NMC
Committed to Nuclear Excellence

Nuclear Management Company, LLC
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241

Mark E. Reddemann
Site Vice President
Kewaunee & Point Beach Nuclear Plants

NRC 2001-0073

10 CFR 50.90

November 1, 2001

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
LICENSE AMENDMENT REQUEST 221
CONTROL ROOM EMERGENCY FILTRATION SYSTEM (CREFS)
ALLOWED OUTAGE TIME EXTENSION
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In accordance with the provisions of 10 CFR 50.90, Nuclear Management Company, LLC (NMC) is submitting a request for an amendment to Facility Operating Licenses DPR-24 and DPR-27 for Point Beach Nuclear Power Plant (PBNP), Units 1 and 2, respectively, to incorporate changes to the plant Operating Licenses and Technical Specifications.

The proposed amendment would revise Technical Specifications (TS) 3.7.9, Control Room Emergency Filtration System (CREFS), to allow a one-time extension to the allowed outage time (AOT) for CREFS to 30 days, and allow an exception to the requirements of LCO 3.0.4 and SR 3.0.4 during the extended AOT at PBNP. The changes are needed to facilitate the online implementation of modifications/upgrades to CREFS during the current operating cycles and thereby avoid a dual unit shutdown to perform these system upgrades.

Attachment I provides a description, justification and safety analysis, and No Significant Hazards Consideration for the proposed change. Attachment II provides a simplified diagram of the existing Control Room Heating, Ventilation and Air Conditioning (CR-HVAC) System. Attachment III provides a simplified diagram of the post modification/upgraded CR-HVAC System. Attachment IV provides a simplified diagram of the CR-HVAC System during modifications/upgrades requiring the extended AOT. Attachment V provides the existing Technical Specification pages marked-up to show the proposed change. Attachment VI provides revised clean Technical Specification pages.

NMC requests approval of the proposed License Amendment by April 2002. The approval date was administratively selected to allow for NRC review prior to the scheduled performance of the corresponding CREFS modifications/upgrades starting in June 2002.

We have determined that the information for the proposed amendments does not involve a significant hazards consideration, authorize a significant change in the types or total amounts of effluent release, or result in any significant increase in individual or cumulative occupational

Phone: 920/755-7627
Fax: 920/755-7595
E-mail: mark.reddemann@wepco.com

A001

radiation exposure. Therefore, we conclude that the proposed amendments meet the categorical exclusion requirements of 10 CFR 51.22(c)(9) and that an environmental impact appraisal need not be prepared.

Sincerely,

Mark E. Reddemann
Site Vice President

Subscribed to and sworn before me
on this 1st day of November, 2001

Jeanne M. Ferris
Notary Public, State of Wisconsin

My Commission expires on June 8, 2003.

RS/tyf

Attachments:
- I - Description and Assessment
- II - Simplified Diagram of Existing CR-HVAC System
- III - Simplified Diagram of Post Modification/Upgraded CR-HVAC System
- IV - Simplified Diagram of CR-HVAC System during Modifications/Upgrades requiring extended AOT
- V - Proposed Technical Specification Changes
- VI - Revised Technical Specification Pages

cc: NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
PSCW

DESCRIPTION AND ASSESSMENT OF CHANGES
LICENSE AMENDMENT REQUEST 221
CONTROL ROOM EMERGENCY FILTRATION SYSTEM (CREFS)
ALLOWED OUTAGE TIME EXTENSION
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

1.0 INTRODUCTION

Nuclear Management Company, LLC (NMC) is developing modifications/upgrades of the control room envelope to enhance control room habitability. These modifications/upgrades are designed to limit the intrusion of unfiltered inleakage into the control room envelope by enhancing pressurization of the space and by the use of low leakage dampers with high grade industrial quality air distribution components and sealing accessible duct work that can potentially leak unfiltered air into the control room envelope.

In order to permit installation of certain portions of the upgraded design on the system, it is necessary that the Control Room Emergency Filtration System (CREFS) be declared inoperable. This requires entry into the applicable action statement of Technical Specification (TS) 3.7.9, CREFS. However, installation of portions of the modifications/upgrades are expected to take longer than the 7 days currently allowed by the specification. To preclude an unnecessary dual unit shutdown during installation of these safety enhancing upgrades, a one-time extension of the 7-day allowed outage time (AOT) for CREFS to 30 days is required. Additionally, to facilitate restart of either unit during the CREFS outage, exceptions to the requirements of LCO 3.0.4 and SR 3.0.4 will be required.

This proposed License Amendment Request (LAR) is made pursuant to 10 CFR 50.90 to revise TS 3.7.9, CREFS, to allow a one-time extension to the AOT for CREFS to 30 days and allow an exception to the requirements of LCO 3.0.4 and SR 3.0.4 during the extended AOT.

2.0 BACKGROUND

The Nuclear Regulatory Commission (NRC) issued Amendments 174 and 178 to the license for Point Beach (PBNP) Units 1 and 2, respectively, on July 9, 1997. These amendments added a license condition requiring the submittal of a license amendment application and supporting dose analyses demonstrating compliance with General Design Criteria (GDC) 19 dose limits for control room habitability. Subsequently, the NRC eliminated this license condition via Amendments 198 and 203, dated August 15, 2000. Amendments 198 and 203 were premised on a PBNP commitment to revise and submit radiological dose analyses for the control room and a license amendment proposal as necessary to demonstrate continued conformance to regulatory requirements and the PBNP licensing basis. In a letter dated April 6, 2001, NMC notified the NRC that this commitment would be fulfilled by February 1, 2002.

To enhance control room habitability in support of this commitment, modifications/upgrades of the pressure boundary formed by the control room envelope have been initiated. These modifications/upgrades are designed to reduce the intrusion of unfiltered inleakage into the control room envelope by enhancing pressurization of the space and by the use of low leakage dampers with high grade industrial quality air distribution components. The parameter of unfiltered inleakage is a significant factor in the determination of control room total dose exposure. The proposed modifications/upgrades include installation of bubble tight dampers for isolation of the control room and cable spreading room inlet ductwork; isolation of the computer room, control room, and cable spreading room smoke and heat ventilation ductwork; isolation of the control room toilet exhaust ductwork, and sealing of accessible ductwork that could contribute to unfiltered inleakage into the control room envelope.

However, to preclude an unnecessary dual unit shutdown during installation of these safety enhancing measures, a one-time extension of the 7-day allowed outage time for CREFS to 30 days is required. NMC has concluded that balancing this one-time AOT extension, against the improvements provided by these modifications, results in a net benefit to the radiological safety of the operators at PBNP. Additionally, performing the CREFS modifications/upgrades during a one-time extended AOT will reduce the total out of service time of the system and the impact on control room operators.

The modifications/upgrades are part of a comprehensive plan to enhance the control room habitability envelope and is planned to be implemented in seven phases: 1) temporary cooling for the cable spreading room, 2) cable spreading room duct modifications, 3) control room toilet exhaust fan and isolation damper, 4) control/computer rooms smoke and heat isolation dampers, 5) cable spreading room ventilation system duct sealing, 6) temporary control room ventilation system 7) control room outside air isolation damper, and 8) control room ventilation system duct sealing.

Implementation of items 6, 7 and 8 of the modifications/upgrades will require entry into Condition A of TS 3.7.9 for a period of time exceeding that permitted by the current AOT. Because the control room is common to both units, PBNP Units 1 and 2 will both be affected by the modifications/upgrades.

System Information

Information on the Control Room Heating, Ventilation and Air Conditioning (CR-HVAC) System, which includes the Control Room Emergency Filtration System (CREFS), is provided below and in FSAR 9.8 (Ref. 1). Attachment II depicts a simplified diagram of the existing CR-HVAC System.

The CR-HVAC System is used to maintain the temperature in the control and computer rooms, which are both within the control room envelope, such that equipment and instrumentation in the envelope does not operate in an environment above its qualification temperature. In addition, the CR-HVAC (which includes CREFS) also maintains the control room habitable for reactor operators during and following accident conditions. The system is designed for four ventilation modes of operation. Ventilation Mode 1 is normal operation; Modes 2, 3 and 4 are system operation during emergency conditions. In Modes 2, 3, and 4, damper VNCR-4849C closes to isolate the pressure boundary from normal outside air intake.

CREFS serves to filter the control room atmosphere and makeup air during control room isolation conditions. Charcoal adsorbers in these units are installed to reduce the potential intake of radioactive iodine to the control room during accident conditions. The system is required to be operable in reactor Modes 1, 2, 3 and 4, during movement of irradiated fuel assemblies, and during core alterations. If CREFS is inoperable, the system must be restored to operable status within seven days or both reactors placed in Mode 5 (cold shutdown).

Other features of the CR-HVAC System include a smoke and heat removal subsystem. Associated with this sub-system are three isolation dampers. The cable spreading room (CSR) isolation damper helps ensure a pressure differential between the control room envelope and adjacent spaces. The computer room and the control room isolation dampers are intended to limit in-leakage into the control room envelope and ensure the integrity of the control room pressure boundary.

During Ventilation Modes 2, 3, and 4 of the CR-HVAC system, the control room toilet exhaust fan is de-energized, but not otherwise isolated from atmosphere. In phase 3 of the proposed modifications/upgrades, a new motor operated isolation damper between the exhaust fan discharge and the outdoor discharge duct will be added.

Design Basis

A normal operating environment of 75°F ± 10°F is maintained in the control room. The system equipment is designed to maintain a room temperature of 75°F ± 10°F, with outside air temperatures varying from -15°F to 95°F. Instrumentation and associated circuitry in the control room is generally rated for an ambient temperature range of 40°F to 120°F.

For radiological habitability, the system is capable of operating in four different modes providing for control room pressurization to limit inleakage, makeup and recirculation through HEPA and charcoal filters to remove contaminates, and recirculation without filtration or makeup. Design basis analysis demonstrates that the system is capable of meeting the dose limits of 10 CFR 50, Appendix A, GDC 19, as required by NUREG-0737, Item III.D.3.4. The design factors affecting the system's ability to meet the above dose limits include system actuation on a Containment Isolation signal, emergency filtration flow rate of 4950 cfm ± 10%, maintaining a positive pressure ≥1/8 in. w.g. during Mode 4 operation, and meeting the minimum filtration efficiencies specified in the test section for the HEPA and charcoal filters.

System Design And Operation

The CR-HVAC System (including CREFS) is located in the mechanical room above the control room and is controlled from control room panel C67. The system is designed for four modes of operation. Mode 1 is normal operation, Mode 2 is 100% recirculation, Mode 3 is 25% filtered return air / 75% recirculation, and Mode 4 is 25% filtered outside pressurization air / 75% recirculation. Flow paths for these four modes are depicted in FSAR Figure 9.8-1.

For Mode 1, one of the two normal supply/recirculation fans (W-13B1 or W-13B2) is started. The fan start opens outside air damper VNCR-4849C to a predetermined throttled position to supply approximately 1000 cfm of make-up air ducted from an intake penthouse (located on the roof of the auxiliary building.) The make-up air and the return air from the control and computer rooms pass through roughing filter F-43 and cooling units HX-100 A&B before entering one of the normal recirculation fans. Room thermostats and/or humidistats control operation of the chilled water unit supplying the cooling units. After leaving the normal recirculation fan, filtered and cooled air is supplied to the mechanical room and through separate heating coils, HX-92 and HX-91 A&B, and humidifiers, Z-78 and Z-77, to the computer and control rooms, respectively. Room thermostats and humidistats also control the operation of the heating coils and humidifiers. Also operating in Mode 1 are computer room supplementary air conditioning unit W-107A/HX-190A/HX-191A or W-107B/HX-190B/HX-191B and control room toilet exhaust fan W-15.

Mode 2 operation is 100% recirculation of the air initiated by a Containment Isolation / Safety Injection signal or manually from panel C67. When this mode is initiated, outside air damper VNCR-4849C closes and the toilet exhaust fan is de-energized.

Mode 3 operation employs one of two CREFS filter fans (W-14A or W-14B) and filtration unit F-16, which includes a roughing filter, a HEPA filter, and a charcoal filter. This mode is initiated from panel C67 and opens damper VNCR-4851B and damper VNCR-4851C. With these dampers in the full open position, a portion (approximately 25%) of the recirculated air is directed through filter bank F-16 and the operating emergency fan back to the suction of the normal recirculation fan. Operation in this mode also closes outside make-up air damper VNCR-4849C and de-energizes the toilet exhaust fan W-15.

Mode 4 is similar to Mode 3 except return air inlet damper VNCR-4851B to the emergency fans remains closed and outside air supply damper VNCR-4851A opens. This allows approximately 4950 cfm of make-up air to pass through filter F-16 and the emergency fan to the suction of the normal recirculation fan. Thereby, a positive pressure of ≥1/8 in. w.g. is maintained in the control and computer rooms to prevent in-leakage. This mode is initiated by a high radiation signal from the control room area monitor, RE-101, a high radiation signal from noble gas monitor, RE-235 (located in the supply duct to the control room), or manually from panel C67.

Other features of the CR-HVAC System include the capability to exhaust smoke and heat from the control room, computer room, or cable spreading room through dedicated smoke and heat vent fan, W-13C. The associated dampers for this evolution are interlocked so that only one room can be lined up for smoke and heat removal at a time. This operation precludes smoke damage to the air filters in the recirculation system. The controls for smoke and heat removal are from panel C-67A, located in the work control center adjacent to the control room. The computer room has supplementary air conditioning units, W-107A/HX-190A/HX-191A and W-107B/HX-190B/HX-191B to assist the normal CR-HVAC System in maintaining computer room temperatures below equipment design limits. The computer room is also equipped with a Halon fire suppression system. Activation of this system automatically closes dampers VNCOMP-4849A and VNCOMP-4849B to isolate the computer room from the rest of the control room ventilation system and de-energizes the supplementary air conditioning units. Filter F-16 has a manually initiated water suppression system to mitigate a fire in the charcoal bed.

System Evaluation

The original specification for the CR-HVAC System was to maintain a room temperature of 75°F with outside air temperatures varying from -15°F to 95°F with a single train in continuous operation. With the given summer and winter conditions, equipment was sized to maintain room temperatures at less than or equal to 77°F for summer conditions, and greater than or equal to 75°F for winter conditions. Continuous room temperatures are maintained at 75°F ± 10°F to provide assurance that personnel and equipment temperature limits can be maintained during a temporary (2 hour or less) loss of the CR-HVAC System.

Control Room Equipment Ambient Temperature Design Limits

Instrumentation and associated circuitry in the control room is generally rated for an ambient temperature range of 40°F to 120°F. Following a loss of the control room ventilation, room heat loads would most likely prevent the room temperature from ever reaching 40°F, however, 120°F could be reached during a prolonged unavailability of the system. During a Station Blackout (SBO), ambient temperatures under limiting conditions have been calculated to reach 112°F in two hours and 120°F in four hours. NMC has committed to have power available (via the gas turbine (G05)) to restore system cooling within the first hour of a SBO. Similar temperatures would be expected for other accidents involving loss of control room ventilation. Based on the above temperature transient calculations and the temperature limits of safety-related equipment in the control room, it can be concluded that this equipment will perform its function during a two hour loss of control room ventilation.

Computer Room Equipment Ambient Temperature Design Limits

For normal conditions and design basis accidents, the computer room multiplexers (MUX) are the most temperature sensitive components, with an inlet air ambient temperature limit of 85°F. In the event that elevated temperatures in the computer room lead to eventual MUX failures, contingency actions provide for monitoring the minimum required post-accident in-core thermocouple temperatures on dedicated recorder displays located on the ASIP panels. Manual monitoring of all the in-core thermocouple temperatures at the MUX input terminals is possible using portable M&TE.

For a SBO, the SPEC 200 racks are the most temperature sensitive components, with a limit of 140°F. The temperature rise in the computer room during a SBO was calculated to reach 123°F in two hours and 138°F in four hours. Again, based on the above temperature transient calculations and the temperature limits of safety related equipment (except for the MUX) in the computer room, it can be concluded that this equipment will perform its function during a two hour loss of computer room ventilation.

Operator 30-Day Integrated Dose Limits

Analyses performed to show compliance with 10 CFR 50, Appendix A, GDC 19, indicated that these limits could be met with the CR-HVAC System (including CREFS) operating in Mode 4 considering that additional shielding was provided for the control room window and doors to reduce the whole body dose from gamma streaming and that the control room personnel have access to protective clothing and eyeglasses to reduce beta dose. Other factors affecting the system's ability to meet the dose limits include; emergency filtration flow rate of approximately 4950 scfm, maintaining a positive pressure ≥1/8 in. w.g. during Mode 4 operation, administration of potassium iodide tablets to operating personnel, and meeting specified minimum filtration efficiencies for both the HEPA and charcoal filters. Other assumptions of these analyses are described in FSAR Section 14.3.5 (Ref. 2).

3.0 **DESCRIPTION OF CHANGE** (Refer to Attachments V and VI)

NMC is developing modifications/upgrades of the pressure boundary, formed by the control room envelope, to enhance control room habitability. To preclude an unnecessary dual unit shutdown during installation of these safety enhancing modifications/upgrades, a one-time extension of the 7-day allowed outage time for CREFS to 30 days is required.

TS 3.7.9, is proposed to be changed by the addition of an asterisk to the 7-day Completion Time for Required Action A.1. The asterisk will refer to a note that extends this Completion Time to 30 days, on a one-time basis for performance of CREFS modifications/upgrades.

The proposed note will read:

> The Completion Time of Required Action A.1 may be extended up to 30 days, on a one-time basis to implement modifications/upgrades to the CREFS. The provisions of LCO 3.0.4 and SR 3.0.4 are not applicable during the modifications/upgrades to the CREFS that require use of the extended Completion Time.

This proposed one-time allowance in TS 3.7.9 will exist only for the purpose of supporting the planned CREFS modifications/upgrades. This TS change will not affect the existing 7-day allowed outage time of TS 3.7.9 in the event that CREFS is determined to be inoperable for any other reason. Therefore, no changes to the TS Bases are necessary.

The proposed change also requests an exception to the requirements of LCO 3.0.4 and SR 3.0.4 during implementation of the proposed modifications/upgrades to the CREFS. LCO 3.0.4 prohibits entry into a mode when the conditions of the LCO are not met and the associated action do not permit continued operation in that mode for an unlimited period of time. SR 3.0.4 prohibits entry into a mode unless the associated surveillance requirements have been met.

During implementation of the modifications/upgrades, the requirements of LCO 3.0.4 and SR 3.0.4 would unnecessarily prevent a restart of the plant in the event of an unplanned reactor shutdown. The conditions established by the note are necessary to allow the plant to restart without meeting the surveillance and LCO requirements of TS 3.7.9 in the event of a plant shutdown while the system modifications/upgrades are being implemented. During implementation of the system modifications/upgrades, contingency measures and temporary equipment will be in place to ensure cooling of the control room area and availability of emergency filtration. Therefore, it is not necessary to impose the requirements of LCO 3.0.4 and SR 3.0.4 during implementation of the modifications/upgrades to the CREFS.

4.0 ANALYSIS

4.1 Technical Justification

The proposed CR-HVAC modifications/upgrades are part of a comprehensive effort to enhance the control room habitability envelope by providing the occupants with a greater margin of safety from exposure to the effects of airborne fission products. The modifications/upgrades will enhance components associated with the CR-HVAC System, as well as provide temporary cooling and temporary filtration during the implementation phase. (See Safety Analysis regarding compensatory measures.)

The planned CR-HVAC modifications/upgrades will enhance the capability of the system to minimize unfiltered inleakage into the control room envelope by replacing existing components with new higher grade components. The configuration, function, and control logic of this system will not be changed during these modifications/upgrades.

Completion of the proposed modifications/upgrades will result in increased assurance that the CR-HVAC System (including CREFS) will meet its design and licensing bases when operating in the emergency modes. The CR-HVAC System consists of components classified as non-safety related that provide radiation protection to permit continuous occupancy of the control room under any credible post-accident condition without excessive radiation exposure.

Phase 7 modifications/upgrades include replacement of the CREFS' existing unfiltered outdoor air isolation damper with a new, more reliable, bubble tight model. Two new, manually operated, balancing dampers will also be provided to permit post modification balancing of system flows. New duct sections and access doors will be leak tight, and along with new components, will be supported to meet the Seismic II/I criteria where applicable. Replacement components will be powered from existing sources. The existing I&C System, powered from the 120 VAC System, in conjunction with the Radiation Monitoring System, will continue to monitor and regulate the system equipment in compliance with the design basis. These modifications/upgrades will not change the configuration, function, or operability of the CREFS, but will enhance pressurization and isolation of the control room envelope with upgraded system dampers and ductwork.

Existing CREFS (Refer to Attachment II)

CR-HVAC (including CREFS) operates in four modes. During Mode 1, or Normal Operation, damper CV-4849C is open to a preset position, allowing the ventilation system to take in approximately 1000 cfm of unfiltered outdoor air. During Modes 2, 3, and 4, the CREFS operates in response to emergency conditions and damper CV-4849C is closed to isolate the control and computer room pressure boundary from inleakage of unfiltered outdoor air.

Modifications/Upgrades (Refer to Attachments III and IV)

A bubble tight damper will replace CV-4849C located in the CR-HVAC equipment room. A section of the existing ductwork will be removed along with a section of the filtered outdoor air duct, including existing isolation damper CV-4851C, to permit installation of the replacement damper. All replaced ductwork within the control room envelope will be of seam welded construction with matched flange joints. Replacement access doors within the control room envelope, required to allow regular inspection of the new CV-4849C and the re-installed CV-4851C, will be bubble tight construction. The replacement ductwork and components will be supported to meet Seismic II/I criteria.

The new bubble tight damper will be of the same nominal (free area) size as the existing CV-4849C, and will close in approximately the same period of time (60 seconds max.). The new damper will be designed and manufactured to meet the same air flow, temperature, and pressure conditions as the component it will replace. As required by the existing system configuration, the new damper will fail in the closed position. The electrical and instrument air requirements of the limit switches and actuator will be provided from existing sources.

To provide a means by which the flow of unfiltered outdoor air may be balanced to meet system requirements when the new components have been installed, a new manual balancing damper will be installed at a point just upstream of the new CV-4849C.

Similarly, to allow balancing the flow of control room recirculation air to the inlet of filter unit F-16, a new manual damper will be installed /inserted upstream of isolation damper CV-4851B. A new access plate will be provided for periodic inspection of the damper. The replacement duct will be of the same construction described above and will be supported to meet the Seismic II/I criteria.

To provide a clear, interference free space for installation of the new ducts, components, and supports, some of the existing conduit and instrument air lines powering CV-4849C and CV-4851C will be removed. New wiring and instrument air lines will be provided for the isolation dampers in their post-modification positions.

To minimize unfiltered inleakage into the control room envelope, accessible negative pressure Control Room Ventilation (VNCR) System ductwork in the HVAC mechanical equipment room will be sealed (hardcast). Implementation of the sealing will require the VNCR System to be shut down for an extended period of time. Due to equipment layout and duct routing/space constraints, portions of the ductwork will have to be sealed internally. The sealing will reduce operator dose by minimizing unfiltered air from entering the control room envelope.

Implementation of these system modifications/upgrades will not change the form, function, or operation of the CR-HVAC System, which does not perform any safety related functions. The control room habitability zone will be upgraded by providing the occupants with a greater margin of safety from exposure to the effects of airborne radionuclides during a design basis accident.

Extended CREFS AOT

The one-time extension of the 7-day AOT for CREFS to 30 days is required to facilitate phases 6, 7 and 8 of the control room habitability enhancements for the following reasons: 1) OSHA lockout tagout for personnel protection requires that the entire system be isolated due to system configuration, 2) congestion of the HVAC equipment room limits the number of craft personnel that can work at any one time, 3) much of the duct sealing is internal to the ductwork due to room congestion, 4) total system out of service time will be minimized by bundling the work into a single system outage versus several shorter outages, and 5) the impact on control room operators will be minimized by maintaining the temporary cooling system in place.

The allowance for an exception to the requirements of LCO 3.0.4 and SR 3.0.4 during the extended AOT at PBNP is necessary to preclude the inability to restart a unit. During implementation of the modifications/upgrades, the requirements of LCO 3.0.4 and SR 3.0.4 would unnecessarily prevent a restart of the plant in the event of an unplanned reactor shutdown. During implementation of the system modifications/upgrades, contingency measures and temporary equipment will be in place to ensure cooling of the control room area and availability of emergency filtration. Therefore, it is not necessary to impose the requirements of LCO 3.0.4 and SR 3.0.4 during implementation of the modifications/upgrades to the CREFS.

Conclusions

NMC has concluded that based on improvements to control room habitability made through the above modifications/upgrades to the control room envelope and the minimization of CR-HVAC System out of service time, an extension of the CREFS AOT from 7 days to 30 days is justified and supports this amendment for the incorporation of the changes to the PBNP Technical Specifications.

4.2 Safety Analysis

The control room ventilation system is used to maintain the temperature of the envelope within a specified band, provide smoke and heat removal, and maintain a habitable environment for operators under accident conditions. In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors. In order to maintain defense in depth and to ensure a commensurate degree of protection of the operators during the period that CREFS is inoperable for the installation of the modification/upgrades, temporary cooling and filtration systems will be installed and available for use.

Temporary Cooling System

The temporary cooling system will consist of a self contained, air cooled water chiller located on the turbine deck outside the control room, and four air handling units with chilled water cooling coils located inside the control room. A single, identical air handling unit will be located within the computer room. Additionally, the existing supplemental coolers will be wired to run simultaneously. To connect the chiller to the control room units, two steel supply and return pipes will be routed from the chiller through penetrations in the transom adjacent to the control room south passage door. Inside the control room, these headers will be fitted with four sets of valved connections, one for each of the four air handling unit cooling coils. A set of supply and return lines will be routed to the computer room through penetrations in the transom above the passage door and provided with valved connections to the air handling unit cooling coil. All temporary chilled water piping inside the computer and control rooms will be run along the floor where possible to obviate the need for pipe supports. Ramps may be installed over piping crossing access/egress paths. All temporary equipment and piping will be located and secured as required. Temporary heat will not be provided because there is sufficient heat gain from equipment located in these spaces.

The capacities of the temporary chiller and associated air handling units will be sufficient to meet the maximum load demands of the control room and computer room. The chiller and air handling units will run continuously. Temperature within the conditioned spaces will be controlled by throttling or shutoff of the flow of chilled water to individual air handling units. Flow can be restored quickly when needed.

Because the control room is continuously occupied, pipe leaks or ruptures will be immediately detected and compensated for by isolating the line until repairs are made. Condensate accumulations in the air handling unit drain pans will be monitored at regular intervals and the pans will be drained as required.

Temporary power for the cooling equipment will be provided from spare cubicles in MCC 1B41. Reliable backup power will be supplied via G05, similar to the SBO line-up. Although some components of the normal CR-HVAC System are connected to the Emergency Diesel Generator power supply, the temporary system will not be. Loss of cooling to the control room and computer room has been analyzed. If cooling cannot be restored in a two hour period, the actions described in Abnormal Operating Procedure AOP-10A, Safe Shutdown – Local Control, Attachment E, Emergency Ventilation for Safe Shutdown Areas, provide appropriate compensatory measures that will be taken.

Temperature sensitive equipment required for safe shutdown, located in the control room and in the computer room, has been evaluated for loss of ventilation. During implementation of the CR-HVAC modifications/upgrades, temporary cooling equipment capable of meeting the cooling load demands will be located in these spaces to ensure operability of this equipment by maintaining ambient temperature below the maximum allowable (FSAR 9.8.3). Failure of temporary cooling does not differ from failure of normal ventilation, which is compensated for by the actions described in Abnormal Operating Procedure AOP-10A, Attachment E.

Upon completion of installation and satisfactory testing of the modified ductwork and duct sealing in the HVAC Equipment Room, the temporary cooling equipment will be disconnected, disassembled and removed. The pipe and conduit penetrations will be capped and left as permanent features of the security, fire and HELB barrier walls.

The brief period during which the temporary cooling system pipe and conduit penetrations will be made through the HELB boundary of the control room is well within the 90 day limit of risk assessed in NRC RIS 2001-09, which clarifies 10 CFR 50.65 (Maintenance Rule).

The Computer Room Supplemental Air Conditioning subsystem, Unit A and Unit B, and the temporary operation needed to support the CR-HVAC modifications/upgrades is important for maintaining the ambient temperature conditions for the plant process computer located in the computer room above the control room. Normally, Unit A or Unit B is in operation with the other air conditioning unit in Standby. The standby unit auto starts on low air flow, lockout or failure of the operating unit. The temporary change will run both Computer Room Supplemental Air Conditioning Units (Unit A and Unit B) simultaneously in order to supply additional supplemental cooling capability to ensure adequate cooling for the non-safety related process computer. By running both Unit A and Unit B simultaneously, there is no standby unit; therefore, a failure of either Unit A or Unit B will require manual operation to secure and isolate the failed unit for repair/maintenance. Operating guidance will be developed to address the temporary configuration.

The CR-HVAC System is not credited with maintaining the design basis environmental conditions for equipment associated with mitigation of a SBO event. Abnormal Operating Procedure AOP-10A, Attachment E, provides guidance on emergency response for a loss of ventilation in the control room. Nonetheless, since the CR-HVAC System will be taken out of service during implementation, temporary cooling will be provided as a compensatory measure. No failure or malfunction of either the permanent or temporary system can initiate any of the anticipated operational transients or postulated design basis accidents analyzed in the FSAR.

Smoke and Heat Removal

The Smoke and Heat Removal System does not normally operate. This dedicated ventilation system, which has no automatic initiation, is manually operated at the discretion of trained Fire Brigade personnel to purge smoke and excess heat from the control room, the computer room, or the cable spreading room following a fire. Unavailability of this system during implementation of this modification will not increase the probability of a fire or any other accident or event. Fire prevention and mitigation is performed via administrative controls and the engineered system design. The same level of control will be maintained during the extended AOT.

Temporary Filtration System

The CREFS is a subsystem of the CR-HVAC System. This system provides airborne radiological protection for control room personnel, as demonstrated by the limiting control room dose analyses for the design basis large break loss of coolant accident (LOCA). Control room dose analysis assumptions are presented in the FSAR, Section 14.3.5 (Ref. 2). The CREFS (MODE 4) is required to be operable to ensure that the control room habitability limits are met following a limiting design basis LOCA. Total system failure could result in exceeding the control room operator thyroid dose limit of 30 rem in the event of a large radioactive release.

Implementation of the proposed modification/upgrades will require taking the CR-HVAC System (of which CREFS is a subsystem) out of service for an extended period of time. In the unlikely event of a design basis accident or uncontrolled radiological release, a temporary filtration system will be available to mitigate the dose to operators. The temporary filter unit will be designed in general conformance with Regulatory Guide 1.52. The temporary filter unit will be rated at a nominal 2000 cfm and will have a pre-filter, carbon adsorber and a HEPA filter. The carbon adsorber material will be impregnated nuclear grade carbon. The carbon and HEPA filters will be of equivalent efficiencies as the existing Control Room Emergency Filter F-16. The temporary system will be designed to pressurize the control room when taking into consideration the previously performed upgrades to the control room envelope, and that the control room envelope is being reduced by approximately one-third during the modification/upgrades that necessitate the extended AOT.

The temporary filter system will be supplied from a reliable power source. In the event of a design basis accident or an uncontrolled radiological release, the temporary filtration system will be started at the direction of Operations or the Emergency Response Organization. The temporary filter unit will be verified that it operates and supplies air prior to final installation into the control room.

The temporary filter unit will be located in the turbine building with filter pressurization supply air from the turbine building. The temporary filter unit will be located such that it will not contribute significant shine dose to the operators in the control room. There will be a temporary penetration required in a door transom to admit the filtered pressurization air into the control room. The temporary penetration will meet fire, HELB and security requirements. Hose stations in the area of the temporary filter unit can be utilized by the fire brigade for fire protection.

Implementation of these modifications/upgrades will not change the form, function, or operation of the CR-HVAC System, which does not perform any safety related functions. The control room habitability envelope will be upgraded by providing the occupants with a greater margin of safety from exposure to the effects of airborne radionuclides during a design basis accident. Upon completion of this modification/upgrade, the ESF Actuation System will continue to shift CREFS to Mode 2 upon reception of a containment isolation signal. No changes will be made to the Main Control Board annunciation. The proposed modifications/upgrades will result in an improved control room habitability environment, consistent with the objective of establishing a high level of confidence that the CREFS will function reliably and at a degree of efficiency equal to or better than that assumed in the accident analyses.

Toxic Gas Concerns

The control room also needs to remain habitable in the event of a hazardous chemical release per item III.D.3.4 of NUREG-0737. The initial evaluation performed for Point Beach concluded that toxic gases are not a serious concern at PBNP, mainly because of its location and the lack of industry around it. This conclusion still holds today because the surrounding area's industry focus has not had any major changes.

Limiting Design Basis Accident Analysis

The analysis of record for PBNP for control room operator dose is bounded by the large break LOCA. This analysis uses the Regulatory Guide 1.4 methodology (based on TID 14844). This analysis over predicts control room dose due to compounding conservatisms in the complex analysis. Identified conservatisms are, but not limited to: containment leakage rate, atmospheric dispersion factors, ECCS leakage, and control room occupancy factors.

Containment is assumed to leak at the Technical Specification leak rate of 0.4 weight percent per day for the initial 24 hours, than 0.2 weight percent for the remaining 29 days. Currently, PBNP has an administrative limit of 0.2 weight percent for the containment leakage. Integrated leak rate tests of Units 1 and 2 indicate leak rates on the order of 0.1 weight percent per day. Therefore, a margin of a factor of two exists in the containment leakage factor.

The current licensing basis LB LOCA analysis uses Murphy-Campe methodology for determining the atmospheric dispersion factors (X/Q). This model does not predict the variations of the concentrations near buildings well, particularly at low wind speeds. The ARCON96 atmospheric dispersion methodology (NUREG/CR-6331) implements a model for calculation concentration in the vicinity of buildings. Recent calculations performed for PBNP using the ARCON96 demonstrated roughly an overall factor of 2 reduction for the X/Qs for the Control Room due to containment leakage.

Conservatism in the analysis from the ESF/ECCS leakage dose contribution lies in the containment sump volume and release path. The current licensing basis analysis assumes a sump volume of 197,000 gal. Recent modifications to the containment cavity drain to reduce the amount of water hold-up has increased the amount of water available for re-circulation to 248,000 gals. This added volume reduces the concentration of the activity in the sump and the dose contribution by approximately a factor of 1.25. The release point for the ESF/ECCS leakage is the Auxiliary Building Vent Stack. This stack has charcoal filtration capabilities which are not credited in the current analysis because this is not a safety related system. However, if this system were in place during a radiological release, this filtration unit would help to mitigate the release of iodine.

Control Room occupancy factors used on the current control room habitability analysis also has significant margin built in. Normally, the control room operators work in a rotating shift of 8 hours per day, where as the analysis assumes an operator is in the control room for 100% of the time for the first 24 hours post-accident, then 60% of the time 24-96 hours post-accident, then 40% of the time 96-720 hours post-accident. The majority of the post-LOCA CR thyroid dose occurs in the first 24 hours of the accident. The first twelve hours are enough to identify the cause of the accident, initiate the safe shutdown action, and dose mitigation function. Enough trained operators are available to continue the safe shutdown functions. Therefore, a margin of a factor of two exists in the occupancy factor parameter.

Conclusion

Implementation of the modifications/upgrades described above will require taking the CR-HVAC System out of service for an extended period of time. To support continued plant operation during this time, NMC will be providing a temporary cooling system to maintain design conditions in the control and computer rooms as applied to comfort of the occupants and maximum allowable temperature limits for equipment located in those spaces. NMC will also be providing a temporary filtration system that will be available for use in the event that a design basis accident were to occur during the period that CREFS is inoperable.

The analysis for the limiting design basis accident, the large break LOCA, has a significant amount of conservatism built in to account for uncertainties in system performance and analysis techniques. This conservative margin of safety, along with the temporary filtration unit, provide a high level of confidence that the health and safety of the operators will be maintained, such that they will be able to prevent or mitigate an event.

4.3 Risk-Informed Analysis

When CREFS is inoperable, Technical Specifications require that action be taken to restore the system to operable status within 7 days. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period and challenging control room habitability. The CREFS is excluded from modeling in the Point Beach Probabilistic Risk Assessment (PRA) due to its extremely low risk significance. The CREFS is a support system that provides airborne radiological protection for control room personnel.

The risk significance involved with removing CR-HVAC (including CREFS) is extremely low based on the short period (30 days) and the consequences of losing this function. NMC performed a risk evaluation of the failure of the non-safety related chilled water subsystem during the total 30-day period. This evaluation concluded that the loss of equipment in the non-safety related chilled water subsystem over the 30-day total period, based on generic component failure rates, is 1.9E-02. If the cooling function was lost and not able to be restored, operators would be required to shut down the plant as directed by plant procedures. During this time, there would be a slow gradual rise of temperature in the control room area. Therefore, there would be no impact on the core damage frequency because the plant would be shut down before control room area temperatures reached the point where equipment operation would be affected.

Additionally, a probability of occurrence for each of the events of concern for control room habitability, during the proposed 30-day extended AOT, was estimated. All of these individual probabilities were found to be less than 1E-06. The total probability that any of the five events occurs during this time period was estimated to be 7.7E-07, a probability which is normally considered to be of low safety significance. In addition, the actual consequences of these events is expected to be less that what is assumed in the design basis analysis. Therefore, the probability of having a significant radioactive release due to these events during the proposed 30 day AOT is likely to be significantly less than 1E-06.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Determination

In accordance with the requirements of 10 CFR 50.90, Nuclear Management Company (licensee) hereby requests amendments to facility operating licenses DPR-24 and DPR-27, for Point Beach Nuclear Plant, Units 1 and 2, respectively. The purpose of the proposed amendments is to revise Technical Specifications (TS) 3.7.9, "CREFS", to allow a one-time extension to the allowed outage time for CREFS to 30 days at Point Beach.

Nuclear Management Company has evaluated the proposed amendments in accordance with 10 CFR 50.91 against the standards in 10 CFR 50.92 and has determined that the operation of the Point Beach Nuclear Plant in accordance with the proposed amendments presents no significant hazards. Our evaluation against each of the criteria in 10 CFR 50.92 follows.

1. **Operation of the Point Beach Nuclear Plant in accordance with the proposed amendments does not result in a significant increase in the probability or consequences of any accident previously evaluated.**

The operability of CREFS ensures that the control room will remain habitable for operators during and following all credible accident conditions. The inoperability or failure of CREFS is not an accident initiator or precursor. Therefore, the probability of an accident previously evaluated will not be significantly increased as a result of the proposed change. Because design limitations continue to be met and the integrity of the reactor coolant system pressure boundary is not challenged, the assumptions employed in the calculation of the offsite radiological doses remain valid. Control room dose calculations are not affected outside the limited one-time period when the CREFS modifications/upgrades are ongoing.

During the period that CREFS will be inoperable, temporary ventilation will provide adequate filtration to the control room and adequate cooling to the control and computer rooms. The effectiveness of the temporary filtration provided during this 30 day period is not significantly less than that of the permanently installed CREFS. Only the duration of a currently allowed outage time is being changed, with commensurate compensatory measures being taken. Therefore, the consequences of an accident previously evaluated will not be significantly increased as a result of the proposed change.

2. Operation of the Point Beach Nuclear Plant in accordance with the proposed amendments does not result in a new or different kind of accident from any accident previously evaluated.

The possibility for a new or different type of accident from any accident previously evaluated is not created as a result of this amendment. The evaluation of the effects of the proposed changes indicate that all design standards and applicable safety criteria limits are met. These changes therefore do not cause the initiation of any new or different accident nor create any new failure mechanisms.

Equipment important to safety will continue to operate as designed. Only the duration of a system's allowed outage time is being changed. Component integrity is not challenged. The changes do not result in any event previously deemed incredible being made credible. The changes do not result in more adverse conditions or result in any increase in the challenges to safety systems. Therefore, operation of the Point Beach Nuclear Plant in accordance with the proposed amendments will not create the possibility of a new or different type of accident from any accident previously evaluated.

3. Operation of the Point Beach Nuclear Plant in accordance with the proposed amendments does not result in a significant reduction in a margin of safety.

The CREFS functions to mitigate the effects of accidents. Implementation of the modifications/upgrades will require removing the system from service for a period of time longer than presently allowed by the Technical Specification. This results in a longer period during which the consequences of a design basis accident, affecting the dose of control room personnel, may be slightly increased. During the period that CREFS will be inoperable, a temporary ventilation system will provide adequate filtration to the control room and adequate cooling to the control and computer rooms. The effectiveness of the temporary filtration provided during this 30 day period is not significantly less than that of the permanently installed CREFS. Only the duration of a currently allowed outage time is being changed, with commensurate compensatory measures being taken. There are no new or significant changes to the initial conditions contributing to accident severity or consequences. The proposed modification will not otherwise affect the plant protective boundaries, will not cause a release of fission products to the public, nor will it degrade the performance of any other SSCs important to safety. The analysis for the limiting design basis accident, the large break LOCA, has a significant amount of conservatism built in to account for uncertainties in system performance and analysis techniques. This conservative margin of safety, along with the temporary filtration unit, provide a high level of confidence that the health and safety of the operators will be maintained, such that they will be able to prevent or mitigate an event. Therefore, removing the CREFS from service for 30 days on a one-time basis to permit system upgrading, will not significantly reduce the margin of safety. The improvements to CREFS resulting from the proposed modifications will enhance operator protection against conditions resulting from a design basis accident and therefore provide a net benefit to radiological health and reactor safety.

Conclusion

Operation of the Point Beach Nuclear Plant in accordance with the proposed amendments will not result in a significant increase in the probability or consequences of any accident previously analyzed; will not result in a new or different kind of accident from any accident previously analyzed; and, does not result in a significant reduction in any margin of safety. Therefore, operation of PBNP in accordance with the proposed amendments does not result in a significant hazards determination.

5.2 Commitments

The following list identifies those actions committed to by NMC in this document for the duration of the extended CREFS AOT. Any other statements in this submittal are provided for information purposes and are not considered to be commitments.

1. NMC will develop contingency plans for briefing operations personnel and key ERO personnel on system status and available contingencies, availability of materials and personnel to re-enable the system, as needed, and management of risk from concurrent work in accordance with 10CFR50.65(a)(4).

2. A standby temporary filtration subsystem will supply HEPA and charcoal filtered makeup pressurization air to the control room. The temporary filter will have equivalent filter efficiencies as existing Control Room Emergency Filter F-16. The temporary penetration will meet fire, HELB and security requirements. The temporary filter subsystem will be supplied from a reliable power source. In the event of a design basis accident or an uncontrolled radiological release, the temporary filter will be started at the direction of Operations or the Emergency Response Organization.

3. Alternate cooling that will meet the cooling load demands to maintain the control and computer rooms below the maximum design basis temperatures will be provided. The temporary penetration for this alternate cooling will meet fire, HELB and security requirements.

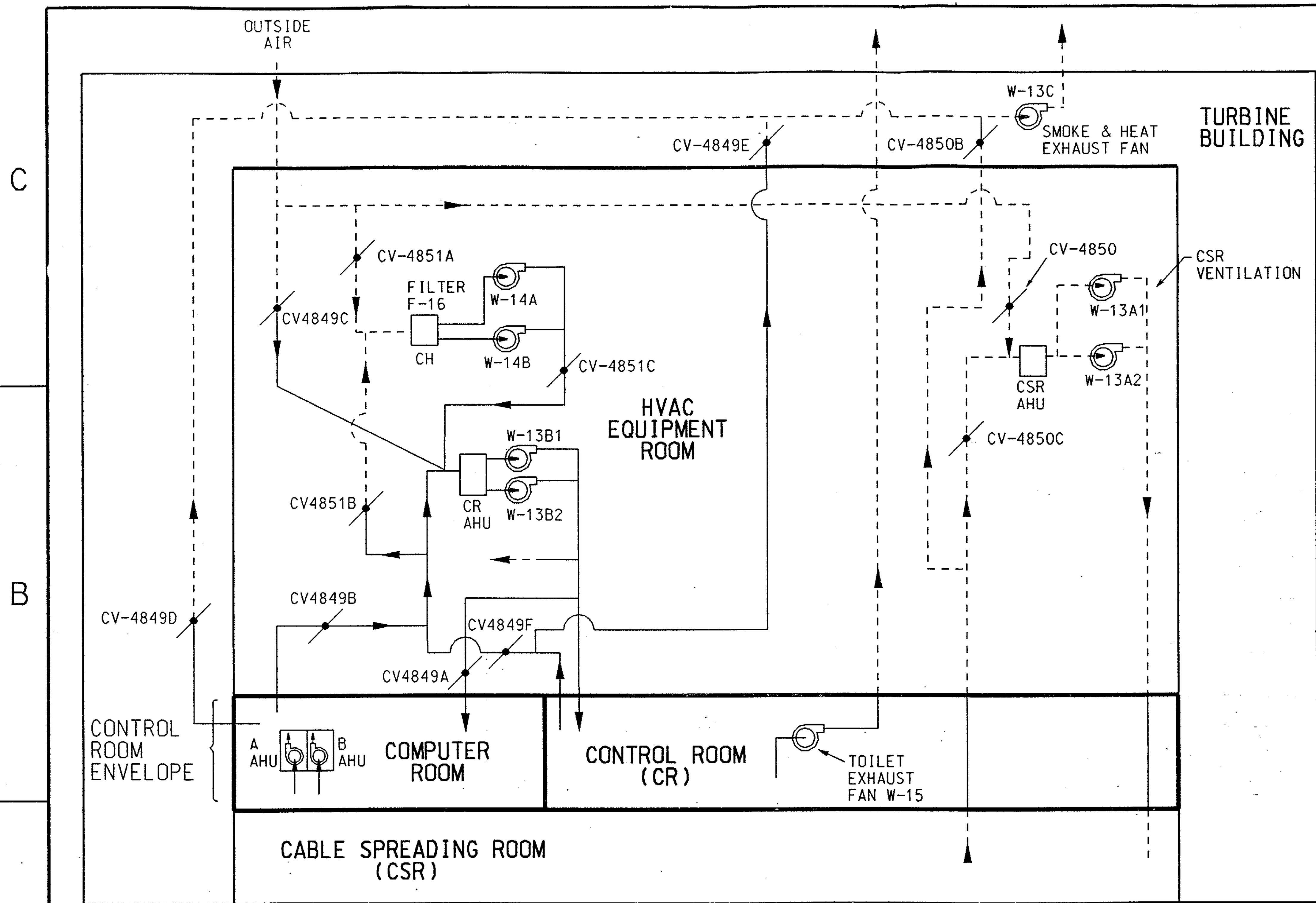
6.0 ENVIRONMENTAL EVALUATION

NMC has determined that the information for the proposed amendments does not involve a significant hazards consideration, authorize a significant change in the types or total amounts of effluent release, or result in any significant increase in individual or cumulative occupational radiation exposure. Therefore, we conclude that the proposed amendments meet the categorical exclusion requirements of 10 CFR 51.22(c)(9) and that an environmental impact appraisal need not be prepared.

7.0 REFERENCES

1. FSAR 9.8
2. FSAR 14.3.5

SIMPLIFIED DIAGRAM OF EXISTING CR-HVAC SYSTEM



NOTE 1) CONTROL ROOM ENVELOPE CONSISTS OF CONTROL ROOM, AND COMPUTER ROOM AND DUCTWORK UP TO ISOLATION POINTS

2) ONLY MAJOR SYSTEM COMPONENTS ARE SHOWN.

LEGEND

- - - - - DUCT WORK OUTSIDE CR ENVELOPE

——— DUCT WORK INSIDE CR ENVELOPE

ISOL DAMPER

REV NO.	DATE	REVISION DESCRIPTION	ACT	DRAWN	CHK'D	APP'D

MICROFILM NO.

WISCONSIN ELECTRIC

LICENSE AMMENDMENT REQUEST 221
ATTACHMENT 2
EXISTING
VENTILATION SYSTEM
POINT BEACH NUCLEAR PLANT

DRAWN	DATE	PROJECT NO.
CHECKED	DATE	ACTIVITY NO.
APPROVED	DATE	SCALE

CGS NO.

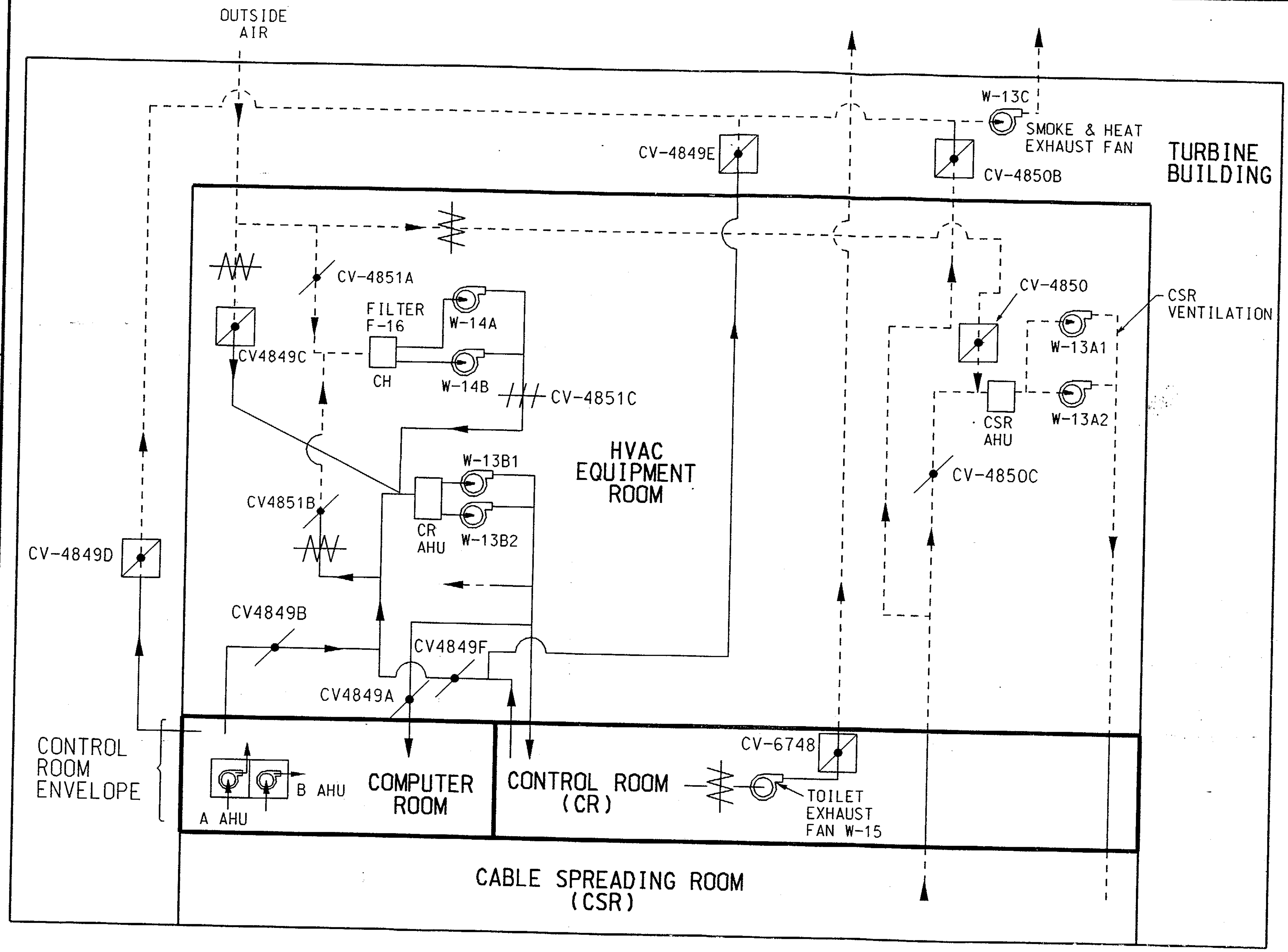
B

00

LEVEL USAGE: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

1 16-OCT-2001

SIMPLIFIED DIAGRAM OF THE POST MODIFICATION/UPGRADED CR-HVAC SYSTEM



NOTE 1) CONTROL ROOM ENVELOPE CONSISTS OF CONTROL ROOM, AND COMPUTER ROOM AND DUCTWORK UP TO ISOLATION POINTS

2) ONLY MAJOR SYSTEM COMPONENTS ARE SHOWN.

LEGEND

- DUCT WORK OUTSIDE CR ENVELOPE
- DUCT WORK INSIDE CR ENVELOPE
- NEW ISOL DAMPER
- NEW BALANCE DAMPER
- ISOL DAMPER
- BUBBLE TYPE ISOL DAMPER

REV NO.	DATE	REVISION DESCRIPTION	ACT	DRAWN	CHK'D	APP'D

MICROFILM NO.

DRAWN	DATE	PROJECT NO.
CHECKED	DATE	ACTIVITY NO.
APPROVED	DATE	SCALE

WISCONSIN ELECTRIC

CGS NO.

LICENSE AMMENDMENT REQUEST 221
ATTACHMENT 3
FINAL
VENTILATION SYSTEM
POINT BEACH NUCLEAR PLANT

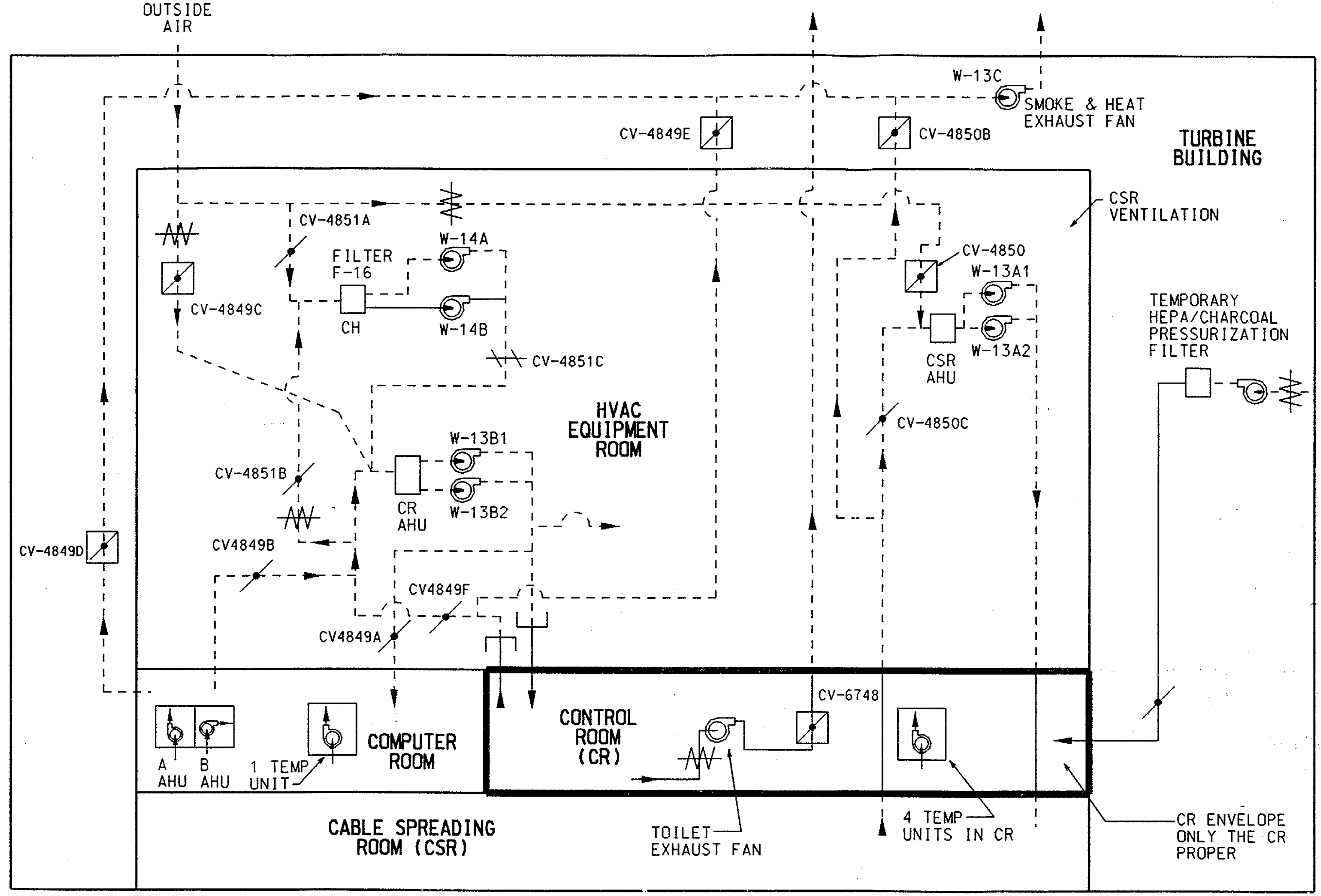
B

00

LEVEL USAGE: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

1 18-OCT-2001

SIMPLIFIED DIAGRAM OF CR-HVAC SYSTEM DURING MODIFICATIONS/UPGRADES



NOTE:

1) CONTROL ROOM ENVELOPE CONSISTS OF THE CONTROL ROOM AND DUCTWORK UP TO ISOLATION POINTS OR BLANK OFF PLATE AND TEMPORARY FILTER

2) ONLY MAJOR SYSTEM COMPONENTS ARE SHOWN.

LEGEND

- TEMPORARY AHU
- BLANK OFF PLATE
- NEW BALANCE DAMPER
- DUCTWORK INSIDE CONTROL ROOM ENVELOPE
- DUCTWORK OUTSIDE CONTROL ROOM ENVELOPE
- BUBBLE TYPE ISOL DAMPER
- NEW ISOL DAMPER
- ISOL DAMPER

REV NO.	DATE	REVISION DESCRIPTION	ACT	DRAWN	CHK'D	APP'D

MICROFILM NO.

DRAWN DATE | PROJECT NO.

CHECKED DATE | ACTIVITY NO.

APPROVED DATE | SCALE

WISCONSIN ELECTRIC

CGS NO.

LICENSE AMMENDMENT REQUEST 221
ATTACHMENT 4
EXTENDED AOT
VENTILATION SYSTEM
POINT BEACH NUCLEAR PLANT

B 00

LEVEL USAGE: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

1 18-OCT-2001

PROPOSED TECHNICAL SPECIFICATION CHANGES

(additions are double-underlined; deletions are strikethrough)

3.7 PLANT SYSTEMS

3.7.9 Control Room Emergency Filtration System (CREFS)

LCO 3.7.9 CREFS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CREFS inoperable.	A.1 Restore CREFS to OPERABLE status.	7 days*
B. Required Action and associated Completion Time not met.	B.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	B.2 Suspend movement of irradiated fuel assemblies.	Immediately
	AND	
	B.3 Be in MODE 3.	6 hours
	AND	
	B.4 Be in MODE 5.	36 hours

* The Completion Time of Required Action A.1 may be extended up to 30 days, on a one-time basis to implement modifications/upgrades to the CREFS. The provisions of LCO 3.0.4 and SR 3.0.4 are not applicable during the modifications/upgrades to the CREFS that require use of the extended Completion Time.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate the CREFS for ≥ 15 minutes.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify each CREFS emergency make-up fan actuates on an actual or simulated actuation signal.	18 months
SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months
SR 3.7.9.6	Verify each CREFS emergency make-up fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate of 4950 cfm ± 10%.	18 months

REVISED TECHNICAL SPECIFICATION PAGES

(incorporating proposed changes)

3.7 PLANT SYSTEMS

3.7.9 Control Room Emergency Filtration System (CREFS)

LCO 3.7.9 CREFS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. CREFS inoperable.	A.1	Restore CREFS to OPERABLE status.	7 days*
B. Required Action and associated Completion Time not met.	B.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	B.2	Suspend movement of irradiated fuel assemblies.	Immediately
	AND		
	B.3	Be in MODE 3.	6 hours
	AND		
	B.4	Be in MODE 5.	36 hours

* The Completion Time of Required Action A.1 may be extended up to 30 days, on a one-time basis to implement modifications/upgrades to the CREFS. The provisions of LCO 3.0.4 and SR 3.0.4 are not applicable during the modifications/upgrades to the CREFS that require use of the extended Completion Time.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate the CREFS for ≥ 15 minutes.	31 days
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify each CREFS emergency make-up fan actuates on an actual or simulated actuation signal.	18 months
SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months
SR 3.7.9.6	Verify each CREFS emergency make-up fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a makeup flow rate of 4950 cfm ± 10%.	18 months