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Vogtle Project

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United States Nuclear Regulatory Commission
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VOGTLE ELECTRIC GENERATING PLANT - UNIT 2
SER Open Item 14a: Control Room Design Review (CRDR)

The NRC concluded in section 18.1 of SSER 5 that for resolution of the Unit 2 detailed control room design review (DCRDR), Georgia Power Company should demonstrate similarity between the Unit 1 and the Unit 2 control rooms. Attached is a discussion of the Vogtle Unit 1 and Unit 2 control rooms similarity.

If your staff should require additional information, please do not hesitate to contact me.

Sincerely,

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Project Licensing Manager

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Attachment

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UNIT 1/2 CONTROL ROOM SIMILARITY

Vogtle Units 1 and 2 show a common control room (see Figure 1). The controls in both units are essentially identical.

The Unit 2 Main Control Board (QMCB) is a rotated image of the Unit 1 Main Control Board. On sections A, B, and C of the Main Control Board the left-right relationship for all the controls and displays is identical. This identical relationship for the A, B, and C sections includes the board layout and labeling.

The one exception to identical layout on the Main Control Board is the D section. The D section was a backfit after the control room design was completed and floor space did not allow an identical arrangement. Section D contains the same equipment on both units (RVLIS, PSMS, and Main Steam Bypass Isolation Valves). Section D is on the left end of section A on Unit 1 and to the right of section B on Unit 2. This will require looking left on Unit 1 and right on Unit 2 to verify that the Main Steam Bypass Isolation Valves are shut on a Main Steam Isolation. There should be no impact on routine unit operation.

The rest of the Unit 2 Control Boards appear as if the Unit 1 Boards were moved west. Their appearance on Unit 2 will be the same as on Unit 1 if you are standing in front of them. The Electrical Auxiliary Board (QEAB) will appear somewhat different from the center of the control room. In Unit 1 it is over the right shoulder and in Unit 2 it will be over the left shoulder. This will require a slightly different scanning pattern during immediate operator action in the EOPs but should have no impact on unit operation. The high voltage section of the QEAB is different to reflect the differences in the switchyards but the Unit 2 inplant distribution systems will appear identical to Unit 1. The common distribution system is on the Unit 1 QEAB.

The QPCP (Process Control Panel) in Unit 2 will not have the shared system controls located on the Unit 1 QPCP. These systems (fire pumps, river makeup, auxiliary boiler, etc.) are controlled by the Unit 1 crew in support of both units.

Control Room Wall

A security wall was erected through the center of the common control room to separate Unit 1 from Unit 2 when Unit 1 security went into effect. Original plans were for this wall to be removed when Unit 2 security went into effect. Current plans are to leave most of the wall to provide unit separation, and reduce inter-unit noise. The wall will be open on the Shift Supervisors station, near the south door, and behind the QPCP.

Plant Computers

The plant computer (PROTEUS and ERF) terminals will be in mirror image locations. The PROTEUS computer function will be different in that no common inputs go to Unit 2. The ERF computer will be identical except that the common radiation monitors and weather data will be displayed only on Unit 1.

PLAN FOR IDENTIFYING FINAL DIFFERENCES BETWEEN UNIT 1 AND UNIT 2 CONTROL ROOMS

Similarity Verification

At the present time it is not feasible to conduct a detailed comparison of the Unit 1 versus Unit 2 Control Room. This is due to the still outstanding Unit 1 Human Engineering Discrepancies (HEDs) to be completed on Unit 2. Upon the completion of the great majority of Unit 1 HEDs on Unit 2 the CRDR team will conduct an in-depth, visual walkthrough and verification of sameness between the Unit 1 and Unit 2 Control Rooms. Differences in the operator interface will be documented for further evaluation. No significant differences are known.

Differences Review

Only differences in the Unit 2 controls, compared to Unit 1 will be reviewed against applicable sections of NUREG 0700. Only new HED's identified by that review will be evaluated and corrected.

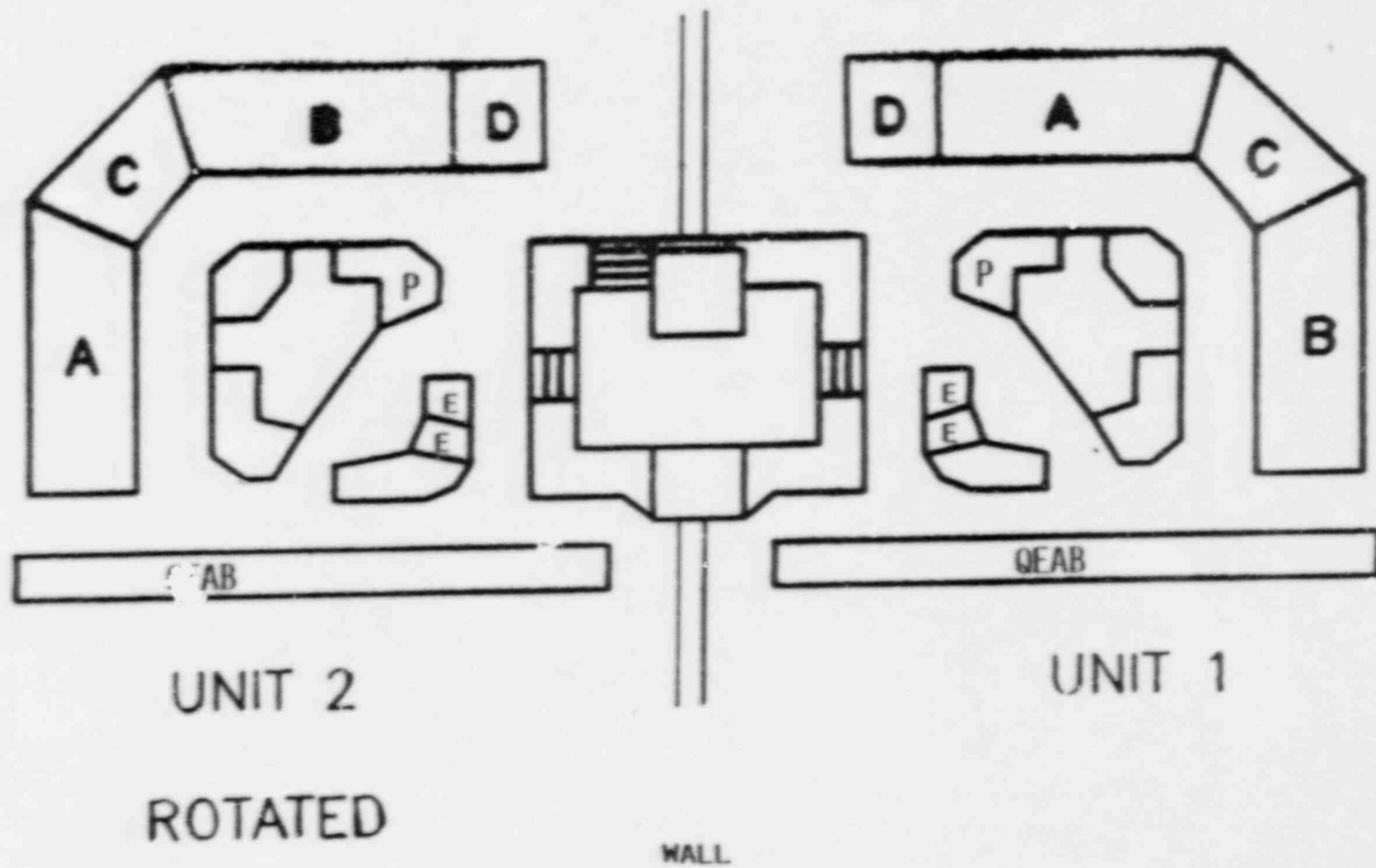
Unit Similarity Maintenance

Georgia Power intends to maintain the two units as nearly identical as practical to facilitate operations and training. Changes from Unit 2 are being installed on Unit 1 as well. Engineering design changes are generally applied to both units to maintain essentially identical control rooms.

Planned Differences

1. Process Control Stations (temperature, pressure, etc) on Unit 2 use a slightly different meter face style (previous model discontinued).
2. Alarm Window engravings on Unit 2 are different as equipment differences dictate (ie Unit 1 switchyard is 230KV, Unit 2-500kv).

Figure 1
VOGTLE UNIT 1 & 2
COMMON CONTROL ROOM



P - PROTEUS COMPUTER
E - ERF COMPUTER