

COMMONWEALTH EDISON COMPANY  
LASALLE COUNTY STATION  
DETAILED CONTROL ROOM DESIGN REVIEW  
FINAL SUMMARY REPORT  
REVIEW FINDINGS  
OCTOBER 1985  
VOLUME 2  
PART 1, SECTIONS 1.0-4.0

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PDR ADOCK 05000373  
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Section 1

CONTROL ROOM WORKSPACE

# LaSalle Corrective Action

HED NO.: 0493, 0345

GUIDELINE: 1.1.1.A/V-46, 1.1.1.A/OS-31

CATEGORY: 2 LEVEL B

## FINDING:

During the task analysis and verification, the need for a dual pen recorder to display the feedwater supply header temperatures was identified. A 100°F drop in feedwater temperature requires that a manual scram be initiated. The temperature recorder identified would facilitate operations.

## RESPONSE:

The computer information is sufficient indication of feedwater supply header temperature. A recorder, although nice to have, would not facilitate controlling the temperature.

## IMPLEMENTATION:

Accept as is.

4562/c/12

LaSalle Corrective Action

HED NO.: 0464

GUIDELINE: 1.1.1.A/V-35

CATEGORY: 1 LEVEL B

FINDING:

During the task analysis and verification, it was observed that tasks are performed that require the operator to ascertain the containment flood level. A display for this parameter exists on Unit Two; operations would be facilitated on Unit One by the addition of this display on that unit.

RESPONSE:

A containment flood level meter will be added on 1PM13J.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/2



## LaSalle Corrective Action

HED NO.: 0465

GUIDELINE: 1.1.1.A/V-36

CATEGORY: 2 LEVEL B

### FINDING:

During the task analysis and verification, the need for additional annunciator tiles (currently not present in the control room) was observed. The addition of these tiles would facilitate operations during emergency events.

### RESPONSE:

A main turbine bypass valve open annunciator will be added to the control room. Fuel pool and reactor buildings vent exhaust radiation high alarms are unnecessary since advanced warning would not result in any additional operator actions. Indications are available for the information cited on the proposed other annunciators (RHR shutdown cooling reactor pressure permissive, SBGTS auto initiated, shutdown cooling high suction flow, tip withdrawal initiated, post loss of coolant accident containment high oxygen).

### IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/3

## LaSalle Corrective Action

HED NO.: 0466

GUIDELINE: 1.1.1.A/V-37

CATEGORY: 1 LEVEL B

### FINDING:

During the task analysis and verification, four valve control switches (on H13-P601) and one reactor mode switch (on H13-P603) were identified that did not have indicator lights associated with equipment position/condition or status. The availability of this information would facilitate operations, especially in a transient condition. (Photo Log No. F-30, F-31, F-32)

### RESPONSE:

Percentage open indication is available in the control room (on H13-P601) for the cited four valve control switches. The other switch (reactor mode) is a unique control with special characteristics identifiable by function. Operators are cognizant of the relationship of the switch handle position and switch modes.

### IMPLEMENTATION:

Accept as is.

4562/c/4

LaSalle Corrective Action

HED NO.: 0468, 0337

GUIDELINE: 1.1.1.A/V-39, 1.1.1.A/OS-26

CATEGORY: 2 LEVEL A

FINDING:

During the task analysis and verification, tasks were identified in which the operator was required to determine the scram air header pressure. There is an annunciator in the control room to inform the operator that the pressure is either too high or too low, but there is no indication in the control room of actual pressure. The addition of a display for the scram air header pressure would facilitate operations.

RESPONSE:

The scram air header pressure annunciator will be split into a low pressure and a high pressure alarm. Due to the complexity of this engineering modification, it will be completed by the second refueling outage.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/6

LaSalle Corrective Action

HED NO.: 0477

GUIDELINE: 1.1.1.A/V-40

CATEGORY: 1 LEVEL B

FINDING:

During the task analysis and verification, the need to determine the suppression pool deepwell water temperature was identified. A conventional indicator for that parameter does not exist in the main control room.

RESPONSE:

In the unlikely event of a low suppression pool level which uncovers the shallow temperature probes, temperature information can be obtained from deep probes which can be read via the process computer and/or at the remote shutdown panel.

IMPLEMENTATION:

Accept as is.

4562/c/7

LaSalle Corrective Action

HED NO.: 0487

GUIDELINE: 1.1.1.A/V-41

CATEGORY: 2 LEVEL B

FINDING:

During the task analysis and verification, the need for a reactor core isolation cooling (RCIC) steam to residual heat removal system (RHR) warm-up or bypass valve was noted for Unit One. Without this warm-up/bypass ability, it is possible to damage the RHR system piping. This valve exists on Unit Two.

RESPONSE:

A RCIC steam to RHR warm-up/bypass valve will be added to Unit One.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/8

## LaSalle Corrective Action

HED NO.: 0490

GUIDELINE: 1.1.1.A/V-43

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis, a task was identified that required determining standby liquid control flow. Adding indication in the main control room would give operators positive feedback on the parameter.

### RESPONSE:

Positive feedback on the parameter is provided to the tank level decrease and power level decrease indications. This allows the operator to verify that the system is operating properly.

### IMPLEMENTATION:

Accept as is.

4562/c/9

## LaSalle Corrective Action

HED NO.: 0491

GUIDELINE: 1.1.1.A/V-44

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis and verification, situations and task conditions were identified in which the initiation of the automatic depressurization system (ADS) is to be avoided. Currently, the only way to avoid ADS initiation once an auto initiation signal has been received, is to depress the ADS reset pushbutton before the 105 second time delay has expired. However, operators do not have an indicant of how much time is left on the time delay in the control room. An indicant of ADS time delay time remaining would facilitate operations in conditions not requiring ADS initiation.

### RESPONSE:

A modification is being accomplished to the ADS to provide a switch that will permanently bypass ADS initiation. After this logic is completed, it will no longer be necessary to reset the 105-second time delay.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/10



## LaSalle Corrective Action

HED NO.: 0463, 0467, 0492, 0234

GUIDELINE: 1.1.1.A/V-34, 1.1.1.A/V-38,  
1.1.1.A/V-45, 8.1.1.C/VL-2

CATEGORY: 1 LEVEL A

### FINDING:

During the task analysis and verification, it was observed that there are tasks performed using emergency systems on the H13-P601 panel in which the operator is required to ascertain drywell pressure and suppression pool level. Current indication is located on the PM06J panel (narrow range) and the PM13J panel (wide range) for drywell pressure and PM13J for suppression pool level. Operators should have ready access to these parameters on the H13-P601 panel to facilitate emergency operations. (Photo Log No. F-29)

### RESPONSE:

Under accident conditions, one operator is assigned to monitor containment conditions of pressure, temperature and water level, and initiate actions when directed to by the emergency procedures. Most of these actions are required when the parameters reach graphical limit rather than at any single value. The other operator at H13-P601 is responsible for maintaining and restoring vessel level and monitoring associated parameters. This information is also available on the SPDS. Staffing levels are adequate to monitor and coordinate all appropriate information within the required time limits.

### IMPLEMENTATION:

Accept as is.

4562/c/1

10

## LaSalle Corrective Action

HED NO.: 0321

GUIDELINE: 1.1.1.A/OS-13

CATEGORY: 2 LEVEL C

### FINDING:

The operator survey indicated a need for control room direct control of reactor vessel water level. The current valve is leaking through. A throttleable motor operated valve that bypasses the feedwater regulation valve is needed in the control room.

### RESPONSE:

The reliability of the feedwater regulation valve will be improved to reduce feedwater regulation valve leakage so that it can be used as designed for all flow conditions.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/13

## LaSalle Corrective Action

HED NO.: 0322, 0488

GUIDELINE: 1.1.1.A/OS-14, 1.1.1.B/V-3

CATEGORY: 2 LEVEL B

### FINDING:

The operators report a need for a reactor water cleanup system delta flow differential meter and a time delay timer on the front panel of the control room. This will increase operator control over what has been a frequent cause of primary containment isolation actuation.

### RESPONSE:

An annunciator will be added to the control room to indicate that the delay time has been started and a high differential flow condition exists. This annunciator will allow the operators sufficient time to take appropriate action to prevent the containment isolation actuation. The addition of this annunciator replaces the need for a reactor water cleanup system delta flow differential meter and time delay timer on the front of the control boards.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/14

LaSalle Corrective Action

HED NO.: 0323

GUIDELINE: 1.1.1.A/OS-15

CATEGORY: 2 LEVEL B

FINDING:

The operators report that the reactor recirculation system flow control valve hydraulic power unit should have motor restart buttons.

RESPONSE:

The reactor recirculation system is designed without resets to insure that the system is not reset until the operators determine the cause of the trip.

IMPLEMENTATION:

Accept as is.

4562/c/15

## LaSalle Corrective Action

HED NO.: 0324

GUIDELINE: 1.1.1.A/OS-16

CATEGORY: 2 LEVEL B

### FINDING:

The operator survey indicated a need for controls for primary containment chiller in the control room. The other primary containment chiller must be manually started when one trips. However, drywell heats up rapidly while the operators await the starting of the other chiller.

### RESPONSE:

The primary containment chiller is designed to insure that the system is not reset until the operators determine the cause of the trip. Safe startup of the chillers requires an operator in attendance at the equipment to monitor operator parameters.

### IMPLEMENTATION:

Accept as is.

4562/c/16

LaSalle Corrective Action

HED NO.: 0326

GUIDELINE: 1.1.1.A/OS-17

CATEGORY: 2 LEVEL C

FINDING:

The operators report that they would like to have a reset for the reactor manual control system.

RESPONSE:

A reset for the reactor manual control system is not necessary since the reactor is in a safe mode and not in a time critical situation. A reset in the auxiliary electric room reinforces the recording of fault messages so that appropriate corrective actions can be implemented.

IMPLEMENTATION:

Accept as is.

4562/c/17

LaSalle Corrective Action

HED NO.: 0327, 0494

GUIDELINE: 1.1.1.A/OS-18, 5.3.1.A.2/V-3

CATEGORY: 2 LEVEL B

FINDING:

The operators reported that a full core display lamp test switch at H13-P603 panel would be helpful. Currently, it is extremely inconvenient to go to the rear of the front panel to check and it can result in a delay in bulb replacement.

RESPONSE:

These lamps are fitted with dual-filament bulbs. If one bulb burns out, there is a backup bulb. This operation is not time critical, so the operators have adequate time to check bulbs on back panels.

IMPLEMENTATION:

Accept as is.

4562/c/18



LaSalle Corrective Action

HED NO.: 0328

GUIDELINE: 1.1.1.A/OS-19

CATEGORY: 2 LEVEL B

FINDING:

Reset switch in the control room for station air compressor surge would be helpful.

RESPONSE:

The station air compressor surge system is designed without a reset to insure that the system is not reset until the operators determine the cause of the trip.

IMPLEMENTATION:

Accept as is.

4562/c/19

LaSalle Corrective Action

HED NO.: 0329

GUIDELINE: 1.1.1.A/OS-20

CATEGORY: 2 LEVEL B

FINDING:

The operators would like to have a reset for the fire panel to allow for resetting from the control room. This would also avoid the necessity of sending an operator to the auxiliary equipment room.

RESPONSE:

The fire panel alarms are normally reset by operators making rounds or specifically dispatched operators. There is no significant degradation as a result of alarms not being immediately reset from the control room.

IMPLEMENTATION:

Accept as is.

4562/c/20

## LaSalle Corrective Action

HED NO.: 0330

GUIDELINE: 1.1.1.A/OS-21

CATEGORY: 2 LEVEL C

### FINDING:

Switches to allow diesel fire pumps to be switched into the test mode should be installed on panel PM08J to minimize pump risk on false starts. Operators should also be able to override the quiet start features during operating surveillances from the control room. These features are required for reliability of diesel fire pumps and equipment protection. Also adding shutdown capability after an inadvertent start could provide additional equipment protection.

### RESPONSE:

The diesel fire pump system is designed to prevent switching into the test mode to insure that only in a valid emergency are the trips bypassed. It is necessary for the operators to be at the panel to operate the system in the trips bypassed mode, unless a valid automatic start signal is received.

### IMPLEMENTATION:

Accept as is.

4562/c/21

## LaSalle Corrective Action

HED NO.: 0333

GUIDELINE: 1.1.1.A/OS-22

CATEGORY: 1 LEVEL A

### FINDING:

Operators stated they would like containment pressure indication on the emergency core cooling system (ECCS) panel (H13-P601). This will aid in monitoring a parameter associated with an initiation signal at the ECCS panel. There is ECCS actuation from containment pressure and operators need a timely indication of the actuation.

### RESPONSE:

An annunciator "drywell high pressure" is in place to indicate when the operator is approaching ECCS activation setpoint. In addition, containment pressure is indicated on a meter on PML3J as well as the CRT.

### IMPLEMENTATION:

Accept as is.

4562/c/22

LaSalle Corrective Action

HED NO.: 0334

GUIDELINE: 1.1.1.A/OS-23

CATEGORY: 2 LEVEL B

FINDING:

In general, more cathode ray tubes (CRTs) are needed in the control room. There is a need for more than the current three CRTs to monitor pressures, temperatures, etc., of remote systems.

RESPONSE:

The operators have an adequate number of CRTs in the control room. Additional CRTs would increase system delay time per unit. Control room operators have priority of the current CRTs and access to them during emergencies.

IMPLEMENTATION:

Accept as is.

4562/c/23

LaSalle Corrective Action

HED NO.: 0335

GUIDELINE: 1.1.1.A/OS-24

CATEGORY: 2 LEVEL C

FINDING:

The operators reported a need for more digital displays. Currently, the operators have three. Operators frequently need displays to monitor administrative limits, i.e., megawatts electrical, megawatts thermal, core flow and to monitor level and pressure.

RESPONSE:

The cited administrative limits are available on control room CRTs and panel instrumentation. Additional displays would tend to clutter the control boards.

IMPLEMENTATION:

Accept as is.

4562/c/24

LaSalle Corrective Action

HED NO.: 0336

GUIDELINE: 1.1.1.A/OS-25

CATEGORY: 1 LEVEL C

FINDING:

The operator survey indicated that the control room needs more accurate suppression pool level and pressure indications on panel PM13J.

RESPONSE:

The existing suppression pool level and pressure indication is adequate. No problems were identified with this meter during the task analysis and verification.

IMPLEMENTATION:

Accept as is.

4562/c/25



LaSalle Corrective Action

HED NO.: 0339

GUIDELINE: 1.1.1.A/OS-28

CATEGORY: 3 LEVEL C

FINDING:

The operators would like the plant computer to be capable of calling up plant system mechanical and electrical drawings.

RESPONSE:

Although this function would be nice to have on the plant computer, the computer does not have this capability. Updated electrical and mechanical drawings are available to the control room operators.

IMPLEMENTATION:

Accept as is.

4562/c/27

LaSalle Corrective Action

HED NO.: 0340

GUIDELINE: 1.1.1.A/OS-29

CATEGORY: 2 LEVEL C

FINDING:

Suppression chamber/drywell differential pressure indication (narrow range) would be helpful to prevent cycling of vacuum breakers.

RESPONSE:

Suppression chamber/drywell differential pressure is not a significant parameter. It is not safety related and not used during emergencies.

IMPLEMENTATION:

Accept as is.

4562/c/28

## LaSalle Corrective Action

HED NO.: 0341

GUIDELINE: 1.1.1.A/OS-30

CATEGORY: 1 LEVEL B

### FINDING:

The operator survey indicated a need for an averaging circuit (or even new sensor location) for determining bulk or average suppression pool temperature. The current charts are hard to read and suppression pool temperature stratification affects the sensors.

### RESPONSE:

The current recorder contains points for air temperature as well as water temperature. The air temperature points will be removed, thus improving the readability of the charts. The operators will be able to determine average temperature when the charts have been modified.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/29

LaSalle Corrective Action

HED NO.: 0346

GUIDELINE: 1.1.1.A/OS-32

CATEGORY: 2 LEVEL C

FINDING:

The control room needs heater drain system visual display selection on the computer CRT menu for information on system not currently available elsewhere, e.g., pump forward and pump back valve positions. It would provide operator with more specific and accurate information on system status.

RESPONSE:

Adequate information (valve position indicators, flow indicators, level indicators, etc.) is provided for the heater drain system. This system needs attention only during start-up and shut-down and is not used during emergencies.

IMPLEMENTATION:

Accept as is.

4562/c/31

LaSalle Corrective Action

HED NO.: 0332

GUIDELINE: 1.1.1.A/OS-47

CATEGORY: 1 LEVEL C

FINDING:

A unit select switch is needed to enable zero diesel generator to be placed on the unit where it is needed.

RESPONSE:

The diesel generator is automatically placed where the logic determines it is needed. The operator can override this system using manual controls.

IMPLEMENTATION:

Accept as is.

4562/c/32

LaSalle Corrective Action

HED NO.: 0193

GUIDELINE: 1.1.1.A/VL-2

CATEGORY: 2 LEVEL C

FINDING:

It was noted during the validation that there is no indication of flow for the chiller fans.

RESPONSE:

The need for chiller fan flow is not time critical and only used for troubleshooting.

IMPLEMENTATION:

Accept as is.

4562/c/33

## LaSalle Corrective Action

HED NO.: 0195

GUIDELINE: 1.1.1.A/VL-3

CATEGORY: 2 LEVEL B

### FINDING:

During the validation, it was observed that the primary containment chillers could not be started from the main control room. The unavailability of a control switch for the chiller could delay operation of the primary containment ventilation system.

### RESPONSE:

The primary containment chiller system is designed so that it cannot be started from the control room, to insure that the system is not reset before the cause of the trip is identified. Safe startup of the chillers requires an operator in attendance at the equipment to monitor operator parameters.

### IMPLEMENTATION:

Accept as is.

4562/c/34



## LaSalle Corrective Action

HED NO.: 0196

GUIDELINE: 1.1.1.A/VL-4

CATEGORY: 1 LEVEL C

### FINDING:

It was noted during the validation that the instrument nitrogen system could not be started from the main control room. The unavailability of control switches for this system could contribute to operational difficulties.

### RESPONSE:

The starting of this system is too complicated to perform from the control room without someone in the plant manually operating the controls. In addition, bottled air is available as a backup.

### IMPLEMENTATION:

Accept as is.

4562/c/35

LaSalle Corrective Action

HED NO.: 0205

GUIDELINE: 1.1.1.A/VL-5

CATEGORY: 2 LEVEL C

FINDING:

A throttleable control rod drive discharge valve control switch should be located on the H13-P603 panel in the main control room.

RESPONSE:

System design is such that the pump can be started from the control room. This valve is not essential to plant operations and its operation is not time critical.

IMPLEMENTATION:

Accept as is.

4562/c/36

LaSalle Corrective Action

HED NO.: 0206

GUIDELINE: 1.1.1.A/VL-6

CATEGORY: 2 LEVEL A

FINDING:

The PM03J panel does not contain an annunciator acknowledge station. Operators were observed responding to annunciator alarms for that panel at adjacent panels during the validation.

RESPONSE:

Annunciator response controls will be added to PM03J. This will aid the operators in acknowledging alarms on this panel.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/37

LaSalle Corrective Action

HED NO.: 0231

GUIDELINE: 1.1.1.A/VL-7

CATEGORY: 2 LEVEL B

FINDING:

Operations would be facilitated by the addition of an annunciator to inform the operators that a turbine bypass valve is open. Operators should have all necessary displays available to assure prompt and correct action for any unit condition.

RESPONSE:

An annunciator will be added in the control room to inform the operators that a turbine bypass valve is open.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/38

LaSalle Corrective Action

HED NO.: 0251

GUIDELINE: 1.1.1.A/VL-8

CATEGORY: 2 LEVEL B

FINDING:

With the Westinghouse manual/auto (M/A) station controllers for the primary containment, heater drain pump forward, and heater drain to condenser in the manual mode of operations, operators do not have indication available as to the controlled valves actual position between full open and full closed.

RESPONSE:

This is not an operational concern. The operation of the cited controllers is based on level and flow, not valve position.

IMPLEMENTATION:

Accept as is.

4562/c/39

## LaSalle Corrective Action

HED NO.: 0253

GUIDELINE: 1.1.1.A/VL-9

CATEGORY: 1 LEVEL C

### FINDING:

The residual heat removal (RHR) heat exchanger bypass valves have a ten minute interlock following RHR initiation which prevents the suppression pool cooling mode of RHR from being used. Operators have no indication that the interlock is in effect, nor that it has cleared.

### RESPONSE:

The operators attempt to shut the valve about ten minutes after RHR initiation. If the valve closes, this is indication that the ten minutes is over. There are no adverse consequences due to a short delay in closing the valve.

### IMPLEMENTATION:

Accept as is.

4562/c/40

LaSalle Corrective Action

HED NO.: 0255

GUIDELINE: 1.1.1.A/VL-10

CATEGORY: 2 LEVEL C

FINDING:

In bringing the unit to a hot standby condition from the remote shutdown panel during the validation, an operator had to be dispatched to close the turbine driven feedwater pumps discharge valve. The addition of a control switch for these valves would facilitate operations from the remote shutdown panel.

RESPONSE:

The operators can manually shut the valves on the condensate pumps.

IMPLEMENTATION:

Accept as is.

4562/c/41



## LaSalle Corrective Action

HED NO.: 0256

GUIDELINE: 1.1.1.A/VL-11

CATEGORY: 1 LEVEL C

### FINDING:

In reviewing the validation video tapes of a loss of all AC power transient, the subject matter expert indicated that not all parameters considered important to ascertaining unit status have indication available because they are not DC powered. Modifying the reactor vessel wide range level, suppression pool level, suppression pool temperature, and drywell pressure indicators so that they are DC powered would facilitate operations in a loss of AC power incident.

### RESPONSE:

The operators have adequate instrumentation in the plant to measure these parameters.

### IMPLEMENTATION:

Accept as is.

4562/c/42

## LaSalle Corrective Action

HED NO.: 0257

GUIDELINE: 1.1.1.A/VL-12

CATEGORY: 1 LEVEL B

### FINDING:

In one transient situation during the validation, operators were observed experiencing some uncertainty concerning actual control rod position following a scram. The addition of an alarm to alert operators in instances when all control rods are not full in following a reactor protection system actuation signal would enhance their ability to detect and respond to potentially abnormal situations.

### RESPONSE:

Adequate information (computer, full core display, etc.) is available to the operators to identify rod position.

### IMPLEMENTATION:

Accept as is.

4562/c/43

LaSalle Corrective Action

HED NO.: 0483

GUIDELINE: 1.1.1.B/V-2

CATEGORY: 1 LEVEL B

FINDING:

During the task analysis and verification, the desirability of relocating the main steam line radiation recorder from the H13-P600 backpanel to the H13-P601 front panel was identified.

RESPONSE:

The use of the main steam line radiation recorder is not time critical and is used only after an accident. Its current location is adequate.

IMPLEMENTATION:

Accept as is.

4562/c/44

LaSalle Corrective Action

HED NO.: 0375

GUIDELINE: 1.1.1.B/OS-1

CATEGORY: 2 LEVEL C

FINDING:

Off gas pre- and post-treatment radiation chart recorders should be moved to the off gas front panels. This would help in correlating off gas system changes to the change in pre/post treatment radiation changes.

RESPONSE:

The placement of off gas pre- and post-treatment recorders on back panels is acceptable because they are not used during time-critical or emergency situations.

IMPLEMENTATION:

Accept as is.

4562/c/46

LaSalle Corrective Action

HED NO.: 0432

GUIDELINE: 1.1.2.A/OS-1

CATEGORY: 3 LEVEL B

FINDING:

Operators report a need for a crew concept. Crew concept maintains continuity of personnel and their specific abilities and intercommunication abilities. Crews with continuity work well together and are efficient.

RESPONSE:

The plant has adopted a crew concept to facilitate operations.

IMPLEMENTATION:

Completed.

4562/c/47

LaSalle Corrective Action

HED NO.: 0433

GUIDELINE: 1.1.2.A/CS-2

CATEGORY: 3 LEVEL B

FINDING:

Personnel duties need to be clarified and explicitly stated for the shift engineer, shift foreman, shift control room engineer, nuclear station operator, B men and shift overview superintendent.

RESPONSE:

An operating procedure (LAP 200-1) specifies job duties and responsibilities. The shift overview superintendent is a senior management individual assigned to monitor any and all activities going on and to assist where possible. He has no line authority.

IMPLEMENTATION:

Completed.

4562/c/48

LaSalle Corrective Actions

HED NO: 0001

GUIDELINE: 1.1.3.A-1

CATEGORY: 3 LEVEL: C

FINDING:

Desks and consoles do not permit operators full view of all control and display panels (including annunciator panels) in the primary operating area. (Photo Log No. A-4, A-5, B-18)

RESPONSE:

Operators do not maintain a seated position in the control room. Their mobility allows for access as well as view of all control panels. Auditory coding of annunciators is an additional operator queue to off-normal plant conditions.

IMPLEMENTATION:

Accept as is.

4549/c/1



LaSalle Corrective Action

HED NO.: 0002

GUIDELINE: 1.1.3.C.1-1

CATEGORY: 3 LEVEL C

FINDING:

The antistatic mats located in front of all workstations are tripping hazards. (Photo Log No. A-6)

RESPONSE:

The mats will be removed. Colored carpeting will be added to the control room to designate zone barriers.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/49

LaSalle Corrective Action

HED NO.: 0034, 0033

GUIDELINE: 1.1.3.C.2-1, 2.1.2.B.4-1

CATEGORY: 2 LEVEL B

FINDING:

Telephones are not sufficiently placed across panels to allow operators to adequately manipulate controls while communicating to personnel in the plant. (Photo Log No. A-7)

RESPONSE:

Telephones will be added to N62-P600 and N62-P601 to give adequate telephone coverage to the operators at the control panels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/50

LaSalle Corrective Action

HED NO.: 0003

GUIDELINE: 1.1.3.D.1-1

CATEGORY: 2 LEVEL C

FINDING:

Due to the size and location of the center desk, operating personnel have difficulty communicating between the units.

RESPONSE:

Telephones are available for communication between the units.

IMPLEMENTATION:

Accept as is.

4562/c/51

## LaSalle Corrective Actions

HED NO: 0536

GUIDELINE: 1.1.3.E.1-1

CATEGORY: 3 LEVEL: C

### FINDING:

Minimal clearance (27 inches) between the unit desk and computer console creates operator traffic problems. The minimum separation recommended by guidelines is 36 inches. (Photo Log No. I-1)

### RESPONSE:

The computer on this console is set back, away from the console edge. There is no equipment on either surface which could be inadvertently activated when an operator walks through the passageway between them.

### IMPLEMENTATION:

Accept as is.

4549/c/2

LaSalle Corrective Action

HED NO.: 0100

GUIDELINE: 1.1.3.F.1-2

CATEGORY: 3 LEVEL C

FINDING:

There are only 37 inches between the following control panels: OM16J and PM13J, PM09J and PM10J, N62-P601 and N62-P600, PM05H and PM06J, and OPM11J and OPM12J. A minimum of 50 inches is recommended. (Photo Log No. A-8)

RESPONSE:

The cited panels are pairs of vertical panels and benchboards. The back of the benchboard (which is located 37 inches from the vertical panel) contains no instrumentation. The deviation from the recommended standard does not impact operator performance.

IMPLEMENTATION:

Accept as is.

4562/c/54

LaSalle Corrective Action

HED NO.: 0292

GUIDELINE: 1.1.3.F.2-1

CATEGORY: 3 LEVEL C

FINDING:

A minimum separation of 50 inches is not provided between the remote shutdown panel and an opposing row of equipment.

RESPONSE:

The remote shutdown panel is a rarely used panel. The deviation from the standard does not impact operator performance.

IMPLEMENTATION:

Accept as is.

4562/c/53

LaSalle Corrective Action

HED NO.: 0115

GUIDELINE: 1.1.3.G-1

CATEGORY: 3 LEVEL C

FINDING:

The 2H13-P603, 1H13-P635, 2H13-P635 and 1L13-P604 panels have missing panel sections in which unwanted objects may enter.  
(Photo Log No. G-1, G-2, G-3, G-4, G-5)

RESPONSE:

Missing panel sections will be replaced.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/55



LaSalle Corrective Action

HED NO.: 0443

GUIDELINE: 1.1.4.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

Station needs continuous updating and upkeep of piping and instrument diagrams, electricals, control and instrument drawing hardcopies in the control room.

RESPONSE:

An indication is added to drawings when a change is pending or made. Operators have access to current drawings at all times from central filing, and access to updated "critical drawings" at all times in the control room.

IMPLEMENTATION:

Accept as is.

4562/c/56

LaSalle Corrective Action

HED NO.: 0444

GUIDELINE: 1.1.4.A.1/OS-2

CATEGORY: 3 LEVEL C

FINDING:

Although prints that show fuses are available, it is not that easy to find them. The station also needs to install permanent markings on all fuses.

RESPONSE:

Fuses requiring immediate action are highlighted. Identification of other fuses is normal trouble shooting and not time critical.

IMPLEMENTATION:

Accept as is.

4562/c/57

LaSalle Corrective Action

HED NO.: 0445

GUIDELINE: 1.1.4.A.1/OS-3

CATEGORY: 3 LEVEL C

FINDING:

A checklist should be included on the shift turnover information sheets currently in use. The shift foreman should have a checklist to insure that his relief knows the current status of the plant.

RESPONSE:

The existing checklist highlights major plant conditions and provides space to indicate any abnormal conditions.

IMPLEMENTATION:

Accept as is.

4562/c/58

LaSalle Corrective Action

HED NO.: 0005

GUIDELINE: 1.1.4.D-1

CATEGORY: 3 LEVEL C

FINDING:

Documents are not protected from becoming dirty, dog-eared, and torn. (Photo Log No. A-9)

RESPONSE:

All drawings will be inventoried and replaced as needed every six months.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/59

LaSalle Corrective Action

HED NO.: 0006

GUIDELINE: 1.1.5.F-1

CATEGORY: 3 LEVEL B

FINDING:

Records are not kept as to the status of expendables and spare parts.

RESPONSE:

Records will be established as to the status of expendables and spare parts.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/60

LaSalle Corrective Action

HED NO.: 0446, 0167

GUIDELINE: 1.1.5.F/OS-2, 5.4.1.E-1

CATEGORY: 3 LEVEL B

FINDING:

Control room supplies occasionally run low. There is no min/max system.

RESPONSE:

Records will be established as to the status of expendables and spare parts.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/61

## LaSalle Corrective Actions

HED NO: 0535

GUIDELINE: 1.1.6.A-1

CATEGORY: 3 LEVEL: C

### FINDING:

The shift supervisor's office is physically and visually remote from the control room. Supervisory access to the control room under emergency conditions (i.e., control room isolation) requires additional operational procedures. The supervisor's office does not have the same degree of environmental protection as the control room.

### RESPONSE:

The shift supervisor's office is not manned during emergencies. Therefore, the requirements for control room habitability are not applicable or necessary for the shift supervisor's office.

### IMPLEMENTATION:

Accept as is.

4549/c/3



LaSalle Corrective Action

HED NO.: 0430

GUIDELINE: 1.1.6.B/OS-1

CATEGORY: 2 LEVEL B

FINDING:

Frequently, an intercom from the unit desk to the shift engineer's office would be helpful. The phones are frequently busy and the page radio system is inappropriate for getting the shift engineer's prompt attention. Guidelines recommend connecting important plant areas such as shift engineer's desk to control room with a point-to-point intercom system.

RESPONSE:

The unit operators have phones with executive override capability. These are adequate for communication between the unit desk and the shift supervisor's office.

IMPLEMENTATION:

Accept as is.

4562/c/62

LaSalle Corrective Action

HED NO.: 0101

GUIDELINE: 1.2.2.B-1

CATEGORY: 3 LEVEL C

FINDING:

Some vertical panels do not have a foot clearance of four inches. (Photo Log No. I-10)

RESPONSE:

A foot clearance is necessary in situations where an operator must stand for an extended period of time. Due to the nature of the control room operator's job, he is constantly moving to different panels in order to monitor all instrumentation. Therefore a foot clearance is not needed.

IMPLEMENTATION:

Accept as is.

4562/c/70

LaSalle Corrective Action

HED NO.: 0297, 0298

GUIDELINE: 1.2.2.B.1-1, 1.2.2.C-1

CATEGORY: 3 LEVEL C

FINDING:

The highest controls on the vertical portion of the benchboards are not within reach radius of the standing 5th percentile female. (Photo Log No. G-20)

RESPONSE:

Guardrails are in place to protect controls from inadvertent actuation if the 5th percentile female must use an extended reach or stretch position to activate controls. In addition, an ergonomically designed stepladder will be provided in the control room whenever any 5th percentile females are assigned control room duties.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/63

LaSalle Corrective Action

HED NO.: 0041

GUIDELINE: 1.2.2.D.1-1

CATEGORY: 3 LEVEL C

FINDING:

Controls are not set back at least 3 inches from the front edge of the stand-up console. (Photo Log No. A-10)

RESPONSE:

Guardrails are in place to protect against inadvertent actuation of controls at the front edge of the benchboard.

IMPLEMENTATION:

Accept as is.

4562/c/65

### LaSalle Corrective Action

HED NO.: 0068

GUIDELINE: 1.2.2.D.2-1

CATEGORY: 3 LEVEL C

FINDING:

Controls are set back more than the guideline minimum of 25 inches from the front of the stand-up console. (Photo Log No. I-2, I-3, I-4, I-5)

RESPONSE:

Operators are able to reach all controls on the benchboard with an extended reach. Guardrails are in place to protect against inadvertent actuation of controls when operators must lean over to reach controls set far back on the control panel.

IMPLEMENTATION:

Accept as is.

4562/c/66

LaSalle Corrective Action

HED NO.: 0300

GUIDELINE: 1.2.2.E.1.B-1

CATEGORY: 2 LEVEL C

FINDING:

The display face angle from the line of sight for annunciators (tilt) is less than the required 45 degrees for the standing 5th percentile female.

RESPONSE:

Annunciators are readable to the operators due to the mobility and distances used. The deviation of 2 degrees from a 45 degree angle causes no difficulties for the operators.

IMPLEMENTATION:

Accept as is.

4562/c/67

LaSalle Corrective Action

HED NO.: 0179

GUIDELINE: 1.2.2.E.2-1

CATEGORY: 2 LEVEL C

FINDING:

The oblique angle from the line of sight to the annunciators located to either side of the annunciator response controls is greater than 45 degrees in several cases.

RESPONSE:

Annunciator response controls will be added to PM03J. The other panels deviate only slightly from the 45 degree angle and therefore are acceptable as is.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/68



## LaSalle Corrective Actions

HED NO: 0547, 0373

GUIDELINE: 1.2.2.E.2-2, 3.4.1.A.1/OS-1

CATEGORY: 2 LEVEL: A

### FINDING:

Panel PM03J does not have a set of annunciator response controls. Alarms must be acknowledged at the adjacent PM02J panel. Annunciators should be within the 45 degree angle of the annunciator response controls (50 inches to either side). The acknowledge station on PM02J is located 129 inches to the side of the PM03J annunciator panel. (Photo Log No. F-1)

### RESPONSE:

Annunciator response controls will be added to PM03J. This will aid the operators in acknowledging alarms on this panel. Due to the complexity of the engineering of adding the annunciator station, along with modifications in progress for PM03J, the implementation of this corrective action will be the second refueling outage.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/4

LaSalle Corrective Action

HED NO.: 0039

GUIDELINE: 1.2.2.F-1

CATEGORY: 3 LEVEL C

FINDING:

Some control panels exceed the maximum lateral spread of 72 inches. (Photo Log No. I-6, I-7, I-8, I-9)

RESPONSE:

These panels have been broken down into workstations by functional grouping and clustering of instruments, labeling, background shading, demarcation, and mimics.

IMPLEMENTATION:

Accept as is.

4562/c/69

LaSalle Corrective Action

HED NO.: 0299

GUIDELINE: 1.2.3.B-1

CATEGORY: 3 LEVEL C

FINDING:

All controls on the reactor panel (sitdown console) are not within the reach radius of the 5th percentile female.

RESPONSE:

This panel is actually a sit/stand console, designed to be operated from a standing or seated position. All controls are within the reach radius of an operator in a standing position.

IMPLEMENTATION:

Accept as is.

4562/c/71

LaSalle Corrective Action

HED NO.: 0102

GUIDELINE: 1.2.3.D.1-1

CATEGORY: 3 LEVEL C

FINDING:

The annunciator "reset" and "test" controls are not set back at least three inches on the H13-P603 panel. (Photo Log No. A-13, A-19, A-20, B-23)

RESPONSE:

Guardrails are in place to protect against inadvertent actuation of controls at the front edge of the benchboard.

IMPLEMENTATION:

Accept as is.

4562/c/72

LaSalle Corrective Action

HED NO.: 0301

GUIDELINE: 1.2.3.E.2-1

CATEGORY: 2 LEVEL C

FINDING:

The display face angle from the line of sight of the seated 5th percentile female to the annunciator (on the reactor panel) is less than the required 45 degrees.

RESPONSE:

This panel is actually a sit/stand console, designed to be operated from a standing or seated position. All controls are within the reach radius of an operator in a standing position.

IMPLEMENTATION:

Accept as is.

4562/c/73

LaSalle Corrective Action

HED NO.: 0104

GUIDELINE: 1.2.3.H.1-1

CATEGORY: 3 LEVEL C

FINDING:

There is no available writing space on the sit-stand console panel reactor panel (H13-P603). (Photo Log No. I-11)

RESPONSE:

There is no need for writing space on the reactor panel. In fact, due to the nature of the panel, writing space could have the potential for inadvertent actuation on the panel. Writing space is available to the operators at the operator unit desk.

IMPLEMENTATION:

Accept as is.

4562/c/74

LaSalle Corrective Action

HED NO.: 0069

GUIDELINE: 1.2.5.A.1-1

CATEGORY: 1 LEVEL C

FINDING:

There are controls on vertical panels that are located outside the 34 to 70 inch envelope above the floor, recommended by the guidelines. (Photo Log No. A-11)

RESPONSE:

An ergonomically designed step ladder will be provided for use on these panels. In addition, guardrails will be added to PM06J and PM13J to protect against inadvertent actuation of controls.

IMPLEMENTATION:

By the completion of the first refueling outage.

4562/c/75



## LaSalle Corrective Action

HED NO.: 0182

GUIDELINE: 1.2.5.A.2-1

CATEGORY: 1 LEVEL C

### FINDING:

Six controls on the remote shutdown panel are located in an area outside the 34-53 inch envelope recommended for controls used during emergency operations. Two controls are located at 70 inches and four controls are located at 30 inches above the floor. (Photo Log No. I-26, I-27)

### RESPONSE:

The remote shutdown panel is not used during normal plant operations. Therefore, the slight inconvenience of bending or stretching to reach controls is not a problem. The four inch deviation for "low" controls is at an acceptable level for operations. During periods when reactor control is transferred to the remote shutdown area at least three operators are available at the panel.

### IMPLEMENTATION:

Accept as is.

4562/c/76

LaSalle Corrective Actions

HED NO: 0040

GUIDELINE: 1.2.5.B.1-1

CATEGORY: 2 LEVEL: C

FINDING:

Some displays on vertical panels in the main control room are located in an area outside the recommended 41" and 70" (above the floor) envelope. (Photo Log No. A-12, A-12.1 thru A-12.6)

RESPONSE:

Although these displays slightly deviate from the guideline recommendations, none are used for monitoring safety-related equipment and, therefore, have a negligible impact on performance. An ergonomically designed stepladder will be provided for use on these panels.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/5

LaSalle Corrective Action

HED NO.: 0376

GUIDELINE: 1.2.5.B.1/OS-2

CATEGORY: 1 LEVEL C

FINDING:

Back panel equipment is difficult to monitor because an operator has to be relieved by another in order to go back and check them; some back panel recorders are too high.

RESPONSE:

Adequate control room staffing provides for extra personnel to monitor back panel indications. Back panel instrumentation (specifically recorders) is non-time-critical to monitor. An ergonomically designed stepladder will be provided for use on these panels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/77

LaSalle Corrective Action

HED NO.: 0183

GUIDELINE: 1.2.5.B.2-1

CATEGORY: 1 LEVEL C

FINDING:

Displays on the remote shutdown panel are above the 65 inch maximum guideline recommended height for displays used for emergency operations. (Photo Log No. I-28)

RESPONSE:

All displays can be read on the remote shutdown panel. The operators can step back from the panel and get a full view of the displays.

IMPLEMENTATION:

Accept as is.

4562/c/78

LaSalle Corrective Action

HED NO.: 0037

GUIDELINE: 1.2.8.D-1

CATEGORY: 3 LEVEL C

FINDING:

The chairs in the control room do not have the recommended minimum of one inch of compressible material; they have 1/4 inch.

RESPONSE:

These chairs have been replaced in the control room.

IMPLEMENTATION:

Completed.

4562/c/79

LaSalle Corrective Action

HED NO.: 0035

GUIDELINE: 1.2.8.E-1

CATEGORY: 3 LEVEL C

FINDING:

The seat depth of one control room chair does not meet the requirement of 15-17 inches; it is 19 inches. (Photo Log No. I-12)

RESPONSE:

This small deviation from the recommended seat depth causes no difficulties for the operators.

IMPLEMENTATION:

Accept as is.

4562/c/80

LaSalle Corrective Action

HED NO.: 0038

GUIDELINE: 1.2.8.F-1

CATEGORY: 3 LEVEL C

FINDING:

The seat height for control room chairs is not adjustable from 15 to 18 inches; they are adjustable between 16 and 19 inches.  
(Photo Log No. I-13)

RESPONSE:

This small deviation from the recommended seat height causes no difficulties for the operators.

IMPLEMENTATION:

Accept as is.

4562/c/81

LaSalle Corrective Action

HED NO.: 0007

GUIDELINE: 1.3.1.D-1

CATEGORY: 3 LEVEL C

FINDING:

Each unit does not have its own set of the following reference documents: administrative procedures, instrument procedures, technical staff procedures, rad-chem procedures, and a dictionary.

RESPONSE:

The documents listed above are not normally used by the operators. A single set of all procedures is maintained at the back panels in the control room. Use of these procedures is not time critical. Separate sets of emergency procedures are in place for each unit.

IMPLEMENTATION:

Accept as is.

4562/c/82



LaSalle Corrective Action

HED NO.: 0008, 0266, 0518

GUIDELINE: 1.3.1.E.2-1, 3.1.2.D.1-1,  
3.1.2.D.1-2

CATEGORY: 2 LEVEL B

FINDING:

The status of plant equipment under the control of one unit is not displayed on the other unit which is capable of controlling that equipment.

RESPONSE:

Common system equipment is controlled by one of the respective units. Since it is the specific unit's responsibility, current placement is appropriate.

IMPLEMENTATION:

Accept as is.

4562/c/83

## LaSalle Corrective Actions

HED NO: 0010

GUIDELINE: 1.3.2.A-1

CATEGORY: 1 LEVEL: C

### FINDING:

The following panels are mirror imaged across the two units: PM16J, PM13J, PM09J, PM10J, N62-P601, N62-P600, PM05J, PM06J, PM07J. Only the PM07J panels have mirrored equipment pieces across both units. (Photo Log No. I-14)

### RESPONSE:

The mirror imaging is between panels, not within panels. Only the PM07J panels are located adjacent to each other. These panels are enhanced by mimicking and demarcation and the operators report no difficulty in differentiating between them. The other panels (located in the horseshoe) will be enhanced by color-coded guardrails. The guardrails, in addition to existing panel labels, will clearly differentiate between the respective units.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/6

LaSalle Corrective Actions

HED NO: 0012

GUIDELINE: 1.4.3.B-1

CATEGORY: 3 LEVEL: C

FINDING:

Emergency equipment for control room personnel is located in unmarked lockers. (Photo Log No. I-15)

RESPONSE:

Emergency equipment storage lockers will be clearly and adequately labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/7

LaSalle Corrective Action

HED NO.: 0356

GUIDELINE: 1.4.3.B/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The oxygen breathing lines at the unit desk interfere with movements. This is a tripping hazard. There is need to consider modification of current oxygen lines. (Photo Log No. I-16)

RESPONSE:

The oxygen breathing lines will be relocated from the unit desks.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/84

LaSalle Corrective Action

HED NO.: 0351

GUIDELINE: 1.5.1.A/OS-1

CATEGORY: 2 LEVEL C

FINDING:

The operator survey reported control room humidifiers do not work; thus, static charges are high during the winter months. Besides making the control room uncomfortable, they are high enough that when leak detection indication module metal toggle switches are pressed, the static charge spikes the modules causing unneeded 1/2 of a 1/2 isolation. The indicators are affected and readings are inaccurate.

RESPONSE:

A complete temperature and humidity study was performed for the control room continuously over a 24-hour period. All values were in the acceptable range recommended by the guidelines.

IMPLEMENTATION:

Accept as is.

4562/c/85

## LaSalle Corrective Actions

HED NO: 0500, 0353

GUIDELINE: 1.5.3.A-2, 1.5.3.A/OS-1

CATEGORY: 2 LEVEL: B

### FINDING:

There are several locations in the control room where lighting levels fall below the minimum guidelines of 20 footcand. s. The illumination values for Unit One are:

<u>Location</u>	<u>Range</u>	<u>Average</u>	
1H13-P601	16.8-31.5 fc	18.2	fc
1H13-P602	5.9-27.5	27.1	
1H13-P603	16-35	23.8	
1PM03J	18-30	20.1	
1PM02J	12-38	28.8	
1PM01J	21-38	39.7	
1PM16J	35-44.8	41.8	
1PM09J	39.0-45	36	
IN62-P601	32.5-41	30	
1PM05J	28.5-32	25.1	
1PM06J	21-29.9	31.5	
IN62-P600	26-39.5	37.1	
1PM10J	34-40.5	35.2	
1PM13J	28-39.8	11.5	
Back Panels	0.4-26.5		

Unit Two values are similar.

### RESPONSE:

Additional lights will be added to the back control panels in order to increase illumination levels. The deviation from the recommended minimum in the control room results in no adverse consequences to the operators.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/8

LaSalle Corrective Action

HED NO.: 0501

GUIDELINE: 1.5.3.B-1

CATEGORY: 2 LEVEL C

FINDING:

Lighting levels in the control room vary by more than 10 foot-candles over a given workstation in some locations. (see page 86)

RESPONSE:

The variance in lighting levels in the control room does not impact the operators' ability to read instrumentation.

IMPLEMENTATION:

Accept as is.

4562/c/88

LaSalle Corrective Action

HED NO.: 0512, 0352

GUIDELINE: 1.5.2.B-2, 1.5.2.B/OS-1

CATEGORY: 2 LEVEL C

FINDING:

Air velocities below ventilation outlets produce a noticeable draft.

RESPONSE:

The existing air velocity levels are less than the 45 foot per minute maximum recommended by the guidelines. Drafts do not result in negative impact on operational performance. Air velocity only impacts performance when an operator is stationed beneath an air vent. The operators are constantly moving around the control room and are not stationed beneath an air vent.

IMPLEMENTATION:

Accept as is.

4562/c/86



LaSalle Corrective Action

HED NO.: 0507, 0508

GUIDELINE: 1.5.3.D-1, 1.5.3.D-2

CATEGORY: 2 LEVEL C

FINDING:

Some control room panel surface colors, background shadings, mimics and label colors have luminance ratios which exceed the maximum of 3:1 for task area vs. adjacent darker surroundings or 1:3 for task area vs. adjacent lighter surroundings.

RESPONSE:

Color luminance is a factor in operations when colors are not easily discriminable and recognizable. All colors in the control room are recognizable to the operators. They report no difficulties in the chosen colors.

IMPLEMENTATION:

Accept as is.

4562/c/99

LaSalle Corrective Actions

HED NO: 0013, 0015, 0354

GUIDELINE: 1.5.3.E.1-1, 1.5.3.F-1, 1.5.3.F/OS-2

CATEGORY: 2 LEVEL: A

FINDING:

Overhead lighting is causing glare that interferes with the readability of displays. (Photo Log No. F-2 , F-3)

RESPONSE:

The lighting in the control room will be modified to minimize the glare. Alternatives to be considered include configuration of louvres, different size louvres, modifying light configuration, changing wattage of light bulbs.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/9

LaSalle Corrective Action

HED NO.: 0014

GUIDELINE: 1.5.3.E.2-1

CATEGORY: 2 LEVEL B

FINDING:

Labels, instructions, and other written information are shadowed. The guidelines recommend avoiding shadowing in order to assure all written information is readable.

RESPONSE:

The shadowing is caused by the overhead CRTs. This creates no problems for the operators since they are able to read all written information in the control room.

IMPLEMENTATION:

Accept as is.

4562/c/92

LaSalle Corrective Action

HED NO.: 0513

GUIDELINE: 1.5.5.A-1

CATEGORY: 3 LEVEL C

FINDING:

Background noise levels are such that verbal communication between units is not always possible.

RESPONSE:

Verbal communication is possible for all areas within the main control room of each respective unit. The other unit is accessible by telephone or intercom.

IMPLEMENTATION:

Accept as is.

4562/c/93

LaSalle Corrective Action

HED NO.: 0514

GUIDELINE: 1.5.5.B-1

CATEGORY: 3 LEVEL C

FINDING:

Some back panels have background noise levels which exceed the recommended 65 dB(A) guideline maximum.

RESPONSE:

The discrepant values range between 66-69dB(A). This small deviation does not hinder communications on the back panels. Operators located on the back panels do not communicate to the front panel since they are sufficiently relieved from front panel duties when working on the back panels.

IMPLEMENTATION:

Accept as is.

4562/c/94

LaSalle Corrective Action

HED NO.: 0347

GUIDELINE: 1.5.5.C/OS-1

CATEGORY: 2 LEVEL C

FINDING:

Direct voice communication is difficult between the front and the back panels. For example, such communication is necessary when checking and resetting alarms. Ventilation masking noise is one important factor. Background noise should not impair communication between the primary operating area and other control room locations.

RESPONSE:

Direct voice communication is not necessary between the front and back panels. Back panel instrumentation is non-time-critical and operators are able to easily move from the back to the front for any information.

IMPLEMENTATION:

Accept as is.

4562/c/95

LaSalle Corrective Action

HED NO.: 0350

GUIDELINE: 1.5.5.D/OS-1

CATEGORY: 3 LEVEL C

FINDING:

When the vacuum cleaner is used in the control room, it masks other sounds. Telephone and radio communication becomes difficult when the vacuum is run.

RESPONSE:

The vacuum cleaner is not used during emergency situations. Cleaning is normally done during low activity periods.

IMPLEMENTATION:

Accept as is.

4562/c/96

LaSalle Corrective Action

HED NO.: 0016

GUIDELINE: 1.5.7.B.3-1

CATEGORY: 2 LEVEL C

FINDING:

The restroom is not provided with a communication link to the control room or the shift engineer's office.

RESPONSE:

Operators are relieved by another operator when they take breaks. There is no need for communication links in the restroom.

IMPLEMENTATION:

Accept as is.

4562/c/97



LaSalle Corrective Action

HED NO.: 0017

GUIDELINE: 1.5.7.C-1

CATEGORY: 3 LEVEL C

FINDING:

There is no rest area (in conjunction with the eating area) conducive to relaxation and revitalization.

RESPONSE:

The operator lunch room is accessible to operators when they are taking a break.

IMPLEMENTATION:

Accept as is.

4562/c/98

Section 2  
COMMUNICATIONS

LaSalle Corrective Action

HED NO.: 0018

GUIDELINE: 2.1.1.B-1

CATEGORY: 2 LEVEL C

FINDING:

The public address system, standard telephone, and the sound-powered telephone system communication are not periodically tested to ensure that they are operable.

RESPONSE:

The cited communication systems are redundant systems. When the systems are inoperable, work requests are immediately written for repairs.

IMPLEMENTATION:

Accept as is.

4562/c/99

LaSalle Corrective Action

HED NO.: 0019

GUIDELINE: 2.1.1.C.1-1

CATEGORY: 2 LEVEL C

FINDING:

There are no priority procedures for the transmission of emergency messages from the control room for the standard telephone, sound-powered phones, walkie-talkies, and the UHF transceivers.

RESPONSE:

Emergency messages can be transmitted from the control room by way of one of the redundant systems (telephone, radios, walkie-talkies, sound-powered phones, pager). Due to the large number of systems available, a priority system is not needed.

IMPLEMENTATION:

Accept as is.

4562/c/100

LaSalle Corrective Action

HED NO.: 0429

GUIDELINE: 2.1.1.C.1-3

CATEGORY: 2 LEVEL C

FINDING:

A different radio channel is needed for operations so that other departmental activities do not interfere with operations activities. Radio communication should consider the extent to which radio interference could adversely affect control room operations.

RESPONSE:

Radios are used primarily by personnel associated with operations to insure operations is kept informed of plant activities. A third radio channel will be added to be used for pagers. This will reduce the traffic on the existing channels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/101

LaSalle Corrective Action

HED NO.: 0428

GUIDELINE: 2.1.1.C.1/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The radio pager is on the control room channel. There should be no radio pagers on the control room operating frequency since this interferes with operations. Pager can interrupt a critical operating information channel and delay operator in responding to an emergency.

RESPONSE:

A third radio channel will be used for pagers. This will reduce the traffic on the existing channels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/102

LaSalle Corrective Action

HED NO.: 0349, 0348

GUIDELINE: 2.1.2.B.4/OS-2, 2.1.8.A/OS-1

CATEGORY: 2 LEVEL C

FINDING:

A telephone (or radio) is needed by the off gas panel (on N62-P600 and N62-P601) for communicating during off gas startup. Certain procedures are best performed with the use of telephones (or radios).

RESPONSE:

Telephones will be added to each of the off gas panels (on N62-P600 and N62-P601).

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/104

LaSalle Corrective Action

HED NO.: 0020

GUIDELINE: 2.1.2.B.5-1

CATEGORY: 2 LEVEL C

FINDING:

Telephones on some control room panels (PM02J, H13-P601, PM05J) have cords resting on the floor. (Photo Log No. G-21, G-22)

RESPONSE:

The telephone cords are stretched across the floor due to the current lack of telephones on the N62-P600 and N62-P601 panels. Telephones will be added to these panels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/105



LaSalle Corrective Action

HED NO.: 0023

GUIDELINE: 2.1.2.B.5-2

CATEGORY: 2 LEVEL C

FINDING:

The phones located at the computer console, center desk, and unit desk are potential traffic hazards when operators must communicate over them while manipulating controls on panels.  
(Photo Log No. G-23)

RESPONSE:

Only the operator is positioned between the panel and the desk. The computer console is not a normal operator workstation. This is a minor inconvenience but not a problem for the operators. Access to the area between the computer console and the operator's desk is restricted by the unit operator.

IMPLEMENTATION:

Accept as is.

4562/c/106

LaSalle Corrective Action

HED NO.: 0030

GUIDELINE: 2.1.2.B.5-3

CATEGORY: 2 LEVEL C

FINDING:

The cord on the telephone located on the PM05J panel has the potential of accidentally activating controls. (Photo Log No. I-17)

RESPONSE:

There is not a phone permanently mounted on PM05J. It is brought out only when necessary. Phones will be added to N62-P600 and N62-P601 which will remove the need for the temporary phone on PM05J.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/107

LaSalle Corrective Action

HED NO.: 0021

GUIDELINE: 2.1.2.B.6-1

CATEGORY: 2 LEVEL C

FINDING:

Vertically mounted telephones at the computer console, back panels and PM05J have handsets capable of being knocked out of their cradles. (Photo Log No. G-23)

RESPONSE:

The cited phones/cradles are not located on frequently used control room panels. The operators report no difficulties attributed to the location of these phones.

IMPLEMENTATION:

Accept as is.

4562/c/108

LaSalle Corrective Action

HED NO.: 0022

GUIDELINE: 2.1.2.C.2-1

CATEGORY: 2 LEVEL C

FINDING:

For the conventional phone system, switching is not programmed to give the control room automatic priority of access to the switching system.

RESPONSE:

The operators are able to obtain priority on the phone system by notifying the switch operator (by walkie-talkie) to hold all incoming calls and then enter "\*\*2" into the telephone. This process can be accomplished rapidly by the operators and causes no adverse consequences.

IMPLEMENTATION:

Accept as is.

4562/c/109

LaSalle Corrective Action

HED NO.: 0559

CUIDELINE: 2.1.3.B.1-1

CATEGORY: 2 LEVEL C

FINDING:

Earphone cushioning does not provide comfort for extended wearing of the sound powered phone headsets.

RESPONSE:

Control room operators do not routinely use sound-powered telephones.

IMPLEMENTATION:

Accept as is.

4578/c/36

LaSalle Corrective Action

HED NO.: 0560

GUIDELINE: 2.1.3.B.5-1

CATEGORY: 2 LEVEL C

FINDING:

Binaural headsets for the sound powered phone system are not available for use in areas with high ambient noise levels.

RESPONSE:

Control room operators do not routinely use sound-powered telephones.

IMPLEMENTATION:

Accept as is.

4578/c/37

LaSalle Corrective Actions

HED NO: 0538

GUIDELINE: 2.1.3.B.6-1

CATEGORY: 2 LEVEL: C

FINDING:

Patch cords and at least one sound-powered phone are not stored at each patch panel location.

RESPONSE:

Control room operators do not routinely use sound-powered telephones. Therefore, the lack of these phones does not affect control room operations.

IMPLEMENTATION:

Accept as is.

4549/c/11

LaSalle Corrective Action

HED NO.: 0561

GUIDELINE: 2.1.3.B.6-2

CATEGORY: 2 LEVEL C

FINDING:

A well marked accessible location for the sound powered phones is not provided in the control room.

RESPONSE:

Control room operators do not routinely use sound-powered telephones.

IMPLEMENTATION:

Accept as is.

4578/c/38



LaSalle Corrective Action

HED NO.: 0562

GUIDELINE: 2.1.3.C.2-1

CATEGORY: 2 LEVEL C

FINDING:

Sound powered phones do not have the capability of switching directly into the paging system.

RESPONSE:

Control room operators do not routinely use sound-powered telephones.

IMPLEMENTATION:

Accept as is.

4578/c/39

LaSalle Corrective Action

HED NO.: 0563

GUIDELINE: 2.1.3.D.2-1

CATEGORY: 2 LEVEL C

FINDING:

Jacks for the sound powered phone system are not provided at every work station so the long cords may be required which could result in a tripping hazard.

RESPONSE:

Control room operators do not routinely use sound-powered telephones.

IMPLEMENTATION:

Accept as is.

4578/c/40

LaSalle Corrective Action

HED NO.: 0024

GUIDELINE: 2.1.6.A.2-1

CATEGORY: 2 LEVEL C

FINDING:

The location of loudspeakers in the control room does not provide adequate coverage to all areas in the control room.

RESPONSE:

The "dead spot" areas are located on back panels. All main control room locations are audible to the operators. The unit operator is relieved prior to going to the back panel area.

IMPLEMENTATION:

Accept as is.

4562/c/110

LaSalle Corrective Action

HED NO.: 0025

GUIDELINE: 2.1.6.C.1-1

CATEGORY: 2 LEVEL C

FINDING:

Loudspeakers are not provided in the restroom for control room personnel.

RESPONSE:

Operators are relieved by another operator when they take breaks. There is no need for loudspeakers in the restroom.

IMPLEMENTATION:

Accept as is.

4562/c/111

LaSalle Corrective Action

HED NO.: 0026

GUIDELINE: 2.1.6.E.2-1

CATEGORY: 2 LEVEL C

FINDING:

When turned down, the audio gain control is audible in the primary area only. When it is turned up, it is audible on the back panels only.

RESPONSE:

The audible gain will be repaired.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/112

LaSalle Corrective Action

HED NO.: 0027

GUIDELINE: 2.1.6.F-1

CATEGORY: 2 LEVEL C

FINDING:

Control room inputs to the plant announcing system do not have priority over other inputs.

RESPONSE:

The plant announcing system will be modified to give priority to control room inputs.

IMPLEMENTATION:

By the completion of the second refueling outage.

4562/c/113

LaSalle Corrective Action

HED NO.: 0029

GUIDELINE: 2.1.7.B-1

CATEGORY: 2 LEVEL C

FINDING:

The gain control on point-to-point intercom systems can be turned down to an inaudible level.

RESPONSE:

This intercom system is the interface between the shift engineer and the control room. It is rarely used and adequate backup (radios, pagers, telephones) are available.

IMPLEMENTATION:

Accept as is.

4562/c/114

LaSalle Corrective Actions

HED NO: 0031

GUIDELINE: 2.2.3.A-1

CATEGORY: 2 LEVEL: C

FINDING:

The coding method for the annunciator system does not allow operators to distinguish between Unit One alarms and Unit Two alarms.

RESPONSE:

The operators have directional cues to the respective units by the volume of the auditory code.

IMPLEMENTATION:

Accept as is.

4549/c/12



# LaSalle Corrective Actions

HED NO: 0377, 0515, 0516

GUIDELINE: 2.2.6.B/OS-1, 3.2.1.D, 3.2.1.A-1

CATEGORY: 2 LEVEL: C

## FINDING:

Several of the auditory signals are not at a volume within 2.5dB(A) of the average of all auditory signals. In addition, the 2H13-P601 annunciator has been reported as too loud and the intensity of other signals are not at least 10dB(A) above ambient.

## RESPONSE:

Annunciator horns will be adjusted to a level 10dB(A) above ambient and within 2.5 dB(A) of the average of all auditory signals. All signals will be maintained at a level not to exceed the guideline maximum of 90dB(A).

## IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/17

Section 3

ANNUNCIATOR WARNING SYSTEMS

LaSalle Corrective Action

HED NO.: 0270, 0379

GUIDELINE: 3.1.2.A.1-1, 3.1.2.A.1/OS-4

CATEGORY: 2 LEVEL C

FINDING:

Some alarms occur so frequently as to be considered a nuisance by the operators.

RESPONSE:

All alarms which are considered "nuisance" by the operators will be eliminated.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/1

LaSalle Corrective Action

HED NO.: 0370

GUIDELINE: 3.1.2.A.1/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The PML3J panel has too many alarms and a lack of prioritization.

RESPONSE:

A prioritization scheme will be implemented to improve annunciators.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/2

LaSalle Corrective Action

HED NO.: 0378

GUIDELINE: 3.1.2.A.1/OS-3

CATEGORY: 2 LEVEL C

FINDING:

The setpoints on both reactor recirculation system pump temperature recorders are low.

RESPONSE:

These pumps run close to operating temperature. A special log is kept when these alarms are up to inform the operators of the status.

IMPLEMENTATION:

Accept as is.

4568/c/3

## LaSalle Corrective Action

HED NO.: 0269

GUIDELINE: 3.1.2.A.2-1

CATEGORY: 2 LEVEL C

### FINDING:

The setpoint for the "feedwater pump suction pressure low" annunciator is at the same point at which the pump trips so that the operator does not have time to respond to the annunciator.

### RESPONSE:

The pump trip actually occurs due to other parameters before this annunciator is activated. The purpose of this annunciator is to indicate low suction pressure (used during startup) to provide additional information in diagnosing a trip. A low booster pump suction pressure alarm is activated anticipatory to the trip.

### IMPLEMENTATION:

Accept as is.

4568/c/5

LaSalle Corrective Action

HED NO.: 0380

GUIDELINE: 3.1.2.A.2/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The standby gas treatment system low flow technical specification limit is at 3600 cubic feet per minute (cfm). Thus, the alarm setpoint of 3200 cfm is inappropriate and does not give operators adequate time to respond to the warning condition.

RESPONSE:

The alarm setpoint will be modified to 3600 cfm.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/6

LaSalle Corrective Action

HED NO.: 0381

GUIDELINE: 3.1.2.A.2/OS-3

CATEGORY: 2 LEVEL C

FINDING:

The high control room chlorine and ammonia alarms cause immediate system response with no advance warning for operator evaluation.

RESPONSE:

No operator action is required for the control room chlorine and ammonia alarms. Therefore, the setpoints are adequate.

IMPLEMENTATION:

Accept as is.

4568/c/7



LaSalle Corrective Action

HED NO.: 0382

GUIDELINE: 3.1.2.A.2/OS-4

CATEGORY: 1 LEVEL C

FINDING:

The setpoint for the suppression chamber high alarm (on H13-P601) is the same as the auto action leading to Nuclear Regulatory Commission notification in four hours. The setpoint is too high to give adequate warning as per guidelines.

RESPONSE:

The existing setpoint is as close as reasonable to normal operating limits. A change in setpoint would result in a nuisance alarm.

IMPLEMENTATION:

Accept as is.

4568/c/8

## LaSalle Corrective Action

HED NO.: 0383

GUIDELINE: 3.1.2.A.2/OS-5

CATEGORY: 2 LEVEL C

### FINDING:

The Unit Two turbine building closed cooling water (TBCCW) high temperature alarm setpoint is too high. The TBCCW cools the station air. When it overheats, the station air compressor is inadequately cooled. The station air compressor trips before the alarm comes in.

### RESPONSE:

The TBCCW high temperature alarm setpoint is based on maximum anticipated system temperature with the lake at maximum design temperature. Operators are aware that not all plant equipment will perform satisfactorily with the TBCCW temperature this high, and monitor the performance of associated systems when TBCCW is operating at elevated temperatures. Therefore, adequate information is available to monitor temperature and air compressor performance.

### IMPLEMENTATION:

Accept as is.

4568/c/9

LaSalle Corrective Action

HED NO.: 0384

GUIDELINE: 3.1.2.A.2/OS-6

CATEGORY: 2 LEVEL C

FINDING:

The drywell equipment drain sump and drywell floor drain sump alarms have inappropriate setpoints. Pumps should start below the high level and stop above the low level. Currently, it cycles past the setpoints and sets the alarm off.

RESPONSE:

Modifications will be made to insure the system operates within anticipated parameters.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/10

LaSalle Corrective Action

HED NO.: 0250, 0497

GUIDELINE: 3.1.2.B.1-1, 3.3.4.B-1

CATEGORY: 2 LEVEL C

FINDING:

Alarms are used which require the control room operator to send an auxiliary operator into the plant for additional information.

RESPONSE:

Local panels throughout the plant contain system-specific instrumentation. These panels are tied to the control room through general alarms when the operation is not time critical. The operators report no difficulties with this design.

IMPLEMENTATION:

Accept as is.

4568/c/11

### LaSalle Corrective Actions

HED NO. 0386, 0249, 0496, 0267, 391

GUIDELINE: 3.1.2.C.1/OS-2, 3.1.2.C.1-1, 3.3.4.C-2,  
3.1.2.C.2-1, 3.1.2.C.2/OS-4

CATEGORY: 2 LEVEL: A

#### FINDING:

Multiple input alarms may confuse operators. These alarms should be separated out to enable operator to react promptly to each alarm. In addition, some multi-point input annunciators do not have printout capability.

#### RESPONSE:

The scram air header pressure annunciator will be split into a low pressure and a high pressure alarm. The other cited alarms are non-time critical so that the operator is able to determine the initiation of the alarm in an appropriate time frame for the conditions annunciated. Due to the complexity of this engineering modification, it will be completed by the second refueling outage.

#### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/13

LaSalle Corrective Action

HED NO.: 0389

GUIDELINE: 3.1.2.C.1/OS-3

CATEGORY: 1 LEVEL C

FINDING:

The standby liquid control line heater annunciators (on PM10J) are technical specification alarms and are intermixed with less important alarms. These alarms would be more appropriately located on the H13-P603 panel where standby liquid instrumentation is located.

RESPONSE:

The standby liquid control line heaters are monitored by the operators taking readings in the reactor building.

IMPLEMENTATION:

Accept as is.

4568/c/12

LaSalle Corrective Action

HED NO.: 0390

GUIDELINE: 3.1.2.C.1/OS-4

CATEGORY: 2 LEVEL C

FINDING:

The residual heat removal A service water, residual heat removal B service water, service water or radwaste discharge liquid process radiation annunciators (on H13-P601) should be split to denote the system affected.

RESPONSE:

There is indication to denote the system affected located on the back panels. Since this is a non-time-critical operation, the operators have adequate time to monitor these indications.

IMPLEMENTATION:

Accept as is.

4568/c/13

## LaSalle Corrective Action

HED NO.: 0431

GUIDELINE: 3.1.2.C.1/OS-5

CATEGORY: 2 LEVEL B

### FINDING:

The alarm logic on "channel A/B turbine control and stop valve trip bypass" should be modified so that the alarm is activated only when both subchannel relays are picked up, as opposed to only part of the logic train being picked up.

### RESPONSE:

The alarm logic will be modified so that the alarm is activated only when both subchannel relays are picked up.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/14



## LaSalle Corrective Action

HED NO.: 0387

GUIDELINE: 3.1.2.C.2/OS-2

CATEGORY: 2 LEVEL C

### FINDING:

Computer printout is insufficient to determine the cause for some trouble alarms. For example, transformer trouble alarms print out on the Hathaway as "trouble" but there is no indication as to the specific trouble. The computer should split out alarms as this enhances diagnosis and reliability.

### RESPONSE:

The operators must have someone sent to the transformers to find the problem. This is a non-time-critical operation and causes no difficulties. Other indications are in the control room for trips.

### IMPLEMENTATION:

Accept as is.

4568/c/16

LaSalle Corrective Action

HED NO.: 0388

GUIDELINE: 3.1.2.C.2/OS-3

CATEGORY: 1 LEVEL C

FINDING

The operator survey indicated diesel generator trouble alarms should be split into individual component alarms on the computer printout to specify the trouble involved.

RESPONSE:

These alarms are available at the local panel. The important alarms have unique control room annunciators and for the others, an operator is dispatched to the diesel room to investigate the trouble.

IMPLEMENTATION:

Accept as is.

4568/c/17

LaSalle Corrective Action

HED NO.: 0499

GUIDELINE: 3.1.2.C.3-2

CATEGORY: 2 LEVEL C

FINDING:

The high suppression chamber pressure and high drywell air temperature annunciators (on PM13J) alarm as a single alarm. If one annunciates, there will be no reflash for the other. This problem is compounded by the fact that the alarm printer will print only that the suppression chamber pressure is high.

RESPONSE:

A reflash will be provided for the cited annunciators.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/18

LaSalle Corrective Action

HED NO.: 0265

GUIDELINE: 3.1.2.D.2-1

CATEGORY: 2 LEVEL C

FINDING:

The common station air compressor has annunciation on Unit One but not on Unit Two.

RESPONSE:

Unit One operating personnel are responsible for the common station air compressor annunciator. Therefore, its placement on Unit One is appropriate.

IMPLEMENTATION:

Accept as is.

4568/c/20

LaSalle Corrective Actions

HED NO: 0248, 0397

GUIDELINE: 3.1.4-1, 3.3.5.A.1/OS-1

CATEGORY: 2 LEVEL: A

FINDING:

A prioritization scheme is not in place for the annunciator system.

RESPONSE:

A prioritization scheme will be implemented to improve annunciators.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/15

LaSalle Corrective Action

HED NO.: 0247

GUIDELINE: 3.1.5.A-1

CATEGORY: 2 LEVEL C

FINDING:

An auditory signal is not provided for cleared alarms.

RESPONSE:

A visual signal is provided for cleared alarms. This is sufficient indication to the operator then an alarm has cleared.

IMPLEMENTATION:

Accept as is.

4568/c/21

## LaSalle Corrective Actions

HED NO: 0552

GUIDELINE: 3.3.1.A-3

CATEGORY: 2 LEVEL: C

### FINDING:

The alarms associated with the cycled condensate tank for Unit Two are located only on Unit One.

### RESPONSE:

These alarms will be relocated from Unit One to Unit Two.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/18

## LaSalle Corrective Actions

HED NO: 0236

GUIDELINE: 3.3.1.A/VL-1

CATEGORY: 2 LEVEL: C

### FINDING:

In the validation, the primary containment pressure high-low annunciator came up at the reactor panel and the operator was observed to respond to the annunciator at the chiller panel some distance from the reactor panel. Annunciators should be located above the related controls and displays required for corrective or diagnostic action.

### RESPONSE:

This annunciator is a warning of an impending action. After it has initiated, the operator must read instrumentation on the reactor panel to diagnose the problem. Therefore, its placement at the reactor panel is appropriate.

### IMPLEMENTATION:

Accept as is.

4549/c/19



LaSalle Corrective Actions

HED NO: 0258

GUIDELINE: 3.3.1.A/VL-2

CATEGORY: 2 LEVEL: C

FINDING:

Annunciators that alert operators to the abnormal status of the reactor core isolation cooling (RCIC) system parameters (on H13-P601) are not located above the related controls and displays required for corrective or diagnostic action. (Photo Log No. F-14)

RESPONSE:

These annunciators are concerned with RCIC system isolation. Therefore, their placement at the containment isolation portion of H13-P601 is appropriate.

IMPLEMENTATION:

Accept as is.

4549/c/20

LaSalle Corrective Actions

HED NO: 0469, 0475

GUIDELINE: 3.3.3.B/V-1, 3.3.3.D.2/V-1

CATEGORY: 2 LEVEL: C

FINDING:

During the task analysis and verification, some annunciators were identified that were not grouped by function or system within each annunciator panel.

RESPONSE:

All cited annunciator tiles are located close to the functional control and display groupings.

IMPLEMENTATION:

Accept as is.

4549/c/21

LaSalle Corrective Action

HED NO.: 0188

GUIDELINE: 3.3.1.B.1-1

CATEGORY: 3 LEVEL C

FINDING:

There is no label over the annunciator panel 2PM07J. (Photo  
Log No. A-14)

RESPONSE:

A label will be added for the annunciator panel on 2PM07J.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/22

LaSalle Corrective Action

HED NO.: 0274

GUIDELINE: 3.3.2.C-1

CATEGORY: 2 LEVEL C

FINDING:

Flashers fail either on or off for alarm tiles instead of the preferred steady on.

RESPONSE:

The operators test the annunciators once every shift. At this time, they identify all deficiencies in the system.

IMPLEMENTATION:

Accept as is.

4568/c/23

LaSalle Corrective Action

HED NO.: 0246, 0245

GUIDELINE: 3.3.2.F.1-1, 3.3.2.F.2-1

CATEGORY: 1 LEVEL C

FINDING:

Annunciators which must be illuminated for an extended duration are not distinctively coded for positive recognition. In addition, administrative procedures are not provided for controlling these tiles.

RESPONSE:

The plant is committed to a "black panel" annunciator system. This objective is oriented to having no annunciator tiles "on" for an extended duration.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/24

# LaSalle Corrective Action

HED NO.: 0264

GUIDELINE: 3.3.3.D.1-1

CATEGORY: 2 LEVEL C

## FINDING:

Annunciator window matrices contain more than 50 tiles for some panels. (Photo Log No. A-15)

## RESPONSE:

Labeling is currently in place for the left vertical and top horizontal axes of the annunciator panel. Additional labeling will be added to the right vertical axes of the panel.

## IMPLEMENTATION:

By the completion of the first refueling outage.

4558/c/26

LaSalle Corrective Action

HED NO.: 0263

GUIDELINE: 3.3.3.E-1

CATEGORY: 2 LEVEL C

FINDING:

Cues for prompt recognition of out of service annunciators are not designed into the system.

RESPONSE:

Caution cards are placed on disabled annunciators and are controlled by procedures.

IMPLEMENTATION:

Accept as is.

4568/c/27

LaSalle Corrective Action

HED NO.: 0498, 0395, 0451

GUIDELINE: 3.3.4.A-4, 3.3.4.A/OS-2,  
3.3.4.A/V-3

CATEGORY: 1 LEVEL A

FINDING:

Some annunciators have legends which are not specific and unambiguous.

RESPONSE:

The cited tiles will be reworded to provide unambiguous legends. The present annunciator wording has not caused any problems due to operator misunderstanding. The annunciator tiles mentioned will be corrected as the tiles are revised for other reasons.

IMPLEMENTATION:

Accept as is.

4568/c/28



LaSalle Corrective Action

HED NO.: 0394

GUIDELINE: 3.3.4.A/OS-1

CATEGORY: 2 LEVEL B

FINDING:

Leak detection annunciators are poorly identified and laid out so it is difficult to tell which are alarms and which are isolations.

RESPONSE:

Leak detection annunciators are clearly identified as isolations or alarms in the annunciator response procedures.

IMPLEMENTATION:

Accept as is.

4568/c/29

LaSalle Corrective Action

HED NO.: 0460

GUIDELINE: 3.3.4.C/V-1

CATEGORY: 2 LEVEL B

FINDING:

During the task analysis and verification, three annunciator tiles were identified that contained legends that addressed more than one specific condition.

RESPONSE:

The operators are able to identify multi-input annunciators due to the diverse instrumentation in the control room.

Redundant indication exists in the control room to identify specific alarm conditions.

IMPLEMENTATION:

Accept as is.

4568/c/31

LaSalle Corrective Action

HED NO.: 0495

GUIDELINE: 3.3.4.D-2

CATEGORY: 2 LEVEL B

FINDING:

Abbreviations and acronyms used on annunciators are not consistent with others used in the control room.

RESPONSE:

A standardized abbreviation list is being developed and implemented to legends for all new annunciator tiles.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/32

LaSalle Corrective Actions

HED NO: 0204, 0198

GUIDELINE: 3.3.5.A.2-1, 3.3.5.B.2.2

CATEGORY: 2 LEVEL: B

FINDING:

Letter height on annunciator tiles is not identical for all tiles.

RESPONSE:

Operators report no difficulty in reading annunciator tiles. However, standards for annunciator tiles (letter height, width, stroke-width, etc.) will be incorporated into a procedure and will be used on all subsequent annunciator tile engravings.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/22

LaSalle Corrective Actions

HED NO: 0199

GUIDELINE: 3.3.5.D.1-1

CATEGORY: 2 LEVEL: C

FINDING:

Stroke width-to-character height ratio of many annunciator tiles is not between the recommended guideline of 1:6 to 1:8.

RESPONSE:

Operators report no difficulty in reading annunciator tiles. Standards for annunciator tiles (letter height, width, stroke-width, etc.) will be incorporated into a procedure, however, and will be used on all subsequent annunciator tiles. All new annunciator tiles will have stroke width-to-character height ratios of 1:6 to 1:8.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/23

LaSalle Corrective Action

HED NO.: 0200

GUIDELINE: 3.3.5.D.4-1

CATEGORY: 2 LEVEL B

FINDING:

The minimum space between characters on many annunciator tiles is not at least one stroke width.

RESPONSE:

Standards will be included in a procedure for the letter dimensions for annunciator tiles. All new annunciator tiles will comply with this standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/33

LaSalle Corrective Action

HED NO.: 0201

GUIDELINE: 3.3.5.D.5-1

CATEGORY: 2 LEVEL B

FINDING:

The minimum space between words on some annunciator tiles does not meet the guideline of one character width.

RESPONSE:

Standards will be included in a procedure for the letter dimensions for annunciator tiles. All new annunciator tiles will comply with the standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/34

LaSalle Corrective Action

HED NO.: 0202

GUIDELINE: 3.3.5.D.6-1

CATEGORY: 2 LEVEL B

FINDING:

The space between lines on some annunciator tiles does not meet the recommended guideline of one-half the character height.  
(Photo Log No. I-18)

RESPONSE:

Standards will be included in a procedure for the letter dimensions for annunciator tiles. All new annunciator tiles will comply with the standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/35



## LaSalle Corrective Actions

HED NO: 0273

GUIDELINE: 3.4.2.A-1

CATEGORY: 2 LEVEL: C

### FINDING:

Repetitive groups of annunciator response controls do not have the same arrangement and relative location at all workstations. (Photo Log. No. A-16)

### RESPONSE:

All annunciator response controls are laid out in the order: silence, acknowledge, reset, test. All are laid out in a left-to-right sequence - some in one row, others in two. A black demarcation line, in conjunction with brown background shading surrounds all annunciator response controls to aid in rapid identification of these controls. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

### IMPLEMENTATION:

Accept as is.

4549/c/24

### LaSalle Corrective Actions

HED NO: 0398, 0360, 0364, 0366, 0051, 0057, 0075, 0551, 0064, 0048,  
0401

GUIDELINE: 3.4.2.A/OS-2, 8.1.1.B/OS-6, 8.1.1.B/OS-19,  
8.1.1.B/OS-21, 8.1.2.B-1, 8.2.1.B.2-1, 9.2.2.D-2,  
8.3.3/HR-3, 9.1.1.A-1, 8.1.1.B-6, 4.1.1.B.4/OS-2

CATEGORY: 1 LEVEL: A

#### FINDING:

Instrumentation on the electrical panel (PM01J) is not functionally grouped. Specifically, AC distribution, diesel generator, synchronization scope and oil circuit breaker instrumentation are not functionally grouped.

In addition, the feeds on buses 141 and 142 are not the same, i.e., left corresponds to station auxiliary transformer (SAT) on one and unit auxiliary transformer (UAT) on the other. (Photo Log No. D-11, D-11.1, D-21, E-25, E-15, C-36)

#### RESPONSE:

A modification has been approved for PM01J. This panel will be reorganized and enhancements added to clarify functional groupings. An integrated approach will be used for the modifications. Due to the complexity of this panel and the proposed changes, this modification will be completed by the second refueling outage.

#### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/80

Section 4

CONTROLS

LaSalle Corrective Action

HED NO.: 0073

GUIDELINE: 4.1.1.A.1-1

CATEGORY: 2 LEVEL B

FINDING:

The moisture separator reheater shell pocket drain valve controls spring return to a "normal" position. There is no "normal" position for these valves; they are either open or closed. An "as is" switch would be more appropriate for this function. (Photo Log No. A-17)

RESPONSE:

These controls are used only during start-up and shut-down. They are non-time-critical and not safety related. The valves shut after 15 seconds.

IMPLEMENTATION:

Accept as is.

4568/c/36

LaSalle Corrective Action

HED NO.: 0458

GUIDELINE: 4.1.1.A.1/V-2

CATEGORY: 2 LEVEL C

FINDING:

During the task analysis and verification, the feedwater recirculation valves were identified as not being capable of being manually closed from the control room.

RESPONSE:

The operators must be in the plant to hook up connections on spool pieces. Therefore, it is acceptable to close the valves from the plant for this non-time-critical operation.

IMPLEMENTATION:

Accept as is.

4568/c/37

## LaSalle Corrective Action

HED NO.: 0459, 0359

GUIDELINE: 4.1.1.A.1/V-3, 4.1.1.B.1/OS-3

CATEGORY: 1 LEVEL B

### FINDING:

During the task analysis and verification, the residual heat removal heat exchanger shell bypass valve was identified as not having the required range of control. Tasks were identified requiring the valve to be both throttleable and seal open/close. A seal open/close type of switch with a pull-to-stop feature would allow the operator the precision of control required under varying operational conditions.

### RESPONSE:

This valve is used in the throttleable mode for nearly all plant revolutions. Only one identified task involves moving the valve from open to shut. Additional control capability that the operators do not normally use could potentially cause confusion.

### IMPLEMENTATION:

Accept as is.

4568/c/38

LaSalle Corrective Action

HED NO.: 0453

GUIDELINE: 4.1.1.A.2/V-1

CATEGORY: 1 LEVEL C

FINDING:

To maintain vessel level, the task analysis and verification, identified the residual heat removal injection valves and the high pressure core spray injection valve as seal open and closed, rather than being throttleable, except upon receipt of an auto initiate signal.

RESPONSE:

This is not a problem because adequate control of vessel level is available during an accident through the low pressure core spray and reactor core isolation cooling systems.

IMPLEMENTATION:

Accept as is.

4568/c/39

## LaSalle Corrective Action

HED NO.: 0454

GUIDELINE: 4.1.1.A.2/V-2

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis and verification, the residual heat removal (RHR) shutdown cooling valves in loops A and B were identified as being seal open and closed. Throttle open and seal closed would be preferable to allow operator to prevent reactor vessel intensity loss if RHR loop is not filled and vented when the valve is opened.

### RESPONSE:

Procedures have been strengthened to insure proper venting of the system. With the system properly filled, it is not necessary to throttle these valves.

### IMPLEMENTATION:

Accept as is.

4568/c/40



## LaSalle Corrective Action

HED NO.: 0358

GUIDELINE: 4.1.1.B.1/OS-2

CATEGORY: 2 LEVEL C

### FINDING:

In response to the operator survey, an operator reported the turbine driven feed pump discharge valve should auto close on a feed pump trip.

### RESPONSE:

Currently, the turbine driven feed pump discharge valve provides a flow path for makeup water going to the reactor. An auto close function could result in a loss of makeup flow to the reactor. It is preferable to have water entering the reactor than to be concerned with cooldown.

### IMPLEMENTATION:

Accept as is.

4568/c/41

## LaSalle Corrective Actions

HED NO: 0399, 0208

GUIDELINE: 4.1.1.B.1/OS-4, 4.1.1.B.1/VL-1,

CATEGORY: 2 LEVEL: A

### FINDING:

The insert/withdraw pushbutton controls are not adequate for tasks involving frequent or continuous control rod manipulations such as a startup or shutdown. Subject matter experts commented during the validation that, in such tasks, use of the pushbutton controls becomes fatiguing after a period of time. (Photo Log No. A-18)

### RESPONSE:

No adverse consequences occur due to an interruption in depressing the pushbuttons. The affected rods would be suspended in position until the pushbutton was depressed again. To assist the operators, an operator aid is available at this panel.

### IMPLEMENTATION:

Accept as is.

4549/c/26

## LaSalle Corrective Action

HED NO.: 0455

GUIDELINE: 4.1.1.B.3/V-2

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis and verification, the low pressure core spray (LPCS) injection valve, steam line outboard drain valves and reactor head vent valves were identified as being throttleable when seal open and/or close would be preferable.

### RESPONSE:

LPCS injection valves should be throttleable in order to control vessel level. The steam line is occasionally used to throttle valves to control the reactor cooldown rate. The reactor head vent valves are opened only once during start-up or shut-down (a 30-second operation). Therefore, the current design is preferable.

### IMPLEMENTATION:

Accept as is.

4568/c/43

## LaSalle Corrective Action

HED NO.: 0471

GUIDELINE: 4.1.1.C.1/V-1

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis and verification, the reactor core isolation cooling inboard and outboard isolation valve control switches (on H13-P601) were identified as not conforming to the shape coding convention of using J-handle type control switch handles for valves. (Photo Log No. G-18)

### RESPONSE:

The different coding convention used for the cited switches are used due to metallic barriers surrounding them required to preserve the separation criteria.

The switches auto close when plant conditions require an isolation. The operators report no difficulty in the use of these switches.

### IMPLEMENTATION:

Accept as is.

4568/c/45

LaSalle Corrective Action

HED NO.: 0117

GUIDELINE: 4.1.1.C.2-2

CATEGORY: 1 LEVEL C

FINDING:

J-handle switches are normally used for controlling the diesel generator. The bus diesel generator feed air circuit breakers and diesel generator feed controls are rotary switches which do not follow this convention. (Photo Log No. G-19)

RESPONSE:

The cited controls are used during an accident in the automatic mode. These handles have a distinct shape to aid in operator recognition.

IMPLEMENTATION:

Accept as is.

4568/c/46

LaSalle Corrective Actions

HED NO: 0118

GUIDELINE: 4.1.1.E.1-1

CATEGORY: 3 LEVEL: C

FINDING:

Surface coding paint on some controls is chipped or worn off.  
(Photo Log No. A-21, A-21.1)

RESPONSE:

Surface coding paint will be replaced on all controls where it has worn off or chipped. In addition, shift supervisors will be advised to notify maintenance when coding wears off any controls.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/27

LaSalle Corrective Action

HED NO.: 0400

GUIDELINE: 4.1.2.F/OS-1

CATEGORY: 1 LEVEL B

FINDING:

The operator survey indicated that shutdown cooling controls (on H13-P601) are subject to inadvertent actuation.

RESPONSE:

Labeling and mimics facilitate selection of controls.

IMPLEMENTATION:

Accept as is.

4568/c/47



LaSalle Corrective Action

HED NO.: 0565

GUIDELINE: 4.2.1.D-?

CATEGORY: 2 LEVEL C

FINDING:

The feedwater turbine speed changer control moves counterclockwise to increase speed.

RESPONSE:

The feedwater turbine speed changer has two "lower" detents to the left of off and two "raise" detents on the right of off. From left to right the detents are "fast lower", "slow lower", "slow raise", and "fast raise". This is an appropriate configuration, since the operator needs to pass through the slow speeds before he uses the faster ones.

IMPLEMENTATION:

Accept as is.

4572/c/85



LaSalle Corrective Actions

HED NO: 0541

GUIDELINE: 4.2.1.E-1

CATEGORY: 3 LEVEL: C

FINDING:

The thumbwheel controls on the computer console move contrary to operators' expectations (population stereotypes). The numbers increase as the thumbwheel is moved downward. (Photo Log No. I-19)

RESPONSE:

The thumbwheel on the computer console is not used by the operators during accident or time critical situations. The operators are thoroughly familiar with the computer console and have reported no problems.

IMPLEMENTATION:

Accept as is.

4549/c/28

LaSalle Corrective Action

HED NO.: 0139

GUIDELINE: 4.2.2.E.3-1

CATEGORY: 2 LEVEL C

FINDING:

Discrete setting controls for which control position is critical, do not use the type of knobs recommended in the guidelines. (Photo Log No. A-22)

RESPONSE:

The cited controls are not critical for operations. The controls in the guidelines are suggested to insure that control status is clearly identified. The existing knobs contain pointers that clearly show control status. The operators report no difficulties in using these knobs.

IMPLEMENTATION:

Accept as is.

4568/c/48

LaSalle Corrective Action

HED NO.: 0140

GUIDELINE: 4.3.1.C-1

CATEGORY: 2 LEVEL C

FINDING:

The surfaces of pushbuttons are not slip resistant or concave to assure adequate operation. (Photo Log No. A-23)

RESPONSE:

The plastic surface of the pushbuttons inhibits slipping. The operators report no difficulty in using the pushbuttons.

IMPLEMENTATION:

Accept as is.

4568/c/49

LaSalle Corrective Action

HED NO.: 0123

GUIDELINE: 4.3.2.A.1-1

CATEGORY: 2 LEVEL C

FINDING:

The diameter of unguarded and non-recessed round pushbuttons (.375 inches) is less than the minimum diameter of .5 inches recommended by the guidelines. (Photo Log No. A-24)

RESPONSE:

The unguarded pushbuttons are reset controls which are non-time critical and can be easily accessed by control room operators. The .125 inch deviation does not impact operations.

IMPLEMENTATION:

Accept as is.

4568/c/50

LaSalle Corrective Action

HED NO.: 0120

GUIDELINE: 4.3.3.A-1

CATEGORY: 2 LEVEL C

FINDING:

Legend pushbuttons are not distinguishable from legend lights on panels PM02J, H13-P603, H13-P602, OPM08J. (Photo Log No. A-25)

RESPONSE:

A painted border will be added around the perimeter of pushbuttons to differentiate between pushbuttons and legend lights.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/51

LaSalle Corrective Action

HED NO.: 0121

GUIDELINE: 4.3.3.C.3-1

CATEGORY: 2 LEVEL C

FINDING:

Legend pushbuttons are susceptible to inadvertent activation during lamp removal or replacement.

RESPONSE:

No significant change in plant conditions will result due to inadvertent activation of legend pushbuttons. In addition, control room operators are adequately trained on the removal and replacement of lamps for legend pushbuttons. They are taught to carefully remove and replace lamps to avoid inadvertent activation.

IMPLEMENTATION:

Accept as is.

4568/c/52

LaSalle Corrective Actions

HED NO: 0137

GUIDELINE: 4.3.3.C.4-1

CATEGORY: 3 LEVEL: C

FINDING:

Provisions are not made to prevent the possibility of interchanging legend lights and pushbutton covers.

RESPONSE:

A procedure (LAP 1600-2) is in place to instruct operators on removal of legend lights and pushbutton covers. This procedure specifies that only one lens cap is to be removed at a time.

IMPLEMENTATION:

Accept as is.

4549/c/29

LaSalle Corrective Action

HED NO.: 0122

GUIDELINE: 4.3.3.D.1-1

CATEGORY: 2 LEVEL C

FINDING:

Physical barriers are not used when legend pushbuttons are side by side. Such barriers prevent the inadvertent activation of an adjacent pushbutton. (Photo Log No. A-26)

RESPONSE:

The pushbuttons mentioned are located in banks of pushbuttons. The pushbuttons are of a sufficient size to protect against inadvertent actuation. In addition, no significant change in plant conditions will result due to inadvertent activation of legend pushbuttons.

IMPLEMENTATION:

Accept as is.

4568/c/53



LaSalle Corrective Action

HED NO.: 0151

GUIDELINE: 4.3.3.E.3-1

CATEGORY: 2 LEVEL C

FINDING:

Legend pushbutton barriers have widths less than the recommended .125 inches. (Photo Log No. A-27)

RESPONSE:

The cited pushbuttons are located in banks of pushbuttons. The pushbuttons are of a sufficient size to protect against inadvertent actuation. In addition, no significant change in plant conditions will result due to inadvertent activation of legend pushbuttons.

IMPLEMENTATION:

Accept as is.

4568/c/54

LaSalle Corrective Action

HED NO.: 0149

GUIDELINE: 4.4.1.A-1

CATEGORY: 1 LEVEL C

FINDING:

The isolation signal B and leak detection alarm rotary controls have settings which increase in value with a counter-clockwise rotation. (Photo Log No. A-28)

RESPONSE:

These controls are timers. The stereotype convention for timers is to increase setting (time) in a counter-clockwise rotation.

IMPLEMENTATION:

Accept as is.

4568/c/55

LaSalle Corrective Action

HED NO.: 0141, 0142

GUIDELINE: 4.4.3.A-1, 4.4.3.A-2

CATEGORY: 1 LEVEL B

FINDING:

Some key-operated controls are not required since the function being controlled is not necessary to be secured against activation by unauthorized personnel. Some key-operated controls have the key inserted in them during all operations. (Photo Log No. A-29, A-30)

RESPONSE:

The key-operated controls are designed so that in the cases where security is an issue, the keys can be removed from the locks and controlled. The key-operated controls also indicate an additional caution to the operators that these are safety related controls. The keys do not impede operations.

IMPLEMENTATION:

Accept as is.

4568/c/56

LaSalle Corrective Action

HED NO.: 0143

GUIDELINE: 4.4.3.B-1

CATEGORY: 1 LEVEL B

FINDING:

Keys with a single row of teeth are not inserted into the lock of key-operated controls with the teeth pointing up or forward as recommended by the guidelines. (Photo Log No. A-30)

RESPONSE:

There is not an industry-wide stereotype for key positioning. The key-operated controls in the control room are designed to easily position and insert the keys.

IMPLEMENTATION:

Accept as is.

4568/c/58

LaSalle Corrective Action

HED NO.: 0144

GUIDELINE: 4.4.3.F-1

CATEGORY: 1 LEVEL B

FINDING:

Control positions for three key-operated controls are missing or inappropriate. (Photo Log No. A-32)

RESPONSE:

The cited switches will be labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/59

LaSalle Corrective Action

HED NO.: 0152

GUIDELINE: 4.4.4.B-1

CATEGORY: 2 LEVEL C

FINDING:

On continuous adjustment rotary controls, there is no pointer indicator on the control knob. Instead, the pointer indicator is on the knob skirt. (Photo Log No. A-33)

RESPONSE:

A white dot will be added to the control knob as a pointer.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/60

LaSalle Corrective Actions

HED NO: 0145

GUIDELINE: 4.4.5.B.2-1

CATEGORY: 2 LEVEL: C

FINDING:

It is possible to position some rotary selected controls between detented positions. (Photo Log No. A-34)

RESPONSE:

The operators move controls to the detented position and verify the move by tactual feedback.

IMPLEMENTATION:

Accept as is.

4549/c/120

LaSalle Corrective Action

HED NO.: 0150

GUIDELINE: 4.4.5.C-1

CATEGORY: 2 LEVEL C

FINDING:

The maximum combined (steam) flow limit increase and (turbine) load limit rotary (vernier dials) controls (on PM02J) have fixed pointers and moving position settings. (Photo Log No. A-35)

RESPONSE:

The fixed pointer and moving setting is a standard convention for vernier dials. The cited controls are easy to read and determine setting.

IMPLEMENTATION:

Accept as is.

4568/c/62



LaSalle Corrective Action

HED NO.: 0146

GUIDELINE: 4.4.5.D.2-1

CATEGORY: 2 LEVEL C

FINDING:

The diesel generator feed and bus diesel generator feed rotary controls have position indications painted on the top of the knob. It is difficult to tell which position the control is in. (Photo Log No. A-36)

RESPONSE:

The two detents (trip, close) available for this switch are 90 degrees apart. This distance is sufficient to insure rapid identification of position.

IMPLEMENTATION:

Accept as is.

4568/c/63

LaSalle Corrective Action

HED NO.: 0153

GUIDELINE: 4.4.5.E.4-1

CATEGORY: 2 LEVEL B

FINDING:

The height of some rotary selector controls have finger grasp handles found to be less than the recommended height of .625 inches. (Photo Log No. A-37)

RESPONSE:

The actual finger grasp heights are .5 inches. This small deviation from the guidelines does not result in any difficulties to the operators.

IMPLEMENTATION:

Accept as is.

4568/c/64

LaSalle Corrective Action

HED NO.: 0567, 0138

GUIDELINE: 4.4.5.E.5-1, 4.4.5.F-1

CATEGORY: 2 LEVEL B

FINDING:

The torque for the reactor scram reset knob is 10 inch-pounds.  
The recommended guideline maximum is 6 inch-pounds. (Photo Log  
No. A-22, A-38)

RESPONSE:

The additional torque for the reactor scram reset function is preferred to ensure against inadvertent resetting. This reset knob is activated from momentary contact and thus not difficult for the operators to use.

IMPLEMENTATION:

Accept as is.

4578/c/42

LaSalle Corrective Action

HED NO.: 0154

GUIDELINE: 4.5.1.D.2.C-1

CATEGORY: 2 LEVEL C

FINDING:

The width of the thumbwheels on the reactor panel (H13-P602) is .06 inches. The guideline recommends a width of at least .1 inches.

RESPONSE:

The actual thumbwheel widths are .06 inches. This small deviation from the guidelines does not result in any difficulties to the operators.

IMPLEMENTATION:

Accept as is.

4568/c/66

# LaSalle Corrective Action

HED NO.: 0147

GUIDELINE: 4.5.2.A-1

CATEGORY: 1 LEVEL C

## FINDING:

The surface of some slide switches is not serrated or knurled.  
(Photo Log No. B-1, B-2)

## RESPONSE:

The slide switches are sufficiently large enough for the operators to hold with the thumb and forefinger. The operators report no problems with the use of these switches.

## IMPLEMENTATION:

Accept as is.

4568/c/67

LaSalle Corrective Action

HED NO.: 0155

GUIDELINE: 4.5.2.B.2-1

CATEGORY: 2 LEVEL C

FINDING:

The length of the slide switches on the controllers is .49 inches. The guideline recommends a minimum length of 1.0 inches. (Photo Log No. B-3)

RESPONSE:

The deviation from the guidelines does not result in any difficulties to the operators. Due to the design of the slide switches, the operators are able to move the switch easily.

IMPLEMENTATION:

Accept as is.

4568/c/68

LaSalle Correction Action

HED NO.: 0148

GUIDELINE: 4.5.3.B-1

CATEGORY: 2 LEVEL C

FINDING:

Not all toggle switches emit an audible click, or provide some source of feedback on activation. (Photo Log Nr. B-4)

RESPONSE:

Confirmation of activation of toggle switches is available to operators by visual feedback.

IMPLEMENTATION:

Accept as is.

4568/c/b?

LaSalle Corrective Action

HED NO.: 0156

GUIDELINE: 4.5.3.C.1-1

CATEGORY: 2 LEVEL C

FINDING:

Some vendor panels have toggle switches which have arm lengths less than the recommended minimum length of .5 inches. (Photo Log No. B-5)

RESPONSE:

Toggle switches are easy to operate. In addition, confirmation of activation is available to operators by visual feedback. The small discrepancy in arm length results in no difficulties to the operators.

IMPLEMENTATION:

Accept as is.

4568/c/70



LaSalle Corrective Action

HED NO.: 0157

GUIDELINE: 4.5.3.C.2-1

CATEGORY: 2 LEVEL C

FINDING:

Some vendor panels have toggle switches which have tip diameters of less than the recommended minimum diameter of .125 inches. (Photo Log No. B-6)

RESPONSE:

The actual toggle switch diameter is .11 inches. This small deviation from the guidelines causes no difficulties for the operators.

IMPLEMENTATION:

Accept as is.

4568/c/71

COMMONWEALTH EDISON COMPANY  
LASALLE COUNTY STATION  
DETAILED CONTROL ROOM DESIGN REVIEW  
FINAL SUMMARY REPORT  
REVIEW FINDINGS  
OCTOBER 1985  
VOLUME 2  
PART 2, SECTIONS 5.0-9.0

Section 5  
VISUAL DISPLAYS

LaSalle Corrective Action

HED NO.: 0566

GUIDELINE: 5.1.1.A.1-7

CATEGORY: 2 LEVEL C

FINDING:

On the automatic depressurization system (ADS) and safety relief valves (SRVs), the operator must leave the immediate control room area and note SRV outlet temperatures on a recorder (on H13-P614) to identify/confirm open SRVs.

RESPONSE:

This action is performed by center desk personnel. It is only a redundant source of information and is therefore, appropriately located.

IMPLEMENTATION:

Accept as is.

4572/c/86

## LaSalle Corrective Actions

HED NO: 0544

GUIDELINE: 5.1.1.A.1/HR-4

CATEGORY: 2 LEVEL: A

### FINDING:

During the historical review, an event (DVR 1-1-84-83) was identified which had occurred at LaSalle Station. A residual heat removal fill error resulting in reactor pressure vessel pressurization occurred. An additional alarm (level alarm for flood-up zone) may aid operators.

### RESPONSE:

The cited event occurred due to a usually locked valve being mispositioned. The station administrative procedures have been strengthened to require second person verification when lock valves are operated.

### IMPLEMENTATION:

Accept as is.

4549/c/31

## LaSalle Corrective Actions

HED NO: 0524

GUIDELINE: 5.1.1.A.1/HR-5

CATEGORY: 2 LEVEL: A

### FINDING:

During the historical review, an event (DVR 1-1-82-210) was identified which has occurred at LaSalle Station. Due to nuisance computer alarms, alarms are sometimes not readily identifiable. The computer alarm "low pressure heater isolation" is important and should be duplicated as a panel annunciator on PM03J.

### RESPONSE:

Adequate annunciation of low pressure heater isolation is provided by spill valve, extraction steam valve, and heater water level annunciators.

### IMPLEMENTATION:

Accept as is.

4549/c/30

LaSalle Corrective Action

HED NO.: 0485

GUIDELINE: 5.1.1.A.1/V-3

CATEGORY: 2 LEVEL C

FINDING:

During the task analysis and verification, the display format for the drywell air temperature was identified as inappropriate. Subject matter experts indicated that it would be more appropriately displayed on a dedicated dual-pen recorder.

RESPONSE:

Drywell air temperature is displayed on a recorder on PM13J. In addition, drywell air temperature is displayed on the safety parameter display system (SPDS) and the process computer. This is adequate indication.

IMPLEMENTATION:

Accept as is.

4568/c/73

LaSalle Corrective Action

HED NO.: 0411

GUIDELINE: 5.1.1.A.2/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The residual heat removal system is represented by an unnecessarily complex mimic.

RESPONSE:

The residual heat removal system is complex and the complexity of the mimic accurately represents the system.

IMPLEMENTATION:

Accept as is.

4568/c/74



LaSalle Corrective Actions

HED NO: 0313

GUIDELINE: 5.1.1.A.2-1

CATEGORY: 2 LEVEL: C

FINDING:

The turbine vibration phase angle selector, turbine vibration phase angle lVI-TS005, and eccentricity speed control valve bypass valve position instrumentation is not used by the control room operators. (Photo Log No. B-7)

RESPONSE:

This equipment will be removed from the control panels.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/32

## LaSalle Corrective Actions

HED NO: 0315

GUIDELINE: 5.1.1.B.2-1

CATEGORY: 2 LEVEL: B

### FINDING:

The condensate polisher system has the "outlet header conductivity" parameter but not the "inlet header conductivity" parameter displayed on the control boards. (Photo Log No. B-8)

### RESPONSE:

It is not necessary to display the "inlet header conductivity" in the control room. This information is available continuously on a recorder on PL05J. Also, samples are taken daily.

### IMPLEMENTATION:

Accept as is.

4549/c/33

## LaSalle Corrective Actions

HED NO: 0158, 0089

GUIDELINE: 5.1.1.C-1, 9.1.2.C.4-1

CATEGORY: 1 LEVEL: B

### FINDING:

When panel instrumentation fails or is out of calibration, it is not apparent to the operator.

### RESPONSE:

Redundant indication is available for much of the control room instrumentation. Where duplication of instrumentation is not directly provided, it is often possible to infer the existence of an instrumentation problem through cross-reference of other parameters and expected system performance characteristics. Operators have been trained to confirm and verify instrument reliability by checking the diverse information sources.

### IMPLEMENTATION:

Accept as is.

4549/c/34

## LaSalle Corrective Action

HED NO.: 0289

GUIDELINE: 5.1.2.A-2

CATEGORY: 2 LEVEL B

### FINDING:

The "drywell air suppression chamber and suppression pool water integrity CM037" (on PM13J) recorder has two scales measuring temperatures ranging from 0-250 degrees. The top scale measures drywell and suppression chamber air temperatures (3 pts) in increments of 1.75 degrees. The bottom scale measures suppression pool water temperatures (14 pts) in increments of 10. It is necessary to compare the two scales and because of the increment difference, it is difficult. (Photo Log No. B-9)

### RESPONSE:

The drywell air temperature parameters will be removed from this recorder and relocated to a new recorder and labeled with consistent graduations.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/75

## LaSalle Corrective Action

HED NO.: 0452

GUIDELINE: 5.1.2.A/V-3

CATEGORY: 1 LEVEL C

### FINDING:

During the task analysis and verification, eight displays were identified whose scale units did not match the degree of precision and accuracy required for task performance during emergency operations. The displays identified were for the residual heat removal and low pressure core spray pumps amperes, the reactor level wide range recorders, and the suppression pool water temperature recorders.

### RESPONSE:

The pump ampere meters are used primarily during surveillance. During normal operations, they are used for general information on system performance. Green banding is available to aid in rapid identification of this information. The reactor level wide-range recorders are also used as general information and exhibit green banding. The discrepancy for the suppression pool water temperature recorders refer to the air temperatures. These temperatures will be relocated to a new recorder and appropriately scaled.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/76

LaSalle Corrective Action

HED NO.: 0209

GUIDELINE: 5.1.2.A/VL-1

CATEGORY: 2 LEVEL C

FINDING:

The units on the electro-hydraulic control pressure regulator setpoint indicators are not consistent with the degree of precision and accuracy necessary to maintain the setpoint exactly 50 pounds above reactor pressure during a startup.

RESPONSE:

This instrumentation is used only during startup. The 50 psid is an approximate value and does not need to be maintained exactly. Therefore, the precision of the units is adequate for task to be accomplished.

IMPLEMENTATION:

Accept as is.

4568/c/77

LaSalle Corrective Action

HED NO.: 0112

GUIDELINE: 5.1.2.B-1

CATEGORY: 2 LEVEL C

FINDING:

The drywell air suppression chamber and suppression pool water recorders contain information for seventeen points. An operator is required to make at least two conversions before making an assessment regarding any particular point. (Photo Log No. B-10)

RESPONSE:

A job performance aid which identifies each point will be permanently engraved and placed on the recorder door so as not to obscure the recorded trend.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/78

## LaSalle Corrective Action

HED NO.: 0290

GUIDELINE: 5.1.2.B-2

CATEGORY: 2 LEVEL B

### FINDING:

The dual-pen recorder "eccentricity-speed-control valve bypass valve position" actually measures four parameters. When the turbine is on the turning gear, the recorder displays eccentricity and bypass valve position. When the turbine is on-line, the recorder displays control valve position and speed. It is not readily apparent from looking at the recorder which parameters are being measured. (Photo Log No. H-22)

### RESPONSE:

This recorder will be removed from the control board.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/79



LaSalle Corrective Action

HED NO.: 0318

GUIDELINE: 5.1.2.B-3

CATEGORY: 2 LEVEL C

FINDING:

The "pump motor A" meter (on H13-P602) ranges from 0-1.2 kiloamperes. The operator must make a mental conversion from kiloamperes to amperes in order to use the meter. The control room unit for current is amperes. (Photo Log No. B-11)

RESPONSE:

The conversion between kiloamperes and amperes is automatic for operators. They report no difficulty with this function.

IMPLEMENTATION:

Accept as is.

4568/c/80

LaSalle Corrective Action

HED NO.: 0448

GUIDELINE: 5.1.2.B/V-4

CATEGORY: 2 LEVEL C

FINDING:

The vertical indicator on the control rod drive flow controller requires operator conversion for use. Modification of this indicator to present control rod drive flow directly in gallons per minute would facilitate operations.

RESPONSE:

This controller will be modified to read in units not requiring conversion.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/81

LaSalle Corrective Action

HED NO.: 0316

GUIDELINE: 5.1.2.C-1

CATEGORY: 2 LEVEL C

FINDING:

The "total flow core pressure drop" is displayed on a recorder with a scale range of 0-100 percent. The recorder is actually measuring in a range from 0-25 pounds. (Photo Log No. B-12)

RESPONSE:

This recorder is not used during emergency situations. During surveillances the 0-100 percent pressure scale is appropriate.

IMPLEMENTATION:

Accept as is.

4568/c/82

## LaSalle Corrective Action

HED NO.: 0461

GUIDELINE: 5.1.2.D.1/V-1

CATEGORY: 2 LEVEL C

### FINDING:

During the task analysis and verification, three displays were identified whose ranges did not encompass the parameter values expected during emergency operations.

### RESPONSE:

The range will be modified to conform to the expectations for the reactor core isolation cooling turbine exhaust pressure and standby liquid control tank level display is used only during injections where the operator looks for a decrease in tank level. Therefore, it is acceptable as is. The auxiliary electric equipment room radiation monitor scale does not present any operational difficulties as is.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/83

LaSalle Corrective Action

HED NO.: 0317

GUIDELINE: 5.1.2.E.2-1

CATEGORY: 2 LEVEL C

FINDING:

The reactor steam flow and pressure recorders have scale values that must be multiplied by  $10^6$ . There is no indication on the display that this multiplication is required. (Photo Log No. B-13)

RESPONSE:

The recorders will be appropriately labeled to indicate the multiplication factor required.

IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/84

LaSalle Corrective Action

HED NO.: 0223

GUIDELINE: 5.1.3.A-1

CATEGORY: 3 LEVEL C

FINDING:

Character heights on some displays do not subtend a minimum visual angle of 15 minutes from a viewing distance of 34 inches.

RESPONSE:

The discrepant displays are not time critical. The wording on the meters can be read adequately.

IMPLEMENTATION:

Accept as is.

4568/c/85

LaSalle Corrective Action

HED NO.: 0224

GUIDELINE: 5.1.3.B.2-1

CATEGORY: 3 LEVEL C

FINDING:

Character size and type styles for many displays are not consistent. (Photo Log No. G-27, G-28, G-29)

RESPONSE:

All characters on displays are readable. Variances in character size and type styles do not affect operational performance.

IMPLEMENTATION:

Accept as is.

4568/c/86

LaSalle Corrective Action

HED NO.: 0159

GUIDELINE: 5.1.3.C.1-1

CATEGORY: 3 LEVEL C

FINDING:

The reactor level meter and recorder on H13-P601 contains red markings on a white background. This is contrary to the preferred black markings on a white background recommended by guidelines. It is also not consistent with other control room instrumentation. (Photo Log No. B-14)

RESPONSE:

The red scale indicates that the scale reading is abnormal. This is consistent with the color coding convention of red indicating abnormal conditions.

IMPLEMENTATION:

Accept as is.

4568/c/87



LaSalle Corrective Action

HED NO.: 0225

GUIDELINE: 5.1.3.D.1-1

CATEGORY: 3 LEVEL C

FINDING:

Stroke-width to character-height ratios for display fonts are not between 1:6 and 1:8.

RESPONSE:

The characters on displays are legible. The deviation (1:15-1:50) in stroke-width to character-height ratios does not affect performance.

IMPLEMENTATION:

Accept as is.

4568/c/88

LaSalle Corrective Action

HED NO.: 0226

GUIDELINE: 5.1.3.D.2-1

CATEGORY: 3 LEVEL C

FINDING:

Letter-width to height ratios of display character fonts are not between the recommended 1:1 and 3:5.

RESPONSE:

The characters on displays are legible. The deviation (1:1.7-1:9) in letter-width to height ratios does not affect performance.

IMPLEMENTATION:

Accept as is.

4568/c/89

LaSalle Corrective Action

HED NO.: 0227

GUIDELINE: 5.1.3.D.3-1

CATEGORY: 3 LEVEL C

FINDING:

Numeral width-to-height ratios of display characters are not the recommended 3:5.

RESPONSE:

The numerals on displays are legible. The small deviation (1:1.94-1:2.3) in numeral width-to-height ratios does not affect performance.

IMPLEMENTATION:

Accept as is.

4568/c/90

LaSalle Corrective Action

HED NO.: 0228

GUIDELINE: 5.1.3.D.4-1

CATEGORY: 3 LEVEL C

FINDING:

There is not a minimum space of one stroke width between characters on displays, as recommended by the guidelines.

RESPONSE:

The characters on displays are legible. The deviation (one-half stroke width) in space between characters does not affect performance.

IMPLEMENTATION:

Accept as is.

4568/c/91

LaSalle Corrective Action

HED NO.: 0098

GUIDELINE: 5.1.4.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

There are several recorders that have no label for the identification of the parameter displayed. (Photo Log No. B-15)

RESPONSE:

Units of measurement will be added to meter scales where units are needed to identify the parameters.

IMPLEMENTATION:

By the completion of the second refueling outage.

4568/c/92

LaSalle Corrective Action

HED NO.: 0447

GUIDELINE: 5.1.4.A.1/V-2

CATEGORY: 3 LEVEL C

FINDING:

The indicators on the Bailey type controllers do not contain labeling on the meter face to identify the units of measurement for the parameters being controlled. Providing this information would facilitate operations. (Photo Log No. G-30)

RESPONSE:

The scale changes for Bailey controllers, depending on manual or automatic operation. The operators are trained to recognize the controlled parameters.

IMPLEMENTATION:

Accept as is.

4568/c/93

## LaSalle Corrective Action

HED NO.: 0450

GUIDELINE: 5.1.4.D/V-1

CATEGORY: 3 LEVEL C

### FINDING:

During the task analysis and verification, display faces were identified that did not contain the proper units of measurement labeling. The main steam line radiation recorder and monitor displays also had no units of measurement labeling. (Photo Log No. I-20)

### RESPONSE:

Display faces will be provided with appropriate units of measurement.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4568/c/94

LaSalle Corrective Action

HED NO.: 0161

GUIDELINE: 5.1.5.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

More than nine graduations are used between major numerals on the drywell suppression temperature displays. (Photo Log No. G-31)

RESPONSE:

The air temperatures for this recorder will be relocated to a new recorder and marked with no more than nine graduations between numerals.

IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/1



LaSalle Corrective Action

HED NO.: 0185

GUIDELINE: 5.1.5.A.1-2

CATEGORY: 3 LEVEL C

FINDING:

More than nine graduations separate major numerals on the vessel pressure meter on the remote shutdown panel.

RESPONSE:

There are fourteen graduations to separate major numerals on the cited meter. The deviation from the guideline causes no difficulties for the operators.

IMPLEMENTATION:

Accept as is.

4572/c/2

LaSalle Corrective Action

HED NO.: 0189

GUIDELINE: 5.1.5.A.3-1

CATEGORY: 3 LEVEL C

FINDING:

There are nine graduations between numerals on the reactor level meter and reactor level fuel zone recorder on H13-P601. When more than five graduations are between numerals on a display (or recorder), major, intermediate, and minor graduations should be used. In these two cases, only two sizes of graduations are used. (Photo Log No. H-1, H-2)

RESPONSE:

Green banding is in place on this instrumentation to clearly distinguish critical ranges. The two sizes of graduations have no negative effect on operator performance.

IMPLEMENTATION:

Accept as is.

4572/c/3

LaSalle Corrective Action

HED NO.: 0229

GUIDELINE: 5.1.5.B-1

CATEGORY: 3 LEVEL C

FINDING:

Graduation heights on displays do not meet the minimum recommended height for a viewing distance of 34".

RESPONSE:

The operators are able to read all wording on control room meters by moving closer to the panels. There is no need to be able to read the meters from a distance.

IMPLEMENTATION:

Accept as is.

4572/c/4

## LaSalle Corrective Action

HED NO.: 0162

GUIDELINE: 5.1.5.C-1

CATEGORY: 3 LEVEL B

### FINDING:

Successive values indicated by unit graduations on three control room meters and recorders are other than those recommended by the guideline. Recommended values are 5, 10, 15, 20, or 2, 4, 6, 8, 10, or 1, 2, 3, 4, 5 or some multiple of these values by 10. These scale markings are difficult for the operator to interpret. (Photo Log No. B-16)

### RESPONSE:

The reactor core isolation cooling pump pressure suction and the low pressure core spray pump amperes meters (on H13-P601) are not time-critical instruments. They are well labeled and the operators report no difficulties with their use.

The air temperatures for the drywell suppression temperature recorder will be relocated to a new meter and marked with the recommended unit graduations.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/5

LaSalle Corrective Action

HED NO.: 0186

GUIDELINE: 5.1.5.C-2

CATEGORY: 3 LEVEL B

FINDING:

Successive graduation values for the suppression pool level meter on the remote shutdown panel are in increments of .4 which is not one of those recommended. (Photo Log No. I-29)

RESPONSE:

This instrument is not normally used. Zone banding is in place to indicate normal and abnormal ranges to the operator.

IMPLEMENTATION:

Accept as is.

4572/c/6

## LaSalle Corrective Action

HED NO.: 0325

GUIDELINE: 5.1.5.C/OS-3

CATEGORY: 2 LEVEL B

### FINDING:

The suppression chamber air and water temperature recorder (TR-CM 37/38) are difficult for the operators to use.

### RESPONSE:

The air and water temperatures will be separated from this recorder to improve readability. The water temperature will remain on this recorder and the air temperature will be relocated to a new recorder.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/7

LaSalle Corrective Action

HED NO.: 0402

GUIDELINE: 5.1.5.C/OS-5

CATEGORY: 1 LEVEL C

FINDING:

The reactor water level wide range level recorder scale contains six units per division (as opposed to the usual five or ten units per division) found on other scales. (Photo Log No. H-4, H-5)

RESPONSE:

Recorder scale units are used to aid the operator in determining critical ranges. This scale is appropriately zone banded to indicate critical ranges.

IMPLEMENTATION:

Accept as is.

4572/c/9

## LaSalle Corrective Action

HED NO.: 0331

GUIDELINE: 5.1.5.C/OS-4

CATEGORY: 3 LEVEL C

### FINDING:

The reactor water cleanup system filter demineralizer flow indicators have nonstandard divisions (each unit represents a division of three).

### RESPONSE:

These meters are used only in non-time-critical situations. The scales are easy to read and interpret due to the inclusion of zone banding for critical ranges.

### IMPLEMENTATION:

Accept as is.

4572/c/8



LaSalle Corrective Actions

HED NO: 0181

GUIDELINE: 5.1.6.C.1-1

CATEGORY: 2 LEVEL: B

FINDING:

Meaning attached to a particular color is not narrowly defined and is not consistent across application in the control room.

RESPONSE:

A green board concept is used for plant indication lights. Other uses of color are not confusing to the operators since they are trained in the use of color. Additionally, multiple coding techniques are used for instrumentation throughout the control room.

IMPLEMENTATION:

Accept as is.

4549/c/35

LaSalle Corrective Actions

HED NO: 0542

GUIDELINE: 5.1.6.C.1-2

CATEGORY: 1 LEVEL: C

FINDING:

In the control room, some trip buttons are color coded red and others are black. (Photo Log No. E-16, E-17)

RESPONSE:

All trip pushbuttons in the control room will be color coded red.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/36

LaSalle Corrective Actions

HED NO: 0344, 0462

GUIDELINE: 5.1.6.C.2/OS-1, 5.1.1.A.1/V-2

CATEGORY: 3 LEVEL: B

FINDING:

Green banding should be in place for all normal operating ranges for all recorders and indicators. (Photo Log. No. G-24, G-25, G-26)

RESPONSE:

Green banding will be added to all instrumentation where it would be appropriate.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/37

LaSalle Corrective Action

HED NO.: 0163

GUIDELINE: 5.2.2.A.2-1

CATEGORY: 3 LEVEL C

FINDING:

Pointer tips on the scales of meters and recorders cover the scale graduations. The ability to see the graduations of the affected parameter is critical when reading meters. (Photo Log No. B-17, H-6, H-7)

RESPONSE:

Recorders have scale paper with matching scales on them. Calibration is keyed off the recorder scale paper not the recorder scale. All control room meters are readable. Pointer tips are designed so scale graduations can be seen.

IMPLEMENTATION:

Accept as is.

4572/c/10

LaSalle Corrective Action

HED NO.: 0307

GUIDELINE: 5.2.3.B-1

CATEGORY: 3 LEVEL C

FINDING:

The green zone markings on displays interfere with the reading of quantitative markings.

RESPONSE:

Zone banding uses clear strips of color to indicate ranges. Although the zone banding is placed over the quantitative markings, the clear material used provides good readability for the displays.

IMPLEMENTATION:

Accept as is.

4572/c/11

LaSalle Corrective Action

HED NO.: 0164

GUIDELINE: 5.2.4.A-1

CATEGORY: 3 LEVEL C

FINDING:

Individual numerals on the heater drain flow meter are oriented horizontally instead of vertically. (Photo Log No. B-19)

RESPONSE:

The numerals on the heater drain meter will be re-oriented vertically to conform with other control room meters.

IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/12

## LaSalle Corrective Actions

HED NO: 0404

GUIDELINE: 5.3.1.A.2/OS-1

CATEGORY: 2 LEVEL: B

### FINDING:

There is no way to test the "first out" alarm windows on the reactor and turbine trip annunciators.

### RESPONSE:

All first-out alarms are printed on the computer printout. The operators are able to verify that these alarms are in working order by checking the printout.

In addition, two light bulbs are in place for each annunciator panel.

### IMPLEMENTATION:

Accept as is.

4549/c/38

## LaSalle Corrective Action

HED NO.: 0406

GUIDELINE: 5.3.1.A.3/OS-1

CATEGORY: 2 LEVEL B

### FINDING:

Controller indicators on feedwater manual/auto station have burned out leaving operator limited means of determining controller status. Changing bulbs involves removing controller from panel which disrupts feedwater control. The bulbs should be changeable without taking controller apart. (Photo Log No. H-8)

### RESPONSE:

The vendor-provided incandescent lamps will be replaced with solid state lamps that provide an extremely long life.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/14



LaSalle Corrective Actions

HED NO: 0521

GUIDELINE: 5.3.2.A.1-1

CATEGORY: 2 LEVEL: C

FINDING:

Positive association of some legend lights with their associated labels is not readily apparent. (Photo Log No. E-16, C-34)

RESPONSE:

Background shading will be added to the legend lights and their associated controls to aid in rapid identification of the association. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/39

LaSalle Corrective Actions

HEL NO: 0192, 0355

GUIDELINE: 5.3.2.A.3-1, 5.3.2.A.2/OS-1

CATEGORY: 2 LEVEL: C

FINDING:

The color of blue legend lights is not clearly identifiable. On Unit One, blue lights look green while unlit, and look white when lit. On Unit Two, blue lights look blue when unlit but look violet when lit. (Photo Log No. B-20, H-9)

RESPONSE:

The control room operators are aware of the slight color differences in blue legend lights. They report no difficulty in discriminating the color of legend lights.

IMPLEMENTATION:

Accept as is.

4549/c/40

LaSalle Corrective Actions

HED NO: 0509, 0510, 0511

GUIDELINE: 5.3.2.B-1, 5.3.3.A.1-1, 4.3.3.B.2-1

CATEGORY: 2 LEVEL: C

FINDING:

Light intensity of some indicating lights and legend pushbuttons (as compared to the surrounding panel) is less than the recommended 10%.

RESPONSE:

The light of all indicating lights and pushbuttons is discriminable from the surrounding panel due to the bright light contrasting to the painted panel.

IMPLEMENTATION:

Accept as is.

4549/c/41

LaSalle Corrective Actions

HED NO: 0160

GUIDELINE: 5.3.3.A.2-1

CATEGORY: 2 LEVEL: C

FINDING:

There is difficulty in reading the legends on legend lights under ambient lighting conditions when the legend light is not lit. This is primarily true of the red, green and dark blue lights. (Photo Log No. B-21)

RESPONSE:

There are numerous redundant indications to legends on legend lights available to the operator. These include color coding, position coding, and component labeling. The operators report no problems in identifying the meaning of legend lights.

IMPLEMENTATION:

Accept as is.

4549/c/43

LaSalle Corrective Action

HED NO.: 0481

GUIDELINE: 5.3.3.A.3/V-1

CATEGORY: 2 LEVEL C

FINDING:

During the task analysis and verification, it was observed that the "closed" indicator for the drywell vent and purge valve (on 1PM06J) is missing a lens cap diffuser. This adversely affects legend contrast and should be replaced. (Photo Log No. H-10)

RESPONSE:

A diffuser will be installed on the lens cap.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/15

LaSalle Corrective Action

HED NO.: 0216

GUIDELINE: 5.3.3.B.1-1

CATEGORY: 3 LEVEL C

FINDING:

The character font styles on legend lights are not consistent throughout the control room.

RESPONSE:

Character font styles on legend lights vary slightly, depending on the vendor supplier. The legend lights are readable and the different font styles do not adversely affect operator performance.

IMPLEMENTATION:

Accept as is.

4572/c/16

LaSalle Corrective Action

HED NO.: 0215, 0283

GUIDELINE: 5.3.3.B.2-1, 6.4.1.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

Character heights on legend lights do not subtend a visual angle of 15 minutes.

RESPONSE:

Legend lights are read in the lit condition. The backlighting of the legends aids in readability.

IMPLEMENTATION:

Accept as is.

4572/c/17

LaSalle Corrective Action

HED NO.: 0217

GUIDELINE: 5.3.3.B.2-2

CATEGORY: 3 LEVEL C

FINDING:

Legend light type styles are not consistent throughout the control room.

RESPONSE:

Character font styles on legend lights vary slightly depending on the vendor supplier. The legend lights are readable and the different font styles do not adversely affect operator performance.

IMPLEMENTATION:

Accept as is.

4572/c/18



LaSalle Corrective Action

HED NO.: 0218

GUIDELINE: 5.3.3.B.2-3

CATEGORY: 3 LEVEL C

FINDING:

Legend lights on the reactor panel (on H13-P603) have white markings on black backgrounds. The guideline recommends black markings on white backgrounds. (Photo Log No. B-22)

RESPONSE:

These displays are easy to read since they are backlit. A separate annunciator is in place to alert the operators to a related trip.

IMPLEMENTATION:

Accept as is.

4572/c/19

LaSalle Corrective Action

HED NO.: 0219

GUIDELINE: 5.3.3.B.2-4

CATEGORY: 3 LEVEL C

FINDING:

The stroke width-to-character height ratio for some legend lights is not between the recommended 1:6 and 1:8.

RESPONSE:

The small deviation in stroke width-to-character height ratios (1:4.29 - 1:11) for legend lights does not pose any difficulties in operator readability.

IMPLEMENTATION:

Accept as is.

4572/c/20

LaSalle Corrective Action

HED NO.: 0220

GUIDELINE: 5.3.3.B.2-5

CATEGORY: 3 LEVEL C

FINDING:

The letter width-to-height ratio for some legend lights is not between 1:1 and 3:5.

RESPONSE:

The small deviation in width-to-height letter ratios (1:1.83 - 1:2.71) for legend lights does not pose any difficulties in operator readability.

IMPLEMENTATION:

Accept as is.

4572/c/21

LaSalle Corrective Action

HED NO.: 0221

GUIDELINE: 5.3.3.B.2-6

CATEGORY: 3 LEVEL C

FINDING:

The space between characters of legend lights is not the recommended minimum of one stroke-width.

RESPONSE:

The small deviation in space between characters for legend lights (.0030 inches) does not pose any difficulties in operator readability.

IMPLEMENTATION:

Accept as is.

4572/c/22

LaSalle Corrective Action

HED NO.: 0222

GUIDELINE: 5.3.3.B.2-7

CATEGORY: 3 LEVEL C

FINDING:

The minimum space between lines on some legend lights is not at least one half the character height.

RESPONSE:

The small deviation (.15 inches) in space between characters for legend lights does not pose any difficulties in operator readability.

IMPLEMENTATION:

Accept as is.

4572/c/23

LaSalle Corrective Action

HED NO.: 0293

GUIDELINE: 5.3.3.B.5-1

CATEGORY: 3 LEVEL C

FINDING:

Legend messages on some legend light indicators contain more than three lines of text. (Photo Log No. H-11, H-12)

RESPONSE:

Each legend line on legend lights (except for those on the reactor panel) contains one word (or abbreviation) and are easily readable to the operators in a timely manner. Typically, on the reactor panel, one light cover may house two status lights - each light with its own legend.

IMPLEMENTATION:

Accept as is.

4572/c/24

LaSalle Corrective Action

HED NO.: 0457

GUIDELINE: 5.3.3.B.6/V-1

CATEGORY: 3 LEVEL C

FINDING:

During the task analysis and verification, three indicator lights were identified whose nomenclature and/or abbreviations were not standard nor consistently used throughout the control room. (Photo Log No. H-11, H-12)

RESPONSE:

The legend lights currently read "rnng". They will be relabeled "on".

IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/25

LaSalle Corrective Action

HED NO.: 0456

GUIDELINE: 5.3.3.B.7/V-1

CATEGORY: 3 LEVEL C

FINDING:

During the task analysis and verification, a number of indicator lights were identified that should contain wording to indicate the status of the energized lights related equipment, but which currently contain no legend. (Photo Log No. H-9)

RESPONSE:

The addition of wording on the cited lights is unnecessary due to the redundant coding in place for indicator lights. The indicator lights are color coded as well as position coded for operator use.

IMPLEMENTATION:

Accept as is.

4572/c/26



## LaSalle Corrective Actions

HED NO: 0165

GUIDELINE: 5.4.1.A-1

CATEGORY: 2 LEVEL: C

### FINDING:

Some pens on recorders do not provide a clear marking. The ink is faded. New pen tips are needed. (Photo Log No. E-4)

### RESPONSE:

The discrepant pens have been replaced. Operators check recorders daily (on midnight shift) and replace any pens which need to be replaced. For those problems not fixed by pen replacement, a work request is generated to initiate corrective maintenance.

### IMPLEMENTATION:

Completed.

4549/c/44

LaSalle Corrective Actions

HED NO: 0166

GUIDELINE: 5.4.1.B-1

CATEGORY: 2 LEVEL: C

FINDING:

Scales printed on the recorder paper for some recorders are not the same as the scales shown on the recorder. (Pl o Log No. B-24)

RESPONSE:

The recorder scale paper has been replaced for discrepant recorders. An inventory is kept for all recorder paper. Operators are instructed to replace scale paper with appropriate paper.

IMPLEMENTATION:

Completed.

4549/c/45

## LaSalle Corrective Actions

HED NO: 0534

GUIDELINE: 5.4.1.C-1

CATEGORY: 2 LEVEL: C

### FINDING:

Several dual-pen recorders use dual-scale chart paper to accommodate the dissimilar pen scales. Potential operator confusion in matching ink (or pen) colors to sequential sections of chart paper with different scales could lead to erroneous conclusions. (Photo Log No. B-25.1)

### RESPONSE:

All dual-scale recorders are adequately labeled as to what scale each color represents.

### IMPLEMENTATION:

Accept as is.

4549/c/46

LaSalle Corrective Action

HED NO.: 0168

GUIDELINE: 5.4.1.I.1-1

CATEGORY: 3 LEVEL C

FINDING:

Paper speed is not adjustable on most Bailey recorders. The exceptions are the intermediate range monitor and source range monitor recorders on the reactor panel.

RESPONSE:

Trended information is available on the computer as a backup for the control room recorders.

IMPLEMENTATION:

Accept as is.

4572/c/28

LaSalle Corrective Action

HED NO.: 0190, 0233

GUIDELINE: 5.4.1.K-1, 6.2.4.A/VL-2

CATEGORY: 3 LEVEL C

FINDING:

All data is not visible through the faces of some of the recorders due to the faces being covered with labeling. (Photo Log No. B-25, B-25.1, H-13, C-5)

RESPONSE:

The point of interest as well as one hour's worth of data is visible through the recorder window. If additional trending information is required, it can be obtained by opening the recorder door.

IMPLEMENTATION:

Accept as is.

4572/c/29

LaSalle Corrective Actions

HED NO: 0169, 0369

GUIDELINE: 5.4.2.A.1-1, 5.1.1.A.1/OS-1

CATEGORY: 2 LEVEL: C

FINDING:

Labels are not present on some recorders to identify recorded parameters. (Photo Log No. B-26)

RESPONSE:

Discrepant recorders will be appropriately labeled to identify recorded parameters.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/47

LaSalle Corrective Actions

HED NO: 0172

GUIDELINE: 5.4.2.A.2-1

CATEGORY: 2 LEVEL: C

FINDING:

The color used for several recorder pens is different than that identified on the recorder label. (Photo Log No. B-27)

RESPONSE:

These pens will be replaced with pens of appropriate colors. Operators will be instructed to replace pens with appropriate in color.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/48

LaSalle Corrective Actions

HED NO: 0533

GUIDELINE: 5.4.2.A.2-2

CATEGORY: 2 LEVEL: C

FINDING:

Color selection for dual-pen recorders is inconsistent. Although red and blue have been selected for pen colors, there is no consistent selection of color for the upper and lower pens. Potential problems exist in parameter identification and chart maintenance (inking). (Photo Log No. B-25.1)

RESPONSE:

Labels for dual-pen recorders list pen colors in the order listed on the chart paper. The operators report no difficulty in determining recorder parameters.

IMPLEMENTATION:

Accept as is.

4549/c/49



LaSalle Corrective Action

HED NO.: 0119

GUIDELINE: 5.4.2.B.1-1

CATEGORY: 2 LEVEL C

FINDING:

The "control rod drive temperatures" is a multi-point recorder with a manufacturer's channel capacity of 24 points. The channel capacity has been expanded to record 185 points via additional electronic equipment. Operators are required to convert bank-point numbers to rod numbers via a temporary conversion table. The guidelines recommend not expanding a multi-point recorder beyond its capability.

RESPONSE:

This recorder is only used to monitor control rods with temperature problems. Such rod indication will deviate beyond the average parameter. Any point out of tolerance is easily detected.

IMPLEMENTATION:

Accept as is.

4572/c/30

LaSalle Corrective Action

HED NO.: 0171

GUIDELINE: 5.4.2.B.3-1

CATEGORY: 2 LEVEL C

FINDING:

The paper does not always advance for some multi-point recorders and, when it does advance, the paper spool does not always adequately collect the paper. For this reason, marks are often printed incorrectly and/or over other marks. (Photo Log No. B.25.1)

RESPONSE:

The discrepant recorders will be repaired. A routine maintenance program is in place for control room instrumentation. When problems occur, the operators report the difficulty and it is corrected.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/31

LaSalle Corrective Action

HED NO.: 0230

GUIDELINE: 5.5.1.A.3-1

CATEGORY: 2 LEVEL C

FINDING:

Drum-type counters with six digits do not have any indication of grouping (commas, decimal points or additional space) to provide quick precise reading of the quantitative value. Grouping is recommended when more than four digits are used. (Photo Log No. B-28)

RESPONSE:

The cited drum-type counters are used to monitor technical specification parameters of leak rate. The readings are recorded once a shift and are not time critical. The small deviation from the guideline results in no difficulty for the operator in reading drum-type counters.

IMPLEMENTATION:

Accept as is.

4572/c/49

LaSalle Corrective Action

HED NO.: 0239

GUIDELINE: 5.5.1.A.4-1

CATEGORY: 2 LEVEL C

FINDING

Drum type counters have white numerals on black drum surface, rather than the guideline recommended black numeral on white drum background. (Photo Log No. B-29)

RESPONSE:

These drum type counters are covered with glass to prevent dirt from entering the white letters. The operators report no difficulties in reading these displays due to the excellent contrast.

IMPLEMENTATION:

Accept as is.

4572/c/32

LaSalle Corrective Action

HED NO.: 0238

GUIDELINE: 5.5.2.A.5-1

CATEGORY: 2 LEVEL C

FINDING:

Horizontal spacing between numerals is not between one-quarter and one-half the numeral width on some electronic counters. On these counters, the horizontal spacing is greater than one-half the numeral width. (Photo Log No. H-14)

RESPONSE:

The extra spacing between numerals causes no difficulties for the operators. The letter size exceeds the guidelines for electronic counters and are thus easy to read.

IMPLEMENTATION:

Accept as is.

4572/c/33

Section 6

LABELS AND LOCATION AIDS

LaSalle Corrective Action

HED NO.: 0078

GUIDELINE: 6.1.1-1

CATEGORY: 3 LEVEL C

FINDING:

The "pump/motor A/B temperature" and the "control rod drive temperature" are multipoint recorders that have temporary visual aids associated with them. (Photo Log No. B-30)

RESPONSE:

All visual aids are inventoried quarterly and replaced as needed. Procedures are in place to control operator aids.

IMPLEMENTATION:

Accept as is.

4572/c/34

LaSalle Corrective Action

HED NO.: 0173

GUIDELINE: 6.1.1-3

CATEGORY: 3 LEVEL C

FINDING:

The 138KV voltmeter selector switch positions are not labeled properly. Switch positions should be relabeled to read: off, A, B, C, to represent the three phases. (Photo Log No. B-32)

RESPONSE:

The switch positions will be appropriately relabeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/35



LaSalle Corrective Action

HED NO.: 0174

GUIDELINE: 6.1.1-4

CATEGORY: 3 LEVEL C

FINDING:

The TR81, LO108, L6102 controls (on OPM17J) have associated synchronizing controls that are unlabeled and their association is not apparent. (Photo Log No. B-33)

RESPONSE:

The cited controls will be appropriately labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/36

## LaSalle Corrective Action

HED NO.: 0176

GUIDELINE: 6.1.1-6

CATEGORY: 3 LEVEL C

### FINDING:

On the OPM12J panel there are four bus voltmeter switches which control the A, B & C phases for eight different buses: 9 & 10, 11 & 13, 4 & 6, 2 & 3. The controls are not labeled to indicate which bus is selected. (Photo Log No. B-35)

### RESPONSE:

Appropriate labels will be added to these switches.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/37

## LaSalle Corrective Actions

HED NO: 0556

GUIDELINE: 6.1.1/HR-16

CATEGORY: 1 LEVEL: A

### FINDING:

During the historical review, an event (PRO Report 1-83-17) was identified which occurred at LaSalle Station. A reactor scram occurred when the mode switch was moved. A checklist is needed (in the procedure) for the operators to use prior to switching modes.

### RESPONSE:

A checklist (LOP-AA-03) has been generated to be used by the operators prior to switching modes.

### IMPLEMENTATION:

Completed.

4549/c/50

## LaSalle Corrective Actions

HED NO: 0557

GUIDELINE: 6.1.1/HR-17

CATEGORY: 1 LEVEL: A

### FINDING:

During the historical review, an event (PRO Report 1-83-14) was identified which occurred at LaSalle Station. The event was caused because the mode switch was taken to startup while the control rod drive (CRD) pumps were shut down. A caution needs to be added to all LIS procedures (affecting mode switches) to verify CRD pump running with normal charging pump water header pressure.

### RESPONSE:

An operating procedure (LOP-AA-03) is in place to instruct operators on moving the mode switch.

### IMPLEMENTATION:

Completed.

4549/c/51

LaSalle Corrective Action

HED NO.: 0449

GUIDELINE: 6.1.1/V-11

CATEGORY: 3 LEVEL B

FINDING:

During the task analysis, labels were identified whose legends inappropriately described the function of the associated control/display, contained misspelled words or abbreviations, lacked necessary information, or were otherwise ambiguous.

RESPONSE:

All inappropriate labels will be corrected.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/38

LaSalle Corrective Action

RED NO.: 0470, 0108

GUIDELINE: 6.1.1/V-12, 6.2.2.A-1

CATEGORY: 2 LEVEL B

FINDING:

Some control room instrumentation is not permanently labeled.  
(Photo Log No. H-15, C-4)

RESPONSE:

The discrepant instrumentation will be permanently labeled.  
Procedural control (LAP 1600-2) is provided to regulate the use  
of temporary labels.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/39

LaSalle Corrective Action

HED NO.: 0484

GUIDELINE: 6.1.1/V-13

CATEGORY: 2 LEVEL B

FINDING:

During the task analysis and verification, the escutcheon plates for the condenser low vacuum trip test and bypass keylock switches were noted to be reversed. (Photo Log No. H-16)

RESPONSE:

These key-lock switches will be relabeled appropriately.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/40

LaSalle Corrective Action

HED NO.: 0412

GUIDELINE: 6.1.1/OS-9

CATEGORY: 2 LEVEL C

FINDING:

There is some confusion as to what points of the system are being monitored on the off gas panel (N62-P600).

RESPONSE:

Control room operators are adequately trained to identify system points.

IMPLEMENTATION:

Accept as is.

4572/c/41



LaSalle Corrective Action

HED NO.: 0096

GUIDELINE: 6.1.2.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

Panel 1H13-P607 is unlabeled. Also, panel 2H13-P607 has descriptive labeling but the alpha-numeric identifier is not present. (Photo Log No. B-36, B-37)

RESPONSE:

These panels will be appropriately labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/42

LaSalle Corrective Action

HED NO.: 0105

GUIDELINE: 6.1.2.A.3-1

CATEGORY: 3 LEVEL C

FINDING:

Not all console elements are labeled. (Photo Log No. B-38)

RESPONSE:

Console elements will be appropriately labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/43

LaSalle Corrective Action

HED NO.: 0558, 0517

GUIDELINE: 6.1.2.A.4-1, 6.2.1.B-1

CATEGORY: 3 LEVEL C

FINDING:

Labels in the control room repeat information contained in higher-level labels. This labeling scheme does not conform to the standard described in the guideline. (Photo Log No. C-1, C-2)

RESPONSE:

Repeated information enhances operation of control room instrumentation. Since the repeated labels are consistent between each other, there is no confusion to the operators.

IMPLEMENTATION:

Accept as is.

4572/c/44

LaSalle Corrective Action

HED NO.: 0106

GUIDELINE: 6.1.2.B.2-1

CATEGORY: 3 LEVEL C

FINDING:

Labels are not graduated in letter size such that subsystem/functional group labels are at least 25% larger than component labels. There is no size consistency for labels in the control room. (Photo Log No. I-21)

RESPONSE:

The current labeling scheme clearly identifies each control room component. The operators report no difficulty in the use of this scheme.

IMPLEMENTATION:

Accept as is.

4572/c/45

LaSalle Corrective Action

HED NO.: 0107

GUIDELINE: 6.1.2.B.3-1

CATEGORY: 3 LEVEL C

FINDING:

Labels are not graduated in letter size such that component labels are at least 25% larger than control position identifiers. (Photo Log No. I-22)

RESPONSE:

Position labels are arranged in such a way that there is no confusion with component labeling.

IMPLEMENTATION:

Accept as is.

4572/c/46

## LaSalle Corrective Action

HED NO.: 0097

GUIDELINE: 6.2.1.A-1

CATEGORY: 3 LEVEL C

### FINDING:

Labels are located below all edgewise meters, rotary meters, trend recorders, several controllers and various panel components. The guideline recommends that labels be placed above panel elements. (Photo Log No. H-3)

### RESPONSE:

The LaSalle control room convention is to locate labels for displays, below the display. This convention is used consistently throughout the control room.

### IMPLEMENTATION:

Accept as is.

4572/c/47

LaSalle Corrective Action

HED NO.: 0103

GUIDELINE: 6.2.1.F-1

CATEGORY: 3 LEVEL C

FINDING:

Adjacent labels are not separated by sufficient space so that they are not read as one continuous label. (Photo Log No. C-3)

RESPONSE:

Adjacent labels are separated by vertical black lines to clearly differentiate between labels.

IMPLEMENTATION:

Accept as is.

4572/c/50

LaSalle Corrective Action

HED NO.: 0110, 0302, 0303

GUIDELINE: 6.2.4.B-1, 6.5.1.F-1,  
6.5.1.H-1

CATEGORY: 3 LEVEL C

FINDING:

Several labels are obscured by "caution cards", "inspection stickers" and "out-of-service" cards. Obscured labels may cause some uncertainty and accidental activation of controls. (Photo Log No. C-6)

RESPONSE:

Station procedures require the use of "mini" cards on control panels to minimize interference with controls, labels, and indications. The procedures also address insuring indications are not obscured by these cards.

IMPLEMENTATION:

Accept as is.

4572/c/53



## LaSalle Corrective Actions

HED NO: 0523

GUIDELINE: 6.2.4.B-2

CATEGORY: 2 LEVEL: C

### FINDING:

Some labels are partially obscured by the indicator lights located at the base of the vertical portion of H13-P601 (e.g., containment spray, residual heat removal injection). (Photo Log No. F-18)

### RESPONSE:

This is only a slight inconvenience for the operators. By moving (leaning) to the side of the meter, the operators are able to read the labels.

### IMPLEMENTATION:

Accept as is.

4549/c/52

## LaSalle Corrective Actions

HED NO: 0545

GUIDELINE: 6.2.4.B-3

CATEGORY: 2 LEVEL: C

### FINDING:

On the reactor core cooling panel (H13-P601) the label for the residual heat removal temperature strip chart recorders is shadowed by the recorders. (Photo Log No. I-23)

### RESPONSE:

This label will be moved onto the bezel of the recorder to improve readability.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/53

## LaSalle Corrective Actions

HED NO: 0109

GUIDELINE: 6.2.4.C-1

CATEGORY: 3 LEVEL: C

### FINDING:

Labels for most controllers are located below the equipment. These labels are not visible to the operator during control actuation.  
(Photo Log No. C-7)

### RESPONSE:

The location of labels below controllers is consistent with the control room convention of labels beneath displays. The operators report no difficulty in reading or identifying any controllers.

### IMPLEMENTATION:

Accept as is.

4549/c/54

LaSalle Corrective Action

HED NO.: 0111

GUIDELINE: 6.2.4.D-1

CATEGORY: 3 LEVEL C

FINDING:

There are no administrative procedures for cleaning labels.

RESPONSE:

Procedures (LAP 1600-2 and LAP 200-1) are in place for cleaning labels.

IMPLEMENTATION:

Accept as is.

4572/c/54

LaSalle Corrective Action

HED NO.: 0278

GUIDELINE: 6.3.2.F-1

CATEGORY: 2 LEVEL C

FINDING:

Some labels are not spelled correctly or the abbreviation is not in accord with the spelling of component nomenclature.  
(Photo Log No. C-8)

RESPONSE:

Misspelled words will be corrected on labels. In addition, a standard abbreviation list will be developed and used on all new control room labeling.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/55

LaSalle Corrective Action

HED NO.: 0113

GUIDELINE: 6.3.3.A-1

CATEGORY: 3 LEVEL C

FINDING:

There are two lists of abbreviations for systems valve, etc.: "permissible abbreviations" and "alphabetical system designations". The two lists do not abbreviate systems the same way. The lists are used interchangeably throughout the control room and operating procedures.

RESPONSE

A standardized abbreviation list will be developed. This list will be implemented on all new labels as a need of replacement occurs.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/56

LaSalle Corrective Action

HED NO.: 0408

GUIDELINE: 6.3.3.A/OS-2

CATEGORY: 3 LEVEL C

FINDING:

The condenser vacuum procedures and instrumentation are not consistent in their use of abbreviations. Consistency in use of abbreviations is essential to prevent confusion and enhance safety.

RESPONSE:

The operators are aware of the different abbreviations in the control room.

IMPLEMENTATION:

Accept as is.

4572/c/57

LaSalle Corrective Actions

HED NO: 0114

GUIDELINE: 6.3.3.B-1

CATEGORY: 3 LEVEL: C

FINDING:

Labels are not consistent within and across pieces of equipment in their use of abbreviations.

RESPONSE:

A standardized abbreviation list will be developed and implemented for all new control room labels.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/55



LaSalle Corrective Actions

HED NO: 0526

GUIDELINE: 6.3.3.B-3

CATEGORY: 3 LEVEL: C

FINDING:

Labels for the standby gas system are identified differently for controls and annunciators. Controls are labeled moisture separator and annunciators are labeled demister.

RESPONSE:

The labels will be modified to be consistent with each other.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/56

### LS 110 Corrective Action

HED NO.: 0474

GUIDELINE: 6.3.3.B/V-2

CATEGORY: 3 LEVEL C

#### FINDING:

During the task analysis and verification, it was observed that the condensate hood A vacuum display (though labeled vacuum) actually displays back pressure. The condenser recorders for Loops A, B, and C are labeled, and display back pressure. The procedures cite vacuum with back pressure in parentheses. Consistency in displays, terminology and procedures should be obtained and maintained to minimize the potential for operator error.

#### RESPONSE:

The cited instrumentation will be relabeled accurately.

#### IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/58

LaSalle Corrective Action

HED NO.: 0279

GUIDELINE: 6.3.4.E/1

CATEGORY: 3 LEVEL C

FINDING:

Labels contain roman numerals. Confusion is possible between letters and roman numerals. (Photo Log No. C-9)

RESPONSE:

Roman numerals are the accepted plant nomenclature and are understood by the operators.

IMPLEMENTATION:

Accept as is.

4572/c/61

LaSalle Corrective Action

HED NO.: 0280

GUIDELINE: 6.3.5-1

CATEGORY: 3 LEVEL C

FINDING:

The wording of some labels is not concise. (Photo Log No. C-10)

RESPONSE:

Although these labels contain more information than necessary, operators report no difficulty with the use of these labels.

IMPLEMENTATION:

Accept as is.

4572/c/62

LaSalle Corrective Action

HED NO.: 0281

GUIDELINE: 6.3.6-1

CATEGORY: 3 LEVEL C

FINDING:

Words or abbreviations of a similar appearance are used in adjacent labels. (Photo Log No. C-11)

RESPONSE:

Control room operators are well trained on all control room nomenclature; they report no difficulty in reading and understanding adjacent labels.

IMPLEMENTATION:

Accept as is.

4572/c/63

## LaSalle Corrective Action

HED NO.: 0282

GUIDELINE: 6.3.8.A-1

CATEGORY: 3 LEVEL C

### FINDING:

Not all controls have control positions identified. Labeling of functional control positions facilitates proper use of the control. (Photo Log No. C-12)

### RESPONSE:

All control switches have standard switch positioning. Control positions will be labeled, however, on the post-loca monitoring control switches.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/64

LaSalle Corrective Action

HED NO.: 0291

GUIDELINE: 6.3.9.A-1

CATEGORY: 3 LEVEL C

FINDING:

The H13-P608 panel contains five unlabeled doors. (Photo Log No. C-13, C-14)

RESPONSE:

These panels are infrequently addressed and instrumentation behind them is used only by instrument mechanics.

IMPLEMENTATION:

Accept as is.

4572/c/65

LaSalle Corrective Action

HED NO.: 0564

GUIDELINE: 6.4.1.A.1-1

CATEGORY: 3 LEVEL C

FINDING:

Letter heights on vertical panels, with separate benchboards in front of them, are .219" which is less than the required .264" for a viewing distance of 66".

RESPONSE:

The deviation from standard (.043) is minimal and results in no difficulties to the operators in readability of equipment.

IMPLEMENTATION:

Accept as is.

4578/c/41



### LaSalle Corrective Actions

HED NO: 0180, 0187

GUIDELINE: 6.4.1.B.1-1, 6.4.1.B.1-2

CATEGORY: 3 LEVEL: C

FINDING:

Colored labels are used throughout the control room and remote shutdown panel. (Photo Log No. C-15)

RESPONSE:

Colored labels are consistently used to identify Division I, II and III equipment. Orange labels are used for reactor protection system equipment, and white is used for all other labels. The operators are trained on this convention. In addition, all labels are cleaned as necessary to prevent dirt from accumulating on light letters.

IMPLEMENTATION:

Accept as is.

4549/c/57

LaSalle Corrective Action

HED NO.: 0210, 0211

GUIDELINE: 6.4.2.B.1-1, 6.4.2.B.2-1

CATEGORY: 3 LEVEL C

FINDING:

Letter and numeral width-to-height ratios for control and display labels do not meet the recommended guideline of 1:1 to 3:5.

RESPONSE:

Standards will be included in a procedure for the letter width-to-height ratios for instrument labels. All new labels will comply with this standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/68

LaSalle Corrective Action

HED NO.: 0212

GUIDELINE: 6.4.2.C-1

CATEGORY: 3 LEVEL C

FINDING:

The stroke width-to-character height ratios of many label type fonts do not meet the recommended guideline.

RESPONSE:

Standards will be included in a procedure for the stroke width-to-character height ratios of labels. All new labels will comply with this standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/70

LaSalle Corrective Action

HED NO.: 0213

GUIDELINE: 6.4.2.D.1-1

CATEGORY: 3 LEVEL C

FINDING:

The minimum space between characters for some labels is not at least one stroke-width.

RESPONSE:

Standards will be included in a procedure for the minimum space between characters for labels. All new labels will comply with this standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/71

LaSalle Corrective Action

HED NO.: 0214

GUIDELINE: 6.4.2.D.3-1

CATEGORY: 3 LEVEL C

FINDING:

The space between lines on display and control labels does not meet the recommended minimum of one half the character height.

RESPONSE:

Standards will be included in a procedure for the space between lines on labels. All new labels will comply with this standard.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/72

LaSalle Corrective Actions

HED NO: 0294

GUIDELINE: 6.5.1.A-1

CATEGORY: 3 LEVEL: C

FINDING:

Temporary labels are used in many areas of the control room. Dynotape is used in conjunction with permanent labels as a substitute position indication. (Photo Log No. C-16)

RESPONSE:

All temporary labels will be replaced with permanent labels. An administrative procedure will be implemented which states that dynotape is to be used only for temporary labels.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/58

LaSalle Corrective Actions

HED NO: 0520

GUIDELINE: 6.5.1.A-2

CATEGORY: 3 LEVEL: C

FINDING:

There are some "hand-made" scales in the control room. Specifically, two recorders on 1PM13J have been made by the operators and taped on the scale. (Photo Log No. F-19, F-20)

RESPONSE:

These scales will be permanently labeled.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/59

LaSalle Corrective Action

HED NO.: 0295

GUIDELINE: 6.5.1.B-1

CATEGORY: 3 LEVEL C

FINDING:

The guideline states that temporary labels should conform to good human engineering principles. Most of the temporary labels in the control room are white letters on a red, blue or black background. They are of varying and insufficient size. (Photo Log No. C-17)

RESPONSE:

Administrative procedures will be developed regarding the use and format of temporary labels.

IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/73



LaSalle Corrective Action

HED NO.: 0296

GUIDELINE: 6.5.1.E-1

CATEGORY: 3 LEVEL C

FINDING:

Tag-outs are not securely affixed to out-of-service equipment.  
(Photo Log No. C-18)

RESPONSE:

A procedure (LAP 900-4) is in place to ensure that tag-outs will remain affixed. Out-of-service cards are securely fastened to control switches by string.

IMPLEMENTATION:

Accept as is.

4572/c/74

LaSalle Corrective Action

HEL NO.: 0177

GUIDELINE: 6.5.1.G-1

CATEGORY: 3 LEVEL C

FINDING:

Tag-outs are not designed to physically prevent actuation of a control. (Photo Log No. C-20, C-21)

RESPONSE:

Procedures (LAP 900-4) are in place to ensure that operators do not actuate out-of-service equipment.

IMPLEMENTATION:

Accept as is.

4572/c/76

LaSalle Corrective Actions

HED NO: 0304

GUIDELINE: 6.5.2.B.1-1

CATEGORY: 3 LEVEL: C

FINDING:

There are no administrative or review procedures in place for the control, application and use of temporary labels.

RESPONSE:

An administrative procedure will be implemented for the control, application, and use of temporary labels in the control room.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/60

## LaSalle Corrective Action

HED NO.: 0368

GUIDELINE: 6.6.2/OS-1

CATEGORY: 3 LEVEL C

### FINDING:

There could be more use of panel background shading to show systems or divisional splits and thus improve layouts for operators.

### RESPONSE:

Additional background shading will be added to the control panels to enhance functional groupings. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/78

LaSalle Corrective Action

HED NO.: 0305

GUIDELINE: 6.6.3.A.2-1

CATEGORY: 3 LEVEL C

FINDING:

The mimic colors on the following panels are not discriminantly different from each other; H13-P601 (brown, black and blue); PM03J (orange and red); PM02J (orange, red and yellow); PM01J (black and blue); PM16J (black and blue); PM06J (two shades of green). (Photo Log No. H-17, H-18, H-19, H-20)

RESPONSE:

The use of color for discriminating mimics is not critical for the operation of this panel. Mimics are redundantly coded by use of beginning and ending points and labeling as well as color.

IMPLEMENTATION:

Accept as is.

4572/c/79

LaSalle Corrective Action

HED NO.: 0504

GUIDELINE: 6.6.3.A.4-1

CATEGORY: 3 LEVEL C

FINDING:

The mimic lines depicting nuclear steam are not the same throughout the control room. On N62-P601, nuclear steam is mimicked in black; on H13-P601 it is mimicked in red.

RESPONSE:

The black nuclear steam mimic on N62-P601 will be replaced with a red mimic to provide consistent use of color.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/80

LaSalle Corrective Action

HED NO.: 0178

GUIDELINE: 6.6.3.B.3-1

CATEGORY: 3 LEVEL C

FINDING:

The arrows indicating flow directions for the containment monitoring and leak detection mimic on PM16J are not clearly marked. They are too small and are poorly contrasted with the mimic colors. (Photo Log No. H-21)

RESPONSE:

The arrows on the containment monitoring and leak detections mimic will be painted white to improve the contrast.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/81

LaSalle Corrective Action

HED NO.: 0342

GUIDELINE: 6.6.3.B.3/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The operators reported that the arrow on the reactor core isolation cooling system mimic (on 2H13-P601) goes from the cycled condensate system tank when flow through valve actually goes to the cycled condensate system tank or minimum flow line. The arrow misrepresents the function and should be corrected to satisfy guidelines. (Photo Log No. I-24)

RESPONSE:

The mimic will be corrected to satisfy the guidelines.

IMPLEMENTATION:

By the completion of the first refueling outage.

4572/c/82



LaSalle Corrective Actions

HED NO: 0288

GUIDELINE: 6.6.3.B.6-1

CATEGORY: 3 LEVEL: C

FINDING:

The drywell and suppression pool vent and purge mimic on PM06J does not adequately mimic pipe sizes leading out of the drywell vent/purge outlet valves. (Photo Log No. C-23, C-23.1)

RESPONSE:

The labels will be modified to indicate pipe size.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/61

LaSalle Corrective Actions

HED NO: 0525

GUIDELINE: 6.6.3.B.6-3

CATEGORY: 3 LEVEL: C

FINDING:

The water leg pump is not included on the reactor core isolation cooling (RCIC) division I mimic.

RESPONSE:

It is inherent that the water leg pump is an integral part of this mimic. The operators are aware of this through training and report no problems with the panel mimic arrangement.

IMPLEMENTATION:

Accept as is.

4549/c/62

LaSalle Corrective Action

HED NO.: 0343

GUIDELINE: 6.6.3.B.6/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The off gas system holdup drain line valves are shown in series on the control board mimics, but are actually separate lines above where the pipe connects to common headers (on N62-P601). The mimic should be corrected to conform to system structure.

RESPONSE:

The mimic correctly reflects the flexibility of the system in that either off gas condenser can be used for either train.

IMPLEMENTATION:

Accept as is.

4572/c/83

LaSalle Corrective Action

HED NO.: 0306

GUIDELINE: 6.6.3.C.2-1

CATEGORY: 3 LEVEL C

FINDING:

Symbols on mimics are not used consistently.

RESPONSE:

Control room operators are aware of mimic symbols. The symbols have caused no confusion for the operators.

IMPLEMENTATION:

Accept as is.

4572/c/84

### LaSalle Corrective Actions

HED NO: 0529

GUIDELINE: 6.6.3.C.2-2

CATEGORY: 3 LEVEL: C

FINDING:

Reactor water cleanup and recirc graphics (on CRT display) do not coincide with control board (H13-P602) mimics. (Photo Log No. F-5, F-6)

RESPONSE:

Due to its design and size, the CRT has more flexibility and can reflect the mimic more closely to the actual plant arrangement than the control board mimic. Both the graphics and the mimic adequately represent the systems.

IMPLEMENTATION:

Accept as is.

4549/c/63

Section 7  
PROCESS COMPUTERS

LaSalle Corrective Action

HED NO.: 0414

GUIDELINE: 7.1.2.A.4/OS-1

CATEGORY: 2 LEVEL B

FINDING:

Some of the items in the right-hand column of P-1 (where numbers are used to designate special items or routines) are difficult to understand or interpret. Better identification of parameters monitored would enhance operations.

RESPONSE:

The cited acronyms are referenced in the procedure [LCP-CX-(series)], which is available to the operators.

IMPLEMENTATION:

Accept as i.

4572/c/87

LaSalle Corrective Action

HED NO.: 0415

GUIDELINE: 7.1.2.C.2/OS-1

CATEGORY: 2 LEVEL B

FINDING:

Thermal abbreviations are difficult to understand or interpret. They should all be verified to correspond with technical specification abbreviations. A list of standard names, acronyms, abbreviations, part/system numbers should be used.

RESPONSE:

The acronyms and abbreviations are referenced in the procedure, which is available to the operators.

IMPLEMENTATION:

Accept as is.

4572/c/88



LaSalle Corrective Action

HED NO.: 0124

GUIDELINE: 7.1.3.A/OS-2

CATEGORY: 2 LEVEL C

FINDING:

The computer system does not provide prompting and structuring features which allow the operator to request additional information.

RESPONSE:

The computer system is not interactive so that these features would not really fit in with the overall structure of the system. Documentation containing additional information is provided at the computer workstation.

IMPLEMENTATION:

Accept as is.

4572/c/89

LaSalle Corrective Action

HED NO.: 0125

GUIDELINE: 7.1.3.B-1

CATEGORY: 2 LEVEL C

FINDING:

The computer system does not contain prompting and structuring features which allow the operator to request corrected information when an error is detected.

RESPONSE:

The system is not interactive so that these features would not fit in with the overall structure of the system. Error messages are displayed when an error is made and documentation for these messages and the responses are provided at the computer workstation.

IMPLEMENTATION:

Accept as is.

4572/c/90

LaSalle Corrective Action

HED NO.: 0416

GUIDELINE: 7.1.3.D/OS-1

CATEGORY: 2 LEVEL C

FINDING:

The feedpump casing temperature should be on the process computer for warming up an idle pump.

RESPONSE:

The feedpump casing temperature is used only during startup. An additional indication on the computer is not necessary.

IMPLEMENTATION:

Accept as is.

4572/c/91

LaSalle Corrective Actions

HED NO: 0537

GUIDELINE: 7.1.6.A-1

CATEGORY: 3 LEVEL: C

FINDING:

There are no provisions for installing CRT status monitor panels at the center desk.

RESPONSE:

Center desk personnel do not need the capability to access the CRTs from the center desk. These operators have the flexibility to move to either unit to access any necessary displays.

IMPLEMENTATION:

Accept as is.

4549/c/64

LaSalle Corrective Action

HED NO.: 0126

GUIDELINE: 7.1.7.A-1

CATEGORY: 2 LEVEL C

FINDING:

The system response times for system activation simple and complex requests and error feedback may exceed the 2 to 5 seconds limits set by the criteria and may be as long as 30 seconds.

RESPONSE:

Every time the operator makes a selection on the computer, he is actually running a program. Depending on the nature of the program, response times will vary. The system does give indication that the request is being processed.

IMPLEMENTATION:

Accept as is.

4572/c/92

## LaSalle Corrective Action

HED NO.: 0418

GUIDELINE: 7.1.7.A/OS-2

CATEGORY: 2 LEVEL C

### FINDING:

The computer is too small to handle P1 and other jobs. P1 takes about 15-20 minutes every other hour. The current system is such that, sometimes during P1, other nuclear and balance of plant programs cannot be demanded.

### RESPONSE:

While P1 calculations are being run, the computer continues to respond to other programs (at a slower than normal rate). This slight degradation in response time is acceptable. It is anticipated that as part of a fuel upgrading, the computer software will be improved to accomplish P1 in a shorter time frame. This fuel upgrade is scheduled for the third refueling outage.

### IMPLEMENTATION:

By the completion of the third refueling outage.

4572/c/93

LaSalle Corrective Action

HED NO.: 0419

GUIDELINE: 7.1.7.A/OS-3

CATEGORY: 2 LEVEL C

FINDING:

During a scram, OD-7 is needed immediately to verify that all control rods are in.

RESPONSE:

This computer software will be modified to automatically display OD-7.

IMPLEMENTATION:

By the completion of the second refueling outage.

4572/c/94



LaSalle Corrective Action

HED NO.: 0127

GUIDELINE: 7.1.7.B-1

CATEGORY: 2 LEVEL C

FINDING:

When response times for any computer query exceed 30 seconds, a delay message is not presented.

RESPONSE:

An action button goes backlit when there is a delay in a computer query. This is adequate indication for the operators.

IMPLEMENTATION:

Accept as is.

4572/c/95



## LaSalle Corrective Actions

HED NO: 0540

GUIDELINE: 7.1.8.A.1-1

CATEGORY: 3 LEVEL: C

### FINDING:

There are no operating procedures for operator action following total loss of the process computer system.

### RESPONSE:

The process computer is an operator aid. It is redundant to the primary operator indications. During operator training, the operators are instructed on all redundant indications.

### IMPLEMENTATION:

Accept as is.

4549/c/65

LaSalle Corrective Action

HED NO.: 0420

GJIDELINE: 7.1.8.A.2/OS-1

CATEGORY: 2 LEVEL C

FINDING:

The P-1 is widely used by the operating staff. The average power range monitor levels and the value of T are useful information which should be included in P-1.

RESPONSE:

This information is available to the operators on other computer programs.

IMPLEMENTATION:

Accept as is.

4572/c/96

LaSalle Corrective Action

HED NO.: 0422

GUIDELINE: 7.2.1.A/OS-1

CATEGORY: 2 LEVEL C

FINDING:

The safety parameter display system (SPDS) located above H13-P603 is difficult for the operator to use. One has to move to the center of the room to see the display and then cannot read it clearly. Alpha-numeric and graphic characters should be readable by the operator under all control room lighting conditions.

RESPONSE:

Defer until the SPDS Review.

IMPLEMENTATION:

Defer until the SPDS Review.

4572/c/97

LaSalle Corrective Actions

HED NO: 0312

GUIDELINE: 7.2.1.C.3-1

CATEGORY: 2 LEVEL: C

FINDING:

Luminance levels for the CRTs are below the 23 ft. minimum recommended in the guidelines.

RESPONSE:

The current luminance levels do not interfere with the CRTs' readability. Control room operators report no problems attributed to the level.

IMPLEMENTATION:

Accept as is.

4549/c/66

LaSalle Corrective Action

HED NO.: 0311

GUIDELINE: 7.2.1.C.4-1

CATEGORY: 2 LEVEL C

FINDING:

Luminance levels for the dark characters on light backgrounds for the safety parameter display system (SPDS) displays are below the 23 ft-l minimum.

RESPONSE:

Only the colors red, blue, and green are used on the SPDS displays. These CRTs are readable to the operators.

IMPLEMENTATION:

Accept as is.

4572/c/98

LaSalle Corrective Actions

HED NO: 0310

GUIDELINE: 7.2.1.D.1-1

CATEGORY: 2 LEVEL: C

FINDING:

Contrast for the color purple on the CRT display is poor and falls below the recommended 15:1 contrast ratio.

RESPONSE:

Purple is not used for system displays. Therefore the deviation in contrast has no negative impact on operator performance.

IMPLEMENTATION:

Accept as is.

4549/c/67

LaSalle Corrective Action

HED NO.: 0237

GUIDELINE: 7.2.1.F.3-1

CATEGORY: 2 LEVEL C

FINDING:

Complex symbols for the benchboard CRTs have seven picture elements per symbol height.

RESPONSE:

Complex symbols are readable to the operators. The small deviation from the guidelines does not affect performance.

IMPLEMENTATION:

Accept as is.

4572/c/99

LaSalle Corrective Action

HED NO.: 0240

GUIDELINE: 7.2.1.F.4-1

CATEGORY: 2 LEVEL C

FINDING:

Alpha-numeric characters for the benchboard terminals have 5 picture elements per character: eight, which is less than the recommended 10.

RESPONSE:

Alpha-numeric characters on the CRTs are readable to the operators. The deviation from the guidelines does not affect performance.

IMPLEMENTATION:

Accept as is.

4572/c/100



LaSalle Corrective Action

HED NO.: 0241

GUIDELINE: 7.2.1.H.2-1

CATEGORY: 2 LEVEL C

FINDING:

Pushbutton controls on the benchboard CRTs do not meet the minimum size of .75 inches. Actual size is .690 inches x .345 inches. (Photo Log No. C-24)

RESPONSE:

The cited pushbuttons are "power on" and "degauss". These are non-critical, non-safety related controls and inadvertent operation would create no problems.

IMPLEMENTATION:

Accept as is.

4572/c/101

LaSalle Corrective Action

HED NO.: 0242

GUIDELINE: 7.2.1.H.2-2

CATEGORY: 2 LEVEL C

FINDING:

Slide switches on the overhead CRTs are .375 inch in length. The guideline recommends a minimum length of one inch. (Photo Log No. C-25)

RESPONSE:

The cited slide switches are the "on/off" control for the CRTs. The operators report no difficulty in using them.

IMPLEMENTATION:

Accept as is.

4572/c/102

LaSalle Corrective Action

HED NO.: 0243

GUIDELINE: 7.2.1.H.2-3

CATEGORY: 2 LEVEL C

FINDING:

Toggle switches on the benchboard CRTs have arm lengths of .375 inches. The guidelines recommend arm lengths of .5 to 2.0 inches. (Photo Log No. C-26)

RESPONSE:

The .125 inch deviation from the guideline is minimal. The operators report no difficulties in the activation of toggle switches.

IMPLEMENTATION:

Accept as is.

4572/c/103

## LaSalle Corrective Action

HED NO.: 0244

GUIDELINE: 7.2.1.H.2-4

CATEGORY: 2 LEVEL C

### FINDING:

Rocker switches in the overhead CRTs have widths of .475 inches. The guideline recommends widths between .75 and 1.5 inches. (Photo Log No. C-27)

### RESPONSE:

The .225 inch deviation from the guideline is minimal. The operators report no difficulties in the activation of toggle switches.

### IMPLEMENTATION:

Accept as is.

4572/c/104

LaSalle Corrective Action

HED NO.: 0309

GUIDELINE: 7.2.2.E-1

CATEGORY: 2 LEVEL C

FINDING:

Fifty resolution elements/inch are not used for graphics displays on CRTs as recommended by the guidelines.

RESPONSE:

High resolution graphics are not required for the type of graphical information used in the control room.

IMPLEMENTATION:

Accept as is.

4572/c/105

LaSalle Corrective Action

HED NO.: 0308

GUIDELINE: 7.2.2.G.2-1

CATEGORY: 2 LEVEL C

FINDING:

A 5x7 dot matrix is used for characters on CRTs instead of a 7x9 dot matrix.

RESPONSE:

The difference in legibility in the control room operating environment between the 5x7 and 7x9 dot matrix is minimal. The operators report no difficulty in reading CRT characters.

IMPLEMENTATION:

Accept as is.

4572/c/106

LaSalle Corrective Action

HED NO.: 0128

GUIDELINE: 7.2.7.B.2-1

CATEGORY: 2 LEVEL C

FINDING:

The color red is used to highlight points that are alarming on CRT displays and for closed, open, or on, for other CRT displays. Highlighting methods used for emergency conditions should not be used in association with normal conditions.

RESPONSE:

The indicated uses of the color red on CRTs is consistent with that used elsewhere in the control room. The use of red for an alarming point is also consistent across all CRT displays which contain points.

IMPLEMENTATION:

Accept as is.

4572/c/107

## LaSalle Corrective Action

HED NO.: 0130

GUIDELINE: 7.2.7.L.2-1

CATEGORY: 2 LEVEL C

### FINDING:

The color green is used in CRT displays to indicate an open breaker, a normal condition, a closed valve or an "off" condition. According to criteria, the color green should be used to indicate a safe condition, no operator action required or that a parameter valve is within tolerance.

### RESPONSE:

The CRTs in the control room are considered job performance aids and are made available for diagnostic purposes. The use of graphics, shapes, alphanumeric and colors are provided to improve the operators' understanding of plant status. These coding techniques are used consistently. While at the boards, the operators implement their decisions where all coding (labels, color, etc.) is consistently used and understood by the operators. Additionally, the operators are trained to make decisions and take action based on control board status.

### IMPLEMENTATION:

Accept as is.

4572/c/108



LaSalle Corrective Action

HED NO.: 0131

GUIDELINE: 7.2.7.L.3-1

CATEGORY: 2 LEVEL C

FINDING:

The color yellow is used in CRT displays for lettering outlines and point IDs. According to criteria, yellow should be used to indicate hazard, potentially unsafe, caution, attention required or that a marginal parameter value exists.

RESPONSE:

Yellow was used for lettering outlines and point IDs because of its high contrast and readability.

IMPLEMENTATION:

Accept as is.

4572/c/109

LaSalle Corrective Action

HED NO.: 0132

GUIDELINE: 7.2.7.M.1-1

CATEGORY: 2 LEVEL C

FINDING:

Red and green are used in combination on CRT displays. According to criteria, this practice should be used as little as possible.

RESPONSE:

Red and green are generally used for opposite meanings and are therefore rarely used together. In addition, shape and position cues provide redundant information to the operators.

IMPLEMENTATION:

Accept as is.

4572/c/110

LaSalle Corrective Action

HED NO.: 0133

GUIDELINE: 7.2.8.D-1

CATEGORY: 2 LEVEL C

FINDING:

The operator has little control over amount, format and complexity of information displayed by the computer system.

RESPONSE:

The displays are program driven and are generally limited to a single screen (amount) with the use of standard formats and limited complexity. Any difficulties the operators have with displays are addressed by the computer systems staff.

IMPLEMENTATION:

Accept as is.

4572/c/111

LaSalle Corrective Action

HED NO.: 0134

GUIDELINE: 7.3.1.B.1-1

CATEGORY: 2 LEVEL C

FINDING:

The computer system is not designed to provide a hard copy of any page appearing on the CRT as recommended by the guidelines.

RESPONSE:

The CRTs and printers provide different information. The CRTs are used to display graphic information while the printers are used to display written information. It is not necessary to provide a hard copy of the graphics.

IMPLEMENTATION:

Accept as is.

4572/c/112

LaSalle Corrective Action

HED NO.: 0135

GUIDELINE: 7.3.1.D-1

CATEGORY: 2 LEVEL B

FINDING:

The printers used for recording trend data, computer alarms and critical status information do not have the capability of printing 300 lines per minute.

RESPONSE:

The buffer systems for the printers prevent the loss of data. The operators cannot read more than the current printing of 120 lines per minute.

IMPLEMENTATION:

Accept as is.

4572/c/113

LaSalle Corrective Action

HED NO.: 0425

GUIDELINE: 7.3.1.D/OS-2

CATEGORY: 2 LEVEL B

FINDING:

The computer printer is slow and causes delays for the operators.

RESPONSE:

The buffer systems for the printers prevent the loss of data. The operators cannot read more than the current printing of 120 lines per minute. The process computer performs many complex plant functions, and its use as an operator aid is incidental to its primary purpose.

IMPLEMENTATION:

Accept as is.

4572/c/114

LaSalle Corrective Action

HED NO.: 0426

GUIDELINE: 7.3.2.D/OS-1

CATEGORY: 2 LEVEL B

FINDING:

The alarm typer should not print position changes because this clutters the printout and makes it difficult to zero in on a specific alarm of interest. The current system creates a nuisance printout and clutters typer with irrelevant information.

RESPONSE:

Information from the alarm types is used for the diagnostic review which occurs after an event.

IMPLEMENTATION:

Accept as is.

4572/c/115

LaSalle Corrective Action

HED NO.: 0427

GUIDELINE: 7.3.2.D/OS-2

CATEGORY: 2 LEVEL C

FINDING:

Computer alarms created during normal expected valve position changes are not useful. Alarm messages should be readily distinguishable from other messages.

RESPONSE:

The computer alarms for valve position are important information under all information. It is more useful and appropriate for the computer alarm to initiate under all conditions - expected and unexpected.

IMPLEMENTATION:

Accept as is.

4572/c/116



LaSalle Corrective Action

HED NO.: 0136

GUIDELINE: 7.3.2.F.1-1

CATEGORY: 2 LEVEL C

FINDING:

Wording for alarm messages on the alarm printer does not clearly relate to the specific annunciator tile that is illuminated.

RESPONSE:

An index number is provided with each alarm printed so that it can be cross-referenced.

IMPLEMENTATION:

Accept as is.

4572/c/117

Section 8

PANEL LAYOUT

### LaSalle Corrective Actions

HED NO: 0286, 0478, 0371, 0197, 0362, 0372, 0476

GUIDELINE: 8.1.1.A-1, 8.1.1.A/V-8, 8.1.1.A/OS-5, 8.1.1.A/VL-2,  
8.1.1.B/OS-18, 8.1.1.A/OS-6, 8.1.1.A/V-7

CATEGORY: 1 LEVEL: A

#### FINDING:

There are three major systems located on the PM13J panel - continuous monitoring, accident monitoring and humidity monitoring. Controls and displays for these systems are not grouped by task sequence or frequency of use and systems are difficult to identify. (Photo Log No. C-28, C-28.1, C-29)

#### RESPONSE:

Suitable enhancements (background shading, demarcation) will be added to PM13J to clarify functional groupings. Instrumentation will also be rearranged as necessary to enhance groupings.

#### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/68

## LaSalle Corrective Actions

HED NO: 0505

GUIDELINE: 8.1.1.A-9

CATEGORY: 1 LEVEL: B

### FINDING:

The inboard and outboard controls for the B and A chillers for the primary containment ventilation system are located at the opposite ends of panel PM06J. Inboard controls for A & B chillers are located at the left and outboard controls on the right. The inboard and outboard controls are always manipulated in sequence but these functionally related controls are not grouped together. (Photo Log No. F-6)

### RESPONSE:

The inboard and outboard controls are separated to protect containment reliability due to separation of their respective power supplies. The groupings are appropriately and adequately labeled and the operators do not report any degradation of performance due to the arrangement.

### IMPLEMENTATION:

Accept as is.

4549/c/69

## LaSalle Corrective Actions

HED NO: 0194

GUIDELINE: 8.1.1.A/VL-3

CATEGORY: 2 LEVEL: A

### FINDING:

During the validation simulation it was observed that the damper controls and displays for the drywell vent and purge system on the PM06J panels are not laid out according to sequence of use, function, or frequency of use. (Photo Log No. C-30, C-30.1)

### RESPONSE:

The damper controls and displays for the drywell vent and purge system will be rearranged to a logical order. Due to the engineering changes required for this modification, it will be completed by the second refueling outage.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/73

# LaSalle Corrective Actions

HED NO: 0232

GUIDELINE: 8.1.1.A/VL-4

CATEGORY: 2 LEVEL: C

## FINDING:

A condenser vacuum indicator should be added to off gas system panel to establish and maintain condenser vacuum. During the validation, operators were observed leaving the off gas system to determine condenser vacuum.

## RESPONSE:

The condenser vacuum indicator is used primarily during startup and is not used in post-accident situations. Since this is not time-critical instrumentation and it is labeled adequately, the operators performance is not degraded by leaving the off gas panel to determine condenser vacuum level.

## IMPLEMENTATION:

Accept as is.

4549/c/74

## LaSalle Corrective Actions

HED NO: 0043

GUIDELINE: 8.1.1.B-1

CATEGORY: 2 LEVEL: C

### FINDING:

The "steam blanket system control" is functionally related to ten other steam blanket controls which are located on the upper right portion of the PM09J board. Presently, this control is located in the lower left portion of the board. (Photo Log No. C-31)

### RESPONSE:

This control is used only during plant shutdown to avoid corrosion. The operators report no difficulty in location or operation of the controls due to placement on the control panel.

### IMPLEMENTATION:

Accept as is.

4549/c/75

LaSalle Corrective Action

HED NO.: 0044

GUIDELINE: 8.1.1.B-2

CATEGORY: 1 LEVEL B

FINDING:

The "high pressure core spray pump pressure" and "high pressure core spray pump flow" meters (on H13-P601) are not located with the other diesel indication. (Photo Log No. C-32)

RESPONSE:

The cited meters serve distinct purposes independent of the other diesel indications. Their current placement is appropriate.

IMPLEMENTATION:

Accept as is.

4578/c/1



LaSalle Corrective Action

HED NO.: 0045

GUIDELINE: 8.1.1.B-3

CATEGORY: 1 LEVEL C

FINDING:

The residual heat removal (RHR) to radwaste valve controls would be more appropriately located with the RHR system.  
(Photo Log No. C-33)

RESPONSE:

The cited controls are appropriately grouped with the containment isolation valves.

IMPLEMENTATION:

Accept as is.

4578/c/2

LaSalle Corrective Action

HED NO.: 0046

GUIDELINE: 8.1.1.B-4

CATEGORY: 2 LEVEL C

FINDING:

The turbine bearing lift pumps, turbine turning gear, turbine oil reservoir vapor extrator, turbine main shaft suction pump, and turbine turning gear oil pump controls (on PM02J) are functionally related and poorly grouped. (Photo Log No. C-34)

RESPONSE:

Background shading will be added to the PM02J panel to ensure functional groupings. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/3

LaSalle Corrective Action

HED NO.: 0047

GUIDELINE: 8.1.1.B-5

CATEGORY: 1 LEVEL C

FINDING:

The "automatic depressurization system (ADS) valve B21-F013V" valve control (on H13-P601) would be more appropriate located with other six ADS valve controls. (Photo Log No. C-35)

RESPONSE:

ADS valves will be background shaded to enhance the functional groupings.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/4

LaSalle Corrective Actions

HED NO: 0049

GUIDELINE: 8.1.1.B-7

CATEGORY: 2 LEVEL: C

FINDING:

Four feedwater valve controls are located on H13-P601 (apart from the feedwater system on PM03J). (Photo Log No. D-1, D-2)

RESPONSE:

These valves (feedwater shutoff and feedwater inlet check) are operated only during startup and post-accident. Since they are only used for containment isolation, they are appropriately located on the containment isolation panel.

IMPLEMENTATION:

Accept as is.

4549/c/77

LaSalle Corrective Action

HED NO.: 0050

GUIDELINE: 8.1.1.B-8

CATEGORY: 2 LEVEL C

FINDING:

On the PM02J panel, the controls for the "steam packing  
exhauster" are located to the left of the controls for the  
"steam seal evaporator" whereas the related displays are in the  
reverse order. (Photo Log No. D-3, D-4, D-5)

RESPONSE:

The cited controls and displays are not time critical and not  
used during accidents. Adequate labeling is provided to aid  
the operator in the location of the instruments.

IMPLEMENTATION:

Accept as is.

4578/c/5

LaSalle Corrective Action

HED NO.: 0076

GUIDELINE: 8.1.1.B-12

CATEGORY: 2 LEVEL C

FINDING:

There are several pieces of equipment on the H13-P604, H13-P35, H13-P636, and D21-P600 have functionally related recorders that are located on H13-P600. (Photo Log No. G-6)

RESPONSE:

The recorders are appropriately located near the radiation monitoring equipment.

IMPLEMENTATION:

Accept as is.

4578/c/6

LaSalle Corrective Action

HED NO.: 0077

GUIDELINE: 8.1.1.B-13

CATEGORY: 2 LEVEL C

FINDING:

The "valve stem leak detection" system has 28 related valve controls (24 on H13-P632 and H13-P642). Twenty-three of these valves have additional information on two recorders (located on H13-P632). The layout of the points on the recorders is not consistent with the controls they represent. (Photo Log No.G-7)

RESPONSE:

Labels will be added next to the valve controls to identify point-recorder relationships.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/7

LaSalle Corrective Action

HED NO.: 0093

GUIDELINE: 8.1.1.B-15

CATEGORY: 1 LEVEL C

FINDING:

The "reboiler leak detection monitor 1D18-K752" is located in the middle of five control room heating ventilation air conditioning (HVAC) monitors on (OPM14J). (Photo Log No. D-10)

RESPONSE:

This display is adequately labeled and easily identified as a unique instrument. The operators are clearly aware it is not related to the HVAC monitors.

IMPLEMENTATION:

Accept as is.

4578/c/8



## LaSalle Corrective Actions

HED NO: 0094

GUIDELINE: 8.1.1.B-23

CATEGORY: 2 LEVEL: B

### FINDING:

The primary containment pressure control and primary purge system exhaust fan is a part of the drywell and suppression pool vent/purge system. Presently, these instruments are grouped with the primary containment ventilation system (on PM06J) via white background shading. (Photo Log No. F-7)

### RESPONSE:

The boundary for the white background shading will be changed to appropriately highlight only the instrumentation associated with the containment ventilation system. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/78

## LaSalle Corrective Actions

HED NO: 0503

GUIDELINE: 8.1.1.B-24

CATEGORY: 2 LEVEL: B

### FINDING:

The primary containment purge filter train flow, primary containment pressure, primary containment purge system outlet temperature, and reactor building ventilation system differential pressure meters are grouped with the primary containment ventilation system via white color shading, but are not part of this system. (Photo Log No. F-7, F-8)

### RESPONSE:

The boundary for the white background shading will be changed to appropriately highlight only the instrumentation associated with the containment ventilation system. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/79

LaSalle Corrective Action

HED NO.: 0361

GUIDELINE: 8.1.1.B/OS-1

CATEGORY: 1 LEVEL C

FINDING:

The residual heat removal blowdown valves are not grouped appropriately. They should be grouped together to avoid operator confusion and error. (Photo Log No. G-8)

RESPONSE:

These valves are containment isolation valves and are divisionally separated. The grouping, with other isolation valves is appropriate.

IMPLEMENTATION:

Accept as is.

4578/c/9

LaSalle Corrective Actions

HED NO: 0365

GUIDELINE: 8.1.1.B/OS-20

CATEGORY: 2 LEVEL: A

FINDING:

The Unit One drain controls and displays (on PM03J) are not functionally grouped. (Photo Log No. F-1)

RESPONSE:

The Unit One drain controls and displays will be rearranged to insure functional grouping. This modification will be integrated with other control room corrective actions.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/83

LaSalle Corrective Action

HED NO.: 0367

GUIDELINE: 8.1.1.B/OS-22

CATEGORY: 1 LEVEL C

FINDING:

The operator survey determined that the residual heat removal/reactor core isolation cooling valves are spread out on H13-P601. (Photo Log No. G-9)

RESPONSE:

These valves are adequately labeled and sufficient mimicking is available to aid the operators in recognizing functional groupings.

IMPLEMENTATION:

Accept as is.

4578/c/10

## LaSalle Corrective Action

HED NO.: 0009

GUIDELINE: 8.1.1.C-1

CATEGORY: 2 LEVEL C

### FINDING:

There are four moisture separator reheater (MSR) first and second stage scavenging steam shutoff valve controls located on PM09J. These controls are related to (and manipulated in conjunction with) the first and second stage main steam to moisture separator reheater controls which are located on PM02J. (Photo Log No. G-10)

### RESPONSE:

The MSR instrumentation is brought on line during startup and then left alone for eighteen months. Due to their infrequent use, the current location is appropriate.

### IMPLEMENTATION:

Accept as is.

4578/c/11

LaSalle Corrective Actions

HED NO: 0482

GUIDELINE: 8.1.2.A/V-1

CATEGORY: 2 LEVEL: C

FINDING:

During the task analysis and verification, it was noted that the indicator lights above the control switches on the PM06J panel are spaced so far apart that lights for adjacent controls appear to be related. (Photo Log No. F-9)

RESPONSE:

The control room operators are aware of the relationship between the indicator lights and their respective controls. These lights are redundant indications of status, and the operators report no degradation in performance due to their arrangement.

IMPLEMENTATION:

Accept as is.

4549/c/85

LaSalle Corrective Action

HED NO.: 0052

GUIDELINE: 8.1.2.B-2

CATEGORY: 2 LEVEL C

FINDING:

There are several controls located on N62-P601 with related displays located on N62-P600. The identification and reading of related displays and labels is difficult. (Photo Log No. D-12)

RESPONSE:

Operators are aware of the control/display relationships for all vertical/benchboard combination panels.

IMPLEMENTATION:

Accept as is.

4578/c/13



LaSalle Corrective Action

HED NO.: 0054

GUIDELINE: 8.1.2.B-4

CATEGORY: 2 LEVEL C

FINDING:

The electro-hydraulic control (EHC) fluid heaters and fans, EHC pump 1A, EHC fluid pump 1B, and EHC filter pump controls (on PM02J) are functionally related but not adequately grouped. (Photo Log No. D-14)

RESPONSE:

Background shading will be added to enhance functional groupings. All background shading modifications will be coordinated with other corrective actions (relocations, demarcations, mimics) to ensure that new HEDs will not be created.

IMPLEMENTATION:

By the completion of the first refueling outage.

LaSalle Corrective Actions

HED NO: 0055

GUIDELINE: 8.1.2.B-5

CATEGORY: 3 LEVEL: C

FINDING:

Black lines of demarcation are used to separate systems. These lines are found only on the horizontal portion of the benchboard and not extended up the vertical portion of the boards. (Photo Log No. D-15)

RESPONSE:

Sufficient enhancements are in place to adequately separate systems. Additional demarcation lines would interfere with mimics and result in a cluttered board.

IMPLEMENTATION:

Accept as is.

4549/c/87

LaSalle Corrective Action

HED NO.: 0506

GUIDELINE: 8.1.2.D-4

CATEGORY: 2 LEVEL C

FINDING:

The filter air, A & B condenser drains, and off-gas refrigeration systems are used in conjunction with the "off-gas" system which is mimicked in black. These systems are embedded in the off-gas system and are also mimicked in black. These systems are difficult to readily identify. (Photo Log No. G-11)

RESPONSE:

The cited systems will be mimicked in colors other than black.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/15

LaSalle Corrective Actions

HED NO: 0363

GUIDELINE: 8.1.2.D/OS-3

CATEGORY: 3 LEVEL: A

FINDING:

The remote shutdown panel has no mimics. Groupings (reactor recirculation valve 23, residual heat removal 008, etc.) could be improved.

RESPONSE:

Sufficient enhancements are present on the remote shutdown panel in the form of labeling and demarcation lines. Functional groups are clearly defined.

IMPLEMENTATION:

Accept as is.

4549/c/88

## LaSalle Corrective Actions

HED NO: 0252

GUIDELINE: 8.1.2.D/VL-1

CATEGORY: 2 LEVEL: A

### FINDING:

During validation, operators were observed to pause frequently in the performance of job duties on the heater drain system to verify their actions. The addition of mimics would facilitate operations. (Photo Log No. D-18)

### RESPONSE:

The heater drain system is not a safety system. It functions automatically during accident situations and does not require the operator's immediate attention.

### IMPLEMENTATION:

Accept as is.

4549/c/89

## LaSalle Corrective Actions

HED NO: 0254

GUIDELINE: 8.1.2.D/VL-2

CATEGORY: 3 LEVEL: A

### FINDING:

Operators were observed (during validation) to have to search for the proper controls to manipulate on the remote shutdown panel. Enhanced labeling, background shading and the addition of mimics would enhance operations at this panel.

### RESPONSE:

Demarcation currently exists on the remote shutdown panel. This adequately groups related controls and displays and provides sufficient enhancement.

### IMPLEMENTATION:

Accept as is.

4549/c/90

LaSalle Corrective Action

HED NO.: 0056

GUIDELINE: 8.2.1.A.1-1

CATEGORY: 2 LEVEL C

FINDING:

Some valve controls have indicating lights arranged in a bottom-to-top sequence. (Photo Log No. D-19)

RESPONSE:

The cited valve controls are all operated by one switch, and are in the same position. Therefore, their arrangement has no effect on performance.

IMPLEMENTATION:

Accept as is.

4578/c/16



LaSalle Corrective Action

HED NO.: 0058

GUIDELINE: 8.2.1.B.2-2

CATEGORY: 1 LEVEL C

FINDING:

The manual, outboard, and inboard isolation emergency controls are located on H13-P601. These controls are difficult to identify and should be accentuated. (Photo Log No. D-22)

RESPONSE:

The cited controls are color coded red and shape coded differently than the other controls. This is adequate accentuation.

IMPLEMENTATION:

Accept as is.

4578/c/17



LaSalle Corrective Action

HED NO.: 0059

GUIDELINE: 8.2.1.C.1-1

CATEGORY: 2 LEVEL C

FINDING:

The main steam line moisture separator reheater system has first and second stage controls arranged in three columns. The first stage controls are located in the middle column between the two columns of second stage controls. (Photo Log No. D-23)

RESPONSE:

This separation has not been reported as a problem for the operators. Since the controls are used only during startup, the current arrangement is adequate.

IMPLEMENTATION:

Accept as is.

4578/c/18

LaSalle Corrective Action

HED NO.: 0060

GUIDELINE: 8.2.1.C.1-2

CATEGORY: 2 LEVEL C

FINDING:

The "dome steam pump A suction low delta temperature" and the "dome steam pump B suction low delta temperature" controls (on H13-P602) would be more appropriately located closer to the down shift controls. (Photo Log No. G-12)

RESPONSE:

The cited controls are currently located on the same panel as the down shift controls. The operators report no difficulty in the identification and use of these controls.

IMPLEMENTATION:

Accept as is.

4578/c/19

## LaSalle Corrective Actions

HED NO: 0543

GUIDELINE: 8.2.1.C.1-4

CATEGORY: 1 LEVEL: C

### FINDING:

The reactor coolant level indicator is located with the residual heat removal B group of meters (on H13-P601) but is not controlled by that system only. (Photo Log No. F-10)

### RESPONSE:

Operators report no problems with the location of the reactor coolant level indicator. Its arrangement on H13-P601 is appropriate since it is also used when the operators are working with the high pressure core spray (HPCS) system.

### IMPLEMENTATION:

Accept as is.

4549/c/92

LaSalle Corrective Action

HED NO.: 0473

GUIDELINE: 8.2.1.C.1/V-3

CATEGORY: 1 LEVEL C

FINDING:

During the task analysis and verification, it was observed that the reactor pressure and the reactor wide range level indicators, though functionally related, are not grouped together on the H13-P603 panel. (Photo Log No. I-25)

RESPONSE:

These indicators are used during feedwater operation. Therefore their location is appropriate.

IMPLEMENTATION:

Accept as is.

4578/c/20

LaSalle Corrective Action

HED NO.: 0061

GUIDELINE: 8.2.2.A-1

CATEGORY: 2 LEVEL C

FINDING:

The dual-pen recorders, located on H13-P602, are not arranged in a left-to-right, top-to-bottom sequence. Presently, they are arranged C, A, B. (Photo Log No. D-24, D-24.1)

RESPONSE:

The recorders will be rearranged to conform to alphabetical order.

IMPLEMENTATION:

By the completion of the second refueling outage.

4578/c/21

## LaSalle Corrective Actions

HED NO: 0062

GUIDELINE: 8.2.2.A-2

CATEGORY: 2 LEVEL: C

### FINDING:

The leakage control system has four subsystems: A,E,J,N. Each subsystem has four switches and four meters. The layout of the displays in each subsystem is not consistent with the controls they represent. Also, the sixteen displays for the entire system are not arranged in a left-to-right, top-to-bottom sequence. (Photo Log No. F-11)

### RESPONSE:

The bleed flow and pipe temperature instruments are not crucial to system operation. The operators report no problem with the arrangement of this system.

### IMPLEMENTATION:

Accept as is.

4549/c/93

# LaSalle Corrective Actions

HED NO: 0074

GUIDELINE: 8.2.2.A-3

CATEGORY: 2 LEVEL: C

## FINDING:

There is a grid of 108 valve indicating lights (automatically operated excess flow check valves) on PM10J that is not logically ordered. (Photo Log No. F-11)

## RESPONSE:

When using this grid, the operator only looks for indication of an abnormal condition (represented by a red indicator light). The current arrangement does not cause any difficulties for the operator due to the matrix labeling in place.

## IMPLEMENTATION:

Accept as is.

4549/c/94

LaSalle Corrective Actions

HED NO: 0528

GUIDELINE: 8.2.2.A-5

CATEGORY: 2 LEVEL: C

FINDING:

Motor-driven feedwater pump C control is located to the left of controls for turbine-driven pumps A and B. (Photo Log No. F-12)

RESPONSE:

During startup the motor-driven feedwater pump C is operated followed by operation of turbine-driven pump A (or B). Therefore, the control board layout of these switches is logical.

IMPLEMENTATION:

Accept as is.

4549/c/95



LaSalle Corrective Actions

HED NO: 0532

GUIDELINE: 8.2.2.A-6

CATEGORY: 2 LEVEL: C

FINDING:

Annunciator panel designations for panel H13-P601 proceed from A to D, then F, then E. (Photo Log No. F-14)

RESPONSE:

The operators do not use the letters above each annunciator panel as a designator. The annunciators are referenced by the control panel where they are located. In addition, all annunciator procedure books are located in front of respective panels so search time to locate procedures is not required.

IMPLEMENTATION:

Accept as is.

4549/c/96

LaSalle Corrective Actions

HED NO: 0479

GUIDELINE: 8.2.2.A/V-4

CATEGORY: 2 LEVEL: B

FINDING:

During the task analysis and verification, it was noted that the controls and ampere displays for the "0" and "1" station air compressors are reversed in their left-to-right arrangement. (Photo Log No. F-21)

RESPONSE:

The controls for the "0" and "1" station air compressors will be reversed to provide an appropriate left-to-right arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/97

## LaSalle Corrective Actions

HED NO: 0550

GUIDELINE: 8.2.2.B-2

CATEGORY: 2 LEVEL: C

### FINDING:

The main stop valve is located in a string of other valves: IV-1, MSV-2, IV-2, IV-3, on PM02J. (Photo Log No. F-22)

### RESPONSE:

The main stop valve (MSV-2) is used only during chest warming of the turbine during startup. It is not used in emergency situations and the operators report no difficulty in its location.

### IMPLEMENTATION:

Accept as is.

4549/c/98

LaSalle Corrective Action

HED NO.: 0480

GUIDELINE: 8.2.2.B/V-1

CATEGORY: 2 LEVEL B

FINDING:

During the task analysis and verification, it was noted that the annunciator window boxes and controls/displays on the PM06J panel are not arranged in a left-to-right order as are the other system divisions in the main control room, nor are they arranged according to task sequence of use, function, frequency of use, or consistently with the indicator light mimic on the panel above the controls. (Photo Log No. G-13)

RESPONSE:

Annunciator procedures are available in front of each panel to aid in diagnosis of problems. In addition, adequate labeling is available to aid the operators in the identification of components.

IMPLEMENTATION:

Accept as is.

4578/c/22

LaSalle Corrective Actions

HED NO: 0063

GUIDELINE: 8.2.3.A-1

CATEGORY: 1 LEVEL: C

FINDING:

The "fuel pool emergency make-up pump 1B" and "fuel pool emergency make-up pump 1A" serve the same function for each loop but are located differently within each loop. (Photo Log No. D-26, D-27)

RESPONSE:

The arrangement of this instrumentation does not affect operator performance since they are used only for non-time-critical tasks. In addition, the operators report no difficulties attributed to the arrangement of this instrumentation.

IMPLEMENTATION:

Accept as is.

4549/c/99

LaSalle Corrective Action

HED NO.: 0472

GUIDELINE: 8.2.3.A/V-2

CATEGORY: 2 LEVEL C

FINDING:

During the task analysis and verification, it was observed that pump assignment to dual recorder pens was reversed between the recirculation pump suction temperature recorder and the recirculation flow recorder. (Photo Log No. G-14)

RESPONSE:

The points will be changed on the recorder.

IMPLEMENTATION:

By the completion of the second refueling outage.

4578/c/23

LaSalle Corrective Actions

HED NO: 0086

GUIDELINE: 8.2.4.A-1

CATEGORY: 2 LEVEL: C

FINDING:

Nine recorders are not arranged in an identical arrangement for both units. (Photo Log No. D-28, D-28.1, D-29, D-29.1)

RESPONSE:

The arrangement of these recorders on Unit One will be modified to reflect the Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/100

LaSalle Corrective Actions

HED NO: 0184

GUIDELINE: 8.2.4.A-2

CATEGORY: 2 LEVEL: C

FINDING:

The "condenser hotwell level control" (on PM03J) is not located in the same position across the two units. (Photo Log No. D-30, D-31)

RESPONSE:

The "condenser hotwell level control" on Unit One will be modified to reflect the Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/101



LaSalle Corrective Actions

HED NO: 0191

GUIDELINE: 8.2.4.A-3

CATEGORY: 2 LEVEL: C

FINDING:

The heater drain return to condenser, heater drain pump forward, and heater drain tank controllers and meters (on PM03J) are located differently across the two units. (Photo Log No. D-32, D-33)

RESPONSE:

The Unit One instrumentation will be modified to reflect the Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/102

LaSalle Corrective Actions

HED NO: 0203

GUIDELINE: 8.2.4.A-4

CATEGORY: 2 LEVEL: C

FINDING:

The "standby condensate and condensate booster pump select" (on PM03J) is located differently across the two units. (Photo Log No. D-34, D-35)

RESPONSE:

The "standby condensate and condensate booster pump select" controls on Unit One will be modified to reflect Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/103

## LaSalle Corrective Actions

HED NO: 0259

GUIDELINE: 8.2.4.A-5

CATEGORY: 2 LEVEL: A

### FINDING:

For Unit One, the heater drain pump recirculating valve controls have indicating lights that are not located directly above the control. On Unit Two, the lights are located above the controls. (Photo Log No. D-36, D-37)

### RESPONSE:

The Unit One instrumentation will be modified to reflect the Unit Two arrangement.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/104

## LaSalle Corrective Actions

HED NO: 0260

GUIDELINE: 8.2.4.A-6

CATEGORY: 2 LEVEL: B

### FINDING:

The "feedwater turbine handjack" and the "feedwater turbine speed LSI-FW046" on Unit 1 have been combined into one piece of equipment for 1A and 1B on Unit Two - "lovejoy control corporation (LCC) reactor feed pump turbine (RFPT) 2A control startup station". Unit One and Unit Two should have the same arrangement. (Photo Log No. D-38, D-38.1, D-39, D-39.1)

### RESPONSE:

An evaluation is underway to determine if the Unit Two equipment (lovejoy control system) is better than the Unit One equipment (General Electric). The Unit One equipment will not be changed until it is proved that the Unit Two equipment is superior (based on system performance).

### IMPLEMENTATION:

Accept as is.

4549/c/105

LaSalle Corrective Actions

HED NO: 0261

GUIDELINE: 8.2.4.A-7

CATEGORY: 2 LEVEL: C

FINDING:

A control switch for reactor core isolation cooling (RCIC) FO91 valve for warming the residual heat removal heat exchangers prior to opening FO64, has been installed on Unit Two and not on Unit One. (Photo Log No. D-40)

RESPONSE:

The cited control switch will be added to Unit One.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/106

# LaSalle Corrective Actions

HED NO: 0262

GUIDELINE: 8.2.4.A-8

CATEGORY: 2 LEVEL: C

## FINDING:

The condensate demin bypass controls (on PM03J) are located differently on the two units. (Photo Log No. E-1, E-2)

## RESPONSE:

The Unit One instrumentation will be modified to reflect the Unit Two arrangement.

## IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/107

## LaSalle Corrective Actions

HED NO: 0268

GUIDELINE: 8.2.4.A-9

CATEGORY: 1 LEVEL: B

### FINDING:

There are no equalizing valves around the emergency core cooling system testable check valves on Unit Two. They do exist on Unit One. In addition, the reactor core isolation cooling (RCIC) test check valve control does not exist on Unit Two. (Photo Log No. E-3)

### RESPONSE:

The equalizing valves are not used for either unit and will be removed from the Unit One control board.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/108

## LaSalle Corrective Actions

HED NO: 0275

GUIDELINE: 8.2.4.A-10

CATEGORY: 2 LEVEL: C

### FINDING:

On Unit One, the condensate pump minimum flow valve indications (1A, 1B, 1C, 1D) are not arranged in the same way as the controls they represent. On Unit Two, light indications are located directly above their associated controls. (Photo Log No. E-4, E-5)

### RESPONSE:

The condensate pump minimum flow valve indications on Unit One will be modified to reflect the Unit Two arrangement.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/109



LaSalle Corrective Actions

HED NO: 0276

GUIDELINE: 8.2.4.A-11

CATEGORY: 2 LEVEL: C

FINDING:

The extraction steam to high pressure (HP) heater 16A and 16B valve controls on Unit One have functionally related meters located at the opposite end of the panel (1PM03J). On Unit Two, HP heater 16A and 16B meters are located above the heater controls. (Photo Log No. E-6, E-6.1, E-7, E-7.1)

RESPONSE:

The Unit One instrumentation will be modified to reflect the Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/110

## LaSalle Corrective Actions

HED NO: 0277

GUIDELINE: 8.2.4.A-12

CATEGORY: 2 LEVEL: A

### FINDING:

There are six "extraction steam to low pressure heater spill valve" controls located on the horizontal portion of 1PM03J. Their light indications are located on the vertical portion. The control-display relationship is not readily apparent. On Unit Two, these lights are located on the horizontal portion of the benchboard, directly above their related controls. (Photo Log No. E-8, E-9)

### RESPONSE:

The Unit One instrumentation will be modified to reflect the Unit Two arrangement.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/111

LaSalle Corrective Actions

HED NO: 0284

GUIDELINE: 8.2.4.A-13

CATEGORY: 1 LEVEL: A

FINDING:

The "containment flood level 2LI-CM179" meter (on 2PM13J) along with six red indicating lights, are located on Unit Two but not on Unit One. (Photo Log No. E-10)

RESPONSE:

This instrumentation will be added to Unit One.

IMPLEMENTATION:

By the completion of the first refueling outage.

4549/c/112

LaSalle Corrective Action

HED NO.: 0285

GUIDELINE: 8.2.4.B-1

CATEGORY: 3 LEVEL C

FINDING:

The simulator used for training is structured like Unit One. There are several differences between Unit One and Unit Two; hence, a simulator-to-control room standard is not maintained.

RESPONSE:

The differences between the Unit One and Unit Two control rooms are minimal. The operators are adequately trained on these differences and have reported no difficulties.

IMPLEMENTATION:

Accept as is.

4578/c/24

## LaSalle Corrective Actions

HED NO: 0095

GUIDELINE: 8.3.1.B-1

CATEGORY: 2 LEVEL: C

### FINDING:

Unit Two has two "Lovejoy Control Corporation Reactor Feed Pump Turbine control startup stations". These stations each have a toggle switch "lockout reset" positioned a few inches below the "feedwater pump 2A (2B) discharge 2FW010A (2FW010B)" J-handle controls. An operator may inadvertently activate the "lockout reset" while in the process of activating the "feedwater pump discharge" controls. (Photo Log No. E-11)

### RESPONSE:

This instrumentation is used only during plant startup. No harmful event would occur as a result of inadvertently resetting the lockout.

### IMPLEMENTATION:

Accept as is.

4549/c/113

## LaSalle Corrective Actions

HED NO: 0519

GUIDELINE: 3.3.1.B-2

CATEGORY: 2 LEVEL: C

### FINDING:

The J-handle controls on PM03J are spaced too close together. These controls should be spaced a minimum of three inches apart to prevent accidental actuation. (Photo Log No. E-23)

### RESPONSE:

In the normal position, these switches are four inches apart. Only when a J-handle is positioned to the right at the same time an adjacent one is positioned to the left will the distance between them be two inches. The operators are cautious when operating J-handles and report no difficulty in operation due to the current locations.

### IMPLEMENTATION:

Accept as is.

4549/c/114

LaSalle Corrective Actions

HED NO: 0531

GUIDELINE: 8.3.2.A-1

CATEGORY: 1 LEVEL: C

FINDING:

The heat flux detector sequence is not consistent with standard design convention. These meters (H13-P603) are arranged horizontally atop each other as opposed to across in a row. (Photo Log No. F-24)

RESPONSE:

The meters are well laid out and labeled. The operators report no difficulty due to their horizontal orientation.

IMPLEMENTATION:

Accept as is.

4549/c/115

## LaSalle Corrective Actions

HED NO: 0087

GUIDELINE: 8.3.2.C.1-1

CATEGORY: 1 LEVEL: A

### FINDING:

There are meters, located on PM02J and PM01J, which are arranged in unbroken rows containing more than five meters. (Photo Log. No. E-12, E-12.1)

### RESPONSE:

Although the meters are physically located in unbroken rows, labeling techniques perceptually break up the rows of displays. In addition, enhancements will be added to PM01J to clarify functional groupings. Due to the complexity of this panel and the proposed changes, this modification will be completed by the second refueling outage.

### IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/116



LaSalle Corrective Action

HED NO.: 0088

GUIDELINE: 8.3.2.D.1-1

CATEGORY: 3 LEVEL C

FINDING:

The coordinate axes for the "full core display" and "full core rod select" are not labeled. (Photo Log No. E-13, E-13.1)

RESPONSE:

The full core display will be provided with labeled axes. The full core rod select can be read adequately as is.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/25

LaSalle Corrective Actions

HED NO: 0083

GUIDELINE: 8.3.3-1

CATEGORY: 1 LEVEL: C

FINDING:

The residual heat removal pump A and B controls (on H13-P601) are mirror-imaged. (Photo Log No. E-14, E-14.1, E-14.2)

RESPONSE:

The residual heat removal pumps are well labeled and arranged in a way to accurately represent the arrangement of the system and mimics. This is consistent with operator expectations.

IMPLEMENTATION:

Accept as is.

4549/c/117

LaSalle Corrective Actions

HED NO: 0522

GUIDELINE: 8.3.3-2

CATEGORY: 1 LEVEL: C

FINDING:

Status light mirror imaging on the reactor control panels (on H13P603) is not good human engineering practice. (Photo Log No. F-25, F-26)

RESPONSE:

The status lights on the reactor control panels are laid out in the same arrangement as the system it represents. This is the optimum control board design since it is consistent with operator expectations.

IMPLEMENTATION:

Accept as is.

4549/c/118

LaSalle Corrective Actions

HED NO: 0553

GUIDELINE: 8.3.3-4

CATEGORY: 2 LEVEL: C

FINDING:

The arrangement of condenser inlet and outlet 2CW007A, B, C and D controls and indicator lights (on 2PM03J) on Unit Two are mirror images to the arrangement of the same controls and indicator lights on Unit One. (Photo Log No. F-27, F-28)

RESPONSE:

The condenser inlet and outlet instrumentation on Unit One will be modified to reflect the Unit Two arrangement.

IMPLEMENTATION:

By the completion of the second refueling outage.

4549/c/119

Section 9

CONTROL-DISPLAY INTEGRATION

## LASALLE CORRECTIVE ACTIONS

HED NO: 0207

GUIDELINE: 9.1.1.A/VL-2

CATEGORY: 2 LEVEL: C

### FINDING:

The source range monitor (SRM) and period indication (on H13-P603) is too far to the left of the seated workstation at the panel to facilitate clear and ready interpretation from the seated work position. (Photo Log No. E-18)

### RESPONSE:

H13-P603 is a sit/stand workstation. The operators have the flexibility to stand and move as necessary when operating the plant. The SRM and period indication is used infrequently and is not time critical. It is also redundant information.

### IMPLEMENTATION:

Accept as is.

4552/c/3

LaSalle Corrective Action

HED NO.: 0235

GUIDELINE: 9.1.1.A/VL-3

CATEGORY: 1 LEVEL A

FINDING:

The synchroscope lights and associated indicators are not sufficiently close enough to the turbine generator to permit the operators to clearly read the displays when synchronizing the turbine generator to the grid. (Photo Log No. D-17, E-12)

RESPONSE:

A modification has been approved for PM01J. The panel will be reorganized and enhancements added to clarify functional groupings. Due to the complexity of this panel and the proposed changes, this modification will be completed by the second refueling outage.

IMPLEMENTATION:

By the completion of the second refueling outage.

4578/c/26

LaSalle Corrective Action

HED NO.: 0079

GUIDELINE: 9.1.1.C.1-2

CATEGORY: 2 LEVEL C

FINDING:

The association between the "reactor water cleanup isolation" control and "isolation signal B" display is not apparent. (Photo Log No. E-17)

RESPONSE:

The control and displays are adequately labeled to aid operators in rapid identification. Since they are used only during testing, their location is sufficient.

IMPLEMENTATION:

Accept as is.

4578/c/27



## LaSalle Corrective Action

HED NO.: 0081

GUIDELINE: 9.1.2.A.2-1

CATEGORY: 2 LEVEL C

### FINDING:

There are 40 toggle switches that have been added to the H13-P624 panels. These controls are associated with the 20 area radiation monitors but their labeling is not consistent. Each monitor has two related toggles: one located at the top of the panel and one located at the bottom. Toggles would be more appropriate located on the monitor itself. (Photo Log No. E-19, G-15)

### RESPONSE:

Appropriate labeling will be provided to clarify control/display relationships.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/28

LaSalle Corrective Action

HED NO.: 0099

GUIDELINE: 9.1.2.C.1-1

CATEGORY: 2 LEVEL C

FINDING:

The "source range monitor bypass", "intermediate range monitor bypass" (channels A & B) and "average power range monitor bypass" (channels A & B) controls have control positions which are not arranged in a clockwise manner. (Photo Log No. E-20)

RESPONSE:

The arrangement is functionally accurate. The east-west positions correspond to reactor protection system (RPS) channel B and the north-south positions correspond to RPS channel A.

IMPLEMENTATION:

Accept as is.

4578/c/29

LaSalle Corrective Action

HED NO.: 0319

GUIDELINE: 9.1.2.C.2-1

CATEGORY: 3 LEVEL C

FINDING:

The "moisture separator A/B outlet temperature recorder has an associated selector control with selector positions: off, 1, 2. The labeling on the cross-reference plate is incorrect. (Photo Log No. E-21)

RESPONSE:

The label plate will be relabeled to accurately identify switch positions.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/30

# LASALLE CORRECTIVE ACTIONS

HED NO: 0530

GUIDELINE: 9.1.2.C.2-2

CATEGORY: 2 LEVEL: C

## FINDING:

Source range monitor (SRM) bypass controls and indicators (H13-P601) are not consistent. The indicators are laid out A,B,C,D while the control detents are laid out in a clockwise order of A,C,B,D. (Photo Log No. F-13)

## RESPONSE:

The SRM bypass control is not a time-critical instrument and not important for post-accident monitoring. The operators do not report any difficulty in operation due to the current layout.

## IMPLEMENTATION:

Accept as is.

4552/c/4

LaSalle Corrective Action

HED NO.: 0320

GUIDELINE: 9.1.2.C.3-1

CATEGORY: 1 LEVEL C

FINDING:

For the meter volts selector and system auxiliary transformer 4KV voltage control and display, the control positions do not correspond to the display label. Switch position "norm" should be labeled "sat". When the switch is placed in the "D. Gen" position the display is indicating voltage for the Division 3 diesel generator. Because of the labeling on the display, it is not apparent that this display is being used for Division 3 diesel generator indication. (Photo Log No. G-16)

RESPONSE:

Appropriate labeling will be provided for switch positions and the related meter.

IMPLEMENTATION:

By the completion of the first refueling outage.

4578/c/31

LaSalle Corrective Action

HED NO.: 0066

GUIDELINE: 9.2.2.A.1-1

CATEGORY: 2 LEVEL B

FINDING:

The "drive pressure C11-F003" control (on H13-P603) is not located directly below the associated display. The guidelines state controls should be located directly below the respective displays. (Photo Log No. E-22)

RESPONSE:

The display can be adequately read from the associated control. This satisfies the intent of the guideline.

IMPLEMENTATION:

Accept as is.

4578/c/33

## LASALLE CORRECTIVE ACTIONS

HED NO: 0527

GUIDELINE: 9.2.2.A.2-1

CATEGORY: 2 LEVEL: C

### FINDING:

Location of valve position indicators (on PM02J) is such that there is more space between a given control and its indicator lights than there is between the left/right adjacent controls and their respective indicator lights. This could result in difficulty to the operator in readily identifying the relationship. (Photo Log No. D-28)

### RESPONSE:

Background shading will be added to the legend lights and their associated controls to aid in rapid identification of the association. All background shading modifications will be coordinated with other corrective actions (relocations, demarcation, mimics) to ensure that new HEDs will not be created.

### IMPLEMENTATION:

By the completion of the first refueling outage.

4552/c/5

LaSalle Corrective Action

HED NO.: 0082

GUIDELINE: 9.2.2.B-1

CATEGORY: 2 LEVEL C

FINDING:

The drive control, valve control, and flux probing monitor components are not arranged in a left-to-right, top-to-bottom sequence (H13-P607).

RESPONSE:

The cited back panel controls are not operated by control room operators. They are used to calibrate the average power range monitor.

IMPLEMENTATION:

Accept as is.

4578/c/35



LaSalle Corrective Action

HED NO.: 0067

GUIDELINE: 9.2.2.D-1

CATEGORY: 2 LEVEL C

FINDING:

Arrangement of functionally similar displays does not conform to the same convention throughout the control room. There are two controls on H13-P602 that have three indicating lights which are not arranged in a row. (Photo Log No. E-24)

RESPONSE:

The current arrangements are set due to space constraints on the control panels. The control/display relationship is clear to the operators and they are aware of the convention and exceptions.

IMPLEMENTATION:

Accept as is.

4578/c/34

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