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Subject: 10 CFR 50.59 Summary Report of Facility Changes, Tests and Experiments

Ladies and Gentlemen:

The FirstEnergy Nuclear Operating Company (FENOC) hereby submits pursuant to 10 CFR 50.59 (d)(2), the attached 10 CFR 50.59 Summary Report of Facility Changes, Tests and Experiments for the Davis-Besse Nuclear Power Station, Unit No. 1 (DBNPS). This report covers the period from May 18, 2000 through May 18, 2002.

Should you have any questions or require additional information, please contact Mr. Patrick J. McCloskey, Manager - Regulatory Affairs, at (419) 321-8450.

Very truly yours,



JMM/laj

Enclosures

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Utility Radiological Safety Board

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Docket Number 50-346
License Number NPF-3
Serial Number 2819
Enclosure 1

10 CFR 50.59 Summary Report
of
Facility Changes, Tests, and Experiments
for
Davis-Besse Nuclear Power Station, Unit No. 1

May 18, 2000 - May 18, 2002

(50 pages follow)

Summary

This report is submitted in accordance with 10 CFR 50.59 (d) (2), and provides a brief description of the changes, tests, and experiments performed at the DBNPS and evaluated pursuant to 10 CFR 50.59. This report covers the period of May 18, 2000 through May 18, 2002. When practical, summaries from more recent 10 CFR 50.59 evaluations have also been included in this report.

This report includes summaries of evaluations performed under both the old and revised 10 CFR 50.59 regulation. The DBNPS implemented the revised 10 CFR 50.59 regulation on June 30, 2001.

This report provides a listing of abbreviations used in the evaluation summaries, a summary listing of the evaluations contained in the report, and summaries of the evaluations performed pursuant to 10 CFR 50.59. Each of these evaluations concluded that the change did not involve an unreviewed safety question or require a license amendment.

Abbreviations Used:

DCR	=	Design Change Request
ERR	=	Equivalent Replacement Resolution
EWR	=	Engineering Work Request
FHAR	=	Fire Hazards Analysis Report
FPR	=	Field Problem Resolution
MOD	=	Modification
PCAQR	=	Potential Condition Adverse to Quality Report
SE	=	Safety Evaluation
SSC	=	Structures, Systems and Components
TM	=	Temporary Modification
TRM	=	Technical Requirements Manual
UCN	=	USAR Change Notice
USAR	=	Updated Safety Analysis Report
USQ	=	Unreviewed Safety Question
WO	=	Work Order

10 CFR 50.59 Summary Listing

Initiating Document	Safety Evaluation	Title
DB-OP-06902	01-01033	Cycle 13 Tavg Reduction of 8 Degree F at 100% Full Power from 566 EFPD to 596 EFPD
DCR 00-0046	01-0014	Damper Actuator Discrepancies
ERR 60-0001-068	99-0043	Replacement of AC112 Phase A Overcurrent Relay
ERR 60-0001-232	01-0002	Soak Back Pumps on EDG 1 and EDG 2
ERR 60-0001-248	00-0034	Replacement of Reactor Protection System Square Root Extractor RPS4NI1807
EWR 01-0095	01-0009	SFAS Power Supply JYRC02A4 Replacement
EWR 02-0134	02-01157	Refurbishment of the Polar Crane
FPR 90-0012-302	97-0003	Lower the Setpoint for the Emergency Instrument Air Compressor Cooling Water Surge Tank Relief Valve
LAR 00-0004	00-0038	Main Steam Safety Valve Setpoint Tolerances
MOD 00-0024	01-0001	Alternate Biocide Modification for the Service Water and Circulating Water Systems
MOD 00-0031	01-0016	RPS Reactor Trip Module Upgrade
MOD 00-0033	00-0026	Intake Crib Modifications for Frazil Ice Protection
MOD 00-0036	01-0003, Rev 01	Replacement of ARTS Test Trip Bypass Switches
MOD 00-0040	00-0029	Increasing the Output of Makeup Pumps' Main Oil Pump Motors
MOD 00-0044	01-0023	Replace Station Air Compressor 2 Control Panel and Air Ejector System
MOD 96-0037	00-0024	Installation of Wafer Check Valves in Floor Drains
MOD 97-0029	99-0009	Position CCW Valves CC1471 and CC1474, Cooling Water to EDGs, in the Open Position
MOD 97-0058	98-0047	Modification of the Fire Protection System Test Header
MOD 98-0041	01-0015	Lower Setpoint of Condensate Pump Discharge Header Pressure Control Valve
MOD 98-0058	99-0018	Restore the Supports for Component Cooling Water Heat Exchangers
MOD 98-0064	01-0013	Replace Non-Essential Inverters YVA and VYB
MOD 99-0027	01-0010	Restoring the Slopes of the Intake Canal Dike

Initiating Document	Safety Evaluation	Title
MOD 99-0034	01-0021	Control Room Emergency Ventilation System Reliability Improvement
MOD 99-0039	01-0008	Replace Service Water Valves SW1356, SW1357 and SW1358
MOD 99-0041	01-0004	Installation of Turbine Bypass Valve Air Regulators
MOD 99-0047	01-0017	Installation of Feedwater Flow Rate Caldon (LEFM) System
MOD 99-0051	01-0005, Rev 01	Installation of High Density Spent Fuel Storage Racks in the Spent Fuel Pool
SE 00-0037	00-0037	Operation Without the Containment Recirculation Fan C56-1 in Service for Cycle 13
TM 00-0029	00-0040	Relocate Blowdown Mixing Condenser TIC2898 Probe
TM 00-0033, 00-0034	01-0006, 01-0007	Disconnecting Air Operators from ES370 and ES264
TM 01-0003	01-0018	Install Pipe Plug on EDG 2 DA231 Check Valve Inlet
TM 01-0004	01-0019	Provide Alternate Control Air Source to SA-10920, Station Air Compressor #2 Blowoff Valve
TM 01-0006	01-0022	EDG Ventilation Dampers Locked to Full Outside Air Configuration
TM 01-0018, 01-0019	01-00850, 01-00834	Remove Iodine Filter Cartridge for RE4597AA and BA Containment Atmosphere Normal Range
TM 99-0018	00-0032, Rev 02	Removal of Service Water Strainer #3 and its Upstream Spool from the Service Water Pump Room.
UCN 00-028	98-0056, Rev 01	Clarify the Description of Calibrations In USAR Section 11.4.4 and 12.1.4
UCN 00-039	00-0035	Changes to USAR TRM Section 3.3.3.2
UCN 00-054	00-0031	Revise Description of HEPA Filters for Various Systems
UCN 00-061	00-0036	Realignment of the Quality Assurance Function
UCN 00-063	00-0039	Use of the Cask Crane Main Hook to Carry Heavy Loads Over the Spent Fuel Pool
UCN 01-002	01-0012	Removing the Detail in the USAR Description for Cross Connecting E11B and F11A
UCN 01-006	01-0011	Operation of the Clean Liquid Radwaste System
UCN 01-017	01-0020	Control Room Emergency Ventilation System Heat Load
WO 99-007260	00-0033	Temporary Transfer Configuration and Related Cleaning Activities for the MWMT, MWDT, DWDT, and CWRT 2 Sump.

10CFR50.59 EVALUATION SUMMARY
FOR
DB-OP-06902 (Number 01-01033)

TITLE:

Cycle 13 T_{avg} Reduction of 8 Degree F at 100% Full Power from 566 EFPD to 596 EFPD

CHANGE:

A core average temperature, T_{avg} , reduction will be performed for a reactor vessel head temperature reduction. This activity will permit operation of Cycle 13 only from 566 EFPD to 596 EFPD without a change to the Core Operating Limits Report (COLR). Note that the actual evaluation justifies a change of 9 °F. However, the allowable T_{avg} reduction in the procedure will be limited to 8 °F to account for potential instrument uncertainty.

REASON FOR CHANGE:

In order to reduce any possible reactor vessel head weld crack propagation rate, a T_{avg} reduction of 8 °F (indicated) is to be performed while maintaining 100% full power.

EVALUATION SUMMARY:

The T_{avg} reduction of 8 °F indicated has been shown to have negligible effect on the performance of all systems during normal operation, anticipated transients, and accident conditions, and, therefore, does not meet any of the criteria in paragraph (c)(2) of 10 CFR 50.59. The proposed T_{avg} reduction has some very minor impact on reactor core physics parameters and also results in a slightly greater RCS inventory and feedwater flow rate. However, the impact on reactor core physics parameters was very small and all of the COLR limits generated for Cycle 13 were found to continue to be valid for the magnitude of the T_{avg} reduction and period of operation proposed.

The slightly greater RCS inventory has no significant impact on loss of coolant accident progression and emergency core cooling system performance. The slightly greater feedwater flow had the potential to produce more severe steam generator tube flow induced vibrations, as well as potentially impacting secondary plant system reliability. However, these effects were evaluated and were found to be within acceptable limits. Therefore, accident and malfunction frequencies and consequences would not be more than minimally impacted, no new accidents or malfunctions would be created, no design basis limits for fission product barriers would be challenged, and the T_{avg} reduction did not require any departures from previously approved methodologies. Thus, it can be concluded that a license amendment is not required for the proposed activity.

10CFR50.59 EVALUATION SUMMARY
FOR
DCR 00-0046 (Number 01-0014)

TITLE:

Damper Actuator Discrepancies

CHANGE:

This DCR revises several plant drawings to depict damper actuators as electrohydraulic instead of motor actuators.

REASON FOR CHANGE:

Discrepancies were noted in several plant drawings between the installed damper actuators and those shown on the drawings. The drawings depicted various HVAC dampers operated by motor (M) instead of electrohydraulic (E/H) actuator as installed in the plant.

EVALUATION SUMMARY:

The drawings revised by this DCR depict dampers for the Emergency Diesel Generator, Low Voltage Switchgear, Battery, and Component Cooling Water Rooms and the Control Room. The USAR assumes some of these dampers to fail to a safe position. The correct type of actuator is electrohydraulic (E/H) which is capable of modulating and failing in a safe position on loss of power. Motor operated (M) actuators are not the correct application since they fail as is on loss of power. Some of the dampers are exhaust and recirculation dampers and are the modulating type. Others are the outdoor supply air dampers and are the open/close type. The E/H actuators are suitable and the correct actuators for these services.

The changes from motor to electrohydraulic actuators in the above dampers do not impact the FHAR since these actuator/dampers have already been incorporated into the Combustible Loading Analysis. This is the basis for the loading used in the FHAR.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
ERR 60-0001-068 (Number 99-0043)

TITLE:

Replacement of AC112 Phase A Overcurrent Relay

CHANGE:

Equivalent Replacement Resolution (ERR) 60-0001-068 replaces a Westinghouse COM-5 overcurrent relay with a Class 1E ABB COM-5 overcurrent relay.

REASON FOR CHANGE:

The Westinghouse COM-5 relay is no longer supplied for Class 1E applications. The relay being replaced monitors the phase-A power circuit for the Low Pressure Injection/Decay Heat Removal pump motor MP0421.

EVALUATION SUMMARY:

The ABB COM-5 relay is designed to provide motor overload protection and high speed tripping for heavy faults. The protective setpoints calculated for Low Pressure Injection/Decay Heat Removal pump motor MP0421 are achievable by using the ABB COM-5 relay. The ABB COM-5 relay is compatible with the operating environment. The relay's ratings are compatible with the AC sensing and DC tripping circuits. Thus, it is concluded that it is safe to replace the Westinghouse COM-5 with the Class 1E ABB COM-5 relay.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
ERR 60-0001-232 (Number 01-0002)

TITLE:

Soak Back Pumps on EDG 1 and EDG 2

CHANGE:

Replace the Emergency Diesel Generator (EDG) soak back pump motors for EDG 2 and EDG 1.

REASON FOR CHANGE:

A new manufacturer is replacing the vendor for the current pump motors.

EVALUATION SUMMARY:

The replacement motors have the same horsepower but better efficiency. Therefore the total load on EDG 1 and EDG 2 will decrease for these loads. The total load will remain significantly less than the Technical Specification allowable value of 2838 KW for auto-connected loads.

The EDG loads remain essentially the same, and are well within the allowable range. Therefore, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
ERR 60-0001-248 (Number 00-0034)

TITLE:

Replacement of Reactor Protection System Square Root Extractor RPS4NI1807

CHANGE:

Replace the currently installed Bailey Model Square Root Extractors 6623752 Rev. A5 with Bailey Model 6623752 Rev. J5 or R1021 models.

REASON FOR CHANGE:

This change is being performed because the higher revision models have the capabilities to monitor the calibration and field input and module output via jacks located on the front of the module rather than using pins on the back. The replacement will prevent this shorting from occurring.

EVALUATION SUMMARY:

This change will have no effect on safety. The higher revision (J5 or R1021) modules perform the same function as the older revision modules. The new revisions have the same form, fit, and function as the old revisions. The only difference between the two revisions is that the higher revision modules have the capability to monitor the module signal input, the module calibration input, and the module output through the test jacks on the front of the module.

These replacements of the Square Root Extractors will have no adverse effects on the Reactor Protection System safety function and its ability to perform its safety functions. These modules will also limit the chance of shorting two pins together.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
EWR 01-0095 (Number 01-0009)

TITLE:

SFAS Power Supply JYRC02A4 Replacement

CHANGE:

EWR 01-0095 will replace the Safety Features Actuation System (SFAS) Channel 2 RCS pressure string power supply (JYRC02A4) with a new power supply manufactured to be a form, fit, and functional equivalent to the original.

REASON FOR CHANGE:

An identical replacement for the existing SFAS power supply is no longer manufactured by the original company.

EVALUATION SUMMARY:

The power supply will function equivalent to the existing power supply. The power supply has been acceptably reviewed for the operating characteristics and seismic capabilities. The seismic qualification of the SFAS remains unchanged. The power supply was manufactured, evaluated, and tested by a quality vendor to be equivalent to the original power supply. The physical and performance characteristics of the replacement power supply have been reviewed and found equivalent and acceptable. This ensures that no new hazards will be introduced by the installation of the new power supply.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
EWR 02-0134 (Number 02-01157)

TITLE:

Refurbishment of the Polar Crane

CHANGE:

EWR 02-0134 refurbishes the electrical components on the polar crane. This includes replacement of the control cabinets, motors, brakes and all cabling except for the festoon cables. This replacement will include the following equipment upgrades:

- The wound rotor – resistor bank speed control system for all the motors will be replaced with random wound motors and variable frequency drives.
- The shoe brakes on the main and auxiliary motors will be replaced with disc brakes.
- The electric solenoid shoe brakes on the main and auxiliary hoist, which are connected to the gear reducers are replaced with hydraulic thruster shoe brakes.
- The wiring has been replaced with wiring meeting NEC section 610
- The control systems for the main hoist, auxiliary hoist, trolley motor and bridge motors will be installed in cabinets which can be removed during the operating cycle. This will eliminate exposure to the high temperatures during operation. The cabinets will be connected with pre-assembled cable and connector assemblies.
- The inching motors and controls have been eliminated because the variable frequency drives can operate the motors at “inching” speeds
- The magnetorque eddy current brakes have been eliminated, replaced with dynamic braking on the motors.

REASON FOR CHANGE:

The Polar Crane has been experiencing an increase in component failures.

EVALUATION SUMMARY:

Section 9.1.5 of the USAR, "Control of Heavy Loads ", specifies Davis-Besse compliance to applicable guidelines of NUREG-0612, Control of Heavy Loads at Nuclear Power Plants, as described in letter Serial No. 774. The Toledo Edison response in Serial No. 774 stated that the Polar Crane's specification had been compared to the 1975 revision of Crane Manufacturer Association of America, Specification for Electric Overhead Traveling Cranes, CMAA-70 and to the additional safety requirements of ANSI B30.2-1976, Section 2-1. The Polar Crane was originally built to Bechtel's Spec No. 7749-M-83 which required that the crane be designed in accordance with the minimum requirements for Class A cranes as stated in CMAA-70 except as the requirements are extended by the Bechtel specification, the more stringent requirements shall govern. The new design has been compared to the requirements in specification 7749-M-83 and it has been determined that the changes from the specification do not result in any "Yes" answers in paragraph (c)(2) of 10CFR 50.59, therefore, it can be concluded that a license amendment is not required.

10CFR50.59 EVALUATION SUMMARY
FOR
FPR 90-0012-302 (Number 97-0003)

TITLE:

Lower the Setpoint for the Emergency Instrument Air Compressor Cooling Water Surge Tank Relief Valve

CHANGE:

This FPR will lower the setpoint of PSV 6519 from 50 psig to 10 psig. PSV 6519 is the relief valve for the Emergency Instrument Air Compressor (EIAC) Cooling Water Surge Tank.

REASON FOR CHANGE:

Potential Condition Adverse to Quality Report (PCAQR) 96-0577 documented the non-conservative setting of 50 psig for PSV 6519. A calculation determined the maximum allowable setpoint of 18.9 psig. However this calculation recommended a setting of 10 psig to provide adequate margin. Any setpoint between 10 psig to 18.9 psig is acceptable.

EVALUATION SUMMARY:

The design pressure of the EIAC Intercooler is of 50 psig. This change will lower the setpoint of PSV 6519 to 10 psig which will provide adequate overpressure protection to the Intercooler under all design conditions. Field testing indicated that 10 psig setpoint does not impact the function of the Instrument Air System.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
LAR 00-0004 (Number 00-0038)

TITLE:

Main Steam Safety Valve Setpoint Tolerances

CHANGE:

The proposed License Amendment Request (LAR) 00-0004 removes unnecessary detail regarding Main Steam Safety Valve (MSSV) locations, setpoints, and capacities from Technical Specification (TS) Bases Section 3/4.7.1.1, Safety Valves.

REASON FOR CHANGE:

This change is to eliminate confusion about the setpoint tolerance requirements for MSSVs. Specifically, the MSSVs must be set with a $\pm 1\%$ as-left setpoint tolerance, but the acceptance criterion for TS-required MSSV setpoint testing is less than or equal to 3% above the stamped setpoint (reference: ANSI/ASME OM-1-1981). Valves found with tolerances outside the $\pm 1\%$ tolerance and not adjusted to be as-left within $\pm 1\%$ tolerance would not be in conformance with the DBNPS licensing basis.

EVALUATION SUMMARY:

The proposed changes would remove extraneous information regarding the MSSV locations, setpoints, and capacities from TS Bases Section 3/4.7.1.1. The information proposed for removal does not meet the criterion of 10 CFR 50.36(a) for TS Bases. The information proposed for removal is already contained in the USAR or is already embodied in TS 3.7.1.1. This change affects the TS Bases only and no TS requirements are being revised as a result of this change.

The proposed changes would also revise the USAR to state that MSSVs have an as-left setpoint tolerance of $\pm 1\%$. This statement is consistent with the Section III of the ASME Boiler and Pressure Vessel Code, 1971 Edition, and commitments contained in DBNPS Operating License. Pursuant to TS 4.0.5, ANSI/ASME OM-1-1981 provides the applicable requirements for inservice testing of the MSSVs and specifies an acceptance criterion of less than 3% above stamped set pressure for setpoint testing. The statements being added to the USAR will reflect that MSSVs are set in accordance with these code requirements and the commitments made to the Nuclear Regulatory Commission. The 3% acceptance criterion of ANSI/ASME OM-1-1981 will continue to be the acceptance criterion for TS Surveillance Requirement 4.7.1.1.

The proposed changes are administrative in nature and clarify existing design basis and licensing requirements for the MSSVs. No change is being made to the any plant equipment or any design, operational, or testing requirements.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0024 (Number 01-0001)

TITLE:

Alternate Biocide Modification for the Service Water and Circulating Water Systems

CHANGE:

This MOD modifies the Chlorination Water Treatment System to allow the addition of a Sodium Bromide solution (Trade name: Acti-Brom, (NaBr)) with the existing Sodium Hypochlorite solution (NaOCl).

REASON FOR CHANGE:

This MOD will provide a more effective biocidal control for minimizing the formation of microbiological-induced corrosion (MIC), slime and scale in the Service Water and Circulating Water systems to preserve system integrity and maximize heat rate.

EVALUATION SUMMARY:

The installation of a more effective biocidal control system in the Service Water (SW) and Circulating Water systems indirectly affect operation of safety-related components served by the Service Water System since heat exchanger performance is affected by biological fouling of the tubes. However, degraded SW heat exchanger performance would be detected during periodic testing. Therefore, operation of the Chlorination System is not essential for safety-related components served by the SW System to perform their safety functions. An accidental release of the algacides NaOCl and/or NaBr would not require evacuation of essential or non-essential personnel from the site since there are no toxic threshold limit values or personnel exposure limits for these solutions. The Non-safety related, Non seismic, Chlorination and Acti-Brom piping meets the design requirements of the Chlorination header piping in material selection, pressure and temperature.

The chemical treatment is inert to the piping and wetted component pressure boundary integrity and its control of biological and scale deposits on the wetted surfaces will maintain the system safety related heat transfer capabilities similar to that currently provided by the sodium hypochlorite alone. NaBr also contains a biodispersant which slowly penetrates the existing pipe scale and over a long period of time gradually de-scales the piping, thereby reducing the potential for a rapid de-scaling which could plug heat exchanger or other small orifice components.

The installation of the temporary chlorination equipment to the existing chlorination piping will require the chlorination to the SW system to be suspended. There are no Technical Specifications, environmental or regulatory commitments governing the maximum time allowed for SW chlorination to be suspended. However, administrative controls have been established to set the maximum allowed time out of service for the SW system at 24 hours. This time limit is based on the MIC organisms ability to attack and establish themselves in piping and components when the lake temperature is above 60°F.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0031 (Number 01-0016)

TITLE:

Reactor Protection System Reactor Trip Module Upgrade

CHANGE:

MOD 00-0031 provides for replacement of the Reactor Protection System (RPS) Bailey 880 Reactor Trip Modules (RTM) with a new module developed by Framatome Technologies, Inc.(FTI). This MOD accommodates all four channels of RPS. This modification will not prohibit use of the original modules; either the original Bailey module or the new Framatome module will be acceptable for installation in the plant.

REASON FOR CHANGE:

MOD 00-0031 was initiated in response to the recently increasing failure rate on the RPS Reactor Trip Modules. Recent failures have been attributed to mercury-wetted relays, some of which perform safety functions within the module.

EVALUATION SUMMARY:

The equivalent design of the module presents negligible differences in the hazards that may be created by the module itself, such as fire, temperature, seismic, and electrical noise. In fact, the addition of internal fusing provides an improved opportunity to limit the effects of internal faults. The replacement module is designed to withstand the external effects of temperature, humidity, seismic events, radiation, and other mild environmental variables the same or better than the original module per design specification. The replacement Framatome Reactor Trip Module's equivalency characteristics introduce no new failure modes that would compromise the established satisfaction of the Single Failure Criteria. Any new failure modes anticipated by the minor changes in module design would produce results that are either fail-safe, or at worst, in a condition where the remainder of the RPS would still execute its safety function.

Though the function of mercury-wetted vs. electro-mechanical relays is clearly the same, an evaluation of the expected reliability impact on safety was conducted. The evaluation concluded that the reliability of the RPS safety function (system trip) is not adversely affected by the use of the alternate relay design.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0033 (Number 00-0026)

TITLE:

Intake Crib Modifications for Frazil Ice Protection

CHANGE:

MOD 00-0033 will modify the Intake Crib by removing every three out of four slats at the intake screen. This will provide a greater unrestricted flow area into the crib and create a greater distance the frazil ice will have to span before blocking the flow of water into the Intake Crib.

REASON FOR CHANGE:

The Intake Crib is located approximately 3300 feet into Lake Erie. Due to the shallow depth of water in Lake Erie at this location, the Intake Crib has experienced, on occasion during the winter, temporary blockage due to frazil ice.

EVALUATION SUMMARY:

The Intake Crib is constructed with 10" x 10" and 12" x 12" oak timbers. These timbers provide the structural support for the Intake Crib. The intake slats are made up of 2" x 6" oak boards set on edge. Since the 2" x 6" boards are not load carrying members, there will be no adverse affect on the structural integrity of the Intake Crib when 3 out of every 4 slats are removed.

The modified size of the intake openings were designed to provide an entrance velocity of 0.25 ft./sec. at a flow rate of 42,000 gpm. This low entry velocity is needed to help prevent the formation of frazil ice. The removal of 3 out of every 4 slats will not increase the entrance velocity of the water, therefore, there will not be an increase in the material being drawn into the Intake Crib.

Increasing the size of the openings at the Intake Crib will prevent small debris from clogging the intake slats, yet still prevent the larger objects from entering the crib. Should an object enter the crib through the increased opening size, the top of the 96 inch conduit is less than 18 inches from the underside of the crib, this limiting dimension will prevent large objects from entering the conduit. The smaller objects could easily pass through the 96 inch diameter conduit and not adversely affect the flow of water into the Intake Canal since the velocity in the intake conduit is approximately 7.5 times greater than the velocity at the intake screens.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0036 (Number 01-0003, Rev. 01)

TITLE:

Replacement of ARTS Test Trip Bypass Switches

CHANGE:

MOD 00-0036 replaces the test trip bypass switches in the Anticipatory Reactor Trip System (ARTS) cabinets. Three separate bypass switches will replace the existing one test trip bypass switch so that simultaneous bypasses of the three variables will now be possible, thereby removing the current need for temporary jumpers.

REASON FOR CHANGE:

This modification is to improve the reliability of surveillance testing by eliminating past failures of the existing test trip bypass switches and by eliminating the potential risk of unwanted trips due to the use of temporary jumpers.

EVALUATION SUMMARY:

Since there will be three separate test trip bypass switches versus the current single bypass switch, multiple bypasses can be implemented. In accordance with Technical Specification Table 3.3-17 while the Plant is in Mode 1, plant procedures will provide the administrative control that will assure that multiple bypasses do not occur in more than one channel. Three separate bypass switches will eliminate the need for temporary jumper wires. Permanently installed bypass switches are a more reliable method for setting up multiple bypasses than the existing method of using temporary jumpers.

The new test trip bypass switches will not be keylocked as is the current test trip bypass switch. Administrative control of bypasses will occur by use of the keylocked cabinet doors and use of approved surveillance test procedures. The current use of keylocked cabinet doors and keylocked switches is redundant and unnecessary.

In accordance with IEEE 279-1971 Section 4.11, channel bypasses are permitted as long as single failure criterion is satisfied. Since there are four channels, any single channel can be bypassed while the other operating channels provide a two-out-three logic trip. Single failure criteria is satisfied with the two-out-of-three trip. Because the trip bypass switches can be operated to bypass more than one channels of each input, plant procedures are used to provide the administrative control to prevent this from occurring. The use of the test trip bypass switch to bypass the main feedpump trip function during startup and shutdown (Mode 2) was previously accepted by the NRC.

The proposed test trip bypass switches are seismically qualified to maintain its normally-closed position through a seismic event. The normally closed contacts are maintained closed under a spring pressure that is designed for severe shock and vibration applications. Although the total weight of the three switches are slightly heavier than the single switch it replaces, the weight difference was found to be insignificant and does not affect the seismic qualification of the channel cabinet.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0040 (Number 00-0029)

TITLE:

Increasing the Output of Makeup Pumps' Main Oil Pump Motors

CHANGE:

MOD 00-0040 increases the output of the Makeup Pumps' Main Oil Pump motors, MP371B and MP372B from ½ to 1.0 horsepower.

REASON FOR CHANGE:

The reason for increasing the output of these motors is to ensure they have the capacity to drive the oil pumps when oil viscosity changes due to low oil temperature.

EVALUATION SUMMARY:

Replacing the ½ horsepower Main Oil Pump motors with 1.0 horsepower motors will not affect the safety functions of the Makeup Pumps or the essential Motor Control Centers. The larger motors have the capacity and performance ratings to power the lube oil pumps during all conditions for which the Main Oil Pumps were designed to operate. The larger 1.0 horsepower motors will not become overloaded due to viscosity changes of the lower temperature oil.

The larger Main Oil Pump motors are being procured as Nuclear Safety Related. Environmental Qualification per 10 CFR 50.49 is not required because Feed and Bleed cooling is a beyond-design basis event. Seismic adequacy of the larger motors will be verified using Seismic Qualification Utility Group (SQUG) methodology prior to declaring the motors operable.

The existing molded case circuit breaker and the power cable have sufficient capacity to supply a 1.0 horsepower motor. Thus, spurious trips of the breaker or overheating of the cable will not occur due to the larger motor. The larger motors will increase motor control center load by approximately 1 ampere per motor. This small increase in load will have a negligible effect on electrical system voltages.

The 1.0 horsepower Main Oil Pump motor will conservatively add 1.4 KW load to the Emergency Diesel Generators (EDG). Adding the 1.4 KW to the cumulative loads on the EDG Loading Table shows that the total load on either emergency generator remains below its continuous rating.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 00-0044 (Number 01-0023)

TITLE:

Replace Station Air Compressor 2 Control Panel and Air Ejector System

CHANGE:

MOD 00-0044 will replace Station Air Compressor 2 (SAC 2) "Quad II" control system with the new "Quad 2000" control system. This also requires the oil reservoir system to be modified to replace the oil mist filter and solenoid valves with an air ejector upgrade.

REASON FOR CHANGE:

The control panel on SAC 2 is obsolete and is no longer maintained by the vendor.

EVALUATION SUMMARY:

The only safety function of the Station Air System is to provide containment vessel penetration isolation for penetration 42A (Service Air valves SA2010 & SA502). The MOD does not affect the containment isolation function to close isolating containment from the outside environment in the event of a radiation release or pressurization of the containment resulting from a design basis accident. Therefore, there are no adverse effects on plant safety, as the Station Air System will continue to perform its design functions.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 96-0037 (Number 00-0024)

TITLE:

Installation of Wafer Check Valves in Floor Drains

CHANGE:

MOD 96-0037 installs 7 wafer check valves in selected Auxiliary Building (Rooms 100, 101, 237, 238 and 516) floor drains, which are prone to emitting aerosol contaminants due to HVAC induced pressure imbalances between Auxiliary Building (AB) rooms, and 3 wafer check valves in the Borated Water Piping Trench. The wafer check valves are designed to begin collapsing and fold in when an approximate 0.35 inch water column accumulates on the wafers. Wafer check installation allows for the normal floor drainage, and also creates a torturous air path that will block entrained contamination from entering the room.

REASON FOR CHANGE:

The purpose of this MOD is to install a barrier to prevent contamination from migrating between various Auxiliary Building clean areas via the Auxiliary Building Equipment and Floor Drainage System.

EVALUATION SUMMARY:

The MOD does not affect any safety related component operation or function in the AB rooms affected by this MOD in the event of a room flooding event resulting from a postulated pipe rupture or fire protection sprinkler actuation. Of the rooms affected by this MOD, only four rooms contain equipment important to safety. The Auxiliary Feedwater Pump Rooms (Rooms 237 and 238) are protected from the effects of individual room flooding. The affected Equipment and Floor Drains in these rooms are not credited with mitigating the postulated flooding event and the MOD does not affect this water flooding release path. The floor drains in Rooms 100 and 101 do not affect the potential for flooding nor control the resultant flood level in Room 105. Rooms 100 and 101 do not contain any automatic fire suppression systems.

The plugs used in the equipment drains utilize an elastomeric material similar to that used for fire penetration seals. The drain hub seals will have a stainless steel mesh backing under the seal and the mesh wrapped to the outside of the drain hub to provide additional mechanical protection of the sealing material from being dislodged from the hub.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 97-0029 (Number 99-0009)

TITLE:

Position CCW Valves CC1471 and CC1474, Cooling Water to EDGs, in the Open Position

CHANGE:

This MOD will keep these Component Cooling Water (CCW) valves in the open position by removing the air supply from the valve actuator. The Actuator spring will hold the valve in the open position. The automatic open signals will be deleted, the indicating lights and switches will be removed, and the power will be removed from SV1471 and SV1474. The interlocks from the Emergency Diesel Generator (EDG) Speed Switch to the valves will be removed. The manual actuator on the air operator will be locked in the open position, and the low flow alarms will be left active.

REASON FOR CHANGE:

Drawings currently show these valves as normally closed. Contrary to the drawings, these valves are often in the open position. This is due to the valves being opened during EDG testing or during CCW train swaps and then remaining open.

EVALUATION SUMMARY:

Keeping CC1471 and CC1474 open while the CCW system is in operation will have no effect on the safety of the CCW pumps or the CCW system. The open valves will ensure that a flow path is available to the CCW Pumps for minimum flow at all times. Valves CC1471 and CC1474 have no safety function to close.

Manually opening the valves and removing the automatic controls will allow continuous CCW flow when the EDG is not in operation. The flow path will have 800 to 1050 GPM flow whenever the loop pump is running. However, the continuous flow will not create undue wear or erosion of the heat exchanger tubes as the CCW flow velocity is less than 7 feet per second which is below the threshold at which tube erosion is expected to occur. By observation of conditions which have occurred, the continuous flow of CCW, which is normally at 95 °F, through the heat exchanger does not have any adverse effects on the Jacket Water Cooling Systems ability to keep the Jacket Water hot when the engine is not running.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 97-0058 (Number 98-0047)

TITLE:

Modification of the Fire Protection System Test Header

CHANGE:

This MOD removes the eight installed test isolation valves, FP8A to FP8H, off the test lines. After the MOD, testing will be done by installing removable test valves and flow nozzles prior to the test and removing them after testing and capping off the lines until the next time testing is needed.

REASON FOR CHANGE:

With the current design, the valves are being damaged in the winter by freezing of trapped water.

EVALUATION SUMMARY:

Removal of the test header valves, capping the lines, and using removable test valves and flow nozzles will prevent the current winter damage to the valves by freezing of trapped water now observed. The function of the header will not change as the header is normally isolated when testing is not required and the test valves and nozzles can be attached prior to the required flow test. The test header is not needed to support any other Fire System function. The stub pipes will remain capped when the testing equipment is not installed to ensure no foreign material enters the test header.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 98-0041 (Number 01-0015)

TITLE:

Lower Setpoint of Condensate Pump Discharge Header Pressure Control Valve

CHANGE:

This MOD lowers the pressure setpoint of the “Condensate Pumps Runout Pressure Indicator Controller”, in order to prevent early and/or inadvertent actuation of the Condensate Pump Discharge Header Pressure Control Valve (CD2796).

REASON FOR CHANGE:

Past testing indicates that with only two Condensate pumps running, the discharge pressure approaches the current Condensate Pump Runout Pressure Indicating Controller setpoint of 230 psia. At this setpoint the pressure regulating valve CD2796 could inadvertently actuate, thus reducing system pressure requiring the third Condensate pump to be started. The setpoint will be lowered to 220 psia thereby providing greater system operating margin and preventing the early and/or inadvertent actuation of CD2796.

EVALUATION SUMMARY:

The increase in the condensate pump flow from this MOD represents approximately 6% of the bounding design basis flow for the turbine building internal flooding case resulting from a Circulating Water Line Expansion Joint Rupture and therefore does not affect the existing internal flooding analysis.

Runout protection for one pump was determined to be sufficient at the new setpoint.

The Condensate system is reviewed in USAR Section 3.6.2.7.2.14, “Protection Against Environmental Effects Outside the Containment Vessel - Condensate System”. The ability to detect failures in the Condensate System is not changed as failures in the condensate system can be controlled quickly, and in no way affect the operation of essential equipment.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 98-0058 (Number 99-0018)

TITLE:

Restore the Supports for Component Cooling Water Heat Exchangers

CHANGE:

The Component Cooling Water (CCW) heat exchangers were re-qualified for new loads. This re-qualification resulted in different stresses than those currently identified in the USAR. To help minimize the loads on the heat exchangers and associated pipe supports, some pipe support configuration changes were required.

REASON FOR CHANGE:

The CCW Heat Exchangers were reviewed as part of a PCAQ corrective action and it was discovered that the nozzle loads were not considered in the qualification of the equipment.

EVALUATION SUMMARY:

An evaluation which consisted of a combination of hand calculations and finite element analysis using the ANSYS program for the channel, shell and nozzles was performed on the CCW heat exchangers. The stress acceptance criteria for the CCW heat exchangers are consistent with the original vendor qualification and the ASME Code.

Based on the above analyses and upon the completion of the modification, the CCW Heat Exchangers will remain seismically qualified and meet all of the design basis allowable values. Therefore, the CCW heat exchangers will continue to perform their design function during all of their design basis events.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 98-0064 (Number 01-0013)

TITLE:

Replace Non-Essential Inverters YVA and YVB

CHANGE:

MOD 98-0064 replaces both non-essential Cyberex inverters YVA and YVB with Solid State Controls (SCI) inverters.

REASON FOR CHANGE:

Non-essential inverters YVA and YVB are obsolete and have been unreliable in recent history. Future reliable operation of these inverters is becoming increasingly questionable.

EVALUATION SUMMARY:

Non-essential inverters YVA and YVB supply power to non-safety related equipment. The load on the inverters will not change as a result of this modification. The function of the inverters has not changed. Based on past experience with the Class 1E inverters, the new SCI inverters for YVA and YVB are expected to increase the reliability of the uninterruptable power source for the affected systems and components.

Separation of the non-Q circuits from the Q circuits is provided inside the DC MCC and this separation boundary is not being affected by this modification. A short circuit failure of the inverter will not affect the safety related section of the DC system.

Inverters YVA and YVB are not required to be seismically qualified, however, they are required to be seismically mounted to meet the seismic II/I criteria for the safety related equipment in the area. These inverters are on the Seismic Qualification User Group (SQUG) safe shutdown list. As such, the design includes an evaluation for electrical contact chatter and structural requirements to meet SQUG criteria.

Certain loads powered from the non-essential inverters are required for plant shutdown during a 10CFR 50 Appendix R fire and are discussed in the FHAR. This capability is unaffected by this modification. Another concern for an Appendix R fire is that for multiple high impedance faults as discussed in NRC Generic Letter 86-10. This condition has been satisfactorily evaluated and determined there are no 10 CFR 50 Appendix R multiple high impedance fault concerns for inverters YVA or YVB.

The new SCI inverters are designed to accommodate the environmental conditions expected in the Low Voltage Switchgear rooms. The heat loads for the Low Voltage Switchgear Rooms were evaluated and the results showed that the heat produced by the new SCI inverters is less than the heat produced by the old Cyberex inverters.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0027 (Number 01-0010)

TITLE:

Restoring the Slopes on the Intake Canal Dike

CHANGE:

MOD 99-0027 will modify the Intake Canal by restoring the profile of the canal to an acceptable condition. The affected canal slope will be built up to provide a 2:1 slope from elevation 567 feet to 578 feet. A geo-fabric material will be installed underneath the riprap material. The geo-fabric will prevent the soil from being washed into the canal. In addition, differences between the as-built configuration and the current USAR description have been identified. The USAR text and figures will be revised to reflect the existing configuration where applicable.

REASON FOR CHANGE:

The Intake Canal between Lake Erie and the Intake Structure is unlined on the inboard side (canal side) of the dikes from approximately Station 10+00 to Station 27+50 (end of canal). The dirt filled dike is unprotected from soil erosion and the cutting action from waves and the rising and lowering lake water levels. This has caused a loss of soil from the dike to be washed into the canal. The profile of the canal dike slope was originally 3:1, the current condition has a near vertical drop of approximately 7 feet.

EVALUATION SUMMARY:

Adding riprap material from approximately Station 10+00 to the end of the Intake Canal and changing the slope of the inboard side of the Intake Canal dike beyond the Intake Forebay from a 3:1 slope to a slope that varies from 3:1 to 2:1, will not have any effect on the Ultimate Heat Sink calculations since the surface area and volume used in the calculations have not changed.

Filterweave 700 is inert to biological degradation and resists naturally encountered chemicals. It has been used extensively for many years in the area of shoreline protection, and slope stabilization and has an effective life of at least 40 years. The Filterweave material will be completely covered with riprap material thus providing UV protection. Therefore, the Filterweave material is not expected to decay and/or separate and migrate into the Service Water System.

The existing slope configuration has been evaluated for slope stability during a seismic event. The minimum factor of safety against dike failure is computed to be 3.6 for the as-is dike geometry which is greater than the 2.5 computed for the Q portion of the Intake Canal. Even though it is computed to be stable, it is not recommended that the canal be left with a vertical face. Therefore, the slope will be built up with riprap material to provide long term protection of the dike. This riprap material will provide additional margin of safety for slope stability. Therefore, reducing the slope from the original 3:1 configuration to a 2:1 configuration will not adversely affect the stability of the dike.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0034 (Number 01-0021)

TITLE:

Control Room Emergency Ventilation System Reliability Improvement

CHANGE:

MOD 99-0034 moves one of the two Control Room Emergency Ventilation (CREVS) control panels (C6706) from the compressor skid to a remote location.

REASON FOR CHANGE:

This MOD will provide better access to the compressors and the rest of the skid for maintenance.

EVALUATION SUMMARY:

This MOD relocates C6706 and separates the two CREVS A/C unit refrigerant lines. This enhances train separation and has no effect on the USAR or any Technical Specification or Basis. The seismic qualification of the control panels and relocated instruments is maintained.

The relocation of the panel C6706 within Room 603 does require splicing of several cables so that they may reach the new location. The splices being made are qualified to meet the design requirements. No new circuits are added, only extensions to existing cables (with new cable numbers). The safe shutdown analysis for Room 603 is unaffected by this change.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0039 (Number 01-0008)

TITLE:

Replace Service Water Valves SW1356, SW1357 and SW1358

CHANGE:

MOD 99-0039 replaces valves SW1356, SW1357 and SW1358. These valves are control valves located in the Service Water lines on the discharge side of the Containment Air Coolers.

REASON FOR CHANGE:

These valves were identified by PCAQR 98-1167 as having significant pitting of the valve bodies.

EVALUATION SUMMARY:

A design code, material and specification reconciliation has been performed for the valves being installed to ensure that they will function as well or better than the valves they are replacing. The reconciliation also documents the acceptability of use of an edition / addenda of the ASME Code that is later than was used for the original valves.

These valves are required to be capable of delivering 1600 gallons per minute during post-LOCA containment cooling. Although the flow coefficient (Cv) of the original valves is 3000 and that of the replacement valves is 1338, this is acceptable because the required flow can be obtained at a Cv of 345. The use of the replacement valves has no effect on the pipe stress analyses for the lines containing valves SW1356, SW1357 and SW1358. The replacement valves utilize stainless steel bodies, which have been shown to provide superior resistance to pitting while not creating other adverse effects when used for other valves in the Service Water System.

Technical Requirements Manual 3/4.3.2 requires that the Containment Air Cooler fans start in 45 seconds or less. This requirement results in the need for valves SW1356, SW1357 and SW1358 to stroke, within 10 seconds, to a position that will allow a flow of 1600 gallons per minute. This valve stroke criterion has been imposed on the replacement valves.

The seismic qualification analyses for the replacement valves show that the ratio of actual to allowable stress is approximately that same ratio as the original valves and the value of the natural frequency is not a concern as long as it is greater than 33 Hz. This ensures that the natural frequency will not match a frequency generated by a seismic event.

The position indicators for the replacement valves are environmentally qualified and will be included in the DBNPS EQ program.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0041 (Number 01-0004)

TITLE:

Installation of Turbine Bypass Valve Air Regulators

CHANGE:

This MOD will add air pressure regulators on air supply tubing to each of the six Turbine Bypass Valves (TBV) actuators reducing the air pressure to a vendor recommended actuator pressure. The MOD also redesigns the TBV actuators from double acting to single acting (opening only) thereby reducing piston seal air leakage.

REASON FOR CHANGE:

The TBVs actuators were originally designed for 66 psig but are currently subjected to an air pressure of 100-110 psig. The 100-110 psig air pressure assistance, along with the closure spring force, results in a significant amount of force in the close direction which has contributed to component failure. Redesigning the TBV actuators from double acting to single acting (opening only) reduces piston seal air leakage.

EVALUATION SUMMARY:

The air assisted closure function was originally specified to provide stable valve stroking. However, the TBVs do not perform any safety functions and therefore they do not have a required closing time. The TBVs were originally supplied by the actuator manufacturer as single acting with a spring to fail close on loss of air. Removal of the air supply to the upper chamber of the actuator restores the TBVs to their original supplied design capability.

The USAR concludes that the main turbine bypass valves are capable of responding to the maximum closure rate of the turbine control valves so that the total steam flow is not significantly affected until the magnitude of the load rejection exceeds the capacity of the bypass valves. Load rejection in excess of bypass valve capacity will cause the code safety valves to open. The heat sink thus provided enables an orderly reduction in reactor power. The loss-of-load accident does not result in fuel damage or excessive pressure in the RC system. The modification to the valve operator and air supply does not affect the basis of this conclusion. This MOD does not alter or affect failure mechanisms evaluated in the USAR.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0047 (Number 01-0017)

TITLE:

Installation of Feedwater Flow Rate Caldon (LEFM) System

CHANGE:

This MOD adds a Caldon Leading Edge Flow Meter Check Plus (LEFM) Feedwater Flow Measurement System, as part of the Non-Nuclear Instrumentation (NNI) system. This safety evaluation only deals with the addition of the Caldon equipment which includes the installation of a LEFM flow element spool piece containing sixteen transducers each. It does not address the use of the instrumentation.

REASON FOR CHANGE:

The LEFM measurement system provides a more accurate flow signal to the process computer for the reactor power calorimetric calculation.

EVALUATION SUMMARY:

The LEFM spool meets the design requirements of the main feedwater flow header piping in material selection, pressure and temperature. The affected main feedwater piping required loading is within the USAR specified allowable stresses. The performance of the Main Feedwater System is unaffected by the MOD as the LEFM instrumentation matches the inner diameter of the existing system piping and does not introduce any flow restrictions.

The MOD does not impact any of the design criteria related to the NNI control and instrumentation systems, as the regulating and control system instrumentation are separate from protective system equipment. The MOD also provides sufficient instrumentation to enable the operator to monitor all station operating conditions as indicated on the control panel and annunciator located in the control room. The MOD measures the flow for the domain predicted for the power uprate and the MOD provides for the redundancy of the flow measurement.

The Caldon Feedwater Flow instrumentation is powered from the Nonessential Regulated Instrumentation, 120 V, single phase, 60 Hz, regulated instrumentation AC distribution distribution panel 'YAR'. This Non IE panel is not safety related and the additional loads on it will not affect components important to safe operation or components that perform other important operational functions. The addition of the new LEFM Electronics Panel in the control room does result in an increase in the normal heat load.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
MOD 99-0051 (Number 01-0005, Rev. 01)

TITLE:

Installation of High Density Spent Fuel Storage Racks in the Spent Fuel Pool

CHANGE:

MOD 99-0051 will remove the existing racks and install the new high-density spent fuel storage racks.

REASON FOR CHANGE:

In order to provide for the plants' long-term spent fuel storage requirements, high-density spent fuel storage racks will be installed in the spent fuel pool.

EVALUATION SUMMARY:

The safe load paths for the rack installation will ensure that the racks do not travel over any spent fuel assemblies or safety related systems/components. Therefore, no spent fuel assemblies, safety related systems, or components will be adversely impacted by the installation of these racks. The cask pit and fuel transfer pit structures, including liner plate, were reviewed for a postulated dropped rack. The drop of a rack will not impact any spent fuel or the spent fuel pool.

The additional loads that will be transmitted to the Auxiliary Building structure, including seismic, have been evaluated and the structure continues to meet the design requirements for Class 1 structures as described in the USAR. The bottom liner of the cask pit was also reviewed for the seismic forces from the racks under seismic loading. It was concluded that the liner plate is adequate for the imposed loads.

Materials used for the fabrication and installation of the racks have been evaluated and determined that they will not adversely impact the pool water quality.

The spent fuel pool cooling system (SFPCS) discharge pipe and the spent fuel pool fill and drain pipe will be modified to facilitate the installation and use of the new storage racks. This piping will be cut adjacent to the applicable spent fuel pool wall. The reconfigured spent fuel pool cooling discharge pipe and the fill and drain pipe will be cut at approximately elevations 596' and 590' respectively. These pipe penetrations are a minimum of 12 feet above the top of the fuel assemblies, thereby eliminating the possibility of draining the pool below these elevations and eliminating the need for siphon breaker protection.

The SFPCS suction pipe will have a stainless steel grate placed over its open end in the spent fuel pool to prevent items, such as the skimmer hose, from being pulled into the suction pipe. This grate is lightweight and it would not damage fuel or the pool if dropped. The grate has been detailed so there is no reduction in flow area into the 10 inch suction pipe. Therefore, the addition of the grate will not adversely impact the SFPCS suction flow. Even if the suction pipe was completely obstructed, thermal/hydraulic analysis indicates that it would take approximately 3.78 hours for the reracked spent fuel pool, 1624 assemblies, to begin to boil. This analysis also

determined that it would take approximately 25 hours of boiling to reduce the water cover over the fuel to a minimally acceptable 9.5 feet for biological shielding. Plant design provides for ample time and alternate sources of water to ensure the safe storage of spent fuel. Furthermore, the possibility of obstructing the suction pipe is remote, since the spent fuel pool area is a "Foreign Material Exclusion (FME)" zone. To provide further assurance that an obstruction of the suction pipe does not adversely impact spent fuel, procedures will advise the operators to check the grate should the spent fuel cooling water flow/temperature indicate a possible obstruction.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
SE 00-0037

TITLE:

Operation Without the Containment Recirculation Fan C56-1 in Service for Cycle 13

CHANGE:

During Cycle 13, the Containment Recirculation Fan C56-1 will be out of service.

REASON FOR CHANGE:

Due to the unavailability of spare parts, the Containment Recirculation Fan C56-1 was not returned to service after the 12th Refueling Outage. An entire replacement fan has been ordered and the fan will be replaced during the next plant shutdown of sufficient duration after the new fan assembly has been received.

EVALUATION SUMMARY:

Having the Containment Recirculation Fan C56-1 out of service until the next refueling outage will have no adverse effect on safety. The Containment Recirculation System (CRS) performs no functions important to safety. The redundant Fan C56-2 is available and can be placed into service as desired.

The fan breaker is being maintained in the open position and controlled by the safety tagging program. This maintenance activity has no adverse impact on the essential motor control center (MCC) because the breaker is being controlled in the open position.

The removal of the fan was evaluated to determine its impact on the structural and seismic integrity of the remaining ductwork. This evaluation determined that the fan is not used as a support anchor and removal would have no impact on the remaining components.

The CRS is not required or assumed to be operating in any environmental qualification packages for equipment located in containment.

The loss of one Containment Recirculation Fan may result in the Polar Crane being exposed to higher temperatures. Synthetic grease is used in the crane mechanisms that can withstand elevated temperatures. The Polar Crane is tested prior to use to ensure proper operation.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 00-0029 (Number 00-0040)

TITLE:

Relocate Blowdown Mixing Condenser TIC2898 Probe

CHANGE:

This TM removes the TIC2898 probe from the thermowell in its existing location and straps the probe to the outside of the horizontal piping further downstream of the existing thermowell, where thermography indicates the fluid is better mixed.

REASON FOR CHANGE:

The Blowdown Mixing Condenser Service Water Inlet Temperature Indicating Controller TIC2898 periodically does not adequately control downstream temperature, resulting in excessive Service Water (SW) flow to the East Condenser Pit Sump.

EVALUATION SUMMARY:

The Blowdown Mixing Condenser, Temperature Indicating Controller TIC2898, SW Flow Control AS2898, and associated piping are all located along the south wall of the Auxiliary Boiler Room (Room 331). These components serve no safety function and there are no components important to safety in that room. TM 00-0029 will relocate the sensing probe for TIC2898 approximately 10 feet further downstream than its current location to permit the controller to sense a more representative temperature and better control Service Water flow to the Blowdown Mixing Condenser. All of the components will continue to perform their design function. The TM does not modify any structural component in the Service Water System, Auxiliary Steam System, or Station Drainage System. The TM does not introduce any new failure mechanisms or hazards. The TM will not adversely affect plant safety.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 00-0033 and 34 (Number 01-0006 and 01-0007)

TITLE:

Disconnecting Air Operator from ES370 and ES264

CHANGE:

These TM's disconnect the air piston cylinders for Extraction Steam Valves ES370 and ES264 to allow their removal from the system for repair while leaving valves ES370 and ES264 in service as free swing check valves.

REASON FOR CHANGE:

The air piston cylinder (NRV370) for ES370 strokes in an erratic manner and does not full stroke and the air piston cylinder (NRV264) for ES264 leaks past the piston o-ring during testing.

EVALUATION SUMMARY:

The extraction steam non return valves are required to close upon a turbine trip to prevent excessive turbine overspeed. The number, style and location of the non return valves is designed to prevent excessive overspeed if any single non return valve fails to close. In the case of ES264 and ES370, (fifth stage feedwater heater non return valves), the design requirement is for a single free swing check valve (no air assist actuator is required). The reason is that the fifth stage feedwater heaters are supplied "extraction steam" from the exhaust of the high pressure turbine. As a result, even if ES264 or ES370 were to fail to close, closure of the Combined Intercept Valves will prevent back flow of steam. Therefore removal of the degraded actuator on ES264 has no effect on the design of the turbine overspeed protection system.

The air piston cylinder is intended primarily to provide an initial hammer to help start close a sticking check valve. While the TMs are installed, the valves will not have this backup. Weekly testing of the valves has not shown any evidence of sticking. These TMs are expected to be in place less than one week. This is acceptable because a buildup of oxides or foreign material sufficient to cause sticking occurs over a longer period of time. The valves will be capable of closing as free swing check valves for the duration of the TMs. Therefore implementation of this TM and restricted procedure change will not affect system reliability.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 01-0003 (Number 01-0018)

TITLE:

Install Pipe Plug on EDG 2 DA231 Check Valve Inlet

CHANGE:

A pipe plug will be installed on the inlet to Emergency Diesel Generator (EDG) air start system check valve DA231, such that the DA31 air start side of EDG 2 may be isolated to perform maintenance troubleshooting, leaving the DA45 air start side in service.

REASON FOR CHANGE:

CR 01-1082 identified that with the amount of rust observed in the piping and various valves removed in recent years from the EDG air start system, check valve DA231, which is not periodically tested for reverse leakage, should not be relied upon for an isolation boundary.

EVALUATION SUMMARY:

With the plug installed on the inlet to DA231, the DA31 air start side is not capable of boosting the position of the governor on a start. Industry experience with this style engine shows the engine will start and run without the governor boost. However, surveillance testing has not been performed to verify the engine will achieve 900 RPM in 10 seconds in that configuration, therefore operability cannot be assured. Based on this, the plug will only be installed when the DA31 side is out of service. In order to maintain the DA45 side operable and available while performing maintenance on the DA31 side, it is necessary that the DA31 side be isolated. With the addition of a pipe plug at the inlet to DA231, the ability of the pneumatic pressure from the DA45 side to engage the air motors into the flywheel, provide a boost to the governor, and open the main air relay valve is assured.

The selected pipe plug meets industry standards for pressure / temperature and was purchased for "Q" use throughout the plant.

This particular change will not degrade the EDG start time since the pneumatic force from the DA45 air start side will be isolated from the DA31 air start side, as designed. Surveillance Testing has shown the DA45 air start side alone is capable of starting the engine in less than 10 seconds.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 01-0004 (Number 01-0019)

TITLE:

Provide Alternate Control Air Source to SA-10920, Station Air Compressor #2 Blowoff Valve

CHANGE:

TM 01-0004 will install, provide, and restore a temporary control air line from tubing at IA-810 to SA-10920 pneumatic position controller.

REASON FOR CHANGE:

This action is required to permit continued operation of SA-10920 which allows for the continued availability and operation of SAC #2 while the Instrument Air Receiver is removed from service for scheduled maintenance.

EVALUATION SUMMARY:

IA-810 was chosen as the source of alternate air since: it is a source of instrument quality air, it is in close proximity to SA-10920, and because it is on the Instrument Air (IA) distribution header and IA-810 provides the pressure indication for the control room for the IA. This will allow SAC #2 to provide normal operating pressures to the Station Air(SA)/IA system because the pressure at IA-810 is equivalent to what is sensed at the Instrument Air Receiver.

The TM will be constructed from materials that are capable of handling IA pressures and flows to provide a quality source of control air to SA-10920 without affecting the pressure indication for the Control Room.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 01-0006 (Number 01-0022)

TITLE:

EDG Ventilation Dampers Locked to Full Outside Air Configuration

CHANGE:

The Emergency Diesel Generator (EDG) Room supply, return, and exhaust dampers will be mechanically locked in the full outside air position, while its inlet damper actuator is being replaced.

REASON FOR CHANGE:

To keep the EDG and its Ventilation System available for service, while the actuator is being replaced, the supply, return, and exhaust dampers will be mechanically locked in the full outside air position. This alignment provides for maximum cooling capability when the Diesel Generator is started.

EVALUATION SUMMARY:

The EDG specification provides a low temperature limit of 50°F for the EDG room to ensure the EDG is warm enough to start within 10 seconds with no equipment damage. By disconnecting the damper operator mechanisms and using clamping mechanisms, the proposed temporary modification maintains the supply and exhaust dampers open. This will allow some potentially colder outside air mixing with the room air. With the limitation that outdoor temperatures are above 32°F, with the EDG in standby, the room will be maintained acceptable warm for subsequent EDG operation. With the EDG in operation, the Ventilation System normally has no capability to limit the high temperatures of the room, other than automatically opening the supply and exhaust dampers and closing the return damper. Since this is the same configuration as that proposed, there will be no effects during high outdoor temperatures.

As the EDG room temperature drops to 50°F, which can be determined locally by operators, the temporary configuration will not ensure the capability of the engine to perform a 10-second start. As the outdoor temperature drops to 32°F, which can also be determined by the operators with existing plant indications, the temporary configuration described may not keep fluid pipes in the room from freezing if the engine starts and the fans operate. For these reasons, actions will be taken to either restore the configuration to normal, or remove the EDG and its ventilation system from service when the limits are met.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 01-0018 and 19 (Number 01-00850, 01-00834)

TITLE:

Remove Iodine Filter Cartridge for RE4597AA and BA Containment Atmosphere Normal Range

CHANGE:

Remove the iodine filter cartridge from RE4597AA and RE4597BA and replace them with a cartridge housing with its internal charcoal removed.

REASON FOR CHANGE:

Operations uses computer point R297 (R298) to know when to check RE4597AA (RE4597BA). Unlike the remote indicator controller (RIC), these computer points do not have reflash capability. Currently having channel #3 in alarm for extended periods will mask future alarms on these computer points. By replacing the filter cartridge with an empty one it will prevent any future alarms from channel #3. The higher iodine level in Containment atmosphere is a known condition.

EVALUATION SUMMARY:

The iodine channel for RE 4597AA (RE4597BA) normal range Containment Radiation Monitor is not required for leak detection or post accident monitoring in the Technical Specifications and USAR. These TMs to remove the filter and install an empty cartridge in its place does not affect accident initiators or change the way in which postulated malfunctions could occur. Therefore, there is no increase in the frequency of occurrence or consequences of an accident or malfunction. The iodine channel has no specific USAR design basis function other than monitoring containment atmosphere, which is used for information only. Thus the likelihood of a component malfunction is not increased by a more than a minimal amount. Implementation of these TMs does not introduce the possibility of a malfunction with a different result or affect fission product barriers. These TMs do not introduce the possibility of a malfunction with a different result since no equipment will malfunction differently than previously evaluated and single failure analysis is not impacted.

Based on the evaluations, these temporary modification activities do not meet any of the criteria in paragraph (c)(2) of 10CFR50.59 and a license amendment is not required.

10CFR50.59 EVALUATION SUMMARY
FOR
TM 99-0018 (Number 00-0032 Rev. 2)

TITLE:

Removal of Service Water Strainer #3 and its Upstream Spool from the Service Water Pump Room

CHANGE:

TM 99-0018 proposes to temporarily remove Service Water (SW) Strainer #3 and its upstream spool from the Service Water pump room.

REASON FOR CHANGE:

The strainer will be removed from the plant for an estimated duration of 5-12 weeks during which time the strainer will be refurbished.

EVALUATION SUMMARY:

The strainer and upstream spool will be replaced under the TM with a "Q" Seismic Class I spool for the duration of the refurbishment. With the TM installed, SW Pump #3 will be functional but not operable. The spool will include connections for existing instrumentation via SW2919 and the 3 inch strainer blow down valve (SW1381) and associated piping. After the strainer is refurbished, it will be reinstalled and returned to service.

The pressure boundary integrity of the SW System will not be affected by the TM installation as the new spool shall be designed, analyzed and constructed for installation as a "Q" and Seismic Class I component.

Flooding during the TM installation is not a concern because SW strainer #3 will be isolated from the Service Water system through the use of five isolation valves, three of which are in series to provide tight shut off from both SW trains.

The TM condition does not adversely affect the existing condition of the pipe hangers.

Installation of the TM will not impact the operation of the SW system and the plant because SWP #1 and #2 will be in-service supplying flow to SW Trains 1 and 2 as required by Technical Specification 3.7.4.1. In the unlikely event SWP #1 or #2 fails and the Backup Service Water Pump fails, SWP #3 will be placed in service as directed by plant procedures.

Based on the evaluation, the proposed TM is safe and does not constitute an unreviewed safety question.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 00-028 (Number 98-0056, Rev 01)

TITLE:

Clarify the Description of Calibrations in USAR Section 11.4.4 and 12.1.4

CHANGE:

UCN 00-028 clarifies the description of the calibration of radiation monitors in sections 11.4.4 and 12.1.4 of the USAR.

REASON FOR CHANGE:

The current description regarding calibration frequency is conflicting.

EVALUATION SUMMARY:

Technical Specifications, the Offsite Dose Calculation Manual (ODCM) or component reliability/performance drives the frequency of calibration for radiation monitors. USAR section 11.4 references Safety Guide 21 and 10CFR20 and 10CFR50 for calibration requirements. These sources give generic wording regarding calibration being performed at regular intervals. They do not specify frequency other than it is based on reproducibility and time stability of the system. Regulatory Guide (RG) 4.15 gives a calibration interval of 18 months for radiation monitors which continuously monitor effluent streams. RG 4.15 is applicable to monitors that are required by the ODCM. These monitors are calibrated every 18 months as specified in the ODCM and are not being changed by this USAR change.

The calibration interval of RE600 and RE609 is being increased from 18 to 24 months. RE600 and RE609 provide notification of a large steam generator tube leak, which would be indicated by the presence of N16 in the steam passing the detector. Because of the nature of calibration of these monitors and the extreme energy level of N16 gammas, drift in calibration has little effect on the ability of this detector in detecting N-16. There are additional radiation monitors that monitor the condenser air ejectors, which are much more sensitive to small leaks. Additionally, chemistry sampling and leakage measurement from the primary coolant system are also methods of determining this condition.

Area radiation monitors important to safety are Fuel Handling Ventilation Area Monitors and Containment High Range Area monitors. The calibration of these monitors is governed by Technical Specifications. The frequency of the calibration of these radiation monitors is not being changed. The frequency of the remaining area radiation monitors that are not governed by Technical Specifications are being changed from 18 months to up to 24 months. Area monitors as discussed in USAR section 12.1.4 are installed primarily for personnel safety. Historically, the monitors have exhibited very little drift. These monitors do not typically require adjustment during each 18 month calibration. Gross failures of the monitors are typically recognized during periodic (weekly) observation and quarterly functional testing of the radiation monitor.

Therefore based on the evaluation, this change is considered safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 00-039 (Number 00-0035)

TITLE:

Changes to USAR TRM Section 3.3.3.2

CHANGE:

This TRM change proposes that the requirements for the minimum arrangements of incore detectors, TRM Section 3.3.3.2, Parts (a) and (b), be deleted. It also proposes that Axial Power Imbalance measurements be added to TRM Section 3.3.3.2, Part (d).

REASON FOR CHANGE:

Since the minimum arrangements of incore detectors when measuring Axial Power Imbalance and Quadrant Power Tilt are no longer utilized at Davis-Besse, it is proposed that TRM Section 3.3.3.2, Parts (a) and (b), be deleted. Part (d), specifies that 75 percent of the incore detectors in each core quadrant shall be OPERABLE when measuring $F_{\Delta H}^N$ and F_Q . The 75 percent criterion is also assumed during reload design analyses in determination of Core Operating Limits associated with Axial Power Imbalance.

EVALUATION SUMMARY:

The primary purpose of TRM Section 3.3.3.2, Parts (a) and (b), was to define the number and location of incore detectors that should be connected to the Backup Recorder System. The intent of the Backup Recorder System was to measure Axial Power Imbalance and Quadrant Power Tilt in the event that the values based on the Incore Monitoring System (IMS) were unavailable. Since the IMS is highly reliable and the out-of-core detectors provide an appropriate backup, the Backup Recorder System was no longer needed and was removed from service. Since the Backup Recorders are no longer operational, the need to specify a minimum arrangement of incore detectors is greatly reduced.

The only other possible situation in which a minimum arrangement of incore detectors could be utilized is when the online computer is operational, but the number of incore detectors per TRM Section 3.3.3.2, Part (c), would not be satisfied. If this were to occur, the tilt limit would be determined based on the available incore detectors rather than the configuration defined by TRM Section 3.3.3.2, Part (b).

TRM Section 3.3.3.2, Part (d), specifies that 75 percent of the incore detectors in each core quadrant shall be OPERABLE when measuring $F_{\Delta H}^N$ and F_Q . The 75 percent criterion is also assumed in determination of Core Operating Limits associated with Axial Power Imbalance. This is based on a Framatome report which states that the offset error equation is valid for up to 25 percent detector failures in any quadrant. The computed errors from the offset error equation are used in the determination of the limits associated with Axial Power Imbalance.

Based on the evaluation, it is concluded the proposed action is safe and does not involve an Unreviewed Safety Question.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 00-054 (Number 00-0031)

TITLE:

Revise Description of HEPA Filters for Various Systems

CHANGE:

This UCN adds ASME AG-1-1997, Code on Nuclear Air and Gas Treatment and deletes references to USNRC Health and Safety Bulletin 306 (Bulletin 306), Revised Minimal Specification for the High Efficiency Particulate Air Filter.

REASON FOR CHANGE:

The specifications listed for the HEPA Filters in the USAR for the nuclear ventilation systems at Davis-Besse are out of date to current nuclear standards. This makes procurement difficult.

EVALUATION SUMMARY:

The revision to the USAR to update to the latest technical requirements for HEPA Filters will have no effect on the filtration efficiency or operational characteristics of the filters currently described in the USAR.

The USAR requires that the filters be shop and acceptance tested for the efficiency-penetration with homogeneous particles of dioctyl phthalate (DOP) in accordance with MIL-STD-282. The filters have a removal capability of 99.97 % of the DOP smoke when shop tested with 0.3 micron diameter DOP. This technical requirement remains unchanged except for the deletion of the MIL- STD-282 Revision date. The latest revision is to be used.

The other key operational characteristic is the unloaded differential pressure drop at the rated flow. The USAR value of 1.0 inches of water gauge remains unchanged as this is the standard D/P for a HEPA filter of the size used at Davis-Besse. However, Specification M-404Q uses a more conservative value of 0.8 inches of water gauge as the filters being used are capable of meeting this requirement. This value is the same as the currently installed filter unloaded D/P's. Since the D/P of the HEPA filters is not affected, the air flow through the filter units will not be affected. This ensures that there will be no effect on Emergency Ventilation System draw down time, the negative pressure maintained or the positive pressure in the Control Room as produced by the Control Room Emergency Ventilation System units.

Revision to the new standard, AG-1, means that the latest technical requirements for filter testing and materials will be used. These all meet or exceed the requirements being replaced.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 00-061 (Number 00-0036)

TITLE:

Realignment of the Quality Assurance Function

CHANGE:

This organization change consists of realigning the quality assurance audit function from the Director – Support Services to the Director – Oversight and Process Improvement (FENOC). The quality control, trending, operating experience, root cause and corrective action program functions will remain with the Director – Support Services.

REASON FOR CHANGE:

The purpose of this evaluation is to evaluate the impact of an organizational change at the Davis-Besse Nuclear Power Station on the facility as described in the USAR, including the FENOC Quality Assurance Program Manual (QAPM).

EVALUATION SUMMARY:

The proposed changes to the USAR (FENOC QAPM) have no effect on any structures, systems and components or their associated safety functions, and do not affect the operation of any plant systems. The changes are solely administrative as they revise the quality assurance audit function reporting relationship. All functions and activities continue to be performed. The technical qualifications necessary to operate Davis-Besse continue to be provided by the FENOC and site organization.

Therefore based on the evaluation, this change is considered safe and does not involve an Unresolved Safety Question.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 00-063 (Number 00-0039)

TITLE:

Use of the Cask Crane Main Hook to Carry Heavy Loads Over the Spent Fuel Pool

CHANGE:

UCN 00-063 will allow the use of the cask crane main hook for: movement of the cask pit gate, implementation of the spent fuel pool reracking, and to permit travel of the unloaded main hook over fuel assemblies.

REASON FOR CHANGE:

Condition Report (CR) 2000-0219 identified a concern that the cask crane operating procedure was not in compliance with USAR Section 9.1.2.3. The USAR stated, "The main hook may be made operative and operated over the cask pit or transfer tube pit under administrative control, only when no irradiated fuel is in the pit over which operation of the main hook is required, and provided an engineering evaluation of the potential load drop has been completed." However, the cask crane auxiliary hook cannot physically access the cask pit gate location. This necessitates the movement of the cask pit gate with the main hook of the cask crane.

EVALUATION SUMMARY:

The use of the cask crane main hook to move heavy loads over the spent fuel pool was evaluated against NUREG 0612, Section 5.1.1 guidelines. The evaluation ensured that: there will be a safe load path, procedural requirements for use of the main hook over the spent fuel pool ensure the activity does not adversely impact any spent fuel assemblies or any other equipment important to safety, qualifications and training are in conformance with ANSI B30.2 criteria, lifting devices are designed, manufactured, and tested in accordance with the requirements of ANSI N14.6, slings used meet the requirements of ANSI B30.9, procedures comply with the provisions of ANSI B30.2-1976 Chapter 2-2, and the NRC has stated that the design of the cask crane, including the main hook, to be acceptable.

Davis-Besse NUREG 0612 (Phase II) submittal did address the empty/unloaded polar crane hooks over the open reactor vessel. It discussed the design aspects of the polar crane main and auxiliary hooks and concluded that the drop of an empty hook was not a credible event. The draft NRC Technical Evaluation Report (TER), reviewed this polar crane hook discussion. The TER agreed that the polar crane design features eliminated the need for further analysis (load drop evaluation) or crane modification. Since, the cask crane hooks have the same design features as the polar crane, it is reasonable that this conclusion is also applicable. The discussion above documents that the drop of an unloaded hook is not a credible event and that the NRC has accepted an equivalent justification for the polar crane. Therefore, the unloaded/inoperative cask crane main hook is not a heavy load concern.

A prior evaluation determined that 15 fuel assemblies could be damaged without exceeding the guidelines in NUREG 0612. Fuel stored in the new racks will be closer together than those used in the prior analyses, but this will not affect the number of fuel assemblies required to absorb the

energy of a dropped gate. To reduce any potential fuel damage due to a dropped gate, an administrative limit allows the gates to only be lifted approximately 3 feet, turned 90 degrees, and moved into either the cask or transfer pits prior to being raised out of the water. This will reduce the maximum height of a dropped gate and reduces the energy to be absorbed by the fuel assemblies by a factor of approximately 7. The maximum heat load used in the new analysis is bounded by the prior analysis. Therefore, the above considerations ensure that the dose guidelines of NUREG 0612 will not be exceeded.

The criticality evaluation of potential fuel crushing in the new spent fuel storage racks has been evaluated and concluded that, in the event of a heavy load drop (i.e. pool gate), the reactivity of the spent fuel pool would remain less than 0.95. An analysis was also conducted to evaluate the pool slab for a drop of the heaviest rack load to be handled over the spent fuel pool during reracking. This evaluation determined that the slab is adequate for this loading and that the liner plate will not be punctured.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 01-002 (Number 01-0012)

TITLE:

Removing the Detail in the USAR Description for Cross Connecting E11B and F11A

CHANGE:

This UCN removes the specific sequence of the steps required to cross connect E11B and F11A from the USAR.

REASON FOR CHANGE:

During dose study analysis performed for an Emergency Operating Procedure, it was noted that the existing guidance (which was based on USAR Section 8.3.1.1.11) did not produce the least dose to the individual performing the action.

EVALUATION SUMMARY:

The capability exists to cross connect essential 480 MCCs E11B and F11A. The primary and backup boron dilution flow paths each have a Train 1 and Train 2 essentially powered isolation valve in series. This sequence of steps listed in the USAR requires the performer to enter the Radiological Restricted Area (RRA) to insert the appropriate breaker modules, exit the RRA to F1 located in the #2 Low Voltage Switchgear Room and then return to the RRA. This resulted in additional dose compared to a sequence that produces an optimum dose developed during the Dose Study. The proposed method opens the breaker on F1 prior to entry into the RRA. Opening the F1 breaker prior to entry has no effect on the final cross connected condition of E11B and F11A that is desired. Using the optimum method results in less time spent in the high dose areas. It is desired to remove the detail provided in the USAR to allow selection of the method that provides the least dose to the individuals performing the tasks while allowing the task to be satisfactorily completed.

This change in sequence and the removal of the detail provided in the USAR will have no adverse effect on the safety functions of the affected SSCs, therefore the proposed change is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 01-006 (Number 01-0011)

TITLE:

Operation of the Clean Liquid Radwaste System

CHANGE:

This UCN removes the requirement to isolate the Clean Waste Receiver Tanks (CWRT) prior to processing the tank contents and allows the operator the option to bypass the demineralizers and filters downstream of the Boric Acid Evaporators based on the results of processing.

REASON FOR CHANGE:

Based on historical and current plant configuration (one tank isolated to be used for heat-up and contraction volume, the other tank lined up to receive Letdown Flow and Reactor Coolant Drain Tank flow) the CWRTs were never isolated prior to sampling.

EVALUATION SUMMARY:

The requirement to isolate the CWRT was based on the need to isolate the tank from the influent prior to release to the environment so that the activity released would be a known quantity. The CWRTs are not a release point at Davis-Besse. The release points are the Clean Waste Monitoring Tanks, Miscellaneous Waste Monitoring Tank, and the Detergent Waste Drain Tank. There is no need to isolate the CWRTs prior to processing.

The Polishing Demineralizers and the Concentrates Demineralizer hold a mixed bed of non-regenerative resin beads that remove contaminating ions by ion exchange from the Boric Acid Evaporator distillate and concentrate effluent. The filters remove entrained particulate matter and carried-over resin from the Polishing Demineralizer effluent. Bypassing the two Demineralizers and CWMT filter is acceptable because the processed fluid is passed through two different demineralizers, purification in the Letdown system and primary demineralizer, prior to distillation in the Boric Acid Evaporators. The distillate from the BA Evaporator is cleaner than the RCS fluid and processing the fluid through the polishing or concentrate demineralizer and filter adds little or no improvement in the quality of the water. In addition, if the quality of the distillate is poor, the water would be reprocessed.

Based on the evaluation, it is concluded the proposed action is safe and does not involve an Unreviewed Safety Question.

10CFR50.59 EVALUATION SUMMARY
FOR
UCN 01-017 (Number 01-0020)

TITLE:

Control Room Emergency Ventilation System (CREVS) Heat Load

CHANGE:

This UCN updates USAR Table 9.4-2 with the current heat loads for the CREVS.

REASON FOR CHANGE:

USAR Table 9.4-2 lists by the source the heat loads the CREVS Air Conditioning Unit must support. Over the past few years the heat loads were revised by modifications to various equipment in the Control Room Boundary. CR 2000-1854 was written noting that the heat load calculation had not been kept current with the modifications that had been implemented.

EVALUATION SUMMARY:

The revision to the USAR to update to the latest heat loads does not affect the ability of the CREVS to maintain the Control Room within the design temperatures. The total essential equipment heat loads remain within the 10 ton capacity of one CREVS A/C Unit. The revised calculation brought the analysis up to date with the modifications to the control room, revised the people load to 8 from 5 to account for increased Control Room manning, and included latent heat load from the outdoor pressurization flow of 300 cfm. The calculated heat load is 116,260 BTU/HR. The CREVS Capacity is 120,000 BTU/HR. Thus, a margin of 3,740 BTU/HR is available.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

10CFR50.59 EVALUATION SUMMARY
FOR
WO 99-007260 (Number 00-0033)

TITLE:

Temporary Transfer Configuration and Related Cleaning Activities for the MWMT, MWDT, DWDT, and CWRT 2 Sump

CHANGE:

To support the cleaning activities, a temporary transfer setup will transfer the slurry content from the tanks/sump being cleaned to a High Integrity Container in the Auxiliary Building Train Bay. A 2 inch temporary hose will be run from the tank/sump being cleaned through Emergency Core Cooling System Room 2 (115), the pipe chase in Mechanical Penetration Room (MPR) 2 (236), MPR 4 (314), the hallway outside MPR Room 3 and 4 (304), and into the Auxiliary Building Train Bay (300). This path will require that door 306, 308, and either 107 or 108 are open when the temporary transfer hoses are connected in support of the evolution.

REASON FOR CHANGE:

The sludge build-up in the Miscellaneous Waste Drain Tank (MWDT) has started to restrict the operational capability of MWDT transfer system. Therefore, the decision has been made to clean the MWDT, Miscellaneous Waste Monitor Tank (MWMT), Detergent Waste Drain Tank (DWDT), and the sump in Clean Waste Receiver Tank (CWRT) room 2.

EVALUATION SUMMARY:

The design ratings of the hose, couplings, and pump exceed the maximum operating conditions. Therefore, a rupture is not credible due to overpressure. If an external source would damage the hose, based on the equipment locations and considering the potential for only one leak/rupture location spraying down equipment, the potential would exist for equipment important to safety in only one train being impacted. Should any motor control centers (MCCs) be sprayed with water, the potential would exist for a fault to occur and the loss of the associated MCC(s). Only one electrical train could be impacted by a single hose leak/rupture. If an event does occur where a leak/rupture results in the inoperability of Technical Specification equipment, the rupture would not result in the need for the equipment to perform their intended function. In the unlikely event of a leak or rupture of the hose could also induce potential flooding issues. The areas where the temporary hose will be routed contain floor drains that have adequate capacity to prevent any flooding concerns.

Opening doors 306, 308, and 107 or 108 removes the capability for these doors to perform their intended functions. Technical Specifications, and fire protection procedures provide guidance for impairments to the loss of the door functions listed above. Isolation valves and quick disconnects will also be provided as part of the temporary system setup. This will allow for operator action to stop the transfer and isolate the hoses near the associated doors to allow closure of the doors should the need arise.

Based on the evaluation, it is concluded the proposed action is safe and does not involve a USQ.

Docket Number 50-346
License Number NPF-3
Serial Number 2819
Enclosure 2

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS

DUE DATE

None

N/A