

# Maine Yankee

RELIABLE ELECTRICITY SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04330 • (207) 622-4868

April 30, 1993

MN-93-46

JRH-93-89

UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, DC 20555

References: (a) License No. DPR-36 (Docket No. 50-309)  
(b) MYAPCo Letter to USNRC dated March 11, 1981 (FMY-81-33)  
(c) MYAPCo Letter to USNRC dated May 13, 1992 (MN-92-52)

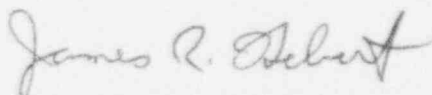
Subject: Annual Report of Facility Changes and Relief and Safety Valve Failures and Challenges

Gentlemen:

In accordance with 10 CFR 50.59, attached is a report containing a brief description of the facility changes completed at the Maine Yankee Atomic Power Station during 1992 and a summary of the safety evaluation for the change.

In Reference (b), Maine Yankee committed to reporting any challenges and/or failures of PORV and pressurizer safety valves. During 1992 there were no such events.

Very truly yours,



James R. Hebert, Manager  
Licensing & Engineering Support Department

JVW/jag

Attachment

c: Mr. Thomas T. Martin  
Mr. Charles S. Marschall  
Mr. E. H. Trottier  
Mr. Patrick J. Dostie

030009

9305030305 930430  
PDR ADOCK 05000309  
R PDR

L:\93mn\9346

IE47  
11

SUMMARY OF DESIGN CHANGES COMPLETED IN 1992

|               |   |
|---------------|---|
| EDCR 88-029   | FIRE PROTECTION SYSTEM MODIFICATIONS - PHASE I                                    |
| EDCR 89-030   | STEAM GENERATOR WATER LEVEL CONTROL SYSTEM REPLACEMENT                            |
| EDCR 89-030-1 | REMOTE INSTRUMENT ROOM - AC AND DC POWER SERVICES                                 |
| EDCR 89-052   | BREAKER COORDINATION FOR 125V DC CABINETS P AND BU, AND DG-1A AND DG-1B - PHASE I |
| EDCR 89-057   | ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS) RESPONSE SYSTEM MODIFICATION           |
| EDCR 90-028-1 | SPARE AND REPLACEMENT SAFETY CLASS BATTERY CHARGERS AND INVERTERS                 |
| EDCR 90-054   | CCW/RHR SYSTEM - THERMOWELL INSTALLATION  |
| EDCR 90-276   | FL-66 BYPASS  |
| EDCR 91-026   | CORRECT CLOSED POSITION INDICATION ON MOTOR OPERATED VALVES - PHASE I             |
| EDCR 91-029   | RECORDING CAPABILITY FOR STEAM GENERATOR WIDE RANGE PRESSURE CHANNELS             |
| EDCR 91-056   | STEAM GENERATOR ACCESS PLATFORM IMPROVEMENTS                                      |
| EDCR 91-059   | INCREASE FEEDPUMP SEALWATER RETURN SYSTEM CAPACITY                                |
| EDCR 91-086   | DEMINERALIZED WATER STORAGE TANK CABLE UPGRADE                                    |
| EDCR 91-098   | EMERGENCY CORE COOLING SYSTEM LIGHT BOX UPGRADE - PHASE I                         |
| EDCR 91-099   | ALTERNATE POWER TO VALVE HOUSE EXHAUST FAN  |
| EDCR 91-2002  | CONTAINMENT CONTROL AIR ENHANCEMENTS  |
| EDCR 92-029   | MAIN STEAM VALVE HOUSE (MSVH) ROOF HATCH MODIFICATIONS                            |
| EDCR 92-031   | CEA CHANGE MECHANISM REMOVAL  |
| EDCR 92-079   | EMERGENCY DIESEL GENERATOR BREAKER LOCKOUT  |
| EDCR 92-2001  | PROTECTED SWITCHGEAR ROOM TEMPERATURE MONITOR                                     |

ADDITIONAL CHANGES TO MAINE YANKEE SAFETY ANALYSIS REPORT

Degradation of Steam Generator Heat Transfer Capability

Process Radiation Monitoring System Table Change in the FSAR.

## EDCR 88-029 (PARTIAL)

### FIRE PROTECTION SYSTEM MODIFICATIONS - PHASE I

This design change installed a microprocessor based pyrotonics XL3 smoke detector panel in the unprotected switchgear room and smoke detectors and manual pull stations in the new remote instrument room. These modifications were necessary because the existing smoke detector system and graphic annunciator had no spare capacity, and this equipment is no longer available.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 89-030

### STEAM GENERATOR WATER LEVEL CONTROL SYSTEM REPLACEMENT

This design change replaced the existing Fischer-Porter Analog Feedwater Control System, including transmitters and recorders with a Foxboro Intelligent Automated (IA) Digital Generator Water Level Control System (SGWLCS). This change included the replacement of the main steam flow, main steam pressure and feedwater flow transmitters. These modifications provided the base system for the Intelligent Non-Nuclear Safety Digital Automation Control System (INNSDACS) expansion; provided automatic calibration and self-diagnostic capabilities, and extended the transmitter calibration interval from 6 to 18 months thereby reducing both the potential for a plant trip and engineering/technician man hours.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 89-030-1

### REMOTE INSTRUMENT ROOM - AC & DC POWER SERVICES

This design change involved obtaining AC power from an existing plant motor control center (MCC-13A) to provide 480V to the Remote Instrument Room (RIR) air conditioning equipment, and via transformer to the 208/120V lighting and utility panel. Two power sources were also installed to provide redundant AC and DC power for the Steam Generator Water Level Control System (SGWLCS) implemented under EDCR 89-030.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 89-52 (PARTIAL)

### BREAKER COORDINATION FOR 125 VDC CABINETS P AND BU, AND DG-1A AND DG-1B - PHASE I

This modification installed new thermal magnetic feeder breakers in DC buses 2 and 4 along with new feeder cables to supply distribution cabinets P and BU. The new feeder breakers and cables will enhance overcurrent protection coordination so that a fault on a branch circuit will not cause the loss of an entire distribution cabinet.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 89-057

### ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS) RESPONSE SYSTEM MODIFICATION

This modification was implemented to meet the requirements of 10CFR50.62. This change to the ATWS system reduces the likelihood of failure to shut-down the reactor following anticipated transients and to mitigate the consequences of an ATWS event.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 90-028-1

### SPARE AND REPLACEMENT SAFETY CLASS BATTERY CHARGERS & INVERTERS

This design change replaced the existing (4) safety related battery charger/inverters and NNS inverter 5 with (5) new safety related battery charger/inverters. The fifth battery charger/inverter is maintained in a stand-by condition capable of being switched on-line to replace any of the other battery charger/inverter systems with minimum or no disruption of the 120VAC buses. Existing loads and equipment associated with inverter 5's removal were relocated and/or replaced. Battery cables were replaced to lower short circuit current to within the interrupting ratings of the 125V DC breakers on DC buses 1 and 3.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

EDCR 90-054

#### CCW/RHR SYSTEM - THERMOWELL INSTALLATION

The purpose of this design change is to provide a means of accurately measuring the temperature of the process fluid stream at the E-3A heat exchanger inlet and outlet legs. The thermowells installed provide an adequate means for evaluating E-3A and E-3B heat exchanger performance. The existing RHR outlet leg thermowells are used for monitoring E-3A and E-3B outlet temperatures.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

EDCR 90-276

#### FL-66 BYPASS

This modification installed a bypass line around the filter (FL-66) located in the waste release header to allow draining of the steam generators during shutdown without removing the filter element. This design change reduced the lead time required to dump the steam generators, saved labor costs, saved radiation exposure to workers, and reduced radioactive waste.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

EDCR 91-026

#### CORRECT CLOSED POSITION INDICATION ON MOTOR-OPERATED VALVES - PHASE I

This modification changed seventeen safety-related, motor operators from existing two rotor limit switches which open on limit and close on torque, to four rotor limit switches in order to provide improved position indication and retain torque switch bypass.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-029

##### RECORDING CAPABILITY FOR STEAM GENERATOR WIDE RANGE PRESSURE CHANNELS

This design change was implemented in conformance with Regulatory Guide 1.97 for steam generator wide-range pressure indication. The change provided the operator with redundant, qualified indication of steam generator pressure and real-time recording capability over the range 0 to 1,000 PSIG for improved level indication during a steam generator tube rupture (SGTR). For post-accident indication of steam generator condition, the operators are provided with separate qualified indication of steam generator pressure and real-time recording over the extended range of 0 to 1,200 PSIG.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-056

##### STEAM GENERATOR ACCESS PLATFORM IMPROVEMENTS

These modifications were made to enlarge the existing structural steel platforms at elevation +11'-1" about each steam generator. New steel platforms were also installed at elevation +19'-6" for access to the secondary handhole. The new platforms are seismically qualified to ensure that they will not damage safety-related equipment during a design basis earthquake.

This design change did not impact any system or structure as described in the FSAR. This change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-059

##### INCREASE FEEDPUMP SEALWATER RETURN SYSTEM CAPACITY

The Feedpump Sealwater Return System (FSRS) was modified to increase the capacity of sealwater flowing from tank TK-35 to first point heat exchanger E-10A. This design change prevents the loss of condensate water to the turbine building sump resulting in increased demands on the water treatment plant and in higher operation costs.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-086

##### DWST CABLE UPGRADE

This design change replaced the existing DWST level transmitter, control room DWST level instrument and cable.

An analog input to the plant computer for the DWST level was added. These changes were made to bring the existing DWST level instrument loop in compliance with Regulatory Guide 1.97 and to upgrade the existing field cable.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-098

##### ECCS LIGHT BOX UPGRADE - PHASE I

This design change provided valve position indication upgrade to all automatically actuated containment isolation valves in compliance with Regulatory Guide 1.97. The replacement ECCS light box and microprocessor are class 1E and seismically qualified.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### EDCR 91-099

##### ALTERNATE POWER TO VALVE HOUSE EXHAUST FAN

This design change was implemented to ensure that the steam valve house has forced ventilation during a postulated station blackout. This forced ventilation would help prevent equipment from exceeding any temperature operational limits. The valve house exhaust fan is now powered from MCC-9B1, which is also powered by the Appendix R, Diesel Generator during a postulated station blackout.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.



## EDCR 91-2002

### CONTAINMENT CONTROL AIR ENHANCEMENTS

This design change replaced the existing oil pressure operated hydraulic unloader valve with an oil pressure switch and timed delay relay. This change provided a more reliable method for the unloaded starting of the air compressors.

This design change did not impact any system or structure as described in the FSAR. This change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 92-029

### MAIN STEAM VALVE HOUSE (MSVH) ROOF HATCH MODIFICATIONS

This design change installed permanent supports for the MSVH roof hatches. The wood cribbing which elevated the roof hatches 8 inches was replaced with structural steel supports elevating the roof hatches to approximately 20 inches. Turbine grating was installed for security compliance.

This design change did not impact any system or structure as described in the FSAR. This change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 92-031

### CEA CHANGE MECHANISM REMOVAL

This design change removed the CEA change mechanism, (FU-10), which was no longer used. The removal of the CEA change mechanism eliminated the personnel resource and man rem exposure associated with lifting and blocking the CEA change machine whenever the core support barrel was removed from the reactor.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

## EDCR 92-079

### EMERGENCY DIESEL GENERATOR BREAKER LOCKOUT

This design change modified the trip circuit breakers for the emergency diesel generators in order to prevent a lockout when a diesel generator is phased on to the plant bus and a plant trip occurs concurrent with a loss of off-site power. This modification ensured that the emergency diesel generator would not become inoperable subject to the conditions described.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.



#### PROTECTED SWITCHGEAR ROOM TEMPERATURE MONITOR

This design change installed a new ambient temperature monitor in the protected switchgear room to alert control room operators to impending room temperature problems due to a failure or malfunction of associated heating and ventilating equipment. This modification provides control room personnel sufficient time to take appropriate action before operation of equipment in the switchgear room is jeopardized by temperature problems.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### DEGRADATION OF STEAM GENERATOR HEAT TRANSFER CAPABILITY

The steam generator reduction in overall heat transfer coefficient (UA) over the years has resulted in a loss of steam generator pressure at full power operations. This loss in pressure affects the input assumptions to some of the accidents analysis described in the FSAR. A sensitivity study has been performed and the results will be incorporated in the appendix D to the FSAR during the next revision.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.

#### PROCESS RADIATION MONITORING SYSTEM TABLE CHANGE IN THE FSAR

The revision to the process radiation monitoring table in the FSAR removed the radiation monitors sensitivity and maximum background, while updating their ranges to reflect correct number of decades. The previously listed radiation monitors sensitivity and background requirements were pre-installation laboratory values that did not reflect actual plant conditions.

The probability of occurrence of an accident previously evaluated in the FSAR was not increased. This design change did not involve an unreviewed safety question as defined in 10CFR50.59.