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FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
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SCHWENCER,A. Licensing Branch 2

SUBJECT: Responds to control room human factor concerns discussed during 831102 meeting w/NRC on "Response to NRC Human Factors Engineering Preliminary Design Assessment Audit Rept of 830826." Review completed & rept items closed out.

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[illegible] Project [illegible] comments [illegible]

[illegible] response to general [illegible] on factor concerns discussed [illegible] section [illegible] response to [illegible]
Factors Engineering Preliminary Data Assess and Audit First [illegible] Review to complete [illegible] post items closed out.

[illegible] related Correspondence

[illegible]

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

November 23, 1983
G02-83-1090

Docket No. 50-397

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

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
RESPONSE TO CONTROL ROOM
HUMAN FACTOR CONCERNS

On November 2, 1983, members of the Supply System met with the Human Factor Branch of the NRC to discuss the Supply System's report "Response to NRC Human Factors Engineering Preliminary Design Assessment Audit Report of August 26, 1983". From that meeting, the Supply System committed to respond prior to fuel load on two items:

1. Perform an evaluation of control room panel H13-P813. Identify deficiencies, resolution of deficiencies, and schedules for correction. (Report Item A-1.2)

2. Verify that communications capabilities exist for use with the emergency protective equipment (Scott Air Packs) and perform a functional test to verify adequacy. (Report Item A-1.17)

The requested evaluations and reviews have been completed and the results noted below. Except for those corrective actions specified below, report items A-1.2 and A-1.17 are hereby closed out.

Panel H13-P813 Containment H&V Review (Report Item A-1.2)

Anthropometric and annunciator reviews were performed and reported in prior Supply System reports. Reviews of P813 consisted of Controls, Visual Displays, Labels and Location Aids, Panel Layout, and Control Display Integration. Deficiency findings, corrective resolution and schedule for correction are noted below.

A001
1/0

1. Escutcheons for control switches CSP-V-96 and CS-V-97 are blank. Switch Position Markings "Close-Auto-Open" are not engraved on the switch escutcheons.

   Response

   Switch escutcheons will have temporary labels prior to fuel load. The nitrogen inerting system, of which these controls are a part, is required to be in service after about 100 days of full power operation. Permanent escutcheons will be installed prior to placing the system in service.

2. Drywell pressure indicator CMS-PI-7 scales do not conform to NUREG-0700 requirements. The scale range is a plus 3 to minus 3 psig. The major units are marked +3, +1, -1, -3. There is no "0" and units do not conform to multiples of 1, 2, or 5.

   Response

   The indicator is used in conjunction with nitrogen inerting during operation and containment H&V during reactor outages. The present scale is sufficiently readable, that based on its intended function, immediate correction is not required. The scale will be brought into conformance with NUREG-0700 guidelines by the end of the first refueling outage as part of the overall control room upgrade of scales noted in Supply System response to Report item D-5.38.

3. Hierarchy label "RB/WW Vacuum Valves" is not installed.

   Response

   The label has been ordered and will be installed prior to exceeding 5% power.

4. Containment fan cooler temperature controllers CRA-TIC-1A, 1B, 1C, 2A and 2B open/close manual pushbuttons and valve position indicator scales do not conform to NUREG-0700 guidelines. The pushbuttons are reversed "open/close" rather than the preferred sequence "close/open". The position scale (0-100) has zero as full open and 100 as full close, reverse of other scales in the control room.

   Response

   Correction of the deficiencies requires complete change out of the instrument circuits and valve operator in order for them to perform in a reverse sequence. The manual pushbutton control heads are presently engraved "OPEN" and "CLOSE". These are distinct and readily readable. The system is normally used in Auto control. However, if the operator should go to manual and select the close adjustment control by mistake, the drywell temperature would slowly buildup and would be detected by

either temperature annunicator alarms or recorder trend readings on main benchboard panel P601 before out-of-technical specification conditions could occur. If the open control is selected by mistake, the result would be a cooling down within the drywell. The concern here would be excessive cooling in the annulus area around the reactor. Annunicator alarms are located on P813 to identify low fan discharge temperatures. Due to the systems slow response times, annunciator and trend monitoring capabilities, and that the manual control heads are distinctly engraved open and closed, no change is required to the instrument circuits or valve operators. As an operator aid, labels will be added above the scale "0" and above the scale "100" specifying "Full Open" and "Full Close", respectively. Temporary labels will be applied prior to fuel load, and permanent labels will be applied prior to exceeding 5% power.

5. Switches RCC-V-71A, B, C, and RCC-V-72A, B rotate clockwise from "open to close" rather than the preferred sequence "close/open".

Response

These switches were noted under Supply System Report Finding 13.3.1.c. Correction to a "close/open" sequence is scheduled for completion prior to fuel load.

Communications Capability (Report Item A-1.17)

Communications capability is provided for the control room operator while wearing protective equipment, Scott Air Packs, by use of Nucleonics communication devices model no. 81512. Selection of the devices was based on ability to communicate between individuals and over phone and speaker systems. The Nucleonics equipment was selected due to the improved speech intelligibility over other available communication equipment. A functional check of the equipment verified the adequacy of the system. Communications over phone and speaker systems could be readily performed by the operator and speech was very clear and distinct. The volume output of the devices allowed for good close-up communications between individuals but can not provide volume for distant communications. The Nucleonics communications equipment is presently considered at the state of the art for communication devices usable with protective equipment and meets the requirements of its intended function.

Should you have any further questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,

GC Sorensen

G. C. Sorensen, Manager
Regulatory Programs

RGD/tmh

cc: R Auluck - NRC
WS Chin - BPA
AD Toth - NRC Site