BASELINE INSPECTION PLAN

SAFETY SYSTEM DESIGN AND PERFORMANCE CAPABILITY

Inspection Report Number 50-346-2000-007(DRS)

Inspection Objectives

This inspection fulfills the pilot baseline inspection program requirements for the biennial review of safety system performance. The inspection objective is to verify that the design basis have been correctly implemented for risk-significant systems to ensure that the systems can be relied upon to meet their functional requirements.

Inspection Dates: July 10 - July 28, 2000

Exit: July 28, 2000

Applicable Inspection Procedures

IP 71111-21 "Safety System Design and Performance Capability"
IP 71152 "Identification and Resolution of Problems" (reference)

/RA/ 6/27/00
Prepared By: _____
J. A. Gavula, Team Leader

/RA/

Approved By: _____
J. M. Jacobson, DRS Branch Chief

/RA by Laura L. Collins Acting For/
Reviewed By: _____
T. J. Kozak, DRP Branch Chief

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INSPECTION PLAN DETAILS

I Inspectors

Team lead: Jim Gavula
Mechanical inspector: Ron Langstaff
Electrical inspector: Bill Scott
Mechanical inspector: Darrell Schrum
Contractor: Omar Mazzoni

II Detailed Inspection Schedule

Team Leader Preparation: June 19 - 23, 2000

Preparation at Region III Offices: June 26 - 30, 2000

Inspection Onsite: July 10 - 14, **and** July 24 - 28, 2000

In-office Week: July 17 - 21, 2000

Exit Meeting: July 28, 2000

Preparation of Inspection Report:

- Inputs Due: August 8, 2000
- Draft Completed: August 18, 2000
- Management Review and Approval Completed (target): September 1, 2000

Inspection Report Must Be Issued Before September 11, 2000 (45 days from exit)

III Specific Inspection Activities

System Selection (02.01a)

The Component Cooling Water system was selected for this inspection based upon:
- having a high probabilistic risk analysis ranking;
- having a high safety significant maintenance rule function;
- not having received recent NRC review and
- having undergone significant modification since the last NRC review.

Component Selection (02.01.b)

Two major system components will be selected by the team during the preparation week. The selection should focus on components:
- whose failure will result in loss of system or train function.
- which support multiple systems or trains.
- with risk significant design features which are not validated by testing.
- that are either passive or active.
- which have safety/non-safety related interfaces.

Information Collection (02.01.c)

As part of the inspection preparation, the team leader contacted the licensee, informed them of the system(s) 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. If during the preparation week additional information is determined to be necessary, this will be conveyed to the licensee as expeditiously as possible.

Preparation (02.01)

A team meeting will be held Wednesday, June 28, 2000. 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, June 29, 2000. 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. Following the meeting, the team leader will immediately inform the licensee of the components selected.

Also during the Thursday meeting, team members should provide to the team lead a list of any specific information and/or documents they want to have readily available on the first day of the inspection. This might include any specific modification packages, calculations, drawings, procedures, etc. See List III from “Initial Document Request” below.

Inspection (02.02 and 02.03)

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 broadly divided into two areas: electrical/ I&C (Bill Scott and Omar Mazzoni) and mechanical/structural (Ron Langstaff and Darrell Schrum). Within these divisions, 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.

Inspection Objectives

- 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.
- As it relates to design issues, select a sample of problems in the selected system and other risk-significant systems documented by the licensee, and verify effectiveness of corrective actions.

IV RITS and Time Charge Information

The inspection module calls for 420 (± 60) hours of direct inspection effort. Between 10 to 15% (42 to 63 hours) of this is required to be spent in evaluating problem identification and resolution (the last two bullets). The direct inspection hours do not include time spent in travel (estimated to be 6 hours each way), entrance or exit meetings, debriefing the residents or licensee, 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. All inspection time is to be charged to IP "7111121" with an IPE of "BI." This includes time spent on problem identification and resolution. Entrance and exit meetings and licensee debriefs are to be charged to BIP and BID.

Since there are four inspectors (not counting the contractor), the hours work out to 105 ±15 hours per inspector over 3 weeks - or between 30 and 40 hours of direct inspection effort each week (i.e. basically full time). Because it's recognized that activities other than just direct inspection will occur, especially during the in-office week, the team leader has requested authorization of 5 hours of overtime per week for each inspector.

The overtime is to only be used to meet the inspection hour requirements and must be claimed on RITS. If it appears that the scope of the inspection cannot be met within the allotted hours, the team leader will immediately inform RIII management and obtain authorization for additional hours.

V Findings

At present, the significance determination process (SDP) for Davis Besse has not been finalized. Any findings resulting from the inspection will be reviewed using the generic SDP found in Manual Chapter (MC) 0609. 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 Davis Besse PRA information is correctly considered. If a color cannot be immediately be determined, the issue will be described as an "unresolved item," pending final development of the Davis Besse SDP. Enforcement action for green or non-SDP issues will be handled in accordance with the Enforcement Policy.

VI 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 lead will go over the status of outstanding questions. Therefore, the team members need to keep the team lead apprized of any concerns regarding the 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 lead 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 lead, 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 MC 0610*. (Note that a new version with several changes was released on June 20, 2000.) Input will primarily consist of a list of the documents reviewed, unless a finding meets the guidance in Appendix E of 0610*. 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 5 working days (10 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 called out separately from corrective action documents that were in the licensee's system prior to the inspection.

VII Interface and Coordination Meetings

Meetings with the Licensee

Entrance meeting: 3:00p EDT, Monday, July 10, 2000.

1st week debrief: 9:00a EDT, Friday, July 14, 2000,

2nd week debrief: 3:30p EDT, Thursday, July 27, 2000

Exit meeting: 9:00a EDT, Friday, July 28, 2000

Daily debriefings with the licensee will start Wednesday July 12, 2000. These daily meetings will normally be between the team leader and the licensee, with team member attendance only on an as-needed basis. However, team members are expected to attend the weekly debriefs to discuss their inspection findings in some detail with the licensee counterparts.

Team Meetings

Team meetings will be held daily starting at Tuesday July 11 at 4:00p. The meetings will last approximately 30 minutes. The intent is to allow each inspector, including the team lead, to briefly discuss the day's activities/issues, and any administrative or logistics items. The start time may be adjusted depending on the number of issues expected to be discussed. An extensive team meeting will be held on July 27, 2000, to discuss the team's findings and determine what issues will be mentioned at the exit. This meeting will begin at 1:00p and will probably run longer than normal team meetings.

Exit Meeting

The team will conduct the exit meeting on July 28, 2000. Team members are expected to attend the final exit meeting and present any of their findings to the licensee.

Initial Document Request

I. Information Requested Expeditiously

The following information is requested to be provided as soon as possible. This is necessary to facilitate the team selection of items to be reviewed during the inspection so that sufficient time is available for the licensee to provide copies. All items requested apply only to the previously discussed chosen system.

- List of analyses that either affect or take credit for operation of the system(s)
- List of modifications performed since plant startup, including a short summary of the modification purpose
- List of setpoint changes performed, as far back as retrievable
- List of open temporary modifications
- List of corrective action documents, both open and closed, as far back as electronically retrievable
- List of any engineering-related operator "work-arounds"
- List of operability evaluations as far back as retrievable
- List of correspondence to or from the NRC relating to commitments or analyses
- List of calculations
- List of procedures (operating, surveillance, maintenance & annunciator response)

II. Information Requested by Team Lead Prep Week

The following information should be available to the NRC either by mail or by a one-day site visit.

- Fault trees for each system
- Piping and instrument drawings (1/2 size) for the selected systems
- Valve drawings (1/2 size)
- Functional block diagrams (1/2 size)
- Electrical schematics (1/2 size)
- Emergency operating procedures (EOP) (reduced size)
- EOP support procedures for the selected systems
- Abnormal operating procedures
- Copies of specific analyses and calculations chosen from above lists
- Copies of specific procedures chosen from above lists
- System description, if available

III Information Requested to be Available on First Day of Inspection

We request that the following information be available to the team once it arrives onsite. Some documents, such as the UFSAR or TS, do not need to be solely available to the team (i.e., they can be located in a reference library) as long as the team has ready access to them.

- Remaining calculations and analyses not previously provided
- Copies of modifications (verify installation work packages are retrievable), temporary modifications, setpoint changes, operability evaluations, work-around evaluations and plans for resolution and corrective action documents, selected from the initial lists
- Copies of any self-assessments and associated PIFs generated in preparation for the inspection
- Copy of the pre-operational tests, including documents showing resolution of deficiencies
- Updated Final Safety Analysis Report
- Technical Specifications
- Procedures
- IPE/PRA report
- Vendor manuals
- Equipment qualification binders
- General set of plant drawings
- Relay circuitry diagrams
- Other detailed circuitry diagrams, as applicable
- Design Basis Documents, if available
- Procurement documents for major components in each system (verify retrievable)
- Relevant operating experience information (such as vendor letters or utility experience)