

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

EAW

To Engineering Department Section Managers
F. R. Fahland

CONFIDENTIAL

Action
by close of
day 6-18-79

803 663.5

From D. H. Roy, Manager, NPGD Engineering (2375)

Cust. File No. or Ref.

Subj. Top 10 Lessons Learned -- TMI-2 Date June 14, 1979

This letter to cover one customer and one subject only.

As a result of Mr. MacMillan's review of the candidates for the top ten lessons learned from the TMI-2 incident, Engineering has been assigned lead responsibility for four major categories. These categories are to be broken into specific tasks which will address instrumentation, analysis, procedure, etc., needs for each of these categories. Draft task descriptions in the format shown in Attachment 1 are to be provided for all top priority tasks and for as many of the other tasks as possible by the close of work on Monday, June 18, 1979. Section Manager assignments for candidate tasks are as follows:

→
→

I. I&C Human Engineering (KES)

A. Info to Diagnose and Follow the Cause of an Accident

- Sat Meter (*)
- RV Level (RC Inventory) (*)
- Use of Incore Thermocouples
- Event Recorder and Data Transmitter (*)
- Limit Proximity Display
- Power Limit Control System (?)
- Procedure Call-up and Essential Info Display
- Trending Displays

B. Status Monitoring for Safety Systems and Essential Support Systems

- PGRV Position Indication (*)
- Other Equipment and System Readiness Monitoring
- Post-Trip Status
- Making Operator Aware of Interlocks and Interlock Status
- RC Pump Diagnostic Info

G-PU

Dist. Exh. For ID 23

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Charles Shapiro CSR 1/26/81
Public Reporting Inc. C.A

8307020050 790614
PDR ADOCK 05000289
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C. Control Room Design

Based on what might confront the operator in terms of normal and abnormal system behavior, provide upgrade recommendations for required indicators, their location, display, verification, etc.

- Alarm Differentiation

II. Reliability of Systems and Equipment Required for Safety Systems and Essential Support Systems

A. Relief Valves - PORV, CSV, Steam Side Relief Valves (*) (LJS)

- Service Requirements (Reliability)
- Characteristics
- Testing and Maintenance Requirements
- FMEA (include power supply)
- Qualification Requirements

B. Main Feedwater System Reliability (EAW)

C. Auxiliary Feedwater System Reliability (EAW)

D. ICS Reliability (EAW)

- FMEA (*)
- Sensor Input (*)
- Tuning (*)
- Power Supply (*)

E. Decay Heat Removal System Hardening (LJS)

F. Primary Pressure Control System (EAW)

- Heater Qualification
- Piping Loads (Passive Failure Potential)
- Spray Valves
- Level Sensors

- G. Power Supply Reliability (KES)
 - *DC Power Systems*
- H. Makeup and Letdown Systems (LJS)
- I. Sensor Reliability (KES)
 - BY Transmitters (*)
- J. *Component Cooling Water Systems*
- III. Containment Isolation (KES)
- IV. Plant Design Review (EAW)
- A. Operating Experience and As-built Data Base (*) (EAW)
 - Continuing Assessment of Transients
 - Review of Customer Proposed Changes
 - Control Room Procedures Review
- B. Define Plant Capability to Handle Abnormal Transients (EAW)
 - Event Trees
 - Analysis of Plant Behavior to Cold Shutdown
 - Operating Guidelines (*)
 - Identification of Potential Design Modifications
 - Tech Specs, Limits and Precautions
 - Analysis Code Requirements and Verification (*) (CDM)
- C. System Dynamic Response (EAW)
 - Surge Line and Pressurizer Design (*)
 - Auxiliary Feedwater Control (*)
 - Post-Trip Primary Inventory Control (eliminate need for HPI initiation to catch contraction) (*)
 - Sensor Response Time and Range Requirements
 - Improve System Inertia (offset small OTSG secondary inventory)
 - Recover Runback Capability
 - Reduce RPS Challenges
 - Other NUREG-0560 Design Concerns

D. Enhance Safety/Licensability

- Hi Point Vents (*) (LJS)
- Blowdown Valve (?) (EAW)
- Essential Instrumentation Hardening (KES)
- R P S (EAW)

E. Institutional (DHR)

F. Non-85W Scope of Supply (EAW)

- Sampling
- Recombiners
- Radiation Monitoring

G. Operating Plant Design Review Board (*) (EAW)

Provide charter, chairman, references, suggested outside consultant help.

Items shown with an asterisk (*) are top priority items and the task description should provide a firm date for the deliverable product. In the case of the Design Review Board, the task description should show the date for convening the Board. LRC has considerable interest in the control room design problem and Bob Kubik should be contacted immediately to help design a program for upgrading operating plant control rooms. All of the items contained in our "Response to TMI-2 Concerns" list which we discussed at the previous staff meeting are contained in the assignments shown above. As a result of MacMillan's review, we can now bring our effort into concert with an overall Division approach to responding to lessons learned from TMI-2.

In the meeting with MacMillan other assignments were made as follows:

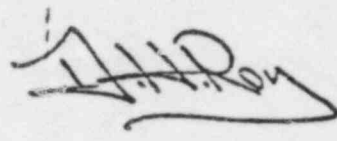
- 1) Operator Qualifications/Management RE Kosiba
- 2) Operator Training RE Kosiba
- 3) Emergency Response RE Kosiba
- 4) German versus U.S. Safety Criteria (Special Assignment -- not a "Lessons Learned" category) DW Berger

We obviously cannot do a good job of attacking all of these items at once. The objective is to select a few of those items most directly responsive to TMI-2 concerns and then bring them quickly and efficiently to a well engineered product, and then move on to the next items. For example, we need a good PORV indicator package ready to propose to our customers as soon as possible; we

June 14, 1979

need to drive home the requirement for ICS key sensor and power supply backup as quickly as possible. Task descriptions should identify doable actions which either lead to the engineered product or the preparation of a plan to produce the product.

Please contact me immediately if you need further direction or clarification. (I'll be home this week end.)

A handwritten signature in black ink, appearing to read "D.H. Roy".

DHR:rw

Attachment

RESPONSE TO TMI-2 CONCERNS
TASK DESCRIPTION

TITLE: _____ Lead Section Manager: _____

1. OBJECTIVE --

A short statement defining the purpose of the task -- define the deliverable product.

2. BACKGROUND --

Current status if work is already underway or a brief historical review of the development of the issue that has created the need for action.

3. PROBLEM DEFINITION --

A concise statement identifying the concern, what problem will be solved by carrying out this task.

4. ACTION PLAN --

The doable steps that are expected to lead to resolution of the concern.

5. SCHEDULE --

6. RESPONSIBLE ENGINEER --

Identify the engineer who will actually have lead responsibility for performing the task.

7. RESPONSIBLE PM/ORGANIZATION --

This is the man who is going to pay for the task.

8. SUPPORT ORGANIZATIONS --

Define organizations who must supply input or support to complete the total scope of the task.

9. REFERENCES --

Identify key background and supplemental information sources.