

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

MAY

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 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania 05000388  
 AUTH. NAME: CURTIS, N.W. AUTHOR AFFILIATION: Pennsylvania Power & Light Co.  
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

SUBJECT: Provides addl info re current status of different equipment & resolution of Bailey recorder tag number discrepancy, per conference call.

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	RGN1		3	3		RM/DDAMI/MIB		1	0
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Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Norman W. Curtis  
Vice President-Engineering & Construction-Nuclear  
215/770-7501

DEC 13 1983

Director of Nuclear Reactor Regulation  
Attention: Mr. A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
UNIT 2 SQRT STATUS UPDATE  
ER 100508 FILE 148-01  
PLA-1998

Docket No. 50-388

Dear Mr. Schwencer,

This letter is a follow-up of our conference call summarizing the current status of the SSES Unit 2 different equipment. Resolution of the Bailey recorder tag number discrepancy is also given below.

1. Recorder Tag Numbers

The recorder tag numbers listed in addendum Table 3 of the EQ Summary Report differ from those in the justifications for interim operation for the following four reasons:

- 1) The following recorders are mounted in BOP rather than NSSS panels. Table 3 of the addendum addresses devices added only to NSSS panels.

FR-07816 A, B	XR-03702
FR-07553 A, B	XR-03704
RR-15755 A, B	FR-01503
XR-03701	

The psuedo spectra to which the recorders were tested envelope the known BOP panel RRS. Therefore these recorders are qualified and the justifications for interim operation will be removed from the report.

- 2) Recorders LR-14202 and LR/PR-14201A are Regulatory Guide 1.97 items only and are currently not installed in Unit 1. Therefore justification for interim operation was not required. These tag numbers are referenced in the recorder qualification report and are therefore qualified at their locations in the BOP panels as noted in 1) above.

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- 3) The following tag numbers correspond to devices other than recorders. These numbers will be removed from the table.

PI-14202 A, B and PI-24202 A, B  
PI-12649 and PI-24649

- 4) The following two recorder numbers have typographical errors as designated in the table. The following changes will be made:

change RR-15770 A, B to RR-15720 A, B, and  
change RR-25770 A, B to RR-25720 A, B

The correct numbers appear in the recorder justifications for interim operation.

## 2. SSES Unit 2 SQRT program update.

Dynamic qualification of the following equipment was not complete when the September 1, 1983 SSES EQ Summary Report was issued. The current status of this equipment is given below. In addition, five new balance of plant items have since been added to the program and the hydraulic control units are undergoing a confirmatory calculation of the response spectra at the upper HCU attachment points. The qualification status of this equipment is also summarized.

### 2.1 Balance of Plant Equipment

#### 2.1.1 Existing Equipment

For the four equipment types which were not qualified as noted in Section 6A of the report:

Item 93 - Bailey Recorders: The recorders have passed dynamic testing using conservative, generic, control panel response spectra envelopes. These spectra were also used for qualification of the added panel devices discussed in Section 2.2 below. The test report and SQRT forms have been submitted. Actual in-panel required response spectra for the recorders are being calculated and are expected to be completed by December 15, 1983.

Item 94 - Emergency Switchgear Room Cooling: Qualified

Item 142 - Vacuum Relief Valves: Qualification of the new Unit 2 design has been completed. Installation of this design in SSES Unit 2 is planned for the upcoming tie-in outage prior to Unit 2 fuel load. This design is also scheduled for installation in Unit 1 during the Unit 1 first refueling outage. The Unit 1 vacuum relief valves are also dynamically qualified.

Item 194 - 1500 lb Motor-Operated Gate Valves: Qualified - the pipe response g-levels were submitted and verified to be less than the valve qualification g-levels.



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### 2.1.2 New Field-Procured Equipment

The following additional field-procured equipment has been added to BOP panels. Dynamic qualification is proceeding according to the schedules noted below. These items will be added to the equipment lists in the EQ Summary Report.

- a] RCIC Backup Power Supply and Inverter This equipment has been installed in the loose parts monitoring panel. Qualification documentation will be procured by December 21, 1983. The TRS will be compared to the in-panel RRS and if no exceedances exist, the documentation will be complete by January 20, 1984. Justification for operation is in place for this equipment and attached to this letter.
- b] ITE Overcurrent Relay - E109 - Qualified

The relay has been relocated to the building wall adjacent to the panel where the RRS is enveloped by the TRS. Review of the test report and update of the SQRT documentation has been completed.

- c] Surge Arrestor - Qualified

This device has passed dynamic qualification testing. The report and SQRT form has been added to the existing SQRT documentation of the host panels.

### 2.1.3 Diesel Generator Fuel Oil Heat Exchanger and Piping:

In a recent review of the diesel generator qualification documentation, it was found that the fuel oil heat exchanger and associated piping were not addressed. A qualification report for this equipment is scheduled for completion by December 15, 1983 with subsequent update of the diesel generator documentation and SQRT forms by January 7, 1984.

### 2.2 NSSS Equipment

SQRT forms for the SSES Unit 2 equipment identical to that in Unit 1 are continuing to be modified to include the Unit 2 equipment tag numbers. This effort is scheduled for completion by December 16, 1983. So far all of the equipment reviewed was found to be qualified for the Unit 2 loads.



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The following paragraphs describe the current status of the Unit 2 different equipment and the confirmatory calculation of HCU support point spectra.

Item 11 - MSIV-LCS Heater: The heater will be qualified based on comparing the response of the Unit 2 heater in the piping system with the dynamic test environment of 6 g's horizontal and 4 g's vertical (ZPA) imposed on the heater specimen in the Unit 1 qualification test program. The Unit 2 heater piping support design has been inspected and appears to be more rigid than that in Unit 1, lending confidence that the Unit 2 heater will be qualified. Qualification is planned for completion by December 31, 1983.

Item 13 - Hydraulic Control Unit: Confirmatory analysis of this equipment is being performed to verify that the relatively high TRS achieved in the dynamic testing of the skid assembly resulted in a response at the attachment points which exceeds that of the installed equipment. Response spectra at the two HCU upper support points will be calculated by December 9, 1983 and forwarded to GE. Comparison of this spectra to that achieved at the same locations during testing of the HCU skid will be made, with verification expected to be complete by December 16, 1983. Final SQRT documentation is scheduled for December 31, 1983.

Item 16 - Power Range Detector: Only the drywell connector remains to be dynamically qualified. Interim justification has been made until the Unit 1 first refueling outage. A NUREG 0588 Category I test will be performed with the dynamic portion scheduled for the period April 25, 1983 through May 5, 1984.

Item 26 - PRM Panel: The dynamic testing and test report have been completed. Qualification documentation is scheduled for completion during the first quarter of 1984. Interim justification has been made until the Unit 1 first refueling outage.

Item 27 - A/E-Added Devices to NSSS Panels: Referring to tables 3 and 4 in the submittal addendum, a dynamic test has been completed to qualify all of these panel devices with exception of the Agastat ETR and TDPU relays, the TEC indicating LED, the Simmons display module, the Validyne TMS module, and two HFA relays which are mounted to local racks. Interim justifications have been provided for this untested equipment.



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The test made use of the previously noted generic panel envelope response spectra and this spectra was in turn conservatively enveloped by the TRS. The actual in-panel spectra are being calculated with scheduled completion by March 30, 1984. Contact chatter was measured on the local rack HFA relays and the effect of this chatter in the relay circuits is being analyzed prior to concluding qualification of these devices. The analysis will be concluded by December 31, 1983.

Item 28 - New Local Panel Devices: Qualification of these devices will be included with the NSSS local rack SQRT forms due on December 16, 1983.

Item 33 - In-Vessel Rack: Qualification of the rack is to be accomplished by strengthening of the welds at the rack support points. A cable will also be added to prevent the rack from tipping if the rack is in use during a seismic event. The rack is used only during refueling and there may be an alternative for refueling without using the rack.

Item 35 - Signal Resistive Units: Qualified. The qualification report for the SRU's is referenced from the NSSS control panel SQRT forms due by December 16, 1983.

Item 45 and 46 - Trip Unit and Transmitter: Recent structural analysis of the condensate storage tank indicates that replacement of the original tank level switches with these units may not be necessary. A final decision to implement the new design will be made after PP&L review of the tank analysis. If replacement is to be made, dynamic qualification will be completed by the Unit 1 first refueling outage. Interim justification based on the HPCI system has been submitted for CST level instrumentation.

Item 50 - HPCI Turbine: Qualification documentation is completed. The Unit 1 planned field modification will be made before the Unit 1 first refueling outage and the interim justification is effective until that time.

Item 52 - Valcor CRD Pilot Solenoid Valves: The valve passed dynamic testing which used the relatively conservative RRS shown in Figures 1 and 2 of the September, 1983 submittal addendum. Calculation of the actual in-pipe RRS is in progress and due to be completed by mid-December, 1983, with qualification due for completion by December 31, 1983.

Item 54 - CRD Vent and Drain Valves: Dynamic testing and inpipe RRS calculation is complete for both the Unit 1 and 2 equipment. Qualification documentation is due by December 16, 1983.

Item 61 - SLC Explosive Valve: The valve is to be qualified by analysis and qualification documentation is to be completed by December 16, 1983.



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If you have any questions, please contact W. W. Williams at 215-770-7856.

Very truly yours,

A handwritten signature in cursive script, appearing to read "N. W. Curtis".

N. W. Curtis

Vice President-Engineering & Construction-Nuclear

cc: R. L. Perch - NRC  
A. Lee - NRC

DYNAMIC QUALIFICATION - JUSTIFICATION FOR INTERIM OPERATION

Component Ident. No(s): N/A

(1) Inverter GE Part #G003

Component Name: (2) Power Supply unit, GE Part #18404548P001

System: Reactor Core Isolation  
Cooling System (RCIC) Purchase Order: E-40 (Sht.10c)

1. Component(s) Safety Function:

The remote shutdown panel (RSP) criteria requires that when operating from the RSP, all circuits be isolated from the Main Control Room (MCR). Thus, this power supply unit and inverter provide power to the RCIC turbine ramp generator and speed control only while operating at the RSP.

2. Accident(s) for which Component(s) must be Qualified:

Seismic and Hydrodynamic Loads

3. Justification for Interim Operation:

These Bechtel supplied inverter and 24V dc power supply units are in operation only for shutdown at the remote shutdown panel. Shutdown at the remote shutdown panel is only required when evacuation of the control room is required. During normal operation from the main control room, power is supplied from identical, qualified GE supplied units. The GE and Bechtel supplied units are isolated from each other at all times so that operation from the main control room would be unaffected by any failure of the Bechtel supplied units.

The probability of (1) an evacuation of the control room, and (2) an evacuation coincident with a dynamic event, during the period until qualification of the Bechtel supplied units is completed, is extremely low.

4. Interim Operation is  Justified  Not Justified



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