA, and -TB) from the 221-T canyon facility electrical systems.**

Significant Planned Activities (next six months)

- **Project W-259 (2706-T upgrades): Complete installation of waste transfer system throughout 2706-T Complex. Complete operational testing of electrical systems and waste transfer lines. Complete application of special protective coating on 2706-T Complex floors and rail pit.**

Budget/Cost Status

- **Project W-259 (2706-T upgrades):**
 - **Budgeted to date \$12.8M**
 - **Cost to date \$9.06M**
 - **Estimate at completion \$12.8M**

Issues - None

PERMITS AND CLOSURE PLANS

Milestone M-20-00

E. M. Mattlin

Environmental Assurance, Permits
and Policy Division
U.S. Department of Energy
Richland Operations Office

March 24, 1998

MILESTONE DESCRIPTION

M-20-00

Submit Part B Permit Applications or closure plans for all RCRA TSD Units (2-00)

Deliverable(s)

Complete individual TSD unit submittals in accordance with Appendix D Work Schedules

ACCOMPLISHMENTS (last three months)

Closure Plans

- Submitted administrative closure certification for the ISO West Interim Organic Storage Tank at the B Plant Complex
- Submitted the B Plant Preclosure Work Plan
- Issued Phase 2 Decontamination and Inspection Plan for the 300 Area Waste Acid Treatment System
- Established cleanup approach for PCB contamination at the 3718-F Alkali Metal Storage and Treatment Facility

ACCOMPLISHMENTS (last three months)

Closure Plans (cont'd)

- Closure Plans for the following units are currently out for public review to support inclusion in Modification D of the Hanford Facility RCRA Permit:
 - 1301-N Liquid Waste Disposal Facility
 - 1324-N Surface Impoundment
 - 1324-NA Percolation Pond
 - 1325-N Liquid Waste Disposal Facility

Part A

- Submitted Part A permit application, Form 3s, for the following units:
 - Waste Encapsulation and Storage Facility, Revision 0 (12/97)
 - 222-S Laboratory Complex, Revision 6 (12/97)

ACCOMPLISHMENTS (last three months)

Part B

- Conducted workshops to finalize Dangerous Waste Part B permit applications for inclusion in Modification D of the Hanford Facility RCRA Permit for the following units:
 - Central Waste Complex
 - Waste Receiving and Processing Facility
 - Low-Level Burial Grounds

- Resolved issues associated with 616 Storage Facility Class 1 Permit modifications

Form 2

- Submitted Revision 2 of the Hanford Facility RCRA Form 2 to expand permit by rule and treatment by generator options at Hanford

ACCOMPLISHMENTS (last three months)

Research, Development, and Demonstration Permit

- Letter received accepting Waste Water Pilot Plant Research, Development, and Demonstration Permit closure

Hanford Facility RCRA Permit

- Quarterly Class 1 modification package submitted to Ecology in accordance with Permit Condition I.C.3 (01/10/98)
- Revision 4A of the Hanford Facility RCRA Permit became effective (2/28/98)
- Submitted Annual Noncompliance Report (2/27/98)

PLANNED ACTIONS (next six months)

Closure Plans

- Continue work on Revision 1 of the 300 Area Waste Acid Treatment System Closure Plan including workshops for NOD resolution
- Issue Phase 2 decontamination and inspection plan for the 300 Area Waste Acid Treatment System
- Resolve issues associated with closure of the 3718-F Alkali Metal Storage and Treatment Facility
- Establish closure strategy for the 1706-KE Waste Treatment System

PLANNED ACTIONS (next six months)

Closure Plans (cont'd)

- Establish path forward for cleanup actions needed at the 303-K Storage Facility
- Submit NOD Response Table and revised closure plan for the 324 REC/HLV Closure Plan
- Complete closure of the 222-S Laboratory Complex storage structures
- Submit Rev 1 of 100-D Pond Closure Plan for inclusion in Modification D of the Hanford Facility RCRA Permit

PLANNED ACTIONS (next six months)

Part A

- Submit revised/new Hanford Facility Dangerous Waste Part A Permit Application, Form 3s, for the following units:
 - 222-S Laboratory Complex, Revision 7
 - T Plant Complex, Revision 6
 - Plutonium Finishing Plant, Revision 0
 - Central Waste Complex, Revision 5
 - Waste Receiving and Processing Facility, Revision 2

- Submit Notice of Intent for disposal of Immobilized Low-Activity Waste

PLANNED ACTIONS (next six months)

Part A (cont'd)

- Pursue procedural closure for the following units:
 - 221-T Containment Systems Test Facility
 - 2727-WA SRE Sodium Storage Buildings

- Transfer co-operator responsibilities from the Fluor Daniel Hanford Company to Bechtel Hanford Inc. for the following units:
 - 600 Area Purgewater Storage and Treatment Facility
 - PUREX Plant
 - 105-DR Large Sodium Fire Facility

PLANNED ACTIONS (next six months)

Part B

- Continue NOD workshops with Ecology for the Double-Shell Tank System
- Submit certified permit applications for inclusion in Modification D of the Hanford Facility RCRA Permit for the following units:
 - Central Waste Complex
 - Waste Receiving and Processing Facility
- Submit documentation to Ecology as required by 325 HWTUs permit conditions

PLANNED ACTIONS (next six months)

Hanford Facility RCRA Permit

- Submit Quarterly Class 1 modification packages to Ecology in accordance with Permit Condition I.C.3 (4/10/98, 7/10/98)
- Reissue Hanford Facility RCRA Permit documentation associated with the Low-Level Burial Grounds for public comment during Modification D
- Submit Hanford Site Annual Dangerous Waste Report electronically (5/1/98)

PLANNED ACTIONS (next six months)

Hanford Facility RCRA Permit (cont'd)

- Submit revised building emergency plans for final status and Modification D TSD units to Ecology for review (4/15/98)
- Submit certified permit application documentation to Ecology for inclusion in Modification D of the Hanford Facility RCRA Permit (6/1/98)
- Conduct annual Site-Wide Inspection according to schedule submitted to Ecology (Note: 300 Area inspection was postponed and will be rescheduled for later in 1998)
- Complete semi-annual sitewide inspection (banks of Columbia River) (4/28/98)

ISSUES

- P.E. certification of drawings and calculations associated with container management units

PROJECT HANFORD MANAGEMENT CONTRACT

SENIOR MANAGEMENT PROJECT REVIEW

SPENT NUCLEAR FUEL PROJECT

Status through February 1998

Presented by:

**N. H. Williams
Fluor Daniel Hanford, Inc.**

OVERVIEW

- **Project is on schedule; potential delays projected**
 - **Current fiscal year has an unfavorable schedule (19 percent) and cost variance (6 percent)**
- **Safety performance is unsatisfactory**
- **Significant accomplishments include**
 - **Installed fuel retrieval manipulators in 305 Building for testing**
 - **Tri-Party Agreement M-34 change package being developed**

SAFETY PERFORMANCE

	FY 1997	FY 1998		
		Zero Accident Goal	Current Month Actual	Cum. To Date Actual
Total OSHA Case Rate	4.43	1.95	6.26	8.25
Lost Workday Case Rate	0.92	0.0	0.00	0.00
Lost/Restricted Workday Case Rate	1.68	0.75	4.17	2.91
Project Safe Work Hours			95,831	631,340
Skin/Clothing Contamination Events	11	0	0	0

NOTE: Data reflects Project performance which includes contractor and subcontractor information.

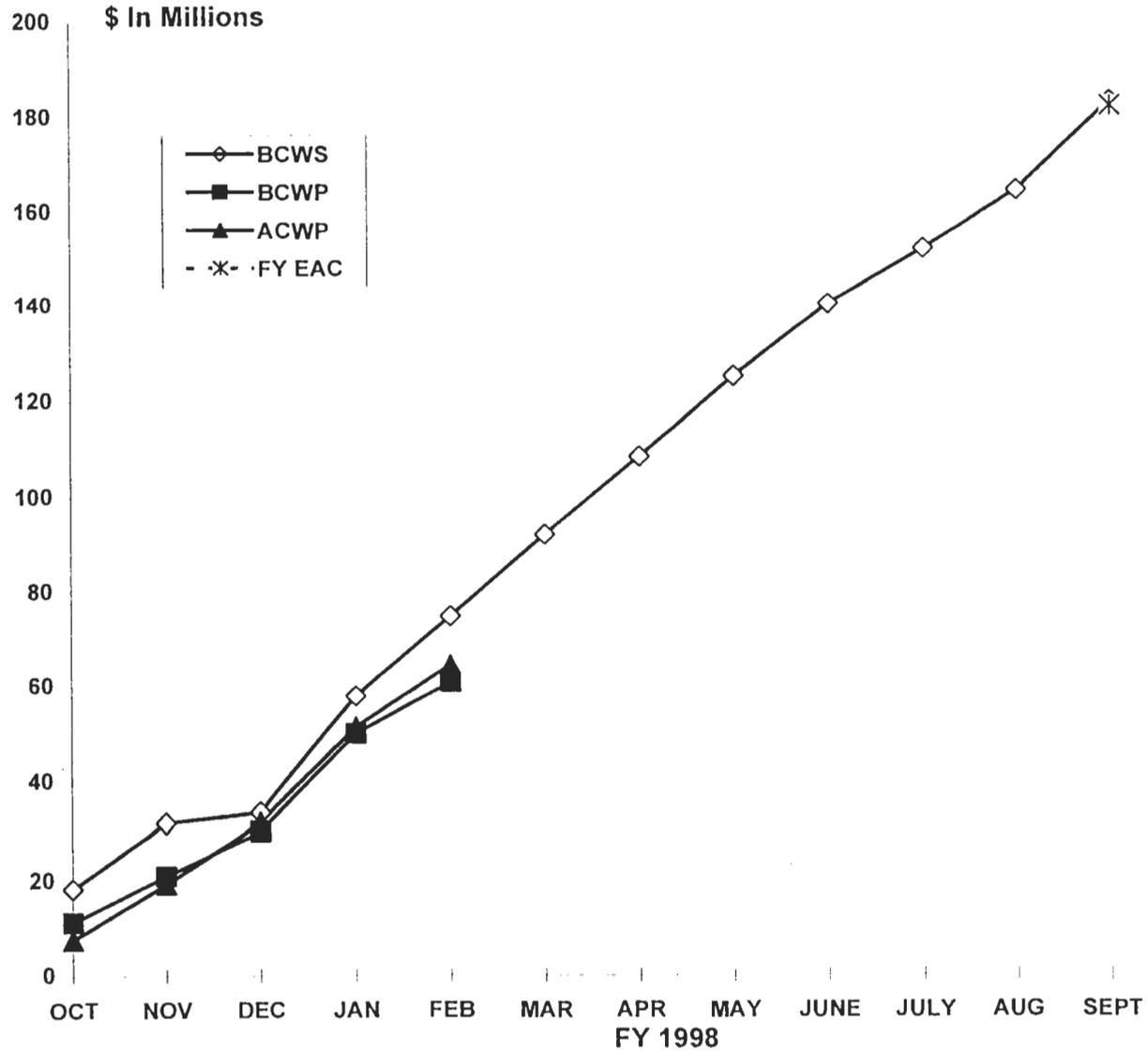
SCHEDULE/COST PERFORMANCE

- **SNF unfavorable schedule variance (\$14.2 million)**
 - **K West Basin construction hold (construction released)**
 - **Sealed MCO procurement holds (BCR in process)**
 - **Hold on CVD wall panel erection and cold weather (hold released)**
 - **All variances are off critical path and recoverable**

SCHEDULE/COST PERFORMANCE (Continued)

- **SNF unfavorable cost variance (\$3.7 million)**
 - **Sealed MCO strategy Advanced Work Authorization (\$1.2 million)**
 - **CVD design development (\$1.1 million)**
 - **Basin crane cost overruns (\$0.5 million)**
 - **Basins operations and maintenance cost overruns (\$0.9 million)**

COST/SCHEDULE PERFORMANCE - ALL FUND TYPES



PROJECT TREND ANALYSIS

Open Deviation Notices

	<u>Number</u>	<u>FY 1998 Impacts</u>
Capital Line Item	37	\$19.4M
Expense/Equipment	<u>143</u>	<u>\$29.6M</u>
	180	\$49M

Corrective Actions:

- Deviation notices undergoing validation
- FDH reviewing site-wide priorities to identify funding sources
- SNF schedule alternatives under development

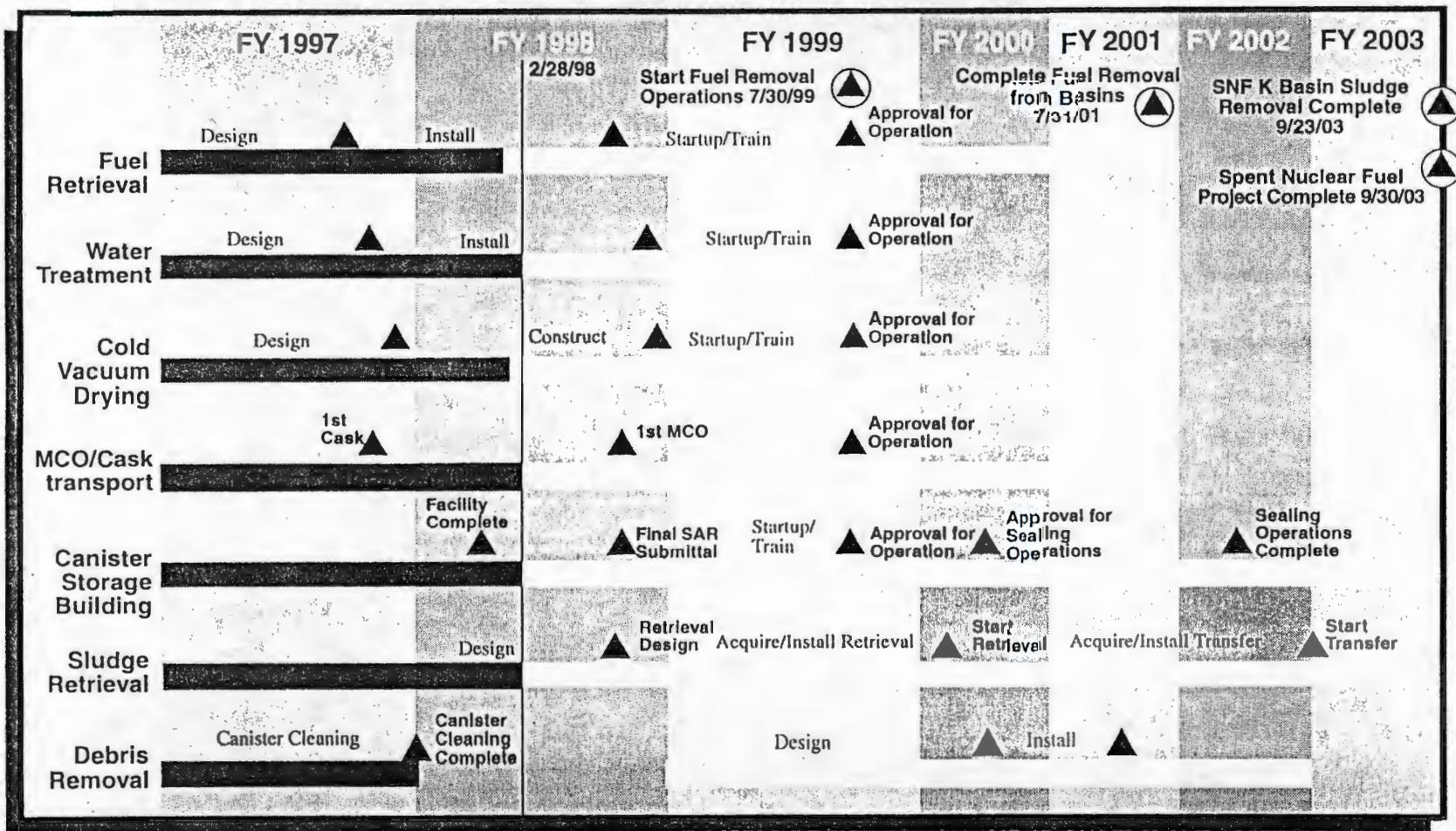
REGULATORY/DNFSB COMMITMENTS
(18 Month Window)

		<u>Commitment</u>	<u>Due Date</u>	<u>Ahead Sch.</u>	<u>On Sch.</u>	<u>Behind Sch.</u>	<u>Recoverable</u> <u>Yes</u> <u>No</u>
SNF	Initiate Removal of Fuel & Sludge from 105-K	94-01/031	12/97			X	N

NOTE: DNFSB 94-01 change package submitted to RL

Spent Nuclear Fuel Project

Summary Schedule*



Feb 1998

* The schedule is being renegotiated with regulators

PROJECT REVIEW	PROJECT HANFORD MANAGEMENT CONTRACT Spent Nuclear Fuel	FEBRUARY 1998
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SCHEDULE FLOAT STATUS

Subproject	MYWP Due Date	Baseline	Current	Forecast Comp. Date	Change During Month
CSB	11/16/98	+52	+1	12/29/98	-28
CVD/Start-up & ORR	7/30/99	0	-16	8/23/99	-16
FRS	8/3/98	+75	+50	10/13/98	+10
IWTS	9/25/98	+37	+37	9/25/98	0
Cask/Loadout System	10/19/98	+30	+30	10/19/98	+4

ACCOMPLISHMENTS

- **Canister Storage Building (CSB) construction 83 percent complete (86 percent planned)**
- **Cold Vacuum Drying (CVD) Facility 48 percent complete (57 percent planned)**
- **Submitted SNF Interim Storage Area (ISA) Notice of Construction (NOC) to RL on schedule (planned)**
- **WDOH approved K West Basin Air ^{SPAC}Sponge System NOC Permit (unplanned)**
- **Initiated MCO redesign to improve strength (unplanned)**
- **First vacuum processing skid ready for delivery (planned; behind schedule)**

PROJECT REVIEW

PROJECT HANFORD MANAGEMENT CONTRACT
Spent Nuclear Fuel

FEBRUARY 1998

KEY INTEGRATION ACTIVITIES

Interface	Title	Accountability	Status
Facility Stabilization/SNF	324 Building SNF Removal	L. J. Olguin N. H. Williams	Joint contractor team developing plan; RL approved classification of 324 LWR fuel assemblies.
TWRS/SNF	Vaults for glass canisters	A. M. Umek N. H. Williams	Preparing programmatic agreement to define interface.
SNF/ERC	N Basin fuel chips	N. H. Williams	Established pathway to K Basins; first shipment completed.

PROJECT REVIEW	PROJECT HANFORD MANAGEMENT CONTRACT Spent Nuclear Fuel	FEBRUARY 1998
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Interface	Title	Accountability	Status
SNF/FFTF	Fuel movement 400 to 200 ISA	N. H. Williams D. B. Klos	NOC for 200 Area ISA coordinated with FFTF.
SNF/Facility Stabilization	K Basins deactivation integration	N. H. Williams	Integrating Tri-Party Agreement milestones. BCR in process to transfer scope.
SNF/Waste Management/ Facility Stabilization	Rail car deactivation	L. J. Olguin N. H. Williams T. J. Harper	Identifying alternatives for 100-K railcar wastes.

ISSUES/CONCERNS

Issue/Impact: Projected FY 1998 cost growth

- Threatens Project schedule for K Basin fuel removal

Corrective Action:

- Manage projected costs to achieve reductions
- Pursue funding sources
- Evaluate schedule alternatives

ISSUES/CONCERNS (Continued)

Status:

- Potential schedule impacts identified
- Reprogramming/funding source alternatives are being reviewed within PHMC scope
- Tri-Party Agreement milestones proposed which reflect uncertainties and impacts

ISSUES/CONCERNS (Continued)

Issue/Impact: Discovery of Aluminum Hydroxide on K Basin Fuel

- Potential redesign of FRS if the additional water content cannot be accommodated

Corrective Action:

- Develop analytical model to define impacts
- Perform cleaning tests
- Determine whether cleaning of fuel elements is required by August 1998

ISSUES/CONCERNS (Continued)

Status:

- Defining analytical and test requirements
- RL approved Advanced Work Authorization for new scope

UPCOMING ACTIVITIES

- **Begin vacuum system testing (4/1/98)**
- **Complete delivery of all cask/transport systems (4/30/98)**
- **Initiate Aluminum Hydroxide cleaning tests (5/1/98)**
- **Complete redesign to strengthen MCO (5/15/98)**

PROJECT REVIEW

PROJECT HANFORD MANAGEMENT CONTRACT
Spent Nuclear Fuel

FEBRUARY 1998

SUPPORTING DATA

PROJECT REVIEW	PROJECT HANFORD MANAGEMENT CONTRACT Spent Nuclear Fuel	FEBRUARY 1998
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MILESTONE ACHIEVEMENT

MILESTONE LEVEL	FISCAL-YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 1998
	Comp. Early	Comp. On Schedule	Comp. Late	Over- due	Forecast Early	Fore. On Sched.	Fore. Late	
Enforceable Agreement	0	0	0	0	0	0	0	0
DNFSB	0	0	0	0	0	0	0	0
DOE-HQ	0	0	0	0	0	1	1	2
FO	0	1	0	0	0	0	2	3
RL	0	0	0	2	0	1	4	7
TOTAL PROJECT	0	1	0	2	0	2	7	12

*Scheduled milestones reflect the approved baseline.

Project Status Review	Project Hanford Management Contractor Spent Nuclear Fuel	FEBRUARY 1998
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COST/SCHEDULE PERFORMANCE - ALL FUND TYPES

(\$ In Millions)

		FYTD					MYWP	BAC	FY EAC	Projected Carryover Workscope
		BCWS	BCWP	ACWP	SV	CV				
WM01 Spent Nuclear Fuel	Expense	42.1	38.2	38.7	(4.0)	(0.5)	122.4	111.4		
	CENRTC	12.9	7.4	8.3	(5.5)	(0.9)	12.7	29.9		
	GPP/LI	<u>19.9</u>	<u>15.2</u>	<u>17.5</u>	<u>(4.7)</u>	<u>(2.3)</u>	<u>16.7</u>	<u>41.8</u>		
	Total WM01	74.9	60.8	64.5	(14.2)	(3.7)	151.8	183.2		
WM02 Canister Storage Bldg. Oper.	Expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	CENRTC	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	GPP/LI	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Total WM02	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Spent Nuclear Fuels	Expense	42.1	38.2	38.7	(4.0)	(0.5)	122.4	111.4		
	CENRTC	12.9	7.4	8.3	(5.5)	(0.9)	12.7	29.9		
	GPP/LI	<u>19.9</u>	<u>15.2</u>	<u>17.5</u>	<u>(4.7)</u>	<u>(2.3)</u>	<u>16.7</u>	<u>41.8</u>		
	Total	74.9	60.8	64.5	(14.2)	(3.7)	151.8	183.2	182.2	

PROJECT REVIEW	PROJECT HANFORD MANAGEMENT CONTRACT Spent Nuclear Fuel	FEBRUARY 1998
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PERFORMANCE AGREEMENT STATUS - ALL TYPES

Performance Agreements:	Number of PAs	Stretch (Non-Add.)
Completed PAs	2	
Submitted to RL	0	
Dispositioned by RL	0	
Approved	0	
Disapproved	0	
Subtotal	2	
In Process		
On Schedule	3	
Behind - Recoverable	2	
Behind - Unrecoverable	1	
Missed		
Change/Negotiation Required	8	
Subtotal	14	
Total	16	0



98-AMW-006

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352
MAR 22 1998

Mr. H. J. Hatch, President
Fluor Daniel Hanford, Inc.
Richland, Washington 99352

Dear Mr. Hatch:

CONTRACT NO. - DE-AC06-96RL13200 - ASSESSMENT OF FDH SPENT NUCLEAR FUEL PROJECT (SNFP) PERFORMANCE

- References:
1. RL letter 97-AMW-016 from C. A. Hansen to H. J. Hatch, FDH, "Contract No. DE-ACO6-96RL13200 - Spent Nuclear Fuel (SNF) Project Schedule," dated September 9, 1997.
 2. RL letter 97-SFD-254 from E. D. Sellers to H. J. Hatch, FDH, "Defense Nuclear Facilities Safety Board (DNFSB) Tech-17, Review of the Hanford Spent Nuclear Fuel Project (SNFP)," dated December 5, 1997.
 3. FDH letter FDH-9761474 R4 from N. H. Williams to E. D. Sellers, RL, "Response to Defense Nuclear Safety Board (DNFSB) TECH-17," dated January 30, 1998.

The Project Hanford Management Contract (PHMC) was intended to bring to Hanford a "best in class" management team from companies capable and experienced in types of work required by the Hanford cleanup. Fluor Daniel and Duke Energy have well earned reputations for outstanding project management and nuclear design, construction, and operation. However, the commitments made to DOE by FDH and DESH have not been realized on the Hanford SNFP. These commitments included issuing top quality authorization basis documents, reducing SNFP costs 15% over five years, and acceleration of portions of the project. Instead, poor quality authorization documents are still being submitted, work continues to slip compared to baseline schedules, and costs are expanding beyond budgeted levels. Not only is mitigation of an urgent risk to the Columbia River not being realized, but also other Hanford cleanup work is having to be deferred to cover cost increases for the SNFP.

RL recognizes that FDH and DESH have been taking action to improve, and improvements are occurring. However, progress to correct project management and technical performance problems are not sufficient to meet expectations for the SNFP. The problems affecting performance are not new; innovation and strong leadership will be required to identify root causes, correct them, and to achieve project goals and objectives. Attached is a recent assessment of FDH and DESH performance; in particular RL has assessed the adequacy of actions taken as a result of previous assessments reported in References (1) and (2). The following major concerns are identified as a result of this assessment:

- A systematic root cause analysis of the causes of problems to date has not been performed. While a review of problems has occurred, FDH and DESH have not listed problems, tied root causes to them, and demonstrated that corrective actions taken do address the root causes. Rather, plans for action are provided which cannot be tied to cause.
- It is apparent that lack of teamwork between FDH and DESH is interfering with technical integration and effective prosecution of SNFP work.
- Critical path work continues to slip beyond baseline schedule and other work is also being delayed compared to schedule. This is seriously jeopardizing the start and completion of fuel retrieval.
- The magnitude of the task at hand appears to be continually underestimated by contractor management. Sufficient numbers of properly qualified and experienced management, engineering, and operations personnel are not being applied to the work; this is one cause of continued poor performance.
- Project management skills are still in their infancy on the project. Complete identification of required behaviors and demonstrated reinforcement of them is lacking.
- Some actions to simplify equipment and designs has been taken, however, FDH and DESH have yet to update the "Witness Model" and have yet to clearly establish the reliability and effectiveness of the fuel retrieval equipment and facilities.
- Technical leadership remains weak and technical issue closure continues to be delayed, jeopardizing the success of the project. DESH has transferred a strong technical manager experienced on the project safety basis.
- The primary causes for poor project performance, identified in Reference (1), all remain current problems with negative impact on the project. Sufficiently strong corrective action has not been taken.
- Senior management involvement in quality assurance (QA) is weak; this must be aggressively addressed for the project to succeed.
- The project should be perceived as having a strong sense of urgency, but it does not. Delays occur, commitments are missed, but accountability does not appear to drive the management response.
- Lack of contractor accountability for cost and schedule adherence is continuing to create unacceptable delays to the project. Cost overruns exceed available contingency. There is insufficient contractor action to find savings within the SNFP.
- Management assessment programs are not effective, and senior management attention is being diverted from the work at hand to less important matters

It is imperative that FDH and DESH demonstrate effective teamwork in the near term to substantially improve performance of the SNFP. FDH is requested to take the following actions with regard to this letter and attached assessment:

1. RL must commence final negotiations with the U.S. Environmental Protection Agency and the State of Washington, Department of Ecology by April 15, 1998, to establish enforceable Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestone commitment dates for the SNFP. It is RL's intention that the Tri-Party Agreement (TPA) commitment dates will be based on an RL approved FDH baseline change to the currently approved SNFP baseline (approved by RL on December 15, 1997). This FDH baseline change must reflect all currently identified variances and their final disposition as a priority; it should first reflect the accelerated high-risk approach taken in the past for the SNFP and should be documented as such. Then, FDH must modify this change to add sufficient contingency to the baseline such that DOE and FDH can commit to enforceable SNFP milestones. FDH must submit this information to RL in writing with schedule and total project cost details by April 15, 1998; it is recognized that FDH may not be able to produce a complete change request by this date, however, FDH must submit sufficient information to convince RL that the dates and costs are achievable. FDH must also state that they will commit to completing SNFP work to this schedule based on all known risks and problems identified prior to April 15, 1998.

The new project schedule that will be proposed by DOE for the TPA milestones will also be used to establish commitments to the Defense Nuclear Facilities Safety Board for Recommendation 94-1. The TPA change request to establish the SNFP milestones must be submitted for public comment about May-June 1998. It is critical that FDH ensure that there are no anticipated risks or variances that might jeopardize the schedule submitted on April 15, 1998. Changes in schedule, once TPA milestones are submitted for public comment, are unacceptable. This means that the risk in the current baseline must be reduced such that there is a high level of confidence that new schedules can be achieved.

FDH must establish the baseline changes assuming that DOE will be unable to obtain additional funding for the project in FY 1998 from sources outside of the PHMC. FDH must also understand that it is important that the start and completion of fuel transfer is critical, as is maintaining total project cost to the minimum required (but which will include prudent contingency). Therefore, FY 1999 and beyond budget levels should be based on the urgent need to complete the SNFP and FDH's knowledge of site budget priorities and likely site funding levels.

FDH should submit to RL by April 15, 1998, a baseline change that will accomplish the objectives identified.

2. RL requests that FDH assess the quality assurance problems to date on the SNFP and identify any additional actions to ensure line management accountability for quality performance. FDH should specifically identify whether there is a need to make QA compliance assessments of SNFP work to include design, procurement, and on-site work. It is critical that this

includes an assessment of the Price Anderson Amendment Act program instituted for the SNFP.

3. FDH is requested to advise RL of actions being taken to add personnel to the project in sufficient numbers with the right experience for the work. RL considers that FDH and DESH should strongly consider using other PHMC teammates and other companies to provide skills needed. Experience to date on the PHMC is that single companies do not have all the required personnel assets to accomplish missions successfully, yet there has been a great reluctance to change skill mixes and to second employees from other companies with the proper skills. FDH should assess whether the current PHMC organizational and fee sharing structure are hampering effective execution of project work by discouraging use of other company's assets.
4. FDH must demonstrate to RL that a systematic review of the causes of poor project management performance has been performed. A listing of problems, their root causes, and the applicable corrective actions must be identified. Failing this, it is unclear how FDH and DESH can be sure that identical problems will not recur.
5. FDH and DESH have been relying on establishing plans to see that required project work is complete. It has been difficult to anticipate problems; delays have occurred without ability for mitigation by management and many problems get identified late when personnel fail to meet expectations. Since good project management practices are still in their infancy, there must be many tools used by project managers, and they must be reviewed frequently by senior management to ensure required lessons have been effective. FDH is requested to provide RL with a listing of all the management tools (status reports/problem lists) used by engineering and subproject managers to maintain control of their work. This should include methods used to comply with RL Implementing Directive (RLID) ID 5000.1, Baseline Execution and Management.
6. RLID 5000.1 requires that FDH continually evaluate performance against baseline requirements and that estimated costs at completion be submitted. It also requires that FDH report on recovery plans for large variances against baseline. FDH should provide RL with an assessment of its compliance to date with the requirements of RLID 5000.1 and of actions that will be taken to correct deficiencies. RL is particularly concerned that variances are reported late and that recovery plans are not issued promptly.
7. Update the Witness Model promptly and keep it up-to-date through fuel retrieval operations. In order to ensure commitment to the fuel retrieval portion of the SNFP, RL requires that FDH and DESH certify to RL their satisfaction with authorization basis, designs and operational flexibility and reliability afforded by the planned equipment and facilities. This certification will substantiate FDH and DESH schedule estimates for fuel retrieval. This means that all risks attendant with operation of equipment and facilities, as designed and documented, must be identified now. It will be unsatisfactory, after fuel retrieval start, to assign blame to poor designs, inadequate or inflexible safety bases, or poor procedure development. RL expects fuel retrieval to start as soon as possible but more important to finish when scheduled.

attributed to insufficient management attention to the many details that need improvement. While the intentions of the management team are not questioned, it is clear to RL that some do not have the right experience to take on the specific challenges posed by the SNFP. The following is pertinent:

- a. There are the usual complaints that managers must spend their times in meetings instead of managing the work. Simply put, this problem must be solved by ensuring sufficient numbers of qualified and experienced personnel to handle all the work including dealing with customers, regulators and stakeholders. It is also incumbent on senior management to change behaviors that are unproductive and to see that progress is achieved despite other less important commitments.
- b. Personnel with not only the correct qualifications but also the correct experience must be applied to the work. Constraints on using the best people to get work done must be eliminated if SNFP goals are to be met. Again, the PHMC was awarded on the basis that commercial and "best in class" methods would be brought to bear on the Hanford work. Without those technical and project management skills being applied, improvements will not occur. RL has continued to observe that commercial nuclear standards have not yet been achieved by the PHMC. The exact nature of the work must be assessed to take effective action on this problem. The main thrust of the fuel retrieval project is design and delivery of equipment, checkout, and efficient fuel transfer operations; it is critical that experience in those areas be involved in preparations of the SNFP facilities for fuel retrieval.
- c. It is critical that PHMC contractors establish the standards of performance for their personnel. In particular, the requirements and standards established for the SNFP are clear and close to commercial nuclear standards. However, RL continues to see contractor personnel trying to guess what DOE may want rather than working to standards established by contractor management. Success will only come when contractor management sets the right standards and enforces them to achieve first time quality. Contractor management must be prepared to defend their work as technically competent to customers and regulators.

III. NEED FOR A CREDIBLE COST AND SCHEDULE BASELINE

FDH and DESH have been unable to provide RL with an accurate cost and schedule baseline. RL made development of a credible cost and schedule baseline for the SNFP a priority, incentivizing FDH to provide one at the beginning of the PHMC contract. While FDH provided a new baseline in December 1996, which was an improvement over previous versions, large variances against cost and schedule developed within months of its issue. A second baseline was developed by FDH commencing in May 1997; it was not submitted to RL until early December 1997 and was approved on December 15, 1997. Despite 15 months of effort to establish a credible schedule and cost for the SNFP, FDH has now identified major deviations against this latest baseline.

Lack of a credible baseline for the SNFP is unacceptable to RL. Because the SNFP does not have one, RL is at high risk of regulatory enforcement action; in addition, this has created the need for oversight inspections by DOE Headquarters and Congressional investigators. Without

strong contractor leadership and control of the work, the SNFP cannot re-establish required credibility with customers, regulators, and stakeholders. Other impacts are delayed elimination of the urgent risk posed by the spent fuel near the Columbia River, and the deferral of other important Hanford cleanup work. While all delays to the project have not been caused by PHMC team actions, there has been a 19 month delay to date. Any additional delays due to PHMC actions or omissions will continue to exacerbate the perception that the PHMC is ineffective in carrying out the SNFP work.

IV. NEED TO IMPROVE THE TECHNICAL DIRECTION AND LEADERSHIP OF THE SNFP

Poor technical direction and leadership has continued to be a problem on this project. RL is concerned with the recent departure of an experienced senior engineer who was directing the safety basis development for the project. Although new engineering management personnel have been added to the FDH and DESH staffs, the loss of this individual creates a serious discontinuity in closing technical issues while new personnel get up to speed. In Reference (1), RL expressed concern with delays in establishing a technically sound and well-documented safety and design basis for the project, and that senior managers develop a thorough understanding of the details of the project. FDH and DESH must determine if sufficient numbers of experienced engineering personnel are assigned to establish firm control of the technical basis of this project; in addition, it will be critical that sufficient numbers of engineering management personnel remain with the project throughout its duration to ensure consistent interpretation of the safety basis. Failure to do so continues to jeopardize schedule, cost, and the technical credibility of the safety basis.

RL considers that these important matters are not getting proper attention. Delays in the closure of technical issues, in a timely manner, remain a critical issue for the project. The SNFP Independent Review Panel has made this comment for over 18 months. DOE and its regulators have all encouraged FDH and DESH to aggressively pursue their recommendation to establish a safety basis which provides for dry storage of spent fuel in strong sealed containers; however, FDH and DESH have yet to complete the required documentation in a timely fashion.

Similarly, RL continues to be concerned with the poor technical quality of the SARs and other project technical documentation. Without the right management personnel with the proper experience, technical documentation quality issues will continue, with negative impacts on the project. Late completion of the design report for the Cold Vacuum Drying Facility (CVDF) and disapproval by RL of the CVDF SAR are the most recent serious problems. Lack of safety analysis and procurement documentation is impacting the critical path for the SNFP.

V. LACK OF URGENCY ON THE PROJECT

RL continues to conclude that all project personnel do not understand the urgent nature of the risk posed by the spent fuel stored on the Columbia River or the adverse impact to PHMC and Hanford credibility caused by cost over runs and delays. While FDH and DESH actions are highlighting adherence to schedule and cost baseline, the overall lack of accountability to ensure project success is still apparent. Progress on project work continues to fall behind schedule,

many commitments for issue of design and SARs continue to be missed, and many contractor work status meetings observed by RL lack demonstrations of accountability and a sense that it is important to get on with work. Accountability does not appear to be driving management response to work planning or problem resolution on the project.

Recently, damage occurred to the K-West Basin crane auxiliary hoist; it has taken two months to identify the cause as a personnel error, documented corrective actions will not be available for another week, and work on the crane has been held up. FDH and DESH should be treating work in the K Basins with utmost urgency, as it will during fuel retrieval when work stoppages may delay the entire project at a cost of \$10 million per month.

While weekly senior management attention is being addressed to schedule adherence, there is more work closer to critical path than six months ago and the critical path is now being reported as late due to lack of safety analysis and procurement documentation. Completion of the Canister Storage Building is also now on critical path due to delays in completing subcontracted work on the Multi-Canister Overpack (MCO) Handling Machine (MHM).

VI. NEED FOR SIMPLE AND RELIABILITY EQUIPMENT AND FACILITIES

RL is concerned about the reliability of fuel retrieval operations. RL does not yet see the requisite degree of accountability demonstrated by operations management which will ensure a timely fuel retrieval operation. Operations must "own" the details of safety basis and equipment designs such that Operations is fully committed and capable of delivering on baseline schedules for fuel retrieval. Operations cannot, after start of fuel retrieval, point to design or procedure problems as an excuse for not getting work accomplished. Operations must have detailed planning in place that addresses contingencies. RL has not observed this approach demonstrated by Operations management to date.

For example, RL was concerned to find out recently that senior contractor managers are not sure where radiological repair of systems installed in the K Basins will take place. Without careful planning for maintenance of every system and piece of equipment placed in the K Basins pool, there is likely to be major delays to the project at unacceptable cost. RL has also observed that longstanding engineering issues in the K Basins have yet to be corrected despite commitments to do so. This includes continuing deficiencies in configuration management of electrical components and ineffective engineering support for Unresolved Safety Question (USQ) actions and troubleshooting of simple equipment.

RL is pleased to see FDH take actions within the past few weeks to accomplish the long overdue update the "Witness Model" which models fuel retrieval operations. However, RL remains concerned that this model has not been a major tool for planning operations and for establishing accurate cost and schedule baselines. Without a meaningful model of what is likely to occur during fuel retrieval it is not possible to plan effectively for success. It is crucial that this model be established as accurate and maintained throughout the fuel retrieval operations.

VII. LACK OF ACCOUNTABILITY

The lack of accountability at all levels of the project for baseline cost and schedule adherence and setting and enforcing contractor technical performance standards remains a serious problem. Recent implementation of baseline change control at the subproject level in December 1997 has created a huge list of deviation notices identifying potential variances against the baseline. The magnitude of these variances demonstrates the lack of accountability that existed until recently; it would be premature to assume that this problem can be changed instantaneously. In addition, RL is particularly concerned with the attitude of many on the PHMC team that DOE should or will come up with additional budget to cover their cost over runs. Federal and DOE budgets have been and will remain tight; there simply is "no more money". If the SNFP is not a good steward of the budget allocated then there will be delays and serious repercussions.

In addition to observing personnel hope for more money to resolve SNFP problems, RL notes a serious reluctance to find savings within the SNFP itself. This is unacceptable and destroys the project's credibility within the PHMC, the Hanford Site, and within the DOE complex. No focused effort has been established by FDH or DESH to identify ways to cut costs and provide needed budget flexibility for the project. FDH has been recommending additional characterization testing without careful management review of the data and analyses upon which the recommendations are based. For example, recent uranium reaction rate data was the basis for additional testing. RL review of the data found that the report of the data conflicted such that the conclusion reached was not necessarily valid. RL concludes that management review of technical data is weak and cursory; this discrepancy should have been detected prior to recommending testing. In addition, RL notes that project personnel are spending significant effort to propose additional fuel and sludge characterization work which is not justified; there has been no serious questioning of the need for this work which may get accomplished since authorized budgets are not yet used up. FDH and DESH should be continually questioning the need for all ongoing work, not just recommending options for consideration by RL as stated recently as justification for aluminum hydroxide testing. In particular, RL has observed new safety, engineering, and laboratory analyses which get performed without apparent management review of the need to proceed, especially when they are covered by "already authorized scope."

The latest SNFP baseline change included about \$78 million for K Basins sludge pretreatment and disposal. Despite the significant impact of this item, FDH and DESH have yet to address serious management talent to identifying less expensive and shorter ways to accomplish this work. RL is concerned that significant assets will be frittered away prior to accomplishing substantive action.

VIII. SETTING CONTRACTOR STANDARDS FOR PERFORMANCE

There appears to be a poor understanding on the part of contractor management and engineering personnel as to what constitutes acceptable technical standards for nuclear safety and design work on this project. Requirements established for this project are "NRC equivalent," with some additional DOE requirements; they were established and continue to be established jointly for the SNFP. RL personnel are experienced in nuclear commercial, naval nuclear, and DOE standards

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and use this experience as the basis for evaluation of contractor deliverables. DOE has no unique knowledge that provides an advantage in understanding requirements for the project.

However, RL concludes that the documents sent to RL for approval lack the quality associated with commercial nuclear standards of performance. Of specific concern is the lack of thorough independent review at the lowest level to drive in quality, lack of technical integration among safety analysis, design and operational requirements, and the lack of significant management review of final products. Only strong contractor technical management who clearly define technical performance standards for contractor engineering personnel can obtain the requisite results in a timely way. While customer reviews of contractor progress throughout a piece of work will be beneficial, they cannot substitute for self-imposed quality requirements. RL is concerned that contractor management continues to focus on getting aligned with RL expectations rather than setting the proper expectations for their personnel.

RL also concludes that there is a gross misunderstanding of the "fast track" nature of the SNFP by project personnel. There are many instances observed where requirements are not followed or where proper review of important work does not occur; it appears that in many cases this is done in order to get on with the urgent fast track work. Fast tracking does not mean performing marginal or unsatisfactory work. It is crucial that all project personnel understand that while design, construction and testing all go on in parallel, it is critical that no work proceed beyond the point where delays and rework will result. Management should be involved in detail in all decisions on a fast track project to ensure decisions are not made incorrectly.

IX. QUALITY ASSURANCE (QA)

Proper QA remains a major concern for DOE on this project. FDH has self-identified on numerous occasions that line management accountability for QA is weak on site and on this project. RL has identified numerous QA concerns over the past two years, including the late implementation of contract QA requirements. Problems continue to occur which identify that line management is not ensuring implementation of QA principles and procedures in SNFP work. The quality, cost, and on-time delivery of SNFP equipment and facilities is being jeopardized by QA Program violations and poor practices that must be corrected to accomplish this program in a safe and timely fashion. Some current problems include the loss of configuration control on the first article procurement for the CVDF vacuum drying system and establishing an approved QA Program for NUMATEC now that they have been assigned as implementation manager for the CVDF.

X. LACK OF ROOT CAUSE IDENTIFICATION

While RL recognizes that DESH made a large effort to evaluate problems in SNFP execution following receipt of the Reference (1) and (2) assessments by RL and the Defense Nuclear Facilities Safety Board (DNFSB), RL does not consider that FDH and DESH have properly identified and resolved root causes of poor technical and project management. FDH (see Reference [3]) has reported a corrective action plan to improve performance but has not defined in a systematic way the root causes of the problems. It is difficult to understand how some actions to reorganize address causes of problems; for example, it is not clear how the

implementation manager concept will result in improvement when it adds additional documentation and may make technical integration of the project more difficult. The technical integration manager concept also requires that additional attention be paid to flowdown of technical and safety requirements which will require significant oversight actions by DESH. RL has not observed that DESH has added staff to accomplish this. RL is concerned that the implementation manager concept will add to the cost of SNFP work and jeopardize its correct execution.

FDH has stated that the implementation manager concept is aimed at instilling accountability into the work, yet it is not clear from reports made by FDH or DESH how this addresses root causes of project performance deficiencies.

Recently, RL disapproved the latest submittal of the SAR for the CVDF. RL evaluation of that submittal showed that the safety analysis was based on overly conservative assumptions (a repetitious problem), that the safety analysis and CVDF equipment designs were not fully consistent, and that operational concerns were not fully addressed. In particular, RL was concerned that FDH should not be released for final procurement of the facility and equipment until there was a clear understanding of the risks attendant to the inconsistencies in design and safety analysis. RL found that despite management actions to improve performance on SAR development, there was insufficient management attention paid to review and approval of this SAR. Given the critical nature of this work and the fact that the management team had been recently changed for the third time, RL would have expected significant management review of the CVDF SAR submittal.

It is apparent to RL that a root cause of many of the problems on this project might be evident in this latest problem. There appears to be a rush to meet commitment dates without accountability to ensure that quality standards for work are achieved through timely actions at the start of engineering and production activities. It is always difficult to inspect in quality to a product. Approval of the CVDF SAR as submitted could have resulted in decisions to proceed with equipment procurement before all design issues were settled. This could result in the potential for large change orders with fabricators and, therefore, cost over runs and schedule adherence problems. RL considers the poor quality of technical work and management failure to achieve high-quality products to be a root cause of many of the problems encountered to date on the project.

XI. POOR CRITICAL PATH PROJECT MANAGEMENT

RL is distressed with the continuing lack of strong project management for the project critical path (the CVDF, its equipment and process). This work has remained on the critical path since October 1, 1996, and FDH and DESH have recently changed the management leadership and approach to this subproject for the third time. It is time to ensure that the right people with the right experience are managing this work; FDH should confirm this to RL. Further delays on this work are unacceptable.

XII. NEED TO IMPROVE CORRECTIVE ACTION MANAGEMENT PERFORMANCE

There are many systems and lists for the SNFP which define problems and open items requiring action. DESH instituted a Problem Investigation Program (PIP), a commercial nuclear practice, for their work; project personnel have used it rather widely. However, RL is concerned that senior project management is not continually prioritizing open issues and problems and seeing that they are resolved. Neither the PIP program, FDH deficiency tracking system, nor the former corrective action tracking systems are being used effectively to ensure timely action on problems. RL notes that recent significant problems identified by government inspectors had in fact already been identified by contractor personnel and documented, however, corrective actions were not promptly initiated. Some important safety issues have been assigned due dates far into the future. In a recent case a DESH employee filed an employee concern with DOE since his PIP concern went unresolved and was assigned a resolution date in October 1998.

Several open item listings are used to follow open engineering issues, but resolution of important issues continues to get deferred for no apparent reason. For example, FDH is still establishing a plan for dry storage of the single pass reactor (SPR) aluminum clad fuel currently in the K Basins. While it is expected that the SPR fuel can be handled in the same way as N Reactor fuel, this has yet to be confirmed. Project experience is that preliminary engineering assessments can be incorrect and cause delays. There is no apparent reason for this safety basis issue not to be resolved promptly.

FDH and DESH should have a comprehensive methodical way of providing management assessment of reported problems and follow-up corrective actions. These problem listings must be fully understood, evaluated for action in a timely fashion, and scheduled for action prior to the appropriate SNFP activity. Failure to manage this well represents a breakdown in management of the SNFP.

RL has identified to FDH in the past six months several concerns about its management of the Price Anderson Amendments Act (PAAA) corrective action follow-up. Not even these priority items have been getting the right attention.

XIII. IMPLEMENTATION OF INTEGRATED SAFETY MANAGEMENT (ISMS)

RL is concerned about timely implementation of the PHMC ISMS for the K Basins and for the entire SNFP. The recent DOE evaluation of K Basins implementation of ISMS at the gap analysis phase of ISMS implementation showed that there is a large number of gaps in the system decryption which need to be filled. In addition it is apparent that while some DESH and FDH line staff managers are intimately familiar with ISMS core functions and guiding principles, it is not clear at all that line managers have embraced this philosophy. Significant additional line management attention by FDH and DESH to ISMS implementation will be required before performance agreements for Phase 2 implementation can be achieved.

In addition, recent changes by FDH to remove scope from DESH and to integrate the use of the Canister Storage Building (CSB) among SNFP and TWRS programs needs to be examined in

light of proper implementation of ISMS for the entire project. DESH has just consolidated SAR preparation under a new engineering manager position that RL applauds as a sound move for effective integrated safety management for the SNFP. However, at the same time FDH has established a SAR group and given it budget authority for DESH SAR preparation. This setup needs to be carefully reviewed against PHMC ISMS plan and core function and guiding principles.

Lack of teamwork in the PHMC has been a serious problem for the majority of this contract. RL is encouraged by recent efforts to set this straight. In particular, RL is concerned about FDH actions to separate out work from the DESH project scope and to take over control of budget. This could adversely impact on implementation of the PHMC and project ISMS. It is crucial that technical and safety accountability be clear on the project. Where there is confusion this must be cleared up quickly to permit ISMS implementation to proceed. At this time, there is confusion among project personnel in the areas of sludge and safety analysis reporting.

Incidents at the K Basins point to the need for additional action to implement ISMS. The CVDF SAR was submitted for RL approval after having deleted the majority of the section on CVDF facilities currently under construction. The deleted material constituted a part of the approved authorization basis for this facility. This action demonstrates a poor understanding of authorization basis management. Similarly, RL has pointed out the slow response to safety hazards at the K Basins. Although the DNFSB pointed out a battery ventilation system malfunction in December 1997, DESH did use the feedback to promptly re-examine the hazards and question the adequacy of standards and requirements and existing controls. Actions regarding the USQ for the basins drain valves have all been tardy and engineering actions have been of poor quality.

XIV. PROJECT MANAGEMENT TOOLS TO MONITOR PERFORMANCE

RL remains concerned that FDH and DESH are using insufficient project tools to monitor the performance of the project and to ensure that surprises do not occur. For example, until just recently DESH management had been insisting that evaluation of subcontractor change orders for the CSB was well under control and that project claims at the end of the project would be small. Recent investigations show that the number of change orders for the CSB and MHM is very large, involves a significant amount of cost and that most are yet to be finally negotiated. While project managers state that they consider the extent of liability known, performance of project managers does not substantiate confidence in these predictions. Outstanding change actions should be fully negotiated as soon as possible in order to maintain sound budget control; until this is done management should follow these matters closely to expedite them. This area has received too little management attention.

RL is also concerned that it has been apparent practice to direct changes to subcontractors rather than try to negotiate a price in advance of directed action. This was done for a recent change in safety requirements for the CSB subcontractor; RL has questioned the need for this change in direction as no law or customer requirement precipitated the change but rather a subcontractor idea prompted the action.

XV. IMPLEMENTATION OF CHANGE CONTROL

RL considers that FDH and DESH should be more business like in pressing for change control on the project. There remains an attitude of lower level personnel that they are in the business of answering customer questions rather than setting a standard for work performance, establishing a cost and schedule estimate and then executing it for contractor management. Without serious change control instituted at all levels of the organization it will be impossible to get results in procedure compliance, configuration management or cost control. Contractor employees must work for contractor managers and know that it is acceptable to behave this way.

XVI. OPERATIONS MATTERS REQUIRE SIGNIFICANT REVIEW

Since October 1997, RL has been asking for detailed information on how operations will be executed in the SNFP facilities used for fuel retrieval and dry storage. Detailed plans have not been provided to demonstrate that key decisions have been made in a timely fashion. With regard to historical performance of K Basins operations personnel it is clear that success is normally high when simple manual equipment is used in a repetitious fashion. Complex equipment has been hard to keep running to achieve reasonable production rates. In addition, there has been a shortage of experienced supervisory operations and testing personnel. Despite this DESH has been planning on operating all facilities on a three shift per day, seven day per week basis. Five operating crews for each facility have been envisioned. RL has repeatedly expressed concern that insufficient qualified personnel can be made available for such a manning plan. Experience in other nuclear fuel transfer operations would also suggest that fewer crews and a reduced workweek would result in more reliable personnel performance. FDH and DESH must address these basic issues with experienced decision makers who can commit to planned results; if this is not done soon, it will be hard to avoid major costly delays in Operation Readiness Review (ORR) preparation or fuel retrieval operations.

XVII. NEED FOR INCREASED ATTENTION TO NUCLEAR COMPONENT MANUFACTURING IN THE HANFORD SITE FABRICATION SHOP

Weekly review of nuclear component manufacturing in the Site Fabrication Shop (SFS) has continued to identify issues of non-compliance with quality assurance requirements. This is not unusual given the new procedures must be assimilated into this operation. However, it is of concern that management response to many problems have been defensive rather than proactive to ensure first time quality.

This work will continue to require significant management attention if work is to be delivered on time, to the proper standards and at a reasonable cost. RL is concerned that an experienced Babcock & Wilcox nuclear component manufacturing representative has been on site for several weeks but has not been providing feedback to the SFS regarding lessons learned; only DESH has obtained this feedback and it is not all being provided to the SFS operated by DYNCORP.

XVIII. MANAGEMENT PERFORMANCE

A review of all of the problems on the project clearly points to significant failures of management to address basic requirements of nuclear work. Problems have been well identified over the past three years in project correspondence, yet effective corrective actions are not implemented. The FDH and DESH management assessment programs are weak and are not followed; this is a self-identified problem but the need for corrective action is not demonstrated by contractor management. DOE, Nuclear Regulatory Commission (NRC), and Congress are giving serious consideration to implementing NRC oversight of DOE nuclear work in the future. FDH and DESH should consider NRC licensing requirements as they perform the work on this project and prepare for an ORR. Clearly management failure to take action on identified problems is a significant issue which must be addressed now.

John T. Conway, Chairman
A.L. Eggenberger, Vice Chairman
Joseph J. DiNunno
Herbert John Cecil Kouts
John E. Mandelk

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004
(202) 204-6400



March 18, 1998

The Honorable Ernest J. Moniz
Under Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Dr. Moniz:

The Defense Nuclear Facilities Safety Board (Board) has consistently encouraged the Department of Energy (DOE) to address the urgent need for removal of the deteriorating spent nuclear fuel from the K-Basins at the Hanford Site and for provision of stable interim storage of the spent fuel on site. In response to Board Recommendation 94-1, DOE concurred and committed to begin removal of the spent fuel by December 1997. A letter from the Board to DOE, dated November 18, 1997, addressed concerns about extensive delays in the schedule for placing the spent fuel in safe interim storage, and requested a report describing DOE and contractor plans for the path forward for the Spent Nuclear Fuel Project (SNFP).

In a letter dated December 31, 1997, DOE advised the Board that these concerns were shared, and that a report would be provided before the end of March 1998. The Board recognizes that the DOE-Richland Operations Office (DOE-RL) and the contractors are continuing to give increased management attention to the SNFP and that personnel and organizational changes have recently been made on the project. The Board was briefed by DOE-RL (C. Hansen) on problems limiting the progress of the project. Mr. Hansen recognizes that a firm commitment by DOE to revised and realistic dates for meeting the 94-1 Implementation Plan milestones is urgently needed. Towards such end, the Board offers the following:

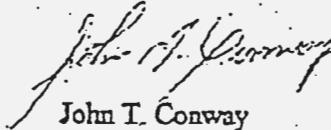
During a recent visit to the site, the Board's staff reviewed the SNFP technical strategy to adopt a sealed container for initial storage of the spent fuel, based on more realistic bounding conditions related to container pressurization. A report on the staff's visit is enclosed for your consideration. The Board sees no barriers to proceeding with DOE's technical strategy to seal the fuel containers after cold vacuum drying. Reduction of unnecessary conservatism in design and analysis should be considered when possible to enhance schedule performance and reduce costs. As stressed by the Board in the past, prompt attention to resolution of emerging technical issues based on a balance of needs will contribute to the safe, expeditious initiation of fuel removal.

The Honorable Ernest J. Moniz

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The Board requests that the DOE report expected in March 1998 address the Board staff observations in the attached memorandum as well as those issues previously identified by the Board relative to the SNFP.

Sincerely,



John T. Conway
Chairman

c: Mr. John Wagoner
Mr. Mark B. Whitaker, Jr.

Enclosure

DEFENSE NUCLEAR FACILITIES SAFETY BOARD**DNFSB Staff Issue Report**

February 18, 1998

MEMORANDUM FOR: G. W. Cunningham, Technical Director

COPIES: Board Members

FROM: D. Wille

SUBJECT: Spent Nuclear Fuel Project Review at the Hanford Site

This memorandum documents a review by the staff of the Defense Nuclear Facilities Safety Board (Board) of the Department of Energy's (DOE) Spent Nuclear Fuel Project (SNFP) at the Hanford Site. The review covered the implementation of the scaled strategy for the multicannister overpacks (MCOs) and was conducted during the period February 3-5, 1998, by staff members D. Wille, D. Grover, J. Roarty, and W. Yencsavich. Site representatives P. Gubanc and D. Ogg assisted during the visit.

Schedule Recovery for Initiation of Fuel Retrieval. A noticeable omission in the SNFP is an apparent lack of emphasis on initiating fuel movement from the K-Basins as soon as possible. The guidance contained in Board Recommendation 95-2 to tailor requirements offers the potential for schedule recovery, as the consequences associated with most of the hazards or upset conditions involved in spent fuel retrieval, processing, and storage are relatively minor.

In addition, the assignment of ultimate safety responsibility to a single manager who must balance competing interests such as mission, safety, and budget does not appear to have occurred at the SNFP. The leadership role for safety analysis activities within Duke Engineering and Services Hanford (DESH) is now assigned to an individual reporting to the Chief Engineer, who reports to the Project Director. Fluor-Daniel Hanford (FDH) has also established a three-person team to provide an interface between the DOE-Richland Operations Office (DOE-RL) Safety Analysis Report (SAR) review team and the SAR preparers at DESH. DOE-RL has added another individual to coordinate their review team responses. The proliferation of individuals who manage and coordinate the safety review effort could interfere with effective and timely preparation of the required safety documentation.

Scaling of MCO After Cold Vacuum Drying. The recent concept for dry storage of the spent nuclear fuel from the K-Basins was to put the fuel in a stainless steel container (MCO) with pressure relief devices, and handle and store the containers within an inert gas environment in the Canister Storage Building (CSB) prior to hot conditioning. This concept was based on overly conservative calculations that predicted the development of high hydrogen gas pressures within the MCO during storage and the potential for escape of hydrogen to the environment. The

equipment needed to implement this concept was complex and expensive to design and build, and also complex to operate. As more data demonstrating the excessive conservatism used in the original calculations became available, the current strategy to seal the MCOs without pressure relief after cold vacuum drying (CVD) and eliminate the hot conditioning step was developed.

Overall, the calculations and assumptions showing that the MCO can be sealed after CVD without overpressurizing appear reasonable and correct to the Board's staff. Confirmation of these predictions, however, can be made only by monitoring the internal gas pressure in the MCOs as they age. If the calculations are in error or some novel gas-generating phenomenon was overlooked, periodic pressure relieving of the MCOs will be required until the reactants are consumed. Some reviewers of the current sealing strategy have criticized details of the calculations, and have requested more characterization data and additional refined calculations before the operations proceed. However, the Board's staff believes refinements to the model based on additional characterization would not add much to the current calculations without causing significant delays to the SNFP schedule. Monitoring of the MCOs as they age would still be required to validate the refined calculations.

The key safety features necessary to support sealing the MCO after CVD are pressure monitoring of the MCOs and the capability to relieve internal MCO pressure, if doing so becomes necessary. Equipment to perform pressure relieving operations in the CSB is planned to be available. The current monitoring plan for the MCOs in the CSB is to measure pressure and gas composition in the first 12 MCOs from the K-West Basin and the first 12 MCOs from the K-East Basin. This monitoring is planned for process validation of the chemical reaction and MCO pressurization models. The remaining 376 MCOs may be monitored either by a simple pressure-measuring device or on a sample basis. The Board's staff believes a statistically based sampling plan is needed for the remaining MCOs. This sampling plan could incorporate the results of the process validation to determine the sampling frequency. Additional reviews of the monitoring plan will be conducted by the Board's staff as the detailed plan is developed.

Aluminum Hydroxide Removal. A tightly adherent coating of aluminum hydroxide that could lead to increased generation of hydrogen during storage has been discovered on some of the spent fuel elements in the K-West Basin. Establishment of the safety basis for pressurization of a sealed MCO is planned based on the determination that the MCO design pressure cannot be exceeded, even when no aluminum hydroxide removal is credited. This approach is enhanced by increasing the design pressure from 150 to 450 psig with design changes to the MCO, i.e., adding 1/4" thickness to the base of the container and changing to a higher-strength material for the threaded extension of the shell. The availability and weldability of higher-strength material to implement this change are potential concerns. The existing MCO design, although rated at 150 psig, is estimated to be capable of meeting a design pressure of 260 psig. This increased pressure is approximately equal to the estimated pressure that could be developed when no aluminum hydroxide removal is credited. Should the above strategies prove unacceptable, removal and inspection techniques to address the aluminum hydroxide coatings will need to be demonstrated.

Welded Cap on the MCO. The MCO will have a mechanical seal in the closure head that will be effective during the CVD process and initial monitoring in the CSB. To provide interim storage (about 40 years), a mechanical seal with a welded cover and weld surface examination only would require constant monitoring to detect leakage past the mechanical seal. This monitoring satisfies Nuclear Regulatory Commission (NRC) requirements and would be consistent with commercial dry storage precedents. To eliminate the need for constant monitoring, it is planned to perform full volumetric ultrasonic testing of the cover weld to ensure weld integrity. The welding and ultrasonic testing will be performed in the hot conditioning pits in the CSB that are no longer needed. Development of the weld and inspection equipment is in progress. The Board's staff questioned the current lack of provision for cutting the weld and removing the cap at a later time, if needed. This ability to access the spent fuel in storage is required by NRC (10 CFR 72.122 (I)) for an independent spent fuel storage installation.

Runaway Reactions in Water-Filled MCOs. Bare uranium metal exposed to water reacts to form uranium oxide while liberating hydrogen and heat. The scrap baskets in an MCO contain many small pieces of exposed uranium fuel, and heat removal is retarded by the insulating effects of the basket, the MCO, and the surrounding transport cask. As the temperature of the fuel increases, the reaction rate increases, generating more heat. This increases the fuel temperature still further, leading to the potential for a runaway reaction. Simple one-dimensional calculations show that a runaway should not occur with the existing limits on the amount of exposed fuel, provided the ambient temperature stays below 75°C. Although these calculations appear reasonable to the Board's staff, they have not been confirmed by operating experience or prototypical experiments.

The potential for a runaway reaction is reduced by minimizing the time water remains in the MCO and by keeping the temperature of the water as low as possible before it is drained. This prudent approach is being followed except for the initial phase of operation in the CVD facility, where the MCO is heated from approximately 20 to 50°C while still full of water. The staff has suggested that the process be revised to remove the water before the MCO is heated to 50°C. This suggestion will be evaluated by the project.

To prevent a runaway reaction, the following measures will be used to prevent the fuel from overheating. During transport, the operating procedures will limit the transfer time between the basins and the CVD facility. During CVD, the design will provide two safety-class features to ensure that MCO cooling remains during upset conditions: The first is a safety-class system to alarm upon loss of the MCO-cask annulus water, which provides for convective cooling of the MCO shell and a heat sink for generated heat. Water would then be injected manually into the annulus from a gravity-fed system. The second safety-class system would inject helium into the MCO in the event of process interruption. This would allow for improved heat transfer from the fuel to the MCO shell once the water had been drained from the MCO. The Board's staff agrees that these features provide defense in depth for these potential events.