

October 18, 2002

MEMORANDUM TO: Davis-Besse Nuclear Power Station IMC 0350 Panel

FROM: John A. Grobe, Chairman, Davis-Besse Oversight Panel */RA/*

SUBJECT: MINUTES OF INTERNAL MEETING OF THE DAVIS-BESSE  
OVERSIGHT PANEL

The implementation of the IMC 0350 process for the Davis-Besse Nuclear Power Station was announced on April 29, 2002. An internal panel meeting was held September 24, 2002. Attached for your information are the minutes from the internal meeting of the Davis-Besse Oversight Panel and the Action Items List. Also attached are approved inspection plans for the following inspections: IR# 50-346/2002013 and 50-346/2002014, "System Health Assurance Program" and IR# 50-346/2002015, "Management and Human Performance Assessment."

Attachment: As stated

cc w/att: S. Rosenberg, OEDO  
W. Dean, NRR  
A. Mendiola, NRR  
D. Pickett, NRR  
S. Bloom, NRR  
J. Dyer, RIII  
J. Caldwell, RIII  
G. Grant, RIII  
S. Reynolds, RIII  
C. Lipa, RIII  
D. Hills, RIII  
L. Collins, RIII  
D. Passehl, RIII  
D. Simpkins, RIII  
J. Jacobson, RIII  
S. Burgess, RIII  
R. Lickus, RIII  
S. Thomas, RIII  
M. Holmberg, RIII  
J. Collins, RIII  
DB0350

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 DB0350

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OFFICE	RIII	RIII	RIII
NAME	/RA/ Passehl Acting for/ JCollins/klg	CLipa	JGrobe
DATE	10/14/02	10/14/02	10/18/02

OFFICIAL RECORD COPY

MEETING MINUTES: Internal IMC 0350 Restart Panel Meeting  
Davis-Besse Nuclear Power Station

DATE: September 24, 2002

TIME: 1:00 p.m. Central

ATTENDEES:

J. Grobe	G. Wright
B. Dean	S. Bloom
C. Lipa	S. Thomas
D. Simpkins	T. Mendiola
B. Jorgensen	D. Passehl
J. Hopkins	J. Collins

Agenda Items:

1. Reports from Staff

Report by Geoff Wright on Management and Human Performance Inspection Progress

Phase One of the inspection will be complete by next week, October 4, 2002. A decision was reached that any items needing additional coverage would be put into the RAM and the inspection would continue on to Phase Two. Exit briefing with the licensee will not take place until the inspection team briefs the Davis-Besse Oversight Panel on findings at the October 8, 2002 meeting.

Discussion was held on the licensee's activity to put together a new framework for reviewing work. The Davis-Besse Oversight Panel noted that while degradation of individual programs were internal problems, the overall organization and quality assurance plan deficiencies should have been identified by an external committee.

Geoff Wright identified two issues as concerns of the inspection team. The effectiveness of the licensee's resolution to the non-technical root cause needed to be evaluated by a truly independent source. The IAEA was discussed as a possible source, however the Davis-Besse Oversight Panel wanted to ensure that no recommendations were made to the licensee from either the Davis-Besse Oversight Panel or inspection teams. The additional concern of the inspection team was the licensee failed to sufficiently identify why safety concerns were not placed above production.

Site activities (RIO)

Scott Thomas briefed the Davis-Besse Oversight Panel on current site activities noting the following:

- Four Allegations had been received since the previous Tuesday. General themes were discussed by the Davis-Besse Oversight Panel.

- A series of recent licensee personnel events have forced the station clock to be reset and work stand downs. Events centered on inattention to detail and poor maintenance practices.
- Containment steel liner welding is almost complete. Radiographic tests are scheduled for Thursday, September 26, 2002, evening.
- Pouring of concrete had commenced for the outer containment structural wall. Low oxygen content was found in samples taken from the initial concrete pouring truck. One-third of the truck's concrete volume had been used to patch the containment wall before the pour was stopped. Samples were taken of the concrete to undergo seven and twenty-eight day compression testing to verify the condition of the low oxygen content material. The Davis-Besse Oversight Panel decided to include this item into the RAM for tracking and resolution.
- Decay Heat Pump #2 had contaminated oil samples. Recent maintenance was performed on the pump. Licensee proposes that contamination may have been introduced while the pump was reassembled or during initial wear of new bearing. Extensive work is planned on the pump as a follow-up action.
- An individual entered a High Radiation Area with his personal dosimeter on "pause" for approximately one hour. Numerous opportunities for the individual to check his personal dosimeter were available.

#### Proposed Project Management Strategy

The Proposed Project Management Strategy was presented in draft form to the Davis-Besse Oversight Panel by John Grobe. The purpose of the strategy was to obtain additional structure and individual assignments to duties beyond the action item list. Initial discussion on the strategy noted that this item was an update to the Process Plan. Resolution was reached to incorporate the Proposed Project Management Strategy into an updated Process Plan for the next internal Davis-Besse Oversight Panel meeting.

The Proposed Project Management Strategy draft was discussed in detail with the following items of note:

- The Quarantine Plan closure and Technical Root Cause closure are on hold pending the results of the September 24, 2002 trip by NRR to review materials data on the specimen at the Framatome facility in Lynchburg, VA.
- The definition of restart was agreed upon by the Davis-Besse Oversight Panel as entrance to Mode 2 operations.
- An update to the Confirmatory Action Letter (CAL) was deemed necessary to effectively communicate the restart definition to the licensee, and close out completed actions.
- The procedure for communicating the significance assessment of head degradation performance deficiencies was discussed. An EN, authored by NRR,

to the Commission was agreed upon as proper Commission communications format.

- The significance assessments of health physics issues were discussed. The contractor evaluation of bioassay results from a potential overexposure will take approximately three weeks to complete. The concern was raised that significance assessment of this issue may be delayed significantly. A recommendation was raised for parallel path development of the SERP package.
- The management of the restart checklist was discussed. A point was raised that a decision on inclusion of health physics and ECCS/Containment Spray/Sump Operability into the checklist needed to be made. A discussion was held on the issue of these items already being included in the checklist under general topics or needing to be more clearly represented by separate line entry.
- The management of the inspection program was discussed. The decision was reached that chief inspectors should provide inspection report statuses to the Davis-Besse Oversight Panel during internal meetings. A point was made to determine if the resident baseline inspection program implementation was a goal.
- The management of licensing actions was discussed. Six items were currently noted on the restart checklist. An action item was developed to provide a report on all licensing actions for Davis-Besse to the Davis-Besse Oversight Panel. This item was tasked to Anthony Mendiola.
- A discussion was raised on including a section on the Lessons Learned Task Force report. One section is expected to deal with licensee actions.

#### Review of action items (panel)

Item 89 was discussed. Report expected out next week

Item 99 was discussed. Decision reached for C. Lipa to discuss item with J. Jacobson.

Item 105 was discussed. Resolution reached to add D. Lochbaum to service distribution lists. Once he is added Item 104 would be considered closed as well.

Item 106 was discussed. Resolution was made to add this item to restart checklist as item 2.c.1.

Item 109 was considered complete.

Item 110 this item is expected to be complete by the end of the week.

New Action Item was added to remove UCS representative from service lists 90 days after DD on 2.206 Petition is issued.

New Action Item was added for J. Hopkins to coordinate with B. Sheron for further details on expected visit to Davis-Besse.

New Action Item was added to inform licensee that based on preliminary analysis the health physics issue may be added to restart checklist.

New Action Item was added to inform licensee that based on preliminary analysis the completeness and accuracy of records issue may be added to restart checklist under programs as item 3.h.

New Action Item was added to provide a report on all licensing actions for Davis-Besse to the Davis-Besse Oversight Panel.

New Action Item was added to produce a photo view book that would have before and after photos of corrective maintenance items.

#### Licensing Issues/Actions (DLPM) - status sheet

Status of Davis-Besse ticket tracking was presented by Anthony Mendiola.

- Green ticket G02-263 was discussed. Timeline for activities was due on Tuesday.
- Green ticket G02-265 was discussed. Item identified as falling behind schedule for response. Item currently under discussion by OGA, OCM and OGC.
- Green ticket G02-313 was discussed. Fifth letter in response to ticket is under review process with OGC and awaiting completion of FOIA's 0229 and 0345.
- Green ticket G02-513 was discussed. Discussion on disposition of ticket as allegation was accepted. Item will now be processed through Region III Allegation procedures.
- 2.206 ticket G02-246 was discussed. New attachment to response is in routing with comments on Q&A section.

#### Communications Plan (panel)

A discussion on the communications plan effectiveness was held. Members had differing views of responsibilities of members under the communications plan. Action item was created to email the current Communication Plan responsibilities and the communication responsibilities of Inspection Manual Chapter 0350 to the members of the Communication Team for further discussion and resolution at the next internal meeting.

## 2. IMC 0350 Panel Business

#### Inspection Schedule

The health physics issue of a possible overexposure condition was discussed. The decision was reached to add an action item explaining to the licensee that based on

preliminary analysis this item may be added to the restart checklist. Resolution was reached to seek qualified assistance in providing background information for radiological controls special inspections.

The completeness and accuracy of records issue was discussed. The decision was reached to add an action item explaining to the licensee that based on preliminary analysis this item may be added to the restart checklist. Resolution was reached that the focus of a specific inspection would be to insure that this issue would not happen again.

#### Process Plan

Process Plan to be updated and merged with Proposed Project Management Summary.

#### Restart Checklist - Investigations

No new information provided.

#### Licensee Return to Service Plan

The return to service plan, (Rev. 2) in ADAMS was found incomplete.

#### Allegations

Monthly allegations status briefing postponed to next internal meeting.

3. NRC/Licensee weekly calls

No call was held last week, due to site public meetings.

4. Utilization of the Web Page

No new items were discussed

5. Future Activities/Plans/Meetings

#### Six-week look ahead schedule

Discussion was held on possible site visits by NRC management. Additional details required.

#### Next panel meetings: Tuesdays thru 10/29 2:00 - 5:00 EDT, 1:00 - 4:00 CDT

Monthly allegations briefing to be added to agenda.

6. Discuss how to handle public or staff comments, questions, allegations, and concerns received by phone, fax, letter, email, or at public meetings.

No new issues were discussed.

IMC 0350 Panel Action Items

Item Number	Action Item (Date generated)	Assigned to	Comments
24a	Discuss making information related to HQ/licensee calls publicly available	Panel	<p>Discuss by June 30, after safety significance assessment complete. 6/27 - Invite Bateman to panel mtg. To discuss what else is needed to closeout the CAL (i.e. quarantine plan). 7/2 - NRR not yet ready to discuss. 7/16 - See if procedures have changed on CAL closeout - does JD need to send letter? 7/18 - Discussed - is there an applicable regional procedure? 8/6 - Discussed. Need to determine the final approach on the core removed from the head and the final approach on the head before the quarantine can be lifted. 8/22 - Revisit action item after letter sent to licensee confirming plans with old vessel head (head may be onsite longer than originally anticipated) 8/29 - Memo to be sent to Region, with a letter to go out next week.</p>
26	Provide licensee with inspection schedule	Panel	<p>7/16 - pending 7/18 - J. Jacobson working - will follow issuance of restart checklist. Est due date 8/2 to include scheduled and TBD inspections. 8/22 - System health dates now set - will likely send out schedule next week. 8/27 - Discussed - on track to send out next week. 8/29 - discussed, on track.</p>

Item Number	Action Item (Date generated)	Assigned to	Comments
54a	Review TSP amendment and advise the panel on the need for a TIA on Davis-Besse (7/2)	D. Pickett	7/9 - Discussed. Will wait for response from licensee. 7/16 - Discussed - added action item 54b. 8/6 - Sent to the licensee on 7/22 and a response is due by 8/22. 8/22 - Discussed - need to check if response has been received. 8/27 - Received response - DRS is reviewing - will fax to NRR for 54b. 8/29 - Discussed, DRS report of response to be issued to panel prior to item 54b.
54b	Initiate correspondence w/NRR to evaluate generic implications (7/16)	T. Mendiola	7/18 - Memo will be sent to Hannon's group. 8/6 - Discussed - not yet issued. 8/13 - Discussed - need info from 54a first.
71	Discuss review and documentation of the Technical Root Cause and determine if the action is in NRR's work management system. (8/6)	Sands Dean Panel Lipa	8/6 - Invite to 8/13 mtg. 8/13 - Discussed. S. Coffin to provide feeder to Lipa regarding conclusions due 8/30 draft. 8/22 - Discussed - NRR will email draft for review/ need to determine how final input should be sent from NRR to RIII. 8/27 - Discussed draft input and process for formal transmittal from NRR to RIII. 8/29 - Deferred to 9/5 meeting. 9/18 - On hold due to crack
72	Review LLTF observations and determine appropriate closeout. (8/6) Review for safety issue/ AMS/OI/new items.	Lipa/Collins	8/13 - Discussed. Items reviewed for allegations. No new allegations identified. Info related to ongoing investigations will be forwarded to OI. 8/22 - Discussed - need to keep this item open as a reminder to consider outstanding LLTF items. 8/29 - Discussed - leave open.
73	Send feedback form on IMC 0350 procedure to IIPB (8/6)	Lipa Mendiola	8/6 - Generate feedback after panel meetings reduced to once per week. 8/29 - Discussed - no change.

Item Number	Action Item (Date generated)	Assigned to	Comments
74	Matrix strategy for UCS and other requests. (8/8)	Lipa	8/13 - Discussed. 8/22 - Discussed - matrix is being developed will send out for review when ready. 8/29 - Discussed - matrix has been started.
82	Circle back with LLTF to put their observations into context (8/8)	Grobe	
83	Verify results of ongoing research related to the technical root cause evaluation has not changed NRC/DE conclusions (8/13)	Panel Coffin	
85	Send letter/action plan to the licensee regarding actions required to be completed to close CAL item related to quarantine (8/20)	Dean (DE) Hopkins	8/22 - Discussed - NRR will send draft to RIII by 8/30. 8/27 - Discussed - letter being drafted and should be ready next week. 9/19- On hold due to crack - get letter out to licensee re: from Mode 3 to Mode 2
88	Develop draft proposal on how to assess significance/respond to TIA (8/20)	Burgess	8/27 - Working to a due date of 8/30 to present to the panel next week.
89	Provide report input on Framatome inspection of records for the new vessel head (8/27)	R. McIntyre M. Holmberg	Will be feeder to Mel's need for 9/17 public mtg. 9/17 - Plan to send this week to Mel. 9/24 - Report expected out next week.
90	Response to feedback form from 8/20 Public Meeting (8/29)	J. Strasma	
91	Call McClosky to discuss docketing Return to Service Plans (9/3)	Lipa	9/17 - Called - need to check back.
95	Interpret CAL & TS and define which mode change needs approved (9/5)	Lipa Thomas	

Item Number	Action Item (Date generated)	Assigned to	Comments
96	Ongoing phase 3 observations of management and human performance following restart (9/5)	Lipa	
97	Bulletins 2002-01 and 2002-02 response and acceptance (9/5)	NRR	
98	Poll staff for differing opinions (9/5)	Panel	Incorporate into Process Plan
99	Bring to panel all 95002/95003 attributes (9/5)	Jacobson/ Lipa	9/24 - Decision for C. Lipa to discuss item with J. Jacobson.
102	NRR Approval of Concern 3 for Licensee Investigation Report for Allegation No. RIII-02-A-0110 (9/12)	Mendiola	
103	Issue 3 memos to staff - forward emails to DB0350/RES/NRR/RIII (9/17)	Dean/Grobe	
104	Add UCS to service lists in RIII and NRR (9/17)	Lipa/ Mendiola	
105	Call Lochbaum and ask if adding him suffices (9/17)	Macon	9/24 - Add Lochbaum to service distribution lists. Once this action is complete, Item 104 will close as well.
106	Risk-significance on containment sump past operability - consider for checklist (9/17)	S. Burgess	9/24 - Add this item to restart checklist as item 2.c.1.
107	When AIT F/U IR is issued, consider item on records& communication accuracy (9/17)	Panel	

Item Number	Action Item (Date generated)	Assigned to	Comments
108	Resolution of OI issues, consider adding to restart checklist (9/17)	Panel	
109	Assure proper inspection code charges are used for current teams (9/19)		9/24 - closed
110	Determine when licensee will docket technical root cause and determine when the safety analysis will be delivered to the NRC (9/19)	J. Hopkins	
111	Coordinate with LLTF to brief state and county officials (9/19)	R. Lickus	
112	Contact Nora (Myers secretary) to explain feedback and establish future ROP dates(9/19)	C. Lipa	
113	Remove UCS representative from service lists 90 days after DD is issued. (9/24)	C. Lipa	
114	Details of expected visit to site (9/24)	Hopkins/ Sheron	
115	Notify licensee that health physics issue may be added to restart checklist (9/24)	Grobe	
116	Inform licensee that completeness and accuracy of records issue may be added to restart checklist (9/24)	Grobe	
117	Provide a report on all licensing actions for DB to the DB Oversight Panel (9/24)	Hopkins	

Item Number	Action Item (Date generated)	Assigned to	Comments
118	Produce a photo view book that would have before and after photos of corrective maintenance items (9/24)	Jorgensen	

## INSPECTION PLAN

### SYSTEM HEALTH ASSURANCE PROGRAM

#### Davis-Besse Nuclear Power Station

Inspection Report Number 50-346/2002013(DRS)

Inspection Report Number 50-346/2002014 (DRS)

#### Inspection Objectives

There are three objectives for this inspection:

1. To evaluate the licensee's implementation of the System Health Assurance (SHA) Building Block in their Return to Service Plan.
2. To verify that the design bases have been correctly implemented for selected risk-significant systems to ensure that the systems can be relied upon to meet their functional requirements.
3. To accomplish applicable inspection requirements from Inspection Procedures 95002 and 95003

Inspection Dates: September 3 through November 8, 2002

#### Applicable Inspection Procedures

IP 71111.02, "Change, Tests, or Experiments

IP 71111.17, "Permanent Plant Modifications

IP 71111.21, "Safety System Design and Performance Capability"

IP 93812, "Special Inspection"

IP 95002, "Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area"

IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input"

Prepared by:  /RA/  
Martin J. Farber

Reviewed by:  /RA/ 09/15/2002  
Christine A. Lipa, Chief  
Reactor Projects Branch 4

Approved by :  /RA/  
John A. Grobe, Chairman  
Davis-Besse MC 0350 Panel

## INSPECTION PLAN DETAILS

### I. Inspectors

M. Farber, Program Leader

#### System Health Assurance Implementation Inspection

M. Farber, Senior Reactor Inspector

J. Jacobson, Senior Mechanical Engineer

#### System Health Assurance Design and Performance Capability Inspection

B. Bartlett, Senior Resident Inspector (Team Leader)

R. Daley, Reactor Engineer

R. Deese, Resident Inspector, RIV

J. Ellegood, Resident Inspector, RIII

D. Prevatte, Consultant

M. Shlyamberg, Consultant

### II. Inspection Approach

The approach to inspection of the System Health Assurance Building Block incorporates the following components:

- 1) Review and evaluate the licensee's "Building Block" program plan and applicable parts of the licensee's Return to Service Plan, Restart Action Plan, and Restart Action Plan Process. The effort should address the applicable root and contributing causes.
- 2) Observe and evaluate a risk-informed sample of the licensee's implementation efforts for the program.
- 3) Assess the licensee's independent oversight effectiveness for the program.
- 4) Evaluate the adequacy of the licensee's Performance Indicators for the area of inspection, review the insights provided by implementation of those performance indicators, and review the actions taken in response to performance indicator data.
- 5) Perform independent inspection to verify licensee's results.
- 6) Classify and evaluate, in accordance with licensee's restart action plan process, a sampling of the issues which emerged from the discovery portion of the system health assurance plan.

Components 1, 2, 3, 4, and 6 will be addressed by the System Health Assurance Implementation Inspection (report 50-346/2002-013). Component 5 will be addressed by the System Health Assurance Design and Performance Capability Inspection (report 50-346/2002-014).

This inspection also addresses the following activities specified by IPs 95002 and 95003:

IP 95002

- 02.01 Problem identification
  - 02.01.a Determine that the evaluation identifies who (i.e. licensee, self revealing, or NRC), and under what conditions the issue was identified.
  - 02.01.b Determine that the evaluation documents how long the issue existed, and prior opportunities for identification.
- 02.02 Root Cause and Extent of Condition Evaluation
  - 02.02.a Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s).
  - 02.02.b Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.
  - 02.02.c Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.
  - 02.02.d Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problem.
- 02.03 Corrective Actions
  - 02.03.a Determine that appropriate corrective action(s) are specified for each root/contributing cause or that there is an evaluation that no actions are necessary.
  - 02.03.b Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.
  - 02.03.c Determine that a schedule has been established for implementing and completing the corrective actions.
  - 02.03.d Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence
- 02.04 Independent Assessment of Extent of Condition and Generic Implications

Perform a focused inspection(s) to independently assess the validity of the licensee's conclusions regarding the extent of condition of the issues

IP 95003

- 02.02 Assessment of Performance in the Reactor Safety Strategic Performance Area (Initiating Events, Mitigation Systems, Barrier Integrity, and Emergency Preparedness Cornerstones).
- 02.03.a.2 Select a system(s) for focus using the plant specific individual plant evaluation (IPE) and issues
- 02.03.a.3 Perform the following inspection requirements for each key attribute focusing on the selected system. While the inspectors should focus on the selected system, other systems and components may be reviewed as necessary to assess licensee performance for the following key attributes
- 02.03.b Key Attribute - Design
  - 02.03.b.1 Assess the effectiveness of corrective actions for deficiencies involving design.
    - .2 Select several modifications to the system for review and determine if the system is capable of functioning as specified by the current design and licensing documents, regulatory requirements, and commitments for the facility.
    - .3 Determine if the system is operated consistent with the design and licensing documents.
    - .4 Evaluate the interfaces between engineering, plant operations, maintenance, and plant support groups.
- 02.03.d Key Attribute - Procedure Quality
  - 02.03.d.2 Evaluate the quality of procedures and as applicable, determine the adequacy of the procedure development and revision processes.
- 02.03.e Key Attribute - Equipment Performance
  - 02.03.e.2 Determine if the licensee has effectively implemented programs for control and evaluation of surveillance testing, calibration, and post-maintenance testing.
    - e.3 Assess the operational performance of the selected safety system to verify its capability of performing the intended safety functions.
- 02.03.f Key Attribute - Configuration Control
  - 02.03.f.2 Perform a walkdown of the selected system. In addition, if the selected system does not directly have a containment over-pressure safety function (such as containment spray), conduct an additional review of such a system.

- (a) Independently verify that the selected safety system is in proper configuration through a system walkdown.
  - (b) Review temporary modifications to ensure proper installation in accordance with the design information.
- .6 Review the results of the plant specific IPE relative to the system(s) selected. Determine if the IPE is being maintained to reflect actual system conditions regarding system capability and reliability.

### III. Detailed Inspection Schedule

#### Preparation and Inspection Activities

##### System Health Assurance Implementation Inspection

- Team Leader Preparation: August 26 - 30, 2002
- Entrance Meeting: September 3, 2002
- First On-site Inspection Week: September 3 - 6, 2002
- Additional Weeks as necessary (estimate 5) from September 9 - November 1, 2002
- Final On-site Inspection Week: November 4 - 8, 2002
- Exit Meeting: November 8, 2002

##### System Health Assurance Design and Performance Capability Inspection

- Team Leader Preparation: September 9 - 13, 2002
- Team Inspection Preparation at Region III offices: September 16 - 20, 2002
- Entrance Meeting: September 23, 2002
- First On-site Inspection Week: September 23 - 27, 2002
- Second On-site Inspection Week: September 30 - October 4, 2002
- Third On-site Inspection Week: October 7 - 11, 2002
- Exit Meeting: October 11, 2002

#### Inspection Documentation

##### System Health Assurance Implementation Inspection

- Inputs Due: Close of Business, November 15, 2002
- Draft Completed: November 22, 2002
- Management Review and Approval Completed: November 29, 2002
- An inspection report must be issued before December 6, 2002 (30 days from the exit)

##### System Health Assurance Design and Performance Capability Inspection

- Inputs Due: Close of Business, October 18, 2002
- Draft Completed: November 1, 2002
- Management Review and Approval Completed: November 20, 2002

- An inspection report must be issued before November 25, 2002 (45 days from the exit)

#### **IV. Specific Inspection Activities**

##### **System Health Assurance Implementation Inspection**

###### **a. Lead Inspector Preparation**

Review the following documents or portions of documents associated with the SHA

- Return to Service Plan
- Nuclear Quality Assessment Oversight of Davis-Besse Return to Service Plan
- Davis-Besse Restart Senior Management Team Charter
- Davis-Besse Restart Overview Panel Charter
- Davis-Besse Restart Station Review Board Charter
- Davis-Besse System Health Assurance Plan
- System Health Assurance Discovery Action Plan
- DBE-0001, Engineering Assessment Board Role/Policy in Support of the Return to Service Plan
- IP-A-003, Latent Issues Review (LIR) Process
- EN-DP-01504, System Health Readiness Review
- EN-DP-01503, System Walkdowns

###### **b. Inspection Activities**

Review the following activities conducted under the SHA

- Reviewer training and qualification
- Licensee performance indicators relative to SHA
- NQA oversight plans specific to SHA
- Monitor Latent Issues Review team activities in-process
- Monitor System Health Readiness Review team activities in-process
- Monitor Engineering Assessment Board activities in-process
- Monitor NQA oversight activities in-process
- Monitor licensee evaluation of progress compared to performance indicators
- Walk down two of the 31 SHRR systems
- Review all five Latent Issue Summary Reports in detail
- Review five of 31 System Health Readiness Review Summary Reports in detail
- Review evaluation and disposition of discrepancies identified during program

###### **• Starfire Information**

There are currently no resource estimates for this inspection. Direct inspection time will be charged to Inspection Procedure 93812 with an IPE of "ER."

Preparation and documentation for this inspection will use an IPE or SEP or SED.

- **Findings**

The Risk Informed Inspection Notebook and the Significance Determination Process (SDP) for Davis-Besse Nuclear Power Station have been developed and approved. Inspectors must be able to address the questions of Manual Chapter 0612 and process the finding through phase 2 of the SDP as necessary. Green findings will be documented in the inspection report. Findings that appear to be "other than green" shall be immediately discussed with the licensee and the senior reactor analyst, to ensure that Palisades PRA information is correctly considered. Enforcement action for green or non-SDP issues will be handled in accordance with the Enforcement Policy.

- **Documentation**

The report will be prepared in accordance with the guidance in Manual Chapter 0612, although some flexibility will be allowed for documenting observations due to the nature of the inspection.

- **Interface and Coordination**

Meetings with the Licensee

- An entrance meeting will be held at 9:30 a.m. on Tuesday, September 3, 2002.
- A short licensee debrief will be held at 11:30 a.m., on Friday, at the close of each inspection week, prior to leaving the site.
- The exit meeting is tentatively scheduled for 10:30 a.m. on Friday, November 8, 2002.

Routine Interactions

Through-out the inspection, inspectors are expected to have routine interactions with licensee employees. It is expected that these interactions will be professional in nature and will normally be conducted without the lead inspector present. Any questions or requests for further information arising from these meetings will be conveyed to the lead inspector.

Exit Meeting

The inspectors will conduct an exit meeting on November 8, 2002.

**System Health Assurance Design and Performance Capability Inspection**

- a. **Team Leader Preparation**

System Selection (02.01.a)

The Service Water, High Pressure Injection, and 4160VAC systems were selected for this inspection. These systems were selected based on:

- supporting a mitigating system function
- having high safety significant maintenance rule functions;
- having high risk achievement worths in the probabilistic risk assessment;
- not having received recent NRC review

Service Water is the subject of the licensee's Latent Issues Review (LIR) process; High Pressure Injection and 4160 VAC are the subjects of the licensee's System Health Readiness Review (SHRR) process.

Service Water will be subjected to a full Safety System Design and Performance Capability Inspection in accordance with Inspection Procedure 71111.21. This will enable evaluation of the licensee's LIR process. High Pressure Injection and 4160 VAC will be examined in a less intrusive manner. This will enable evaluation of the licensee's SHRR process.

#### Component Selection (02.01.b)

Two major components of each system will be selected by the team during the preparation week. These components will be selected based on:

- having high risk achievement worths in the probabilistic risk assessment;
- having a high safety significant maintenance rule function;
- having unusual or unique environmental requirements, seismic requirements, or other characteristics that might not be demonstrated by testing or
- representative of a number of other system components.

#### Information Collection (02.01.c)

As part of the inspection preparation, the team leader has contacted the licensee, informed them of the system chosen, and arranged for necessary information to be conveyed to the inspection team. The information requested of the licensee is attached to the back of this plan. Other sources of information are identified in section 03.01.c of the SSDI inspection procedure; any need for these additional sources will be identified during the team preparation week. If during the preparation week additional information is determined to be necessary, this will be conveyed to the licensee as expeditiously as possible. The regulatory assurance contact is G. R. Mountain (419-321-7325).

### **b. Team Preparation**

A team meeting will be held Monday, September 16, 2002 at 1:00pm. In this team meeting, the team leader will distribute information provided by the licensee, as well as copies of the pertinent UFSAR and TS sections. Additionally, during this meeting, the team leader will go over inspection logistics and answer team questions.

Over the next two days, each inspector, including the team leader shall review the provided documentation, working with other team members as necessary, to obtain sufficient familiarity with the chosen system such that the system flowpaths, actuation signals, and interlocks can be readily identified. The inspectors should also know the functional requirements for the active components and any operator actions required to support the systems' safety functions. An inspection preparation checklist will be provided and may be used at the inspectors option to document information to support the rationale for the final system/ component attribute determination

A second team meeting will be held Thursday, September 19, at 4:00pm. Each team member is expected to arrive at this meeting prepared to discuss the important system attributes that should be verified. In this meeting, the inspection team will collegially determine the specific components and the system and component attributes to be inspected. The selection of inspection attributes will be focused on those attributes that are not fully demonstrated by testing, have not received recent in-depth NRC review, or are critical for the system function. Based on this, each inspector should be able to provide a ranking of the system needs to be inspected. Additionally, the inspectors should have identified the two most significant components in each system which require further detailed review. The team leader will immediately inform the licensee of the components selected.

**c. Inspection (02.02& 03.02)**

Successful completion of this inspection procedure requires that each inspection activity build upon the previous activities and upon a full understanding of how the system operates, and is supposed to operate. Inspection of broad-based attributes, such as those described in the inspection procedure and delineated below, cannot be accomplished by a single inspector working independently of the rest of the team. Therefore, the team is being divided into areas with the following assignments:

Electrical - Daley  
Mechanical - Prevatte  
Mechanical/thermohydraulic - Shlyamberg  
Operations - Ellegood/Deese  
Corrective Actions -Ellegood  
Maintenance/Surveillance -Deese

Within these areas, the intent is to ensure that all inspection attributes are met without duplication of effort, but with extensive teamwork. To ensure this teamwork, a short (10-minute) team meeting will be held each morning to divide team activities for the day. The daily afternoon team meeting will then focus on how those activities were completed and what remains to be done to accomplish the inspection objectives.

The inspectors will accomplish the following inspection activities, as appropriate:

- Complete each inspection activity specified in Tables 02.02.a and 02.02.c for the system and component attributes chosen during the preparation week.
- Verify, by walkdown or other means, that system-installed configuration will support system function under design conditions.
- Verify that component configurations have been maintained to be consistent with design assumptions.
- Verify that operation and system alignments are consistent with design and licensing basis assumptions
- Verify that design bases and design assumptions have been appropriately translated into design calculations and procedures.
- Verify that acceptance criteria for tested parameters are supported by calculations or other engineering documents to ensure that design and licensing bases are met.
- Verify that individual tests and/or analyses validate integrated system operation under accident/event conditions.
- Verify that the licensee is identifying design issues at an appropriate threshold and entering them in the corrective action program.

**d. Starfire Information**

The inspection procedure calls for 420 ( $\pm$  60) hours of direct inspection effort. Approximately 10% of this should be spent in evaluating problem identification and resolution (the last two bullets). This will fulfill the requirements of 71111.21. The direct inspection hours do not include time spent in travel, entrance or exit meetings, debriefing the residents, checking on e-mail, or keeping track of hours to correctly credit them. However, it does include time spent in team meetings and in preparing for team meetings. Time is generally to be charged to IP "71111.21" with an IPE of "BI." Time spent on problem identification and resolution should be charged to 71111.21.

**e. Findings**

The Risk Informed Inspection Notebook and the Significance Determination Process (SDP) for Davis-Besse Nuclear Power Station have been developed and approved. Inspectors must be able to address the questions of Manual Chapter 0612 and process the finding through phase 2 of the SDP as necessary. Green findings will be documented in the inspection report. Findings that appear to be "other than green" shall be immediately discussed with the licensee and the senior reactor analyst, to ensure that Palisades PRA information is correctly considered. Enforcement action for green or non-SDP issues will be handled in accordance with the Enforcement Policy.

**f. Documentation**

Detailed design inspections normally result in a number of questions being raised. These questions are to be given to the licensee verbally or, if written, the licensee must copy the information and the inspector must retain the written document. As part of the daily interfaces with the licensee, the team leader will go over the status of outstanding questions. Therefore, the team members need

to keep the team leader informed of any concerns with timeliness or quality of responses to questions. Lack of response to questions will not be accepted as a reason for any delay in providing an input unless the team leader has been informed prior to the exit and the issue is one that will necessitate a writeup in the report. Any document requests generated on the day of the exit or afterwards must be approved by the team leader, must pertain to areas already inspected, and must be only for the purpose of ensuring an accurate document list entry.

The report will be prepared in accordance with the guidance in Manual Chapter 0612. Input will primarily consist of a list of the documents reviewed, unless a finding (green or above), a violation, or extenuating circumstances exist. Issues which the inspector deems meet the criteria for report writeups shall be discussed with the team lead prior to preparing an input. Inputs are to be e-mailed to the team lead within five working days (seven calendar days) of the exit. Because of the limitations placed on writing detailed input, all documents reviewed shall be included in the document list. Corrective action documents generated as a result of the inspector's questions shall be listed separately from corrective action documents that were in the licensee's system prior to the inspection.

- **Interface and Coordination Meetings**

Meetings with the Licensee

- An entrance meeting will be held at 3:00 p.m. on Monday, September 23, 2002.
- A status meeting will be held at 9:30 a.m. each day during the inspection
- A short licensee debrief will be held at 10:30 a.m., on Friday, September 27, 2002, prior to leaving the site.
- The exit meeting is tentatively scheduled for 10:30 a.m. on Friday, October 11, 2002.

Daily debriefings with the licensee will start Tuesday, September 24th. Team members are expected to attend the debrief on Friday, October 27th, the exit meeting on Friday, October 11th, and to discuss their inspection findings at the inspection review on Thursday, October 10th. Team members do not have to routinely attend the daily debriefings.

Routine Interactions

Through-out the inspection, team members are expected to have routine interactions with licensee employees. It is expected that these interactions will be professional in nature and will normally be conducted without the team leader present. Any questions or requests for further information arising from these meetings will be conveyed to the team leader.

Team Meetings

- Team meetings will be held daily starting at 4:00 p.m. Monday, October 23rd. The meetings will last no more than one hour.
- An extensive team meeting will be held starting at 3:00 p.m. Thursday, October 10th, to discuss the team's findings and determine what will be discussed at the exit. This meeting will last longer than normal team meetings.

#### Exit Meeting

The team leader will conduct the exit meeting; team members are expected to attend the October 11, 2002 final exit meeting unless extreme circumstances occur.

**INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE  
ASSESSMENT**

**Davis Besse Non-Technical Root Cause Inspection Plan  
Inspection Report Number 50-346/02-15**

**Inspection Background and Objectives:**

An 0350 Oversight Panel has been established for Davis Besse. The Panel determined that an NRC review of the licensee's management and human performance root cause analysis is required. The review, conducted in a phased approach, is to assure the licensee has adequately conducted a root cause analysis to identify pertinent management and human performance issues that contributed to the vessel head degradation, identified appropriate corrective actions, implemented the corrective actions, and evaluated the effectiveness of the corrective actions.

The review will be conducted in three phases: Assessment of root cause(s) identification techniques and associated corrective actions (CA), CA implementation, and CA effectiveness. This inspection plan addresses all three phases of the inspection. The first phase will assess the licensee's root cause analysis and associated corrective actions. The second phase will assess the licensee's determination of which items are pre or post restart and will monitor the licensee's corrective action implementation. The second phase will also assess the licensee's programs for monitoring CA implementation and effectiveness, and the licensee's goals to be achieved prior to restart. The third and final phase will assess corrective action effectiveness.

The inspection will be a combination of a dedicated team and feedback from other ongoing NRC inspection as noted in the detailed inspection plan. The findings and conclusions from the inspection activities will be to provide the NRC's 0350 Oversight Panel to use in making a restart determination on Davis-Besse.

**Inspection Dates:**

Phase 1: September 4 through October 4  
Phase 2: TBD  
Phase 3: TBD

Prepared by:     /RA/      
G. C. Wright, RIII, DRP  
Project Engineer/Team Lead

Reviewed by:     /RA/      
Christine Lipa  
Chief, Projects Branch 4, DRP

Approved by:     /RA/      
Jack Grobe, Chairman,  
Davis-Besse Oversight Panel

# INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT

## Inspection Details

### 3. Inspectors:

Geoff Wright,	Team Lead, RIII
Rick Pelton,	NRR
Jeff Jacobson,	NRR
Julio Lara,	RIII
William Corcoran,	Contractor

### 4. Schedule:

#### Phase 1

Docket	=	05000346
Report No.	=	50-346/2002015
Insp. Proc.	=	93812
Inspection IPE	=	ER
Preparation IPE	=	SEP
Documentation IPE	=	SED

Preparation Time:	September 4-6, 2002
Entrance Meeting:	September 9, 2002
Inspection Dates:	September 9 to 13 September 30 to October 4
Exit Meeting:	TBD

#### Phase 2

Preparation Time:	TBD
Entrance Meeting:	TBD
Inspection at DBNP:	TBD
Exit Meeting:	TBD

#### Phase 3

Preparation Time:	TBD
Entrance Meeting:	TBD
Inspection at DBNP:	TBD
Exit Meeting:	TBD

## **INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT**

### **5. Preparation:**

On August 15, 2002, FirstEnergy, Davis-Besse Nuclear Power Station provided the NRC with its root cause analysis report on "Failure to Identify Significant Degradation of the Reactor Pressure Vessel Head." Copies of the document will be provided to all team members for review. The Team Leader will make arrangements with Davis-Besse staff for suitable facilities and material for the team. In addition to the analysis, copies of the licensee's management and human performance excellence plan (August Revision) will be provided.

### **6. Inspection Activities:**

Phase 1: Evaluate root cause determination methodology implementation and corrective action(s) appropriateness.  
*This portion of the inspection will be conducted by the team identified above.*

#### Inspection Activities:

Entrance Meeting: September 9, 2002  
Inspection Time: September 9 through October 4  
Exit Meeting: TBD.

- Evaluate the effectiveness of the licensee's implementation of its root causes assessment tools, e.g. Events and Causal Factors Analysis, Hazard-Barrier-Target Analysis, and Management Oversight and Risk Tree (MORT) Analysis.
  - Effectiveness of technique implementation
  - Appropriateness of material reviewed
  - Correlation(s) between Findings and Conclusions
  - Correlation(s) between Conclusions and Recommendations
- Assess correlation(s) and appropriateness of the licensee's CAs against root causes.
- Assess correlation(s) and appropriateness of the licensee's CAs against the "Davis-Besse Management and Human Performance Excellence Plan" (August Revision) items.
- Identify the differences between Recommendations and CAs as described in the licensee's Management and Human Performance Building Block. Evaluate the impact of any differences to correct identified deficiencies and prevent recurrence.

## INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT

- Additional activities IF licensee has progressed far enough to allow assessment:  
This activity will include a review, as appropriate, of the licensee's Return to Service Plan, Restart Action Plan, and Restart Action Plan Process.
  - Assess appropriateness of the licensee's corrective action implementation schedule, i.e., which corrective action are to be implemented pre-startup and which can be delayed until after startup.
  - Assess appropriateness of licensee's performance targets to be achieved prior to restart, i.e., what performance level should the organization be at, prior to restarting the facility.
  - Assess appropriateness of the licensee's monitoring activities for CA implementation and effectiveness.
  - Assess compensatory measures for CA which
    - will not be fully implemented.
    - where CA have not been in place long enough to evaluate effectiveness.
- Present assessment findings and conclusions to 0350 Oversight Panel
- Schedule Exit meeting.

Phase 2: Assess licensee CA implementation schedule and implementation of CAs  
*This portion of the inspection will be accomplished by a combination of a special inspection AND feedback from other NRC special inspections.*

### Inspection Activities:

Entrance Meeting: TBD  
Inspection Time: TBD  
Exit Meeting: TBD.

- Perform the following assessment to the extent not accomplished in "E" above. *This portion of the inspection will be accomplished by a special inspection.*
  - Assess appropriateness of the licensee's corrective action implementation schedule, i.e., which corrective action are to be implemented pre-startup and which can be delayed until after startup.
  - Assess appropriateness of licensee's performance targets to be achieved prior to restart, i.e., what performance level should the organization be at, prior to restarting the facility.

## **INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT**

- Assess appropriateness of the licensee's monitoring activities for CA implementation and effectiveness.
- Assess changes to the licensee's CAs and/or implementation plan for impact on program effectiveness.
- Assess compensatory measures for CAs which
  1. will not be fully implemented.
  - b. where CA have not been in place long enough to evaluate effectiveness.
  - c. where changes to improvement plan have been make which reduce the original scope of the program.

**B. Assess CA implementation.**

*This portion of the inspection will be accomplished by a combination of a special inspection AND feedback from other NRC special inspections.*

1. Assess licensee's follow through with implementation schedule
2. Assess licensee staff's knowledge of CAs and their implementation.
3. Assess licensee staff's understanding of their part in CAs.
4. Monitor licensee's metrics for assessing CA implementation

**3. Present assessment findings and conclusions to 0350 Oversight Panel**

- Schedule Exit meeting.

**Phase 3: Corrective Action Effectiveness.**

*This portion of the inspection will be accomplished by a combination of a special inspection AND feedback from other NRC special inspections.*

**Inspection Activities:**

Entrance Meeting: TBD  
Inspection Time: TBD  
Exit Meeting: TBD.

- Monitor licensee's metrics designed to measure CA effectiveness
- Assess licensee actions to address areas which do not meet goals or metrics with declining trends:
  - Is the corrective action program used to address issues
  - How are they tracked
  - How well are the issues handled
  - Corrective action effectiveness

## INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT

- Assess effectiveness of the licensee's internal and independent effectiveness audits, including the Safety Conscious Work Environment assessments.
  1. Identification of issues
  2. Corrective actions
  3. Effectiveness review
  
- D. Assess quality of licensee response to identified deficiencies and discrepancies
  - Use of corrective action program or another system
  - Licensee's significance categorization of findings
  - Root cause assessment
  - Corrective action identification and implementation
  - Corrective action effectiveness assessments
  - Impact of deficiencies on overall program effectiveness
  
- II Assess corrective action program implementation. The assessment will include independent sampling of the corrective action system implementation associated with Human Performance for:
  - Reactor Safety Strategic Performance Area (Initiating Events, Mitigation Systems, Barrier Integrity, and Emergency Preparedness),
  - Radiation Safety Strategic Performance Area (Occupational Radiation Safety),
  - Radiation Safety Strategic Performance Area (Public Radiation Safety -- Radiological Effluent Monitoring, Radioactive Material Control, and Transportation of Radioactive Material)
  - Safeguards Strategic Performance Area
  
- The assessments will cover:
  - II Issue identification
  - II Coding condition reports, i.e. threshold for categorizing issues
  - II Root cause assessments for condition reports
  - II Appropriateness of corrective actions to root causes
  - II Implementation of corrective actions
  - II Feedback on corrective actions effectiveness
  
- 6. Evaluate activities designed to assess whether licensee management's perspective and human performance is at a level sufficient to provide reasonable assurance that the facility can be safely operated. The activities may be an individual assessment or a combination of activities, e.g.,:

## **INSPECTION PLAN FOR MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT**

1. Licensee activities:

Licensee safety culture review (conducted by licensee staff and/or contractors and provided directly to the NRC or through license management)

2. NRC activities:

NRC safety culture review (conducted by NRC staff and/or contractors)

- Brief 0350 Oversight Panel on findings and conclusions from inspection.
- Schedule Exit Meeting.