From: John Grobe RIII
To: Christine Lipa; James Caldwell
Date: 2/17/04 7:24AM
Subject: Re: Davis Besse

See answers/comments/action items below.....(Sorry about the earlier response....I het send by accident.)

>>> James Caldwell 02/17/04 06:18AM >>>
I need to briefed on the following:

1. Results of any responses from the e-mail request for any restart concerns, what the issues were and the actions taken to resolve the issues.

Christine....your action item to pull this together for a briefing of Jim.

*Patr. concurrence

2. Status of the concerns with the corrective action inspection.

Corrective action inspection concerns are no longer an issue. Our challenge at this point is getting a 100++ page report and the closure documents for multiple RAM items completed. This is a challenge. Both Zelig and Patricia [redacted] 5

3. Status of the fire protection issue.

*white paper

Resolved last week. Do you want a copy of the paperwork, e.g., TIA response?

4. Status of the Management and Human Performance issue concerning the loss of confidence in current management and what actions we are going to take to put that issue to bed???

We are preparing a white paper on this subject and will have Q&As in the Comm Plan. (My action on the white paper....Jan/Vika action on the Comm Plan)

*need to say why

5. How do we intend to respond to the issues raised in the Feb 12 meeting or do we respond?

We had no action items from the 2/12 meeting. We receive the comments, but unless there is a question that we all agree during the meeting needs further action on our part, we do not respond.

□ if Rs - need to answer C4

6. How do we handle the issues raised by [redacted] Do we respond? 7C

We responded during the meeting. No further response is planned.

7. What's left for the licensee to complete from the 50.54 f response? Have we reviewed to verify no restart issues?

□ white paper - *may need a commitment

We pulled together a white paper on this issue. Let me dig it out and get it to you. (Christine, my action).

8. I don't have a copy of the county resolutions. Did you receive them?

□ Jim C - needs copies + make sure we have all

They will be attached to the transcript. Do you need a copy? It was pretty vanilla language.

9. Did [redacted] 7A

[redacted]

10. Can we answer the question on how could the licensee change their culture in just a couple of

□ discuss today

Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 5, 7A, 7C
FOIA- 2004-140

weeks?

Yes. It will be in the Comm Plan. (Jan/Vika Action)

11. Current allegation status especially the overtime issue. # open alleg - 3 discuss

[redacted] 1C

12. Any other issues that are closed but still smoldering.

Not that I am aware of....will give you a heads up if I think of any.

CC: Jan Strasma; Roland Lickus; Viktoria Mitlyng

✓ * Commission Mtg on thru
✓ * RAI / Stm Gen
* ASP Adm to come out
* Appx R can resp brief
* cc to memo *
Long.
* Ken Riemer - EALs
* quick look on 4.b public do not special address mg cd

Staff Restart Concerns Received Based On Requests

1. CATI Issue: HPI Pump Operation Under Long Term Minimum Flow - (RAM Item Nos. LER-12 and URI-24)

2. CATI Issue: Square D EDG Relays In the Start and Run Circuits Were Not Rated For the Current Application. (RAM Item No. NCV-31)

3. CATI Issue: Failure to Verify Adequacy of Short Circuit Protection for Direct Current Circuits. (RAM Item No. NCV-32)

4. CATI Issue: Lack of Calculations to Ensure Minimum Voltage Availability at Device Terminals (i.e., voltage drop). (RAM Item No. NCV-33)

5. Perry SRI: [redacted] (RAM Item No. C-35)

6. NRR: Adequacy of cyclone separator to support HPI operability. (RAM Item No. C-36)

7. NRR: Acceptability of Steam Generators to operate until mid-cycle outage or beyond March 2004. (RAM Item No. C-37)

Bring to Dyer's attn.

8. NRR: Resolve TIA on Fire Protection Issues. (RAM Item No. C-38)

will it be appl'c

9. RRATI: Complete Followup RRATI inspection to do round-the-clock inspection of complex control room evolutions. (RAM Item No. C-39)

10. NRC Contractor: The 1991 fire protection SER seemed to be "loose" with what it allowed, did not seem to be an appropriate document for the circumstance, and listed an individual as technical contact who had left the agency in 1990. (RAM Item No. C-38)

open at S.C.

11. NRR Tech Staff: Need to add this concern to RAM, but I'm not sure how to characterize the issue: "I have several residual concerns about Davis-Besse. They mostly relate to how well the licensee has overcome their desire to not find any more problems. As an example, I will describe only the one that I think is most conspicuous:
Davis-Besse discovered boric acid deposits running down some of the lower head penetration nozzles. They argued that lower head nozzles are not expected to be cracking due to their relatively low temperature during operation. They argued that the deposits could be due to cleaning the deposits from the upper head, even thought there were not clear tracks from above to the points on the nozzles where the boric acid deposits began. They also took some samples and, based on analysis results, argued that the deposits were old. Finally, they installed a sensitive humidity detection system and then did their at-pressure/temperature test of the RCS, using that to argue that there are no leaks in the lower head nozzles." (RAM Item No. C-40)

12 CATI: Recommendations following review of Cycle 14 Operational Improvement Plan, Rev. 2. (RAM Item No. C-41)

open at Dabey

13. DRS Tech Staff: Appendix R concerns on PORV isolation following control room fire. (RAM Item No. C-43)

Staff Restart Concerns Resolutions

RAM Item No. - LER-12 and URI-25 **Closed: Y**

Description of Issue - Requests for Issues: During the SSDI inspection in 2002, URI-25, Some Small Break Loss of Coolant Accident Sizes Not Analyzed, was identified. Specifically, it addressed concerns with the HPI pump minimum flow and deadhead (lack of flow) conditions (URI-25 and LER-12).

Description of Resolution - Following the questioning during the 2002 NRC SSDI inspection of a potential deadhead condition of the HPI pumps and the adequacy of thermal protection (minimum flow) for the pumps, the licensee performed a study, 86-5022260-00, to determine whether HPI pump operability during post-LOCA sump recirculation could be assured for all break sizes and transient scenarios.

This study identified a range of small break sizes from 0.00206 ft^2 (leak-to-LOCA transition area) to 0.0045 ft^2, which would result in RCS re-pressurization cycles that could continue following HPI pump realignment to the containment emergency sump and closure of the minimum flow recirculation valves. The study concluded that for this newly analyzed range of break sizes, past operability of the HPI pumps was a concern. This was because the re-pressurization cycles would result in a higher containment pressure than the shut-off head of the HPI pumps, resulting in pump dead heading (no flow), when HPI pump suction was from the sump.

Based on the results of the evaluation, several corrective actions were implemented. An additional minimum flow recirculation line was installed during RFO 13 for each HPI pump. For one pump, the line tapped off the previously existing minimum flow line and for the other a completely new recirculation line was installed. For both pumps, the new lines contained two isolation valves and a non-cavitating pressure breakdown orifice and connected to the LPI pump discharge upstream of its respective decay heat cooler for the corresponding safety train. The modification design specified a minimum 35 gpm flow rate (same as that specified for the original recirculation line) for pump protection when aligned to the emergency sump in "piggyback" operation with the DHR pumps. In this lineup, the decay heat coolers would provide cooling for the respective HPI Pumps without loss of sump inventory. Inspector concerns regarding the minimum 35 gpm flow rate were evaluated and resolved through URI-24 (see associated RAM closure form.)

Operator action would be required to open the valves on these additional recirculation lines prior to pump realignment from the BWST to the emergency sump. Because the postulated transient was a very slow developing scenario, the team determined that ample time would be available for operators to take this action. Additionally, the team confirmed that this action did not replace any existing automatic action. The licensee revised the emergency procedures to provide direction on establishing the HPI alternate minimum recirculation flowpath and provided training to the operators on its use.

These corrective actions were sufficient to resolve the concern addressed in the LER. The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, having very low safety significance (Green).

Reference Material - NRC Inspection Report 05000346/2003010, Sections 4OA3(3)b.1 and 4OA3.(6)b.2 (ADAMS Accession No. mlo4???); URI 05000346/2002014-01o; and LER 05000346/2003-003-00 and -01.

RAM Item No. - URI-24 **Closed: Y**

Description of Issue - Requests for Issues: During the SSDI inspection in 2002, the team identified an issue with the ability of the HPI pumps to perform as intended during extended operation on minimum flow. (URI-24).

Description of Resolution - The design requirements for the HPI system include the ability of the system to function at 35 gpm minimum flow. The licensee performed a six-hour test run on one of the pumps using the originally-installed minimum flow recirculation line and could not achieve flow rates below 53 gpm. On February 8, 2004, the licensee completed Operability Evaluation 04-004, Revision 1, which concluded that the HPI pumps were operable.

Based upon observed pump and system conditions during the test, the licensee concluded that the pump would remain operable at or near that flow. Due to the size of the installed orifice in the line, the inspectors concluded that it was reasonable that the pump would not experience flows much below that value and, in fact, the lowest obtained, recorded value noted for either pump during a review of surveillance tests conducted between June 2001 and December 2003 was 49 gpm. Also, based upon observed pump and system conditions during the six hour test run and feedback from the pump vendor, the licensee concluded the pumps would be able to run at minimum flow for extended periods of time during the designated mission time of 30 days post-accident. The inspectors agreed with the licensee's determination that the pumps would be able to perform their safety function. Further, the licensee planned several procedure changes to ensure actions would not be taken in the future that would reduce the minimum flow rate observed during the six hour test.

A NCV of 10 CFR Part 50, Appendix B, Criterion III, having very low safety significance (Green) was issued since the licensee had previously failed since initial plant startup to verify that the HPI pumps could operate under design basis minimum flow requirements. The inspectors have no restart concerns regarding this issue.

Reference Material - NRC Inspection Report 50-346/03-10 (ADAMS Accession No. Ml04????).

RAM Item No. - NCV-31 **Closed: Y**

Description of Issue - Requests for Issues: Square D EDG Relays In the Start and Run Circuits Were Not Rated For the Current Application.

Description of Resolution - The licensee performed testing that was statistically significant. The licensee tested 10 relays at the expected DC amperage. Each relay was cycled 500 times. There was no noticeable degradation of the contacts on any relay. The vendor stated that the testing was acceptable. Based on the inspector's technical judgement, the testing that the licensee has done is suitable to show that there is a low probability of relay failure.

Reference Material - NRC Inspection Report No. 50-346/03-022 (ADAMS Accession No. ml033570081).

RAM Item No. - NCV-32 **Closed: Y**

Restart Checklist Item - 5.d

Description of Issue - Requests for Issues: Failure to Verify Adequacy of Short Circuit Protection for Direct Current Circuits. While reviewing condition reports and calculation, the team questioned the adequacy of DC circuit protection for long DC circuits. Subsequently, the licensee evaluated the adequacy of the fuse sizing and identified that, in the case of short circuits, the circuit resistance could be high enough to preclude operation of the fuses protecting circuits. Thus, a short circuit current could be allowed to flow for an indeterminate length of time.

Description of Resolution - The licensee issued CR 03-06944 to document the deficient circuit protection for valves having long circuit lengths. The licensee developed an engineering package to replace the fuses in March 2004. The inspectors reviewed the licensee's engineering package and concluded that the projected completion date appears reasonable and commensurate with the safety significance of the issue. The inspectors concluded that this approach was acceptable and does not represent a restart constraint.

A NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," having very low safety significance (Green) was issued in NRC Inspection Report 50-346/03-10.

Reference Material - NRC Inspection Report No. 50-346/03-10, (ADAMS Accession No. ml04???).

RAM Item No. - NCV-33 **Closed: Y**

Restart Checklist Item - 5.d

Description of Issue - Requests for Issues: Lack of Calculations to Ensure Minimum Voltage Availability at Device Terminals.

Description of Resolution - As a part of CR 01-03059, the licensee performed an extent of condition evaluation and identified that calculation C-EE-002.01-010 evaluated available DC voltage to the panel terminals only. The calculation did not confirm sufficient voltage at device terminals for proper operation. The licensee issued CR 02-00412 to document this deficiency. In response to this CR, the licensee issued a revision to the calculation.

The team identified deficiencies in calculation C-EE-002.01-010 regarding voltage drop in parts of the circuits. The licensee issued CR 03-06956 and performed additional analysis and extent of condition reviews. The licensee determined that there were no operability issues based on the results of the re-analysis. The team reviewed these re-analysis and concluded there is reasonable assurance that the affected components are operable. The team has no concerns regarding this item for restart.

An NCV of 10 CFR Part 50, Appendix B, Criterion III, having very low safety significance (Green) was issued in NRC Inspection Report 50-346/03-10.

Reference Material - NRC Inspection Report No. 50-346/03-10, (ADAMS Accession No. ml04???).

RAM Item No. - C-35 **Closed: Y**

Description of Issue - Requests for Issues: Extent of Condition Reviews for generic implications were inadequate as determined by a Perry review of D-B CRs.

Restart Checklist Item: N/A

Description of Resolution - DRP BC followed up with the licensee to discuss the Perry root cause report that referred to a review of several DB and Perry CR extent of condition reviews. The root cause report documented several problems at both Perry and Davis-Besse. The Davis-Besse staff reviewed the Perry Root Cause Report. In the Root Cause Report done by Perry, the licensee listed several preventive actions that were being taken to address the "generic implications" issue. Licensee staff stated that some of these actions were Corporate level actions. One of the actions was to incorporate the generic implications issue into the Apparent Cause Training the licensee had been giving at Davis-Besse. Also, the licensee will be clarifying the guidance/definition of "generic implications" on a pilot basis and then reevaluating the need to incorporate this into the Corrective Action Program. The NRC's review determined that this level of review by the Davis-Besse licensee and the corrective actions proposed were reasonable.

Reference Material: None.

RAM Item No. - C-36 **Closed: Y**

Description of Issue - Requests for Issues: Adequacy of cyclone separator to support HPI operability.

Description of Resolution - The NRR Project Manager reviewed the associated condition report (03-05186) and corrective actions relative to the cyclone separators for the Davis-Besse HPI pumps. The concern was that post-LOCA recirculation fibrous debris could clog a separator. The licensee tested for separator clogging at Wyle labs. and found that debris flow did not clog Model 20 cyclone separators (John Crane Co.), but could clog the inlet/outlet orifice ports. They also found that installing a spacer between the swagelok fitting and the inlet/outlet orifice ports solved the problem and plugging did not then occur. As a result, the licensee replaced the cyclone separators with larger Model 20 separators, and installed spacers between the swagelok fittings and the inlet/outlet orifice ports. In addition, most of the fibrous insulation has been removed from containment. Based on the corrective actions completed, NRR staff concluded that the licensee has adequately addressed the issue.

Reference Material - Licensee CR No. 03-05186.

RAM Item No. - C-37 Closed: Y

Description of Issue - Requests for Issues: Are there any outstanding NRC staff questions concerning the Davis-Besse steam generator tube inspection completed March 9, 2002, specifically with regard to the information provided by the licensee dated November 3, 2003.

Description of Resolution - In accordance with Technical Specification (TS) 4.4.5.5.a, the licensee submitted the 2002 steam generator tube inspection results concerning the number of tubes plugged and repaired by letter dated March 22, 2002. Additionally, in accordance with TSs 4.4.5.5.b and 6.9.1.5.b, the licensee submitted more detailed inspection results by letter dated March 31, 2003. The NRC staff reviewed the inspection results and requested additional information from the licensee. The staff questions were placed on the docket by letter dated September 23, 2003, and the licensee responded to the questions by letter dated November 3, 2003.

Based on its review of the information provided on November 3, 2003, the staff developed additional questions which were provided to the licensee and placed on the docket by letter dated December 11, 2003. The licensee responded to those questions by letters dated December 17, 2003, and January 7, 2004. The NRC staff has reviewed the submittals and determined that the licensee has adequately responded to the staff's questions. This item is closed.

Reference Material - March 22, 2002 letter (ADAMS ML020850568), March 31, 2003 letter (ADAMS ML030930374), September 23, 2003 letter (ADAMS ML032550146), November 3, 2003 letter (ADAMS ML033100370), December 11, 2003 letter (ADAMS ML033421010), December 17, 2003 letter (ADAMS ML033560258), and January 7, 2004 letter (ADAMS ML040090189).

RAM Item No. - C-38 Closed: Y

Description of Issue - Requests for Issues: Resolve TIA on Fire Protection Issues

Description of Resolution -

By memorandum dated December 15, 2003, the Panel requested technical assistance from the Office of Nuclear Reactor Regulation (NRR) regarding procedural allowance permitting reactor coolant level to go to the top of active fuel under certain post-fire safe shutdown scenarios at the Davis-Besse Nuclear Power Station, Unit 1.

The NRR staff has concluded that Davis-Besse Abnormal Procedure DB-OP-02519, "Serious Control Room Fire," continues to provide reasonable assurance that, for anticipated fires in the control room or cable spreading room, the reactor can be safely shut down.

The detailed NRR staff determination is provided in a February 6, 2004, memorandum from E. Leeds to J. Grobe transmitting the response to TIA 2003-006.

Based on the above, the concern regarding procedural allowance permitting reactor coolant level to go to the top of active fuel under certain post-fire safe shutdown scenarios at the Davis-Besse is resolved.

Reference Material - February 6, 2004, memorandum from E. Leeds to J. Grobe transmitting the response to TIA 2003-006.

RAM Item No. - C-39 **Closed: Y**

Description of Issue - Requests for Issues: Ensure Sufficient Observations of Complex Control Room Evolutions to Provide Effective Assessment of Conduct ofOperations

Description of Resolution - The Restart Readiness Assessment Team Inspections included extended shift inspection of complex control room evolutions, as did the resident inspection staff during Mode changes in December 2003 and January 2004. The restart readiness assessment team inspections concluded that specific problem areas and issues observed during the first restart readiness assessment team inspection, such as pre-job briefings, control room team work, shift turnover, self-checking and procedural use and adherence had been adequately resolved, and that corrective actions for deficiencies involving configuration control were acceptable. Around-the-clock observations of complex control room evolutions were observed by the restart readiness assessment team and resident inspectors. No significant problems were observed during these observations.

Region III issued an inspection plan and the resident inspectors conducted expanded coverage to observe plant activities before entry into Mode 4 last December 2003 and through the Christmas weekend. In addition, in early January 2004, the licensee commenced a reactor plant cooldown from Mode 3 to Mode 4 which was observed by the resident inspection staff. The resident staff observed the performance of the cooldown from approximately 533°F until entry into Mode 4 and identified no significant personnel or equipment challenges were observed.

Reference Material - Memorandum, R. Skokowski to J. Grobe, February 6, 2004; NRC Inspection Report Nos. 50-346/04-04 (ADAMS Accession No. MI04???), 04-02 (ADAMS Accession No. MI04???), 03-25 (ADAMS Accession No. MI03???) and 03-11 (ADAMS Accession No. MI03???).

RAM Item No. - C-40 **Closed: Y**

Description of Issue - Requests for Issues: From NRR Technical Staff: "I have several residual concerns about Davis-Besse. They mostly relate to how well the licensee has overcome their desire to not find any more problems. As an example, I will describe only the one that I think is most conspicuous:
Davis-Besse discovered boric acid deposits running down some of the lower head penetration nozzles. They argued that lower head nozzles are not expected to be cracking due to their relatively low temperature during operation. They argued that the deposits could be due to cleaning the deposits from the upper head, even thought there were not clear tracks from above to the points on the nozzles where the boric acid deposits began. They also took some samples and, based on analysis results, argued that the deposits were old. Finally, they installed a sensitive humidity detection system and then did their at-pressure/temperature test of the RCS, using that to argue that there are no leaks in the lower head nozzles."

Description of Resolution - The NRR Technical staff member was sent an official memorandum from the vice-chairman of the 0350 Davis-Besse Oversight Panel which is summarized as:

In summary, the NRC staff on September 17, 2003, determined that there was not sufficient evidence upon which to conclude that RCS pressure boundary leakage from one or more Davis-Besse IMI nozzles was occurring. There has been no additional information, including the issues raised in your e-mail, obtained through licensee or NRC activities since that time which would change the NRC staff's assessment. Finally, the licensee has committed to a mid-cycle outage, which will include a IMI nozzle inspection, to provide additional assurance that IMI nozzle integrity will be maintained.

Reference Material - Memorandum dated 02/20/04 from William Ruland to NRR Technical Staff Member; Subject Davis-Besse Lower Head Leakage Concerns.

RAM Item No. - C-41 **Closed: Y**

Description of Issue - Requests for Issues: Document review of licensee's Operational Improvement Plan for operating cycle 14 and subsequent CATI recommendations and comments for required actions prior to restart.

Description of Resolution - The Operational Improvement Plan listed licensee's proposed and planned improvements in various areas including quality of engineering products, human performance and corrective action program. Overall, the plan appears to include appropriate engineering and corrective action related initiatives that should address problem areas identified by the CATI.

Based on a review of the Davis-Besse Operational Improvement Plan (OIP) for Operating Cycle 14, dated December 26, 2003, the following items were identified by the CATI for further consideration:

1. Ask licensee to provide the NRC periodic inside and outside independent assessment reports and performance indicators for the ongoing initiatives so that we can assess/monitor effectiveness and level of success.

   Resolution: The Panel is developing an Order to require independent assessments in areas including engineering and corrective action. The licensee will be required to submit those assessment plans and results to the NRC. In addition, expanded engineering inspection effort will periodically evaluate licensee internal assessments. The Panel will periodically conduct public meetings to discuss licensee performance.

2. Issue a Confirmatory Order to include specific conditions and expectations.

   Resolution: See Item 1 above.

3. Have periodic meetings with the licensee to determine status of initiatives and licensee's management involvement and commitments.

   Resolution: See Item 1 above.

4. Designate an Engineering lead inspector for Davis-Besse to follow up on the ongoing engineering initiatives and to monitor progress and ensure engineering products and performance are improving. Individual could follow up in the inspectable areas and discuss with the licensee progress in the implementation of the OIP, while considering the comments provided in this document.

   Resolution: A lead engineering inspector has been assigned to the Davis-Besse Station. That individual will conduct regular assessments of licensee engineering performance and the effectiveness of improvement initiatives. That inspector will be involved in the planning or conduct of major NRC engineering inspections at Davis-Besse.

5. Consider conducting a mini CATI (corrective action and engineering products) in about 6-9 months.

   Resolution: The frequency of the problem identification and resolution inspection (PI&R) has been increased from once every two years to annual and also the size of the team has been increased. In addition, the number of regular annual PI&R samples has been doubled. Engineering modifications and safety evaluation inspections will be conducted in the fall of 2004.

6. Consider revising the goal for licensee performance indicator I-12 from $\leq$ 5% to 0 %.

   Resolution: Routine inspection will include evaluation of the effectiveness of the performance indicators, including the necessity for adjustment of performance indicator goals.

The following areas will be considered for inspection focus in evaluating effectiveness of corrective actions:

1. Evaluate engineering knowledge of design and licensing basis of the plant.

2. Evaluate continuing effectiveness of training of plant engineering staff members on the various changes to the corrective action process and revised procedures for generating engineering products.

3. Evaluate engineering procedure quality and adherence.

4. Evaluate the adequacy of independent engineering product reviewers and the effectiveness of the Engineering Assurance Board.

5. Evaluate adequacy of NQA assessments of the effectiveness of corrective actions including the Engineering Assurance Board.

6. Periodically evaluate the insights provided by the licensee's performance indicators (PIs) in the engineering and corrective action areas, ensure appropriate actions are taken for areas of weakness identified through the PIs, and adjustments made to the performance indicators are appropriate.

RAM Item No. - C-43 **Closed: Y**

Description of Issue - Requests for Issues: Review the adequacy of the licensee's Operations procedures in response to a control room fire. Specifically, focus on the stated Operator expected actions and time line for completing those actions as specified in Attachment 14 of procedure DB-OP-02519, Revision 8.

Description of Resolution - The content and intent of the procedure actions was discussed with the licensee representatives. Attachment 14 delineates actions to be completed, the expected time for completing those actions, and the analyzed maximum time for completing those actions. The licensee had previously revised the subject procedure to provide a WARNING to Operations Shift management of the importance of completing the stated actions (e.g., Close the PORV). This information had been previously stated within a NOTE, which is of lesser Operational importance.

The licensee has performed walk-through verifications of the procedure adequacy and conducted classroom training of Operations personnel to ensure understanding of the procedure actions and expected time for completing those actions. Following the change of the procedure to include the WARNING, Operations personnel were required to read and sign the change to the procedure thereby indicating understanding of the change content.

On February 20, 2004, the licensee informed the NRC staff that a Condition Report would be written to perform further reviews of the procedure content to ensure the procedure actions were clear and identify potential enhancements.

Based on the classroom training performed and procedure walk-throughs, this RAM item is closed with the stated actions being acceptable for plant restart.

Reference Material - None.