a. To automatically start and ensure that adequate feedwater is supplied to the steam generators for heat removal during accidents which may result in a main steam safety valve opening (Loss of Normal Feedwater – including ATWS, and Loss of AC to the Station Auxiliaries).
b. To automatically start and provide flow to maintain steam generator levels during accidents which require or result in rapid reactor coolant system cooldown (Steam Generator Tube Rupture and Rupture of a Steam Pipe).
c. To allow the isolation of all lines to the ruptured steam generator in the SGTR event.
d. To provide sufficient feedwater to remove decay heat from both units for one hour during a station blackout event (TDAFP only).
e. To provide sufficient flow to the steam generators to remove decay heat to achieve cold shutdown within 72 hours following a plant fire (Appendix R).
f. To withstand a seismic event (designed as seismic Class 1) and to ensure that steam generator levels are maintained during a seismic event.
g. To provide flow to the steam generators during plant startup and shutdown, and during hot shutdown or hot standby conditions for chemical additions and when operation of the main feedwater and condensate systems is not warranted.

FSAR 7.2.3.2 Item e. Steam Generator Water Level and Feedwater Flow states: "The basic function of the reactor protection trips associated with low steam generator water level and low feedwater flow is to preserve the steam generator heat sink for removal of long-term residual heat (See Figure 7.2-12). Should a complete loss of feedwater occur with no reactor protection action, the steam generators would boil dry and cause an overtemperature/overpressure excursion of the reactor coolant."

Reactor trips on temperature, pressure, and pressurizer water level will trip the plant before there is any damage to the core or reactor coolant system. However, the residual heat remaining after a trip would cause thermal expansion and discharge of the reactor coolant to containment through the pressurizer relief valves and pressurizer relief tank.

Redundant auxiliary feedwater pumps are provided to prevent the loss of steam generator inventory. Reactor trips act before the steam generators are dry, to reduce the required capacity and starting time requirements for the auxiliary feedwater pumps and minimize the thermal transient on the reactor coolant system and steam generators."

FSAR 7.3.3.4, "Manual AFW Flow Control During Plant Shutdown" states: "The successful operation of the engineered safety features only involves actuation, with one exception. This exception is manually controlling steam generator water level using the auxiliary feedwater pumps during plant shutdown, to remove reactor decay and sensible heat. This manual control involves positioning the auxiliary feedwater flow control valves in order to maintain proper steam generator water level. Steam generator water level indication and controls are located in the control room and at a local control station.

FSAR 10.1, Steam and Power Conversion System, Section 10.1.1 Design Basis under "Main Feedwater" states: "Reactor trip is actuated either on a coincidence of sustained steam flow - feedwater flow mismatch, coupled with low level in any steam generator or by a low-low steam generator water level. These trips are discussed in further detail in Section 7.2.

Whenever a reactor trip occurs, the main feedwater control valves move to the fully opened position to increase the feedwater flow to the steam generators for faster reduction of reactor coolant temperature to the no-load average temperature value. The valves remain fully open until either one of the following conditions occurs, at which time the respective valve, or valves, fully close:

Abnormally high steam generator level;
Safety injection signal; or
Average temperature error signal (Between measured Tavg and the no load TREF)
reduces to a preset level.

Either a high steam generator level or a safety injection signal will close the feedwater bypass valves."

FSAR Figure 10.1-2, Sheet 2 (Unit 1) and Figure 10.1-2A, Sheet 2 show that valves 1/2 CS-466 and 1/2 CS-476 (Main Feedwater Regulating Valves) and valves 1/2 CS-480 and 1/2 CS-48 (Main Feedwater Regulating Bypass Valves) are air-operated, failed closed valves.

A1 10

FSAR 10.2.1, Design Basis states: "The auxiliary feedwater system is designed to supply high-pressure feedwater to the steam generators in order to maintain a water inventory for removal of heat energy from the reactor coolant system by secondary side steam release in the event of inoperability or unavailability of the main feedwater system. In order to meet the design basis required in the Loss of Normal Feedwater/Loss of All AC analysis, one motor driven auxiliary feedwater pump

provides 200 gpm of flow either to one steam generator or split between two steam generators within 5 minutes following receipt of a low-low steam generator water level setpoint signal. Redundant supplies are provided by two pumping systems using different sources of power for the pumps. The design capacity of each system is set so that the steam generators will not boil dry nor will the primary side relieve fluid through the pressurizer relief valves, following a loss of main feedwater flow with a reactor trip."

FSAR 10.2.2, System Design and Operation, states: "The auxiliary feedwater system consists of two electric motor-driven pumps, two steam turbine-driven pumps, pump suction and discharge piping, and the controls and instrumentation necessary for operation of the system. Redundancy is provided by utilizing two pumping systems, two different sources of power for the pumps, and two sources of water supply to the pumps. The system is categorized as seismic Class I and is designed to ensure that a single fault will not obstruct the system function."

FSAR 10.2.2 also states:

- For the motor-driven pumps: "Each pump has an AOV, AF-4007 for P-38A and AF-4014 for P-38B, controlled recirculation line back to the condensate storage tanks to ensure minimum flow to prevent hydraulic instabilities and dissipate pump heat."

- For the turbine-driven pumps: "Each pump has an AOV (AF-4002) controlled recirculation line back to the condensate storage tanks to ensure minimum flow to dissipate pump heat."

FSAR 10.2.2 also states:

During normal plant operations, the auxiliary feedwater system is maintained in a standby condition ready to be placed in operation automatically when conditions require. The auxiliary feedwater pumps are automatically started on receipt of any of the following signals:

Turbine-driven feedwater pumps

1. Low-low water level in both steam generators in one unit starts the corresponding pump.
2. Loss of both 4.16 kv buses supplying the main feedwater pump motors in one unit starts the corresponding auxiliary feedwater pump.
3. Trip or shutdown of both main feedwater pumps or closure of both feedwater regulating valves in one unit starts the corresponding pump. These signals are processed through AMSAC at power levels above 40%.

Motor-driven feedwater pumps

1. Low-low water level in either associated steam generator.
2. Trip or shutdown of both main feedwater pumps or closure of both feedwater regulating valves in one unit. These signals are processed through AMSAC at power levels above 40%.
3. Safeguards sequence signal.

FSAR Figure 10.2-1 shows that 1/2AF-4002 for 1/2P-29 (turbine-driven pumps), and AF-4007 for P-38A, AF-4014 for P-38B (motor-driven pumps) are all fail-closed valves.

CLB References:
FSAR 7.2.3.2- Specific Control and Protection Interactions
FSAR 7.3.3.4 - Manual AFW Flow Control During Plant Shutdown
FSAR Section 7.4.1 – AMSAC
FSAR Section 10.1 - Steam and Power Conversion System
FSAR Section 10.2 – Auxiliary Feedwater
FSAR Figure 10.2-1 Sheet 1 – Bech M-217 Sh. 1 – Auxiliary Feedwater System
FSAR Figure 10.2-1 Sheet 2 – Bech M-217 Sh. 2 – Auxiliary Feedwater System
FSAR Section 14.1.10 – Loss of Normal Feedwater

FSAR Section 14.1.11 – Loss of All AC Power to the Station Auxiliaries
FSAR Section 14.2.4 – Steam Generator Tube Rupture
FSAR Section 14.2.5 – Rupture of a Steam Pipe
FSAR Appendix A.1 – Station Blackout
FPER 5.2.2 – Safe Shutdown Systems and Equipment
FPER 5.2.5.2.3 – Auxiliary Feedwater Pump Room
FPER 6.6 - Safe Shutdown Systems
FPER 6.6.4 - Auxiliary Feedwater System
Tech Spec 3.7.5 – Auxiliary Feedwater
Tech Spec Bases B 3.7.5 – Auxiliary Feedwater

I.3 Does the proposed activity involve a change to any Technical Specification? Changes to Technical Specifications require a License Amendment Request (Resource Manual Section 5.3.1.2).

Technical Specification Change : ☐ Yes ☒ No

If a Technical Specification change is required, explain what the change should be and why it is required.

I.4 Does the proposed activity involve a change to the terms, conditions or specifications incorporated in any VSC-24 cask Certificate of Compliance (CoC)? Changes to a VSC-24 cask Certificate of Compliance require a CoC amendment request.

☐ Yes ☒ No

If a storage cask Certificate of Compliance change is required, explain what the change should be and why it is required.

10 CFR 50.59 SCREENING

PART II (50.59) - DETERMINE IF THE CHANGE INVOLVES A *DESIGN FUNCTION* (Resource Manual 5.3.2)

Compare the proposed activity to the relevant CLB descriptions, and answer the following questions:

YES	NO	QUESTION
☒	☐	Does the proposed activity involve Safety Analyses or structures, systems and components (SSCs) credited in the Safety Analyses?
☒	☐	Does the proposed activity involve SSCs that support SSC(s) credited in the Safety Analyses?
☒	☐	Does the proposed activity involve SSCs whose failure could initiate a transient (e.g., reactor trip, loss of feedwater, etc.) or accident, OR whose failure could impact SSC(s) credited in the Safety Analyses?
☒	☐	Does the proposed activity involve CLB-described SSCs or procedural controls that perform functions that are required by, or otherwise necessary to comply with, regulations, license conditions, orders or technical specifications?
☐	☒	Does the activity involve a *method of evaluation* described in the FSAR?
☐	☒	Is the activity a *test or experiment*? (i.e., a non-passive activity which gathers data)
☐	☒	Does the activity exceed or potentially affect a *design basis limit for a fission product barrier (DBLFPB)*? (NOTE: If THIS questions is answered YES, a 10 CFR 50.59 Evaluation is required.)

If the answers to ALL of these questions are NO, mark Part III as not applicable, document the 10 CFR 50.59 screening in the conclusion section (Part IV), then proceed directly to Part V - 10 CFR 72.48 Pre-screening Questions.

If any of the above questions are marked YES, identify below the specific design function(s), method of evaluation(s) or DBLFPB(s) involved.

FSAR 10.2 states each AFW pump has an AOV controlled recirc line back to the CST to ensure minimum flow to dissipate heat. This change ensures the minimum AFW flow requirements will be maintained on any running AFW pump in the case of a failed shut AFW mini-recirc flow control valve.

As indicated in the licensing basis search section, I.2, FSAR 10.2.2 also states:

- For the motor-driven pumps: "Each pump has an AOV, AF-4007 for P-38A and AF-4014 for P-38B, controlled recirculation line back to the condensate storage tanks to ensure minimum flow to prevent hydraulic instabilities and dissipate pump heat."
- For the turbine-driven pumps: "Each pump has an AOV (AF-4002) controlled recirculation line back to the condensate storage tanks to ensure minimum flow to dissipate pump heat."

Thus the AFW mini-recirc valves have a design function to ensure minimum flow through the pumps to keep the pumps from overheating. CR 01-3595 identified that with a loss of instrument air (such as would occur with a loss of offsite power that the AFW minimum flow recirculation valves will fail closed. If this is the case, operators need to maintain a minimum water flowrate through the pump(s) to provide adequate cooling, or secure the pump. If all AFW pumps start and run (as designed), operators may need to reduce AFW flow in order to prevent overfilling the steam generators or overcooling the reactor.

As indicated above FSAR 7.3.3.4 states: "The successful operation of the engineered safety features only involves actuation, with one exception. This exception is manually controlling steam generator water level using the auxiliary feedwater pumps during plant shutdown, to remove reactor decay and sensible heat. This manual control involves positioning the auxiliary feedwater flow control valves in order to maintain proper steam generator water level. Steam generator water level indication and controls are located in the control room and at a local control station." Therefore the licensing basis states explicitly that operator action is required to control AFW flow to maintain steam generator level. However, it does not explicitly address controlling flow to ensure AFW pump operability by securing pumps or maintaining minimum pump flows because of the unavailability of the mini-recirculation lines. Thus there is an additional manual method of performing and controlling the design function of maintaining steam generator level, and an additional method of performing or controlling minimum flow though the pumps to ensure sufficient cooling is provided in the procedure changes. Further there is an adverse affect on the AFW pump function of providing water to the steam generators in that pumps/motors may need to be stopped and restarted to control steam generator level.

PART III (50.59) - DETERMINE WHETHER THE ACTIVITY INVOLVES ADVERSE EFFECTS (Resource Manual 5.3.3)

If ALL the questions in Part II are answered NO, then Part III is ☐ NOT APPLICABLE.

Answer the following questions to determine if the activity has an *adverse effect* on a design function. Any YES answer means that a 10 CFR 50.59 Evaluation is required; EXCEPT where noted in Part III.3.

III.1 CHANGES TO THE FACILITY OR PROCEDURES

YES	NO	QUESTION
☒	☐	Does the activity adversely affect the *design function* of an SSC credited in safety analyses?
☒	☐	Does the activity adversely affect the method of performing or controlling the *design function* of an SSC credited in the safety analyses?

If any answer is YES, a 10 CFR 50.59 Evaluation is required. If both answers are NO, describe the basis for the conclusion (attach additional discussion as necessary):

See EVAL 2002-005 for the 50.59 evaluation performed for these procedure changes.

III.2 CHANGES TO A METHOD OF EVALUATION

(If the activity does not involve a method of evaluation, these questions are ☒ NOT APPLICABLE.)

YES	NO	QUESTION
☐	☐	Does the activity use a revised or different method of evaluation for performing safety analyses than that described in the CLB?
☐	☐	Does the activity use a revised or different method of evaluation for evaluating SSCs credited in safety analyses than that described in the CLB?

If any answer is YES, a 10 CFR 50.59 Evaluation is required. If both answers are NO, describe the basis for the conclusion (attach additional discussion, as necessary).

III.3 TESTS OR EXPERIMENTS

If the activity is not a test or experiment, the questions in III.3.a and III.3.b are ☒ NOT APPLICABLE.

a. Answer these two questions first:

YES	NO	QUESTION
☐	☐	Is the proposed test or experiment bounded by other tests or experiments that are described in the CLB?
☐	☐	Are the SSCs affected by the proposed test or experiment isolated from the facility?

If the answer to BOTH questions in V.3.a is NO, continue to III.3.b. If the answer to EITHER question is YES, then describe the basis.

b. Answer these additional questions ONLY for tests or experiments which do NOT meet the criteria given in III.3.a above. If the answer to either question in III.3.a is YES, then these three questions are ☐ NOT APPLICABLE.

YES	NO	QUESTION
☐	☐	Does the activity utilize or control an SSC in a manner that is outside the reference bounds of the design bases as described in the CLB?
☐	☐	Does the activity utilize or control an SSC in a manner that is inconsistent with the analyses or descriptions in the CLB?
☐	☐	Does the activity place the facility in a condition not previously evaluated or that could affect the capability of an SSC to perform its intended functions?

If any answer in III.3.b is YES, a 10 CFR 50.59 Evaluation is required. If the answers in III.3.b are ALL NO, describe the basis for the conclusion (attach additional discussion as necessary):

Part IV - 10 CFR 50.59 SCREENING CONCLUSION (Resource Manual 5.3.4).

Check all that apply:

A 10 CFR 50.59 Evaluation is ☒ required or ☐ NOT required.

A Point Beach FSAR change is ☒ required or ☐ NOT required. If an FSAR change is required, then initiate an FSAR Change Request (FCR) per NP 5.2.6.

A Regulatory Commitment (CLB Commitment Database) change is ☐ required or ☒ NOT required. If a Regulatory Commitment Change is required, initiate a commitment change per NP 5.1.7.

A Technical Specification Bases change is ☒ required or ☐ NOT required. If a change to the Technical Specification Bases is required, then initiate a Technical Specification Bases change per NP 5.2.15.

A Technical Requirements Manual change is ☐ required or ☒ NOT required. If a change to the Technical Requirements Manual is required, then initiate a Technical Requirements Manual change per NP 5.2.15.

---------- 10 CFR 72.48 SCREENING ----------

NOTE: NEI 96-07, Appendix B, Guidelines for 10 CFR 72.48 Implementation should be used for guidance to determine the proper responses for 72.48 screenings.

PART V (72.48) - 10 CFR 72.48 INITIAL SCREENING QUESTIONS

Part V determines if a full 10 CFR 72.48 screening is required to be completed (Parts VI and VII) for the proposed activity.

YES	NO	QUESTION
☐	☒	Does the proposed activity involve IN ANY MANNER the dry fuel storage cask(s), the cask transfer/transport equipment, any ISFSI facility SSC(s), or any ISFSI facility monitoring as follows: Multi-Assembly Sealed Basket (MSB), MSB Transfer Cask (MTC), MTC Lifting Yoke, Ventilated Concrete Cask (VCC), Ventilated Storage Cask (VSC), VSC Transporter (VCST), ISFSI Storage Pad Facility, ISFSI Storage Pad Data/Communication Links, or PPCS/ISFSI Continuous Temperature Monitoring System?
☐	☒	Does the proposed activity involve IN ANY MANNER SSC(s) installed in the plant specifically added to support cask loading/unloading activities, as follows: Cask Dewatering System (CDW), Cask Reflood System (CRF), or Hydrogen Monitoring System?
☐	☒	Does the proposed activity involve IN ANY MANNER SSC(s) needed for plant operation which are also used to support cask loading/unloading activities, as follows: Spent Fuel Pool (SFP), SFP Cooling and Filtration (SF), Primary Auxiliary Building Ventilation System (VNPAB), Drumming Area Ventilation System (VNDRM), RE-105 (SFP Low Range Monitor), RE-135 (SFP High Range Monitor), RE-221 (Drumming Area Vent Gas Monitor), RE-325 (Drumming Area Exhaust Low-Range Gas Monitor), PAB Crane, SFP Platform Bridge, Truck Access Area, or Decon Area?
☐	☒	Does the proposed activity involve a change to Point Beach CLB design criteria for external events such as earthquakes, tornadoes, high winds, flooding, etc.?
☐	☒	Does the activity involve plant heavy load requirements or procedures for areas of the plant used to support cask loading/unloading activities?
☐	☒	Does the activity involve any potential for fire or explosion where casks are loaded, unloaded, transported or stored?

If ANY of the Part V questions are answered YES, then a full 10 CFR 72.48 screening is required and answers to the questions in Part VI and Part VII are to be provided. If ALL the questions in Part V are answered NO, then check Parts VI and VII as not applicable. Complete Part VIII to document the conclusion that no 10 CFR 72.48 evaluation is required.

PART VI (72.48) - DETERMINE IF THE CHANGE INVOLVES A ISFSI LICENSING BASIS *DESIGN FUNCTION*

(If ALL the questions in Part V are NO, then Part VI is ☒ NOT APPLICABLE.)

Compare the proposed activity to the relevant portions of the ISFSI licensing basis and answer the following questions:

YES	NO	QUESTION
☐	☐	Does the proposed activity involve cask/ISFSI Safety Analyses or plant/cask/ISFSI structures, systems and components (SSCs) credited in the Safety Analyses?
☐	☐	Does the proposed activity involve plant, cask or ISFSI SSCs that support SSC(s) credited in the Safety Analyses?
☐	☐	Does the proposed activity involve plant, cask or ISFSI SSCs whose function is relied upon for prevention of a radioactive release, OR whose failure could impact SSC(s) credited in the Safety Analyses?
☐	☐	Does the proposed activity involve cask/ISFSI described SSCs or procedural controls that perform functions that are required by, or otherwise necessary to comply with, regulations, license conditions, CoC conditions, or orders?
☐	☐	Does the activity involve a *method of evaluation* described in the ISFSI licensing basis?
☐	☐	Is the activity a *test or experiment*? (i.e., a non-passive activity which gathers data)
☐	☐	Does the activity exceed or potentially affect a cask *design basis limit for a fission product barrier (DBLFPB)*? (NOTE: If THIS questions is answered YES, a 10 CFR 72.48 Evaluation is required.)

If the answers to ALL of these questions are NO, mark Parts VII as not applicable, and document the 10 CFR 72.48 screening in the conclusion section (Part VIII).

If any of the above questions are marked YES, identify below the specific design function(s), method of evaluation(s) or DBLFPB(s) involved.

PART VII (72.48) - DETERMINE WHETHER THE ACTIVITY INVOLVES ADVERSE EFFECTS (NEI 96-07, Appendix B, Section B.4.2.1)

(If ALL the questions in Part V or Part VI are answered NO, then Part VII is ☒ NOT APPLICABLE.)

Answer the following questions to determine if the activity has an *adverse effect* on a design function. Any YES answer means that a 10 CFR 72.48 Evaluation is required; EXCEPT where noted in Part VII.3.

VII.1 Changes to the Facility or Procedures

YES	NO	QUESTION
☐	☐	Does the activity adversely affect the *design function* of a plant, cask, or ISFSI SSC credited in safety analyses?
☐	☐	Does the activity adversely affect the method of performing or controlling the *design function* of a plant, cask, or ISFSI SSC credited in the safety analyses?

If any answer is YES, a 10 CFR 72.48 Evaluation is required. If both answers are NO, describe the basis for the conclusion (attach additional discussion, as necessary):

VII.2 Changes to a Method of Evaluation

(If the activity does not involve a method of evaluation, these questions are ☒ NOT APPLICABLE.)

YES	NO	QUESTION
☐	☐	Does the activity use a revised or different method of evaluation for performing safety analyses than that described in a cask SAR?
☐	☐	Does the activity use a revised or different method of evaluation for evaluating SSCs credited in safety analyses than that described in a cask SAR?

If any answer is YES, a 10 CFR 72.48 Evaluation is required. If both answers are NO, describe the basis for the conclusion (attach additional discussion, as necessary):

VII.3 Tests or Experiments

(If the activity is not a test or experiment, the questions in VII.3.a and VII.3.b are ☒ NOT APPLICABLE.)

a. Answer these two questions first:

YES	NO	QUESTION
☐	☐	Is the proposed test or experiment bounded by other tests or experiments that are described in the cask ISFSI licensing basis?
☐	☐	Are the SSCs affected by the proposed test or experiment isolated from the cask(s) or ISFSI facility?

If the answer to both questions is NO, continue to VII.3.b. If the answer to EITHER question is YES, then briefly describe the basis.

b. Answer these additional questions ONLY for tests or experiments which do not meet the criteria given in VII.3.a above. If the answer to either question in VII.3.a is YES, then these three questions are ☐ NOT APPLICABLE:

YES	NO	QUESTION
☐	☐	Does the activity utilize or control an SSC in a manner that is outside the reference bounds of the design bases as described in the ISFSI licensing basis?
☐	☐	Does the activity utilize or control a plant, cask or ISFSI facility SSC in a manner that is inconsistent with the analyses or descriptions in the ISFSI licensing basis?
☐	☐	Does the activity place the cask or ISFSI facility in a condition not previously evaluated or that could affect the capability of a plant, cask, or ISFSI SSC to perform its intended functions?

If any answer in VII.3.b is YES, a 10 CFR 72.48 Evaluation is required. If the answers are all NO, describe the basis for the conclusion (attach additional discussion as necessary):

PART VIII - DOCUMENT THE CONCLUSION OF THE 10 CFR 72.48 SCREENING

Check all that apply:

A 10 CFR 72.48 Evaluation is ☐ required or ☒ **NOT** required. Obtain a screening number and provide the original to Records Management regardless of the conclusion of the 50.59 or 72.48 screening.

A VSC-24 cask Safety Analysis Report change is ☐ required or ☒ **NOT** required. If a VSC-24 cask SAR change is required, then contact the Point Beach Dry Fuel Storage group supervisor.

A Regulatory Commitment (CLB Commitment Database) change is ☐ required or ☒ **NOT** required. If a Regulatory Commitment Change is required, initiate a commitment change per NP 5.1.7.

A change to the VSC-24 10 CFR 72.212 Site Evaluation Report is ☐ required or ☒ **NOT** required. If a VSC-24 10 CFR 72.212 Site Evaluation Report change is required, then contact the Point Beach Dry Fuel Storage group supervisor.