Davis-BesseNPEm Resource

From: CuadradoDeJesus, Samuel
Sent: Wednesday, February 15, 2012 6:58 PM
To: Davis-BesseNPEm Resource
Subject: meetings 5a
Attachments: 2 9 2012.pdf; 7 14 2011.pdf; 7 15 2011.pdf; 7 19 2011 .pdf; 7 19 2011.pdf; 7 27 2011 .pdf; 8 2 2011.pdf; 8 4 2011.pdf; 8 22 2011.pdf; 10 27 2011 SB.pdf; 11-25 Engineering 2012 schedule (2).pdf; Clarification Questions Related to the Resposne to DB RAI 3.1.2.2-2 v3-1 7-26-2011.docx

Hearing Identifier: Davis_BesseLicenseRenewal_Saf_NonPublic
Email Number: 3527

Mail Envelope Properties (0046140293E11F408991442DB4FE25CA68D46402D0)

Subject: meetings 5a
Sent Date: 2/15/2012 6:58:18 PM
Received Date: 2/15/2012 6:58:21 PM
From: CuadradoDeJesus, Samuel

Created By: Samuel.CuadradoDeJesus@nrc.gov

Recipients:
"Davis-BesseNPEm Resource" <Davis-BesseNPEm.Resource@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	3	2/15/2012 6:58:21 PM
2 9 2012.pdf	79783	
7 14 2011.pdf	66758	
7 15 2011.pdf	77682	
7 19 2011 .pdf	92835	
7 19 2011.pdf	76754	
7 27 2011 .pdf	59269	
8 2 2011.pdf	123362	
8 4 2011.pdf	72071	
8 22 2011.pdf	84329	
10 27 2011 SB.pdf	115299	
11-25 Engineering 2012 schedule (2).pdf	101568	
Clarification Questions Related to the Resposne to DB RAI 3.1.2.2-2 v3-1 7-26-2011.docx	34085	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Davis-BesseHearingFile Resource

Subject:	Davis Besse Telephone conference call (TLAAS) Phone: 888-790-3420 Participant passcode: 20614
Location:	HQ-OWFN-11B06-12p
Start:	Thu 2/9/2012 10:30 AM
End:	Thu 2/9/2012 12:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	CuadradoDeJesus, Samuel
Required Attendees:	'custerc@firstenergycorp.com'; 'dorts@firstenergycorp.com'; Hiser, Allen; Sydnor, Christopher; Davis-BesseHearingFile Resource; Parks, Benjamin
Importance:	High

Phone: 888-790-3420
Participant passcode: 20614

TOPICS

Section 4.2.1 Neutron Fluence

- Neutron Fluence disposition “not a TLAA”

Section 4.2.2 Upper Shelf Energy

- RT_{NDT} calculations
- 64 ft-lbs USE value/Linde 80 welds
- USAR supplement Section A.2.2.2

Section 4.2.4 Pressure-Temperature Limits

- Clarification on how the fluence values were obtained at 1/4T and 3/4T for the RV nozzles and associated welds.

Section 4.2.6 Intergranular Separation (Underclad Cracking)

- USAR supplement section A.2.2.6/RV head replacement

SER Section 4.3.2.2.2 “RVI *Low-Cycle Fatigue*”)

- “cracking by fatigue” aging effects

Davis-BesseHearingFile Resource

Subject:	Davis-Besse Teleconference on DRAI-Class 2/3 valves treated as Class 1 for design analysis
Location:	HQ-OWFN-09B06-12p
Start:	Thu 7/14/2011 1:00 PM
End:	Thu 7/14/2011 2:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	CuadradoDeJesus, Samuel
Required Attendees:	'custerc@firstenergycorp.com'; 'dorts@firstenergycorp.com'; Medoff, James; yogen garud
Resources:	HQ-OWFN-11B02-12p; HQ-OWFN-11B06-12p; HQ-OWFN-09B02-12p

New DRAI
ʼogen Garud c

Davis-BesseHearingFile Resource

Subject: Davis-Besse Teleconference on DRAI-Class 2/3 valves treated as Class 1 for design analysis
Location: HQ-OWFN-11B02-12p

Start: Fri 7/15/2011 1:00 PM
End: Fri 7/15/2011 2:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: CuadradoDeJesus, Samuel
Required Attendees: 'custerc@firstenergycorp.com'; 'dorts@firstenergycorp.com'; Medoff, James; yogen garud
Resources: HQ-OWFN-11B06-12p; HQ-OWFN-09B02-12p; HQ-OWFN-09B06-12p

New DRAI
ʼogen Garud c

Phone: 888-566-6569
Participant passcode: 58132

Davis-BesseHearingFile Resource

Subject:	DB Teleconference-applicant's responses to RAI 3.5.2.2.1.7-1, RAI 3.3.2.18-1 and RAI B.2.1-2
Location:	HQ-OWFN-10B06-12p
Start:	Tue 7/19/2011 10:30 AM
End:	Tue 7/19/2011 11:30 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	CuadradoDeJesus, Samuel
Required Attendees:	'custerc@firstenergycorp.com'; 'dorts@firstenergycorp.com'; Min, Seung; Todd Mintz; Istar, Ata
Resources:	HQ-OWFN-09B02-12p; HQ-OWFN-09B06-12p; HQ-OWFN-08B02-12p; HQ-OWFN-08B06-12p; HQ-OWFN-07B02-12p; HQ-OWFN-07B06-12p

DB RAI AMR 101 SCC - Mir cation DB RAI AMR TF

PHONE: 877-601-4486
Participant passcode: 35124

Follow-up RAI B.2.1-2 (Ata Istar)

Background:

The applicant responded to the RAI B.2.1-1 by proposing to revise Subsection 2.1.2 of the Davis Besse Nuclear Power Station (DBNPS) Surveillance Test Procedure DB-PF-03009, Revision 06, "Containment Vessel and Shielding Building Visual Inspection." Revised Subsection 2.1.2 shall state "Personnel who performed general visual examinations of the exterior surface of the Containment vessel and the interior and exterior surfaces of the Shielding Building shall meet the requirements for a general visual examiner in accordance with Nuclear Operating Procedure NOP-CC-5708, Written Practice for the Qualification and Certification of Nondestructive Examination Personnel."

Issue:

Element 5 "Detection of Aging Effects" in GALL AMP XI.S4 recommends the implementation of periodic in-service examinations for the containment structures by applying the requirements of subsections in ASME Section XI. The associated Subsection IWE-3510.1 of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI (1995), requires that "The general Visual Examination shall be performed by, or under the direction of, a Registered Professional Engineer or other individual, knowledgeable in the requirements for design, in-service inspections, and testing of Class MC and metallic liners of Class CC components."

Request:

To comply with the ASME Code, Section XI requirement, the associated Subsection IWE-3510.1 of ASME Code, Section XI (1995) code requirement must be referenced in the new revision of the DBNPS's Nuclear Operating Procedure and/or Surveillance Test Procedure.

Davis-BesseHearingFile Resource

Subject: DB Teleconference-applicant's responses to RAI 3.5.2.2.1.7-1 and RAI 3.3.2.18-1
Location: HQ-OWFN-10B06-12p

Start: Tue 7/19/2011 10:30 AM
End: Tue 7/19/2011 11:30 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: CuadradoDeJesus, Samuel
Required Attendees: 'custerc@firstenergycorp.com'; 'dorts@firstenergycorp.com'; Min, Seung; Todd Mintz
Resources: HQ-OWFN-09B02-12p; HQ-OWFN-09B06-12p; HQ-OWFN-08B02-12p; HQ-OWFN-08B06-12p; HQ-OWFN-07B02-12p; HQ-OWFN-07B06-12p


DB RAI AMR 101 SCC - Mir


cation AMR TF

Davis-BesseHearingFile Resource

Subject:	Davis-Besse Teleconference Scoping and Screening-abandoned equipment and ASTM standards for the Nuclear Safety-Related Protective Coatings Program
Location:	HQ-OWFN-10B06-12p
Start:	Wed 7/27/2011 1:30 PM
End:	Wed 7/27/2011 2:30 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	CuadradoDeJesus, Samuel
Required Attendees:	'custerc@firstenergycorp.com'; dorts@firstenergycorp.com; Rogers, Billy; Obodoako, Aloysius
Resources:	HQ-OWFN-11B02-12p; HQ-OWFN-11B06-12p; HQ-OWFN-09B02-12p; HQ-OWFN-09B06-12p; HQ-OWFN-12B06-12p

Phone: 888-946-3503
Participant passcode: 43739

Davis-BesseHearingFile Resource

Subject: Davis-Besse Teleconference
Location: HQ-OWFN-09B06-12p

Start: Tue 8/2/2011 1:00 PM
End: Tue 8/2/2011 2:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: CuadradoDeJesus, Samuel
Required Attendees: 'custerc@firstenergycorp.com'; dorts@firstenergycorp.com; Klos, John; Gavula, James; Sun, Robert; Kalikian, Roger; Pham, Bo; Min, Seung; Kichline, Michelle
Optional Attendees: Lane Howard; Elizabeth Trillo
Resources: HQ-OWFN-10B06-12p; HQ-OWFN-11B06-12p; HQ-OWFN-13G04-20p; HQ-OWFN-11B02-12p; HQ-OWFN-09B02-12p; HQ-OWFN-07B06-12p; HQ-OWFN-08B02-12p; HQ-OWFN-08B06-12p; HQ-OWFN-12B06-12p; HQ-OWFN-07B02-12p; HQ-OWFN-07B04-25p; HQ-OWFN-06B04-25p; HQ-OWFN-06B06-10p; HQ-OWFN-09B06-12p

Phone: 800-779-5247
Passcode: 34826

Topics for discussion:

Clarification
estions Relate

1) Follow-up Clarification (see attachment) Related to the DB Response to RAIs 3.1.2.2-1 and RAI 3.1.2.2-2

2) DB Response to RAI 3.3.2.3.14-1

Question RAI 3.3.2.3.14-1

In LRA Table 3.3.2-14, the applicant identified loss of material and cracking as aging effects for steel bolting exposed to an external environment of raw water.
As identified in EPRI **NP-5769** and **NUREG-1833,** loss of pre-load for bolting can occur in any environment.
In LRA Table 3.3.2-14, the applicant did not identify loss of pre-load for steel bolting exposed to an external environment of raw water.
Justify why loss of pre-load is not identified as an aging effect for steel bolting in an environment of raw water.

RESPONSE RAI 3.3.2.3.14-1

Loss of pre-load is not identified as an aging effect requiring management for the submerged steel bolting in the Fire Protection System that is exposed to a raw water

environment, as described below.
The aging management review for the Fire Protection System was conducted with the guidance provided in EPRI Technical Report 1010639 (the "Mechanical Tools"). In accordance with the Mechanical Tools, loss of pre-load is an applicable aging effect as a result of thermal effects, gasket creep, embedment (including cyclic load embedment), and/or self-loosening.

Loss of pre-load can be promoted by thermal effects (high temperature) through a process called stress relaxation. However, stress relaxation is only a concern at extremely high temperatures (above 700°F for low-alloy steels), although there may be bolting of some grades that could be susceptible to stress relaxation at temperatures slightly lower than 7000F. The submerged bolting in the Fire Protection System is associated with the diesel fire pump column that is submerged in raw water supplied by Lake Erie. The normal temperature of this water is no greater than 85 0F, which is well below the temperature at which stress relaxation occurs. Therefore, for the submerged steel bolting in the Fire Protection System, loss of pre-load due to thermal effects is not an aging effect requiring management.

Loss of pre-load may occur as a result of gasket creep. However, gasket creep has a very small effect on pre-load (2 - 5%) and occurs, and will be evident, very soon after initial loading (10 - 20 minutes). Therefore, for the submerged steel bolting in the Fire Protection System, loss of pre-load due to gasket creep is not an aging effect requiring management.

Loss of pre-load may occur after initial loading as surfaces (e.g., threads in the bolts and joint members), which are initially in contact only on high spots, settle in together, a process called embedment. However, the effect of embedment is considered to be small and to have minimal effect on the integrity of the bolted connection. Additionally, bolted connections subjected to large cyclic loads will embed and relax more than those under static loads. However, the diesel fire pump is normally in a standby mode, and, being located in a relatively stagnant atmospheric pool, is not subject to large thermal, vibrational, or pressure-induced cyclic loading. Therefore, for the submerged steel bolting in the Fire Protection System, loss of pre-load due to embedment is not an aging effect requiring management.

Loss of pre-load due to self-loosening may occur as a result of vibration, flexing of the joint, cyclic shear loads, thermal cycles and other factors. In addition to the discussions of these factors above, self-loosening is precluded by good bolting practices and, if it occurs, is usually detected and corrected early in the service life of the component, as during maintenance activities. Therefore, for the submerged steel bolting in the Fire Protection System, loss of pre-load due to self-loosening is not an aging effect requiring management.

3) DB Response to RAI B.2.34-01

Question RAI B.2.34-1

Background:
The preventive actions program element of Generic Aging Lessons Learned (GALL), Rev. 2, aging management program (AMP) XI.M3, “Reactor Head Closure Stud Bolting,” references the guidance outlined in Regulatory Guide (RG) 1.65, Materials and Inspections for Reactor Vessel Closure Studs,” and NUREG-1339, “Resolution of Generic Safety Issue 29: Bolting Degradation or Failure in Nuclear

Power Plants." AMP XI.M3 states that one of the preventive measures that can reduce the potential for stress-corrosion cracking includes using bolting material for closure studs that has an actual measured yield strength less than 150 ksi. During its audit, the U.S. Nuclear Regulatory Commission (NRC or the staff) noted that the FirstEnergy Nuclear Operating Company's (FENOC or the applicant) program basis document for its Reactor Head Closure Studs Program states that the reactor head closure studs and nuts are manufactured from SA-540, Grade 23 material.

Issue:
License renewal application (LRA) Section B.2.34 and the applicant's program basis document do not include the preventive action of using stud materials with an actual measured yield strength level less than 150 ksi. The staff needs to confirm the actual measured yield strength of the applicant's reactor head closure stud material to determine whether the applicant's program is adequate to manage stress-corrosion cracking.

Request:
The staff requests the following information:
1) Clarify whether the actual measured yield strength of the reactor head closure stud material is less than 150 ksi. If the reactor head closure stud material has a measured yield strength level greater than or equal to 150 ksi, justify the adequacy of the AMP to manage stress-corrosion cracking in the high-strength material.

2)Clarify if preventive actions will be added to the Reactor Head Closure Studs Program that would preclude the future use of replacement closure stud bolting fabricated from material with actual measured yield strength greater than or equal to 150 ksi. If not, and in view of the greater susceptibility of the studs for stress-corrosion cracking, describe any preventative actions to avoid exposure of the studs to environments conducive to stress-corrosion cracking. Otherwise, justify why preventative measures to mitigate stress-corrosion cracking of high strength studs will not be required.

RESPONSE RAI B.2.34-1

1. As confirmed by the certificate of material test report (CMTR), the actual measured yield strength ranges from 151 to 159 ksi, and tensile strength ranges from 166 to 171 ksi for the Davis-Besse reactor head closure studs. The Davis-Besse stud material is SA-540 Grade B-23. As provided in Regulatory Guide 1.65, this material when tempered to a maximum tensile strength of 170 ksi, is relatively immune to stress corrosion cracking (SCC). In addition, the Reactor Head Closure Studs Program provides for examination of the reactor vessel stud assemblies in accordance with the examination and inspection requirements specified in the ASME B&PV Code, Section XI, Subsection IWB (1995 Edition through the 1996 Addenda) and approved ASME Code Cases. Specifically, each stud is volumetrically examined once per each 10-year Inservice Inspection Interval. No unacceptable indications were noted in these examinations.
Reactor Head Closure Studs Program preventative measures to mitigate SCC are listed as follows:

a. There are no metal platings applied to the closure studs, nuts, or washers.
b. A manganese-phosphate coating was applied to the studs, nuts and washers during fabrication to act as a rust inhibitor.
c. An enhancement to the program provides for selection of an alternate stable lubricant that is compatible with the fastener material and the

environment. A specific precaution against the use of compounds containing sulfur (sulfide), including molybdenum disulfide (MoS2), as a lubricant for the reactor head closure stud assemblies will be included in the program.

2. An enhancement will be added to the Reactor Head Closure Studs Program to preclude the future use of replacement closure stud bolting fabricated from material with actual measured yield strength greater than or equal to 150 ksi except for use of the existing spare reactor head closure stud bolting.

The exception to allow future use of the existing spare reactor head closure stud bolting (2 each) is justified based on Davis-Besse plant-specific operating experience of over 30 years that has not experienced SCC of the reactor head closure stud bolting. The existing spare bolting, if used as a future replacement, would experience less than 30 years of service to the end of the period of extended operation.

See the Enclosure to this letter for the revision to the DBNPS LRA.

Davis-BesseHearingFile Resource

Subject:	Davis-Besse Teleconference
Location:	HQ-OWFN-11B06-12p
Start:	Thu 8/4/2011 10:00 AM
End:	Thu 8/4/2011 11:00 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	CuadradoDeJesus, Samuel
Required Attendees:	Pham, Bo; Yee, On; Medoff, James; Min, Seung; Kalikian, Roger; Morey, Dennis; Mahoney, Michael; 'custerc@firstenergycorp.com'; dorts@firstenergycorp.com; Elizabeth Trillo; Jose, Benny; Bozga, John
Resources:	HQ-OWFN-11B02-12p

Both RAIs have been revised. Below are the new versions.

Phone: 888-603-9705
Passcode: 27935

Topics:

1) To continue our previous discussion (8/2/11 Teleconference) on core support assembly (CSA) vent valve body and plenum cylinder reinforcing plate made of CASS (DB Response to RAIs 3.1.2.2-1 and RAI 3.1.2.2-2)

DB DRAI 3 1
-3 v8 8-2-201

2) To discuss CUF and I_t analyses for large bore Class 1 valves {D-RAI 4.3.2.3.2-1 - (Supplement)}

D-RAI 4 3 2
1 (Supplemen

Davis-BesseHearingFile Resource

Subject: Davis-Besse Teleconference
Location: HQ-OWFN-10B06-12p

Start: Mon 8/22/2011 1:00 PM
End: Mon 8/22/2011 2:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: CuadradoDeJesus, Samuel
Required Attendees: Klos, John; custerc@firstenergycorp.com; dorts@firstenergycorp.com
Resources: HQ-OWFN-11B02-12p; HQ-OWFN-11B06-12p

Phone: 888-469-0933

Participant passcode: 64163

Topic: To discuss FENOCs 8/17/2011 response letter

- Response to RAI 3.2.2.2.3.6-2

  LRA Table 3.2.2-2, row 20 stainless steel piping components exposed to moist air are being managed for cracking by the One-Time Inspection Program. The AMR items cite generic note H. The AMR item also cites plant-specific note 0202, which states that the One-Time Inspection is being used to confirm the absence of aging effects or that aging is slow acting so as to not affect the subject component's intended function during the period of extended operation.

  By letter dated May 2, 2011, the staff issued RAI 3.2.2.1.26-1 requesting that the applicant justify its use of the One-Time Inspection Program for managing these aging effects. In its response of June 3 the applicant stated that this item was deleted. However, the staff noted there was no evidence of this in the applicant letter dated May 24, 2011.

  On this item there is no resolution if a proper periodic program will be used above the air water interface to manage this aging.

  RAI 3.2.2.2.3.6-2, was issued requesting resolution of this component in the Containment Spray System.

  In its response dated August 13, 2011, the applicant did not state for Table 3.2.2-2, row 20, stainless steel piping in moist air (internal) exposed to cracking Containment Spray System, whether that item was a) retained in the One-Time Inspection program, b) documented for deletion or c)updated with an aging management program.

  The staff finds the applicant's response not acceptable because the resolution concerning this line item is incomplete.

- One Time Inspections-Supplemental Response

  Section A.1.30 is not in the enclosure and the teleconference in which this issue was discussed was held on 8/2/2011. The staff will like to clarify the reason why section A.1.30 wasn't amended and to clarify the date in which the teleconference was held.

Davis-BesseHearingFile Resource

Subject: FW: Davis Besse shield building issue follow-up
Location: DNMS Conference Room

Start: Thu 10/27/2011 3:00 PM
End: Thu 10/27/2011 4:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Sanchez Santiago, Elba

-----Original Appointment-----
From: Sanchez Santiago, Elba
Sent: Wednesday, October 26, 2011 6:25 AM
To: Sanchez Santiago, Elba; Lupold, Timothy; Cameron, Jamnes; Wilson, Adam; Kimble, Daniel; Rutkowski, John; Hills, David; Rezai, Ali; Gonzalez, Hipolito; Thorp, John; Haskell, Russell; Nolan, Ryan; Mahoney, Michael; Hernandez, Pete; Mitlyng, Viktoria; Chandrathil, Prema; Neurauter, James; Cardona-Morales, Pedro; CuadradoDeJesus, Samuel; Zimmerman, Jacob; Thomas, George; Hoang, Dan; Logaras, Harral; Barker, Allan; Auluck, Rajender; Sheikh, Abdul; Lehman, Bryce; Morey, Dennis; Shear, Gary; OBrien, Kenneth; West, Steven; Reynolds, Steven; Burza, Justine; Snyder, Amy; Wiebe, Joel; Rihm, Roger; Bozga, John; Meghani, Vijay; Murphy, Martin; Stone, AnnMarie
Cc: Miller, Barry
Subject: Davis Besse shield building issue follow-up
When: Thursday, October 27, 2011 2:00 PM-3:30 PM (GMT-06:00) Central Time (US & Canada).
Where: DNMS Conference Room

When: Thursday, October 27, 2011 2:00 PM-3:30 PM (GMT-06:00) Central Time (US & Canada).
Where: DNMS Conference Room

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*~*

shield bldg
evelopment.p

This conference call is to further discuss the Davis-Besse Shield Building issue

Location: DNMS Conference Room
Time: 2:00 pm CT

For those calling in, the bridge number is: 888-677-8529

Passcode – 12003

If you have any questions, feel free to contact me

Thanks,

Elba M. Sanchez Santiago
Reactor Engineer
RIII/ DRS/ EB1
630-829-9715

2012 Engineering Schedule - 11/25/11

	Hol 26-Dec	Hol 2-Jan 2012	9-Jan	Hol 16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	Hol 20-Feb	27-Feb	5-Mar
Bilik		PI TI-182 Prep	PI TI-182 O/S	PI TI=-182 Doc		DA TI-182 Prep	DA TI-182 O/S	DA TI-182 Doc			
Bozga		PU Audit	PU Audit	PU Audit	PU Audit	PU Audit		P-DRE-Mod	Mod-O-DRE	Mod-I-DRE	Mod-O-DRE
Holmberg	AL	DB TI-182 Prep	DB TI-182 O/S	DB TI-182 Doc				HX Design TR New Orleans 16-17	Bwd TI-182 Prep	Bwd TI-182 O/S	Bwd TI-182 Doc
Jones D				QC TI-182 Prep	QC TI-182 O/S	QC TI-182 Doc	LAS-1 ISI Prep	LAS-1 ISI O/S	LAS-1 ISI Doc	Fermi ISI Prep	QC-2 ISI Prep
Meghani		Cook ISFSI Pad	Cook ISFSI Pad	Cook ISFSI Pad	Cook ISFSI Stability Calcs	Cook ISFSI Stability Calcs	Cook ISFSI Stability Calcs				
Neurauter							Cook ISFSI HL	Cook ISFSI HL	Cook ISFSI HL	Cook ISFSI HL	Cook ISFSI HL
Sanchez Santiago	AL	Dres TI-182 Prep Doc PB LV-3	Dres TI-182 O/S	Dres TI-182 Doc	Byron TI-182 Prep	Byron TI-182 O/S	R-904P	Byron TI-182 Doc	P-HS-Per	HS-O-Per	D-HS-Per
Shaikh	AI-30	Cook TI-182 Prep	Cook TI-182 O/S	Cook TI-182 Doc	Kew TI-182 Prep	Kew TI-182 O/S	Kew Ti-182 Doc	PI-2 ISI Prep	PI-2 ISI	PI-2 ISI	PI-2 ISI

	Hol 26-Dec	Hol 2-Jan 2012	9-Jan	Hol 16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	Hol 20-Feb	27-Feb	5-Mar
	AMS-AL-30	AMS-AL			AMS-Dres-25,26		AMS-Dre-10				
Brown	AL	P-Per-PIR	PIR-O-Per	PIR-I-Per	PIR-O-Per	D-PIR-Per	RIO assist			**P-LR-Pal**	
Corujo	AL	AL	AL	AL-16,17	TTC	TTC	TTC			TTC	TTC
Dunlop	AL	AL	***P-Dre-TI177***	MUG/AUG	***TI177-O-Dre***	***TI177-I-Dre***	***TI177-O-Dre***	***D-TI177-Dre***	***D-TI177-Dre***		
Feliz	AL	AL		P-Cook-TI177	TI177-O-Cook	TI177-I-Cook	TI177-O-Cook	D-TI177-Cook	***P-HS-Per***	***HS-O-Per***	***D-HS-Per***
Jones L				AL	TTC	TTC	TTC			TTC	TTC
Jones M	AL		P-Dre-TI177	MUGAUG	TI177-O-Dre	TI177-I-Dre	TI177-O-Dre	D-TI177-Dre			
Jose			RIO assist		By/Bwd Followup	By/Bwd Followup	By/Bwd Followup	By/Bwd Followup			***P-Mon-CDBI*** Carl - Ops
O'Dwyer	AL				P-PAL-PIR	PIR-O-PAL	PIR-I-PAL	PIR-O-PAL	D-PIR-PAL	AL	Prep DB PI&R
Sheldon	AL				P-PAL-PIR	PIR-O-PAL	PIR-I-PAL AL - 8	PIR-O-PAL	D-PIR-PAL	P-LR-Pal	AL
Tilton	***D-CDBI-Perry***	***D-CDBI-Perry***		***P-Cook-TI177***	***TI177-O-Cook***	***TI177-I-Cook***	***TI177-O-Cook***	***D-TI177-Cook***	***D-TI177-Cook***		

	Hol 26-Dec	Hol 2-Jan '12	9-Jan	Hol 16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	Hol 20-Feb	27-Feb	5-Mar
Dahbur		***P-FER-Mod***	***P-FER-Mod***	***Mod-O-FER***	***Mod-I-FER***	***Mod-O-FER***	***D-Mod-FER***	***D-Mod-FER***			
Falevits	AL	AL					***P-DRE-Mod***	***P-DRE-Mod***	***Mod-O-DRE***	***Mod-I-DRE***	***Mod-O-DRE***
Gilliam	AL		P-FER-Mod	Mod-O-FER	Mod-I-FER	Mod-O-FER	D-Mod-FER				
Hafeez			P-FER-Mod obs	Mod-O-FER obs	Mod-I-FER obs	Mod-O-FER obs	D-Mod-FER obs				
Hausman	AL	***P-DA-FP*** AL	***P-O-DA-FP***	***P-DA-FP***	***FP-O-DA***	***FP-I-DA***	***FP-O-DA***	***D-FP-DA***	***D-FP-DA***		
Langstaff	AL		P-FER-Mod	Mod-O-FER	Mod-I-FER	Mod-O-FER	D-Mod-FER AL-8				***P-PER-FP***
Munir	AL	AL	P-O-DA-FP	P-DA-FP	FP-O-DA	FP-I-DA	FP-O-DA	D-FP-DA			
Szwarc	AL	AL						P-DRE-Mod	Mod-O-DRE	Mod-I-DRE	Mod-O-DRE
Winter			P-O-DA-FP	P-DA-FP	FP-O-DA	FP-I-DA	FP-O-DA	D-FP-DA			

2012 Engineering Schedule - 11/25/11

	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	7-May	14-May	21-May
Bilik	R-800 HQ	LR-O-QC	LR-O-QC	Kew ISI Prep P-Kew-LR	Kew ISI LR-O-Kew	Kew ISI LR-O-Kew	Kew ISI LR-O-Kew	Kew ISI D-LR-Kew	Kew ISI D-LR-Kew	Kew ISI Doc D-LR-Kew	
Bozga	D-Mod-DRE		E-116 TR WK - HQ					Fermi HL Prep	Fermi HL O/S	Fermi HL I/O	Fermi HL O/S
Holmberg		DB ISI Prep	Bwd-1 ISI Prep	PM for Eng. TR FL 2-4	Bwd-1 ISI	Bwd-1 ISI	Bwd-1 ISI	Bwd-1 ISI	Bwd-1 ISI Doc	AL-WK	DB ISI
Jones D	QC-2 ISI O/S LR-O-QC	QC-2 ISI O/S LR-O-QC	QC-2 ISI Doc	Fermi ISI O/S	Fermi ISI Doc Pal ISI Prep	Pal ISI	Pal ISI	Pal ISI	Pal ISI	Pal ISI Doc	
Meghani			P-DRE-PIR	PIR-O-DRE	PIR-I-DRE	PIR-O-DRE	D-PIR-DRE	Zion ISFSI	Zion ISFSI	Zion ISFSI	Zion ISFSI
Neurauter			E-116 TR WK - HQ							P-Turkey-LR	LR-O-Turkey
Sanchez Santiago	Cook-2 ISI Prep	Cook-2 ISI	Cook-2 ISI	Cook-2 ISI	Cook-2 ISI	Cook-2 ISI	Cook-2 ISI	Cook-2 ISI Doc	P-By-CDBI	CDBI-O-By	CDBI-I-By
Shaikh	PI-2 ISI	PI-2 ISI	E-116 TR WK - HQ	PI-2 ISI Doc Bwd-1 ISI Prep-L	Bwd-1 ISI-L	Bwd-1 ISI-L	Bwd-1 ISI-L	Bwd-1 ISI-L	Bwd-1 ISI Doc-L		

	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	7-May	14-May	21-May
	RIC-LR						AMS at Monti			AMS at Kew	
Brown	**LR-O-Pal**	**D-LR-Pal**				AL			P-By-CDBI	CDBI-O-By	CDBI-I-By
Corujo		TTC	TTC			P.B.- Drill (4/17)			***P-Fer-TI177***	***TI177-O-Fer***	***TI177-I-Fer***
Dunlop		AL	AL			P.B.- Drill (4/17)		***P-By-CDBI***	***P-By-CDBI***	***CDBI-O-By***	***CDBI-I-By***
Feliz	P-Mon-CDBI	CDBI-O-Mon	CDBI-I-Mon	CDBI-I-Mon	CDBI-O-Mon	CDBI-I-Mon	CDBI-O-Mon	D-CDBI-Mon			
Jones L	AL	TTC	TTC			AL			***P-HS-Kew***	***HS-O-Kew***	***D-HS-Kew***
Jones M	P-Mon-CDBI TI-177	CDBI-O-Mon TI-177	CDBI-I-Mon TI-177	CDBI-I-Mon TI-177	CDBI-O-Mon TI-177	CDBI-I-Mon TI-177	CDBI-O-Mon TI-177	D-CDBI-Mon			
Jose	***P-Mon-CDBI*** Carl - Ops	***CDBI-O-Mon*** Carl - Ops	***CDBI-I-Mon*** Carl - Ops	***CDBI-I-Mon*** Carl - Ops	***CDBI-O-Mon*** Carl - Ops	***CDBI-I-Mon*** Carl - Ops	***CDBI-O-Mon*** Carl - Ops	***D-CDBI-Mon*** Carl - Ops	***D-CDBI-Mon*** Carl - Ops		P-O-PI-FP
O'Dwyer	DB PI&R sample	Doc DB PI&R		AI-6	AL 9-11				P-HS-Kew	HS-O-Kew	D-HS-Kew
Sheldon	LR-O-Pal	D-LR-Pal		***P-Kew-LR***	***LR-O-Kew***	***LR-O-Kew***	***LR-O-Kew***	***D-LR-Kew***	***D-LR-Kew***	P-Turkey-LR	LR-O-Turkey AL somethime
Tilton	***P-QC-LR***	***LR-O-QC***	***LR-O-QC***	***LR-O-QC*** AL-6	***D-LR-QC*** AL-9	SF-182			AL-11	AL	AL-21, 25

	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	7-May	14-May	21-May
Dahbur				***P-PB-Mod***	***P-PB-Mod***	***Mod-O-PB***	***Mod-I-PB***	***Mod-O-PB***	***D-Mod-PB***	***D-Mod-PB***	
Falevits	***D-Mod-DRE***	***D-Mod-DRE***	P-DRE-PIR	PIR-O-DRE	PIR-I-DRE	PIR-O-DRE	D-PIR-DRE			***P-PI-FP***	***P-O-PI-FP***
Gilliam	P-Mon-CDBI	CDBI-O-Mon	CDBI-I-Mon	CDBI-I-Mon	CDBI-O-Mon	CDBI-I-Mon	CDBI-O-Mon	D-CDBI-Mon			
Hafeez				mock board				cert board			
Hausman					P-PB-Mod	Mod-O-PB	Mod-I-PB	Mod-O-PB	D-Mod-PB		
Langstaff	***P-O-PER-FP***	***P-PER-FP***	***FP-O-PER***	***FP-I-PER***	***FP-O-PER***	***D-FP-PER***	***D-FP-PER***		P-By-CDBI ops	CDBI-O-By ops	CDBI-I-By ops
Munir	P-O-PER-FP	P-PER-FP	FP-O-PER	FP-I-PER	FP-O-PER	D-FP-PER					
Szwarc	D-Mod-DRE				P-PB-Mod	Mod-O-PB	Mod-I-PB	Mod-O-PB	D-Mod-PB		
Winter	P-O-PER-FP	P-PER-FP	FP-O-PER	FP-I-PER	FP-O-PER	D-FP-PER					P-O-PI-FP

2012 Engineering Schedule - 11/25/11

	Hol 28-May	4-Jun	11-Jun	18-Jun	25-Jun	Hol 02-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug
Bilik		Seminar?				AL-WK	AL-WK			P-Oconee-LR	LR-O-Oconee
Bozga	Fermi HL Doc	Seminar?					P-HS-LaS ???	HS-O-LaS ???	D-HS-LaS ???		
Holmberg	DB ISI	Seminar?	DB ISI	R-904B	DB ISI Doc	Pal TI-182 Prep	Pal TI-182 O/S	Pal TI-182 Doc			
Jones D		Seminar?					AL-WK	AL-WK	AL-WK		P-QC-PIR
Meghani		Seminar?	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved			R-904P
Neurauter	LR-I-Turkey	LR-O-Turkey	D-LR-Turkey								
Sanchez Santiago	CDBI-O-By	Seminar?	CDBI-O-By	D-CDBI-By	AL-WK	AL-WK	AL-WK	PI PI&R Prep	PI PI&R O/S	PI PI&R I/O LaSalle-Drill (tent)	PI PI&R O/S
Shaikh	AL-WK	Seminar?	AL-WK	AL-WK			P-HS-Pal	HS-O-Pal	D-HS-Pal		P-HS-PI

	Hol 28-May	4-Jun	11-Jun	18-Jun	25-Jun	Hol 02-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug
			AMS at By							LaSalle - EP (8/1) (gov liason)	AMS at Cook
Brown	CDBI-O-By	CDBI-I-By	CDBI-O-By	D-CDBI-By				P-Cook-CDBI	CDBI-O-Cook	CDBI-I-Cook	CDBI-O-Cook
Corujo	***TI177-O-Fer***	***D-TI177-Fer*** Seminar?	AL	AL	AL			P-Cook-CDBI	CDBI-O-Cook	CDBI-I-Cook	CDBI-O-Cook
Dunlop	***CDBI-O-By***	***CDBI-I-By*** Seminar	***CDBI-O-By***	***D-CDBI-By***	***D-CDBI-By***					***P-DB-CDBI*** Chuck	***P-DB-CDBI*** Chuck
Feliz			***P-HS-DA***	***HS-O-DA***	***D-HS-DA***				***P-LaS-TI177***	***TI177-O-LaS***	***TI177-I-LaS***
Jones L		Seminar?	P-CLI-Mod	AL	Mod-O-CLI	Mod-I-CLI	Mod-O-CLI	D-Mod-CLI	P-LaS-TI177	TI177-O-LaS	TI177-I-LaS
Jones M		Seminar?					***P-HS-Pal***	***HS-O-Pal***	***D-HS-Pal***	LaSalle - EP (8/1)	P-DB-CDBI
Jose	P-PI-FP	FP-O-PI	FP-I-PI	FP-O-PI	D-FP-PI					LaSalle - EP (8/1)	P-DB-CDBI
O'Dwyer		AL 5-8	P-HS-DA	HS-O-DA	D-HS-DA		***P-HS-LaS***	***HS-O-LaS***	***D-HS-LaS***		***P-HS-PI***
Sheldon	LR-I-Turkey	LR-O-Turkey	TTC	D-LR-Turkey TTC??????		AL				P-Oconee-LR	LR-O-Oconee
Tilton		TTC-BWR	TENT AL-15	TENT AL-18		AL-5, 6	***P-Cook-CDBI*** ***AL-9***	***P-Cook-CDBI*** Randy-Ops	***CDBI-O-Cook***	***CDBI-I-Cook***	***CDBI-O-Cook***

	Hol 28-May	4-Jun	11-Jun	18-Jun	25-Jun	Hol 02-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug
Dahbur						P-O-QC-FP	P-QC-FP	FP-O-QC	FP-I-QC	FP-O-QC	D-FP-QC
Falevits	***P-PI-FP***	***FP-O-PI***	***FP-I-PI***	***FP-O-PI***	***D-FP-PI***	***D-FP-PI***			P-O-BWD-FP	P-BWD-FP	FP-O-BWD
Gilliam		Seminar?		P-CLI-Mod	Mod-O-CLI	Mod-I-CLI	Mod-O-CLI	D-Mod-CLI			P-QC-PIR
Hafeez		Seminar?									
Hausman			AL 15	AL	***P-QC-FP*** AL 25	***P-O-QC-FP***	***P-QC-FP***	***FP-O-QC***	***FP-I-QC***	***FP-O-QC***	***D-FP-QC***
Langstaff	CDBI-O-By ops	CDBI-I-By ops	CDBI-O-By	D-CDBI-By AI 20-21	AL	AL	AL	AL	P-O-BWD-FP AL 23-25	P-BWD-FP	FP-O-BWD
Munir		Seminar?	***P-CLI-Mod***	***P-CLI-Mod***	***Mod-O-CLI***	***Mod-I-CLI***	***Mod-O-CLI***	***D-Mod-CLI***	***D-Mod-CLI*** AL	AL	AL
Szwarc		P-BWD-PIR	PIR-O-BWD	PIR-I-BWD	PIR-O-BWD	D-PIR-BWD	AL	***P-BWD-FP***	***P-O-BWD-FP***	***P-BWD-FP***	***FP-O-BWD***
Winter	P-PI-FP	FP-O-PI	FP-I-PI	FP-O-PI	D-FP-PI	P-O-QC-FP	P-QC-FP	FP-O-QC	FP-I-QC	FP-O-QC	D-FP-QC

2012 Engineering Schedule - 11/25/11

	13-Aug	20-Aug	27-Aug	Hol 03-Sep	10-Sep	17-Sep	24-Sep	1-Oct	Hol 8-Oct	15-Oct	22-Oct
Bilik	LR-I-Oconee	LR-O-Oconee	D-LR-Oconee				PI-1 ISI Prep ***P-PI-LR***	PI-1 ISI ***LR-O-PI***	PI-1 ISI ***LR-O-PI***	PI-1 ISI ***LR-O-PI***	PI-1 ISI ***LR-O-PI***
Bozga				MONT PI&R Prep	MONT PI&R O/S	MONT PI&R I/O	MONT PI&R O/S	MONT PI&R Doc			
Holmberg	AL-WK	AL-WK			***P-HS-QC***	***HS-O-QC***	***D-HS-QC***		Bwd-2 ISI Prep-L Jandovitz Asst.	Bwd-2 ISI-L Jandovitz Asst.	Bwd-2 ISI-L Jandovitz Asst.
Jones D	PIR-O-QC	PIR-I-QC	PIR-O-QC	D-PIR-QC				DA ISI Prep P-DA-LR	DA ISI O/S LR-O-DA	DA ISI O/S LR-O-DA	DA ISI Doc D-DA Doc
Meghani			P-LAS-Mod	Mod-O-LAS	Mod-I-LAS	Mod-O-LAS	D-Mod-LAS			P-QC-LR	LR-O-QC
Neurauter								Zion ISFSI Heavy Loads	Zion ISFSI Heavy Loads	R-904B	Zion ISFSI Heavy Loads
Sanchez Santiago	PI PI&R Doc		E-116	BYR-1 ISI Prep-L	BYR-1 ISI-L	BYR-1 ISI-L	BYR-1 ISI-L	BYR-1 ISI-L	BYR-1 ISI Doc-L	P-QC-LR	LR-O-QC
Shaikh	HS-O-PI	D-HS-PI		BYR-1 ISI Prep	BYR-1 ISI	BYR-1 ISI	BYR-1 ISI	PB-2 Prep P-PB-LR	PB-2 ISI LR-O-PB	PB-2 ISI LR-O-PB	PB-2 ISI LR-O-PB

	13-Aug	20-Aug	27-Aug	Hol 03-Sep	10-Sep	17-Sep	24-Sep	1-Oct	Hol 8-Oct	15-Oct	22-Oct
		AMS at Cook			AMS at DB			Perry EP			
Brown	CDBI-I-Cook	CDBI-O-Cook	D-CDBI-Cook	P-Kew-PIR	PIR-O-Kew	PIR-I-Kew	PIR-O-Kew	D-PIR-Kew			
Corujo	CDBI-I-Cook	CDBI-O-Cook	D-CDBI-Cook		***P-Per-TI177***	***TI177-O-Per***	***TI177-I-Per***	***TI177-O-Per***	***D-Per-TI177***	P-QC-LR	LR-O-QC
Dunlop	***CDBI-O-DB*** Chuck	***CDBI-I-DB*** Chuck	***CDBI-O-DB*** Chuck	***CDBI-I-DB*** Chuck	***CDBI-O-DB*** Chuck	***D-CDBI-DB*** Chuck	***D-CDBI-DB***		***P-DB-TI177***	***TI177-O-DB***	***TI177-I-DB***
Feliz	***TI177-O-LaS***	***D-TI177-LaS***	***D-TI177-LaS***	AL						P-QC-LR	LR-O-QC
Jones L	TI177-O-LaS	D-TI177-LaS		***P-HS-Fer***	AL	***HS-O-Fer***	***D-HS-Fer***	Perry EP	P-DB-TI177	TI177-O-DB	TI177-I-DB
Jones M	CDBI-O-DB	CDBI-I-DB	CDBI-O-DB	CDBI-I-DB	CDBI-O-DB	D-CDBI-DB	AL - 28	AL	P-PI-LR	LR-O-PI	LR-O-PI
Jose	CDBI-O-DB	CDBI-I-DB	CDBI-O-DB	CDBI-I-DB	CDBI-O-DB	D-CDBI-DB			***P-PB-LR*** outage	***LR-O-PB***	***LR-O-PB***
O'Dwyer	***HS-O-PI***	***D-HS-PI***	AL 28-31		P-HS-Fer	HS-O-Fer	D-HS-Fer	AL		P-QC-LR	LR-O-QC
Sheldon	LR-I-Oconee	LR-O-Oconee	D-LR-Oconee					Perry EP	***P-DA-LR*** outage	***LR-O-DA***	***LR-O-DA***
Tilton	***CDBI-I-Cook*** Randy-Ops	***CDBI-O-Cook***	***D-CDBI-Cook*** AL-31	***D-CDBI-Cook***				AL-5 Perry EP	***P-QC-LR*** team	***P-QC-LR***	***LR-O-QC***

	13-Aug	20-Aug	27-Aug	Hol 03-Sep	10-Sep	17-Sep	24-Sep	1-Oct	Hol 8-Oct	15-Oct	22-Oct
Dahbur		***P-LAS-Mod***	***P-LAS-Mod***	***Mod-O-LAS***	***Mod-I-LAS***	***Mod-O-LAS***	***D-Mod-LAS***	***D-Mod-LAS***			
Falevits	FP-I-BWD	FP-O-BWD	D-FP-BWD				P-Kew-CDBI	CDBI-O-Kew	CDBI-I-Kew	CDBI-O-Kew	CDBI-I-Kew
Gilliam	PIR-O-QC	PIR-I-QC	PIR-O-QC	D-PIR-QC						P-QC-LR	LR-O-QC
Hafeez				P-Kew-PIR	PIR-O-Kew	PIR-I-Kew	PIR-O-Kew	D-PIR-Kew			
Hausman	***D-FP-QC***	AL 23	AL	AL	AL 10	***P-Kew-CDBI*** Bruce-Ops	***P-Kew-CDBI*** Bruce-Ops	***CDBI-O-Kew*** Bruce-Ops	***CDBI-I-Kew*** Bruce-Ops	***CDBI-O-Kew*** Bruce-Ops	***CDBI-I-Kew*** Bruce-Ops
Langstaff	FP-I-BWD	FP-O-BWD	D-FP-BWD					***P-PAL-FP***	***P-O-PAL-FP***	***P-PAL-FP***	***FP-O-PAL***
Munir	AL		P-LAS-Mod	Mod-O-LAS	Mod-I-LAS	Mod-O-LAS	D-Mod-LAS		P-O-PAL-FP	P-PAL-FP	FP-O-PAL
Szwarc	***FP-I-BWD***	***FP-O-BWD***	***D-FP-BWD***	***D-FP-BWD***	AL	AL	P-Kew-CDBI	CDBI-O-Kew	CDBI-I-Kew	CDBI-O-Kew	CDBI-I-Kew
Winter				P-MON-PIR	PIR-O-MON	PIR-I-MON	PIR-O-MON	D-PIR-MON	P-O-PAL-FP	P-PAL-FP	FP-O-PAL

2012 Engineering Schedule - 11/25/11

	29-Oct	5-Nov	Hol 12-Nov	Hol 19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	Hol 24-Dec	Hol 31-Dec
Bilik	PI-1 ISI ***LR-O-PI***	PI-1 ISI Doc ***D-PI-LR***				Seminar	Eng Sem 11,12			
Bozga		R-704P				Seminar	Eng Sem 11,12			
Holmberg	Bwd-2 ISI-L Jandovitz Asst.	Bwd-2 ISI Doc-L Jandovitz Asst.				Seminar	Eng Sem 11,12		AL-WK	
Jones D	DRES ISI Prep	DRES ISI O/S	DRES ISI Doc	MontTI-182 Prep	TI-182 O/S Mont	Seminar	Eng Sem 11,12	TI-182 Doc Mont		
Meghani	LR-I-QC	LR-O-QC	D-LR-QC			Seminar	Eng Sem 11,12			
Neurauter	Zion ISFSI Heavy Loads	Zion ISFSI Heavy Loads	Zion ISFSI Heavy Loads			Seminar	Eng Sem 11,12			
Sanchez Santiago	LR-I-QC	LR-O-QC	D-LR-QC	P-HS-Cook	HS-O-Cook	D-HS-Cook	Eng Sem 11,12		AL-WK	AL-WK
Shaikh	PB-2 ISI LR-O-PB	PB-2 ISI Doc D-LR-PB		Clin TI-182 Prep	TI-182 O/S Clin	Seminar	Eng Sem 11,12	TI-182 Doc Clin		
	29-Oct	5-Nov	Hol 12-Nov	Hol 19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	Hol 24-Dec	Hol 31-Dec
	AMS at Kew	AMS at QC			AMS at PB					
Brown				AL	AL		Eng Sem 11,12	AL	AL	AL
Corujo	LR-I-QC	LR-O-QC	D-LR-QC	RESERVED TI-177 Closure	RESERVED TI-177 Closure	RESERVED TI-177 Closure	Eng Sem 11,12		AL	AL
Dunlop	***TI177-O-DB***	***D-TI177-DB***	***D-TI177-DB***	***P-HS-Cook***	***HS-O-Cook***	***D-HS-Cook***	Eng Sem 11,12		AL	AL
Feliz	LR-I-QC	LR-O-QC	D-LR-QC	RESERVED AL-23 TI-177 Closu	RESERVED TI-177 Closure	RESERVED TI-177 Closure	Eng Sem 11,12			
Jones L	TI177-O-DB	D-TI177-DB		***P-HS-PB***	***HS-O-PB***	AL	***D-HS-PB***			
Jones M	LR-O-PI	D-LR-PI		RESERVED TI-177 Closure	RESERVED TI-177 Closure	RESERVED TI-177 Closure	Eng Sem 11,12			
Jose	***LR-O-PB***	***D-LR-PB***				Seminar	Eng Sem 11,12			
O'Dwyer	LR-I-QC	LR-O-QC	D-LR-QC	P-HS-PB	HS-O-PB	D-HS-PB	Eng Sem 11,12		AL	AL
Sheldon	***LR-O-DA***	***D-LR-DA***				Seminar	Eng Sem 11,12		AL	
Tilton	***LR-I-QC*** I/O 31?	***LR-O-QC***	***D-LR-QC***	AL 21-23	***D-LR-QC*** Al-27	Seminar	Eng Sem 11,12	AL-21	AL	AL
	29-Oct	5-Nov	Hol 12-Nov	Hol 19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	Hol 24-Dec	Hol 31-Dec
Dahbur						Seminar	Eng Sem 11,12			
Falevits	CDBI-O-Kew	D-CDBI-Kew				Seminar	Eng Sem 11,12			
Gilliam	LR-I-QC	LR-O-QC	D-LR-QC			Seminar	Eng Sem 11,12			
Hafeez						Seminar	Eng Sem 11,12			
Hausman	***CDBI-O-Kew*** Bruce-Ops	***D-CDBI-Kew*** Bruce-Ops	***D-CDBI-Kew*** Bruce-Ops	AL		Seminar	Eng Sem 11,12		AL	
Langstaff	***FP-I-PAL***	***FP-O-PAL***	***D-FP-PAL***	***D-FP-PAL***		Seminar	Eng Sem 11,12			
Munir	FP-I-PAL	FP-O-PAL	D-FP-PAL			Seminar	Eng Sem 11,12			
Szwarc	CDBI-O-Kew	D-CDBI-Kew				Seminar	Eng Sem 11,12			
Winter	FP-I-PAL	FP-O-PAL	D-FP-PAL			Seminar	Eng Sem 11,12			

Follow-up Clarification Related to the DB Response to RAI 3.1.2.2-2
June 26, 2011

Background
In the third request item of RAI 3.1.2.2-2, the staff requested that the applicant describe the functional groups for the following two components that are addressed in LRA Table 3.1.2-2: (1) core support assembly (CSA) vent valve body, and (2) plenum cylinder reinforcing plate. The staff also requested that if existent, the applicant describe their link relationships (such as primary/expansion link) with other components. In addition, the applicant was requested to describe the inspection method, including the inspection frequency, for the components.

In its response dated July 22, 2011, the applicant stated that in MRP-227, the reactor internals were assigned to one of the following four functional groups: Primary, Expansion, Existing Programs, and No Additional Measures components. The applicant also stated that the link relationships are consistent with that provided in Tables 4-1 and 4-4 of MRP-227, Rev. 0. The applicant further stated that the inspection frequency and method for the primary and expansion components are provided in Tables 4-1 and 4-4 of MRP-227, Rev. 0.

In addition, the revised LRA Table 3.1.2-2 in response to RAI 3.1.2.2-2 does not include an AMR item to manage reduction in fracture toughness of the CASS CSA vent valve body and plenum cylinder reinforcing plate.

Issue
The staff noted that MRP-227 Tables 4-1 and 4-4 referenced in the applicant's response do not clearly address information regarding (1) the functional groups, (2) the link relationships, or (3) the inspection method, including the frequency, specified for the CSA vent valve body and plenum cylinder reinforcing plate. In addition, the revised LRA Table 3.1.2-2 does not address reduction in fracture toughness of these CASS components. The staff also found a need to clarify whether or not the applicant's aging management for these components is based on applicant's plant-specific existing inspections (for example, inspections per ASME Code Section XI requirements or Technical Specifications).

Request
Provide the information regarding (1) the functional groups, (2) the link relationships (if existent) and (3) the inspection method including the frequency for the CSA vent valve body and plenum cylinder reinforcing plate made of CASS.

As part of the response, clarify whether or not the applicant's aging management for reduction in fracture toughness of these CASS components is based on applicant's plant-specific existing inspections (for example, inspections per ASME Code Section XI requirements or Technical Specifications).

In addition, describe the applicant's operating experience in terms of the occurrence of cracking or reduction in fracture toughness of these components.