5/25/07

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
Revision 2

Station/Unit(s): Braidwood / Unit 0
Activity/Document Number: EC#362141 and DRP#12-015 **Revision Number:** 0 and 0
Title: Install Radwaste Storage Tank and Recirculation System

NOTE: For 50.59 Evaluations, information on this form will provide the basis for preparing the biennial summary report submitted to the NRC in accordance with the requirements of 10 CFR 50.59(d)(2).

Description of Activity:
(Provide a brief, concise description of what the proposed activity involves.)

This design change performs the following:

1. **Installs an outdoor concrete foundation for a 500,000-gallon radwaste storage tank (RST), two additional foundations (pads) for an overflow tank and [redacted] concrete berm wall with internal liner.** (b)(4) (b)(4) Exemption 4
2. **Installs piping, conduit, junction boxes and cable to support sump pump and tank operation within the berm. This includes such items as tank heaters and various level alarms.**
3. **Installs a stairway that provides access from outside the berm wall to the inside access pad. The stairway supports a rail system for the installation and removal of a submersible sump pump located inside the berm. Additionally, the stairway provides access to the sump pump valves and piping.**
4. **Installs piping, conduit, cables and instrumentation within the Radwaste Building to connect the new storage tank with existing plant systems. That is, piping and conduit is routed from the tank (above ground inside the berm), underground** (b)(4) **through penetrations in the south wall of the Radwaste Building. Along with the piping and conduit installed in the Radwaste Building, a recirculation pump is installed. The pump can be used to recirculate tank contents, if required.** Exemption 4
5. **From the Radwaste Building, existing piping and spare cables in the Radwaste Tunnel are used to connect the new piping and conduit to existing systems in the Auxiliary Building. That is, instrumentation controls and alarms are routed to the Radwaste Control Room and piping is connected to the discharge of the 'A' Radwaste Monitor Pump that will provide the influent to the storage tank.**
6. **To support the installation, the design includes but is not limited to pipe and conduit supports, core holes, modifications to the Radwaste control panel, revisions to outdoor lighting, drain tile installation around the berm and storm sewer revisions.**

Reason for Activity:
(Discuss why the proposed activity is being performed.)

The new outdoor stainless steel 500,000-gallon Radwaste Storage Tank (0WX27T) will facilitate the storage of processed reactor coolant letdown water containing radioactive tritium. Due to restrictions (600 curies per year) on releasing water to the Kankakee River, more water is created than can be released. Therefore, an interim method of storage must be provided. The tank will provide the storage for processed reactor coolant water during the part of the fuel cycle when tritium concentrations are the highest. This allows the lower concentration, higher volumes of water to be released to the river.

Effect of Activity:
(Discuss how the activity impacts plant operations, design bases, or safety analyses described in the UFSAR.)

This activity does not have a direct impact on Main Control Room operations but will impact radwaste operations performed at local panel 0PL01J. The Liquid Waste Management System is directly affected by the proposed activity.

Sufficient indications and controls will be provided at 0PL01J to allow the operator (Radwaste foreman or designee) to periodically transfer the contents of the existing 20,000 gal. 0A Radwaste Monitor Tank, 0WX04TA, to the new outdoor Radwaste Storage Tank (RST), 0WX27T, using the 0A RW Monitor Pump, 0WX19PA. This equates to one additional flow path that is available to the 0A RW Monitor Pump than presently exists. This activity will result in delivering approximately 70kgal of tritiated water per unit to the RST during the operation of each unit when RCS tritium concentrations are the highest.

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During transfer operations, a remotely operated valve at 0PL01J will be used to align the RST with the 0A RW Monitor Pump. This same valve will auto-close when the RST level becomes excessively high, thus terminating further input into that tank from the 0A RW Monitor Pump and preventing an overflow condition. Note that the RST overflow pipe is connected to a 3000gallon overflow tank, which is equipped with an alarm (0PL01J) to signal when an influx condition exists. All are intended to reduce the likelihood of a spill of tritiated water. In the event the RST Overflow Tank is overfilled, any effluent is contained within the RST lined berm.

The contents of the RST may be mixed by recirculation via the RST Recirculation Pump, 0WX28P. Controls for the pump will be located on 0PL01J. This operation is new but places little burden on the RW operators since the pump will normally be shutdown. An auto-trip feature exists on the pump in the event inadequate suction pressure is available to the pump.

The regulatory impact from the proposed activity involves the outdoor storage of tritiated water and its potential for accidental release to the environment and the subsequent impact on the health and safety of the public. The consequences of the failure of the RST are bounded by the design basis RHUT failure.

The proposed activity provides for the storage of tritiated water but does not include the ability to release the RST contents to the blowdown piping. RW system operation is not addressed in the safety analysis of record. The UFSAR contains only generalized descriptions of the Waste Disposal system – none of which affects or is affected by the proposed activity.

This EC installs seismic supported equipment in the Radwaste and Auxiliary building that will handle radioactive liquid of moderate energy. A postulated through-wall leakage crack in any of this equipment will not impact safe shutdown capability because the piping is not routed in areas containing safety equipment and/or the resultant flooding is bounded by existing analysis.

Summary of Conclusion for the Activity's 50.59 Review:
(Provide justification for the conclusion, including sufficient detail to recognize and understand the essential arguments leading to the conclusion. Provide more than a simple statement that a 50.59 Screening, 50.59 Evaluation, or a License Amendment Request, as applicable, is not required.)

Engineering design evaluations demonstrate that proposed changes have no adverse effect on UFSAR-described design functions, or methods of performing or controlling design functions.

The Radioactive Liquid Waste System Leak or Failure has been evaluated previously in the UFSAR (Section 15.7). The frequency of occurrence, as described in the UFSAR, Radioactive Liquid Waste System Leak or Failure, as well as the challenge to SSCs will not change as a result of this activity. There is no departure from a UFSAR method of evaluation resulting from this activity. The consequences of the proposed activity are bounded by previously performed UFSAR analyses or are no more than a minimal increase. There is no possibility of an accident of a different type since the same type of equipment will be utilized in the proposed activity and qualified to the same standards as existing SSCs. The proposed activity's influence on SSCs important to safety has been evaluated and confirmed as not adverse, and therefore the possibility of a malfunction with a different result is considered improbable.

Based upon the 50.59 Evaluation, it is concluded that EC 362141 may be installed in accordance with governing procedures without prior NRC approval.

Attachments:
Attach all 50.59 Review forms completed, as appropriate.
(NOTE: if both a Screening and Evaluation are completed, no Screening No. is required.)

Forms Attached: (Check all that apply.)

OUTSIDE SCOPE

Outside of Scope

50.59 EVALUATION FORM

50.59 Evaluation No. BRW-E-2007-59 **Rev. No.** 0

Activity/Document Number: EC 362141 and DRP 12-015 **Revision Number:** 0 and 0

I. Complete the 50.59 Evaluation:

NOTES: Provide a separate written response providing the basis for the answer to each question below. The Resource Manual (RM) should be used to determine the content of each response (see Section 6.2 for additional guidance).

If the Screening indicated that only a change in method of evaluation exists, only Question 8 is required to be answered. If the Screening indicated that no change in method of evaluation exists, Question 8 need not be answered.

1. Does the proposed activity result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the UFSAR? (See Section 6.2.1 of the RM) ___ YES _X_ NO

The proposed activity (EC 362141) performs the following:

1. Installs an outdoor concrete foundation for a 500,000-gallon radwaste storage tank (RST), two additional foundations (pads) for an overflow tank and access to the storage tank and associated concrete berm wall with internal liner. (b)(4) (b)(4) Exemption 4
2. Installs piping, conduit, junction boxes and cable to support sump pump and tank operation within the berm. This includes such items as tank heaters and various level alarms.
3. Installs a stairway that provides access from outside the berm wall to the inside access pad. The stairway supports a rail system for the installation and removal of a submersible sump pump located inside the berm. Additionally, the stairway provides access to the sump pump valves and piping.
4. Installs piping, conduit, cables and instrumentation within the Radwaste Building to connect the new storage tank with existing plant systems. That is, piping and conduit is routed from the tank (above ground inside the berm), underground (b)(4) through penetrations in the south wall of the Radwaste Building. Along with the piping and conduit installed in the Radwaste Building, a recirculation pump is installed. The pump can be used to recirculate tank contents, if required. Exemption 4
5. From the Radwaste Building, existing piping and spare cables in the Radwaste Tunnel are used to connect the new piping and conduit to existing systems in the Auxiliary Building. That is, instrumentation controls and alarms are routed to the Radwaste Control Room and piping is connected to the discharge of the 'A' Radwaste Monitor Pump that will provide the influent to the storage tank.
6. To support the installation, the design includes but is not limited to pipe and conduit supports, core holes, modifications to the Radwaste control panel, revisions to outdoor lighting, drain tile installation around the berm and storm sewer revisions.

The new outdoor stainless steel 500,000-gallon Radwaste Storage Tank (0WX27T) will facilitate the storage and future release of processed reactor coolant letdown water containing radioactive tritium. Due to restrictions (600 curies per year) on releasing water to the Kankakee River, more water is created than can be released. Therefore, an interim method of storage must be provided. The tank will provide the storage for processed reactor coolant water during the part of the fuel cycle when tritium concentrations are the highest. This allows the lower concentration, higher volumes of water to be released to the river. The RST is designed and constructed by Chicago Bridge and Iron (CBI). This EC scope includes detailed engineering to build a seismic secondary containment (berm) around the RST. The berm will be lined with a high-density polyethylene (HDPE) membrane, installed by Geo-Synthetics Incorporated (GSI), which will provide a watertight containment of any leakage from the tank/tank components.

When in operation, the 0A Monitor Tank Pump (located in the Auxiliary Building) will discharge reactor coolant water treated through ALPS II (Advanced Liquid Processing System that removes most contamination from that water and provides water meeting reactor grade standards) through existing piping in the Auxiliary Building through the Radwaste Tunnel and the Radwaste Building then underground to the RST. Drawing M-48, Sheet 69

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shows the RST and associated recirculation loop. Drawing M-48, Sheet 15 shows the crosstie between the existing Radioactive Waste Disposal System (WX) piping and the new recirculation loop.

When installed, tested, and operated, the proposed activity could affect the following previously evaluated accidents: MELB accident (UFSAR, Section 3.6), FHA and Radioactive Release From A Subsystem Or Component (UFSAR Section 15.7). Additionally, UFSAR Section 2.4.12, Dispersion, Dilution, and Travel Times of Accidental Releases of Liquid Effluents in Surface Waters addresses the hydrology surrounding the Braidwood station and the role it plays in suppressing the effects of an accidental release.

Because the activity installs moderate energy piping in the Aux. Bldg, and generates wall and floor core holes in the Aux. Bldg., the potential exists to affect existing safe shutdown analysis if the piping is postulated to break. However, all piping will be supported/qualified per approved plant procedures and located/routed such that its influence and/or failure will have no impact on the safe shutdown capability of the plant. The frequency of occurrence of the design basis MELB accident (UFSAR, Section 3.6) is unchanged.

The impact on fire protection is not adverse. The addition of combustible materials to the Auxiliary Building and Radwaste Building have been evaluated and are not in excess of the allowable loading for the affected area.

UFSAR Section 15.7 addresses the *atmospheric* release of radionuclides due to a radioactive liquid leak (15.7.2) and the *ground* release of same (15.7.3). In this case, an *unspecified event* causes the complete release of the worst-case radionuclide inventory in the liquid radwaste system (These are the spent resin storage tank and the boron recycle holdup tanks (RHUT) in the Auxiliary Building). This is an *unspecified event,* which is postulated to occur with the frequency of a limiting fault.

The proposed activity meets applicable NRC requirements (RG 1.143 and SRP 15.7.3) as well as the design, material, and construction standards (ANSI B31.1) appropriate for the Liquid Radwaste system (WX) and components. The proposed tank and support system will be constructed and tested using the same rigors as the existing WX system components. Therefore, the components/piping installed by this activity is no more prone to failure than the existing Radwaste system components.

The premise for the UFSAR Radioactive Liquid Waste System Leak or Failure evaluation is to quantify the resultant impact of radioactive tank leakage on surface waters – regardless of the frequency of its occurrence and ensure the consequences of such an event are consistent with the acceptance criteria in SRP 15.7.3, Postulated Radioactive Releases Due To Liquid-Containing Tank Failure ("not in excess of 10CFR Part 20, Appendix B limits in the nearest potable water supply in an unrestricted area, or if special design features are provided to mitigate the effects of postulated failures for systems not meeting these limits."). The outdoor tank would be exposed to natural phenomena that the indoor tank would not be exposed to – like the tornado. Since the frequency of a tornado is greater than a limiting fault, more frequent tank failures could be expected from the outdoor RST, which, like the PWST is not qualified for tornados (the RST is qualified for winds ≤ 120mph). However, non-protected outdoor tanks have been considered acceptable to the NRC provided the 10CFR Part 20, Appendix B limits in the nearest potable water supply in an unrestricted area are met when considering the storage tank Currie content (SRP 15.7.3 acceptance criteria).

The proposed activity cannot increase the frequency of occurrence of the previously evaluated RHUT Accidental Releases of Liquid Effluents in Surface Waters accident described in the UFSAR since it is not physically or operationally associated with the RHUT.

The proposed activity will not result in more than a minimal increase in the frequency of occurrence of an accident (Radioactive Liquid Waste System Leak or Failure) previously evaluated in the UFSAR.

2. Does the proposed activity result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the UFSAR? (See Section 6.2.2 of the RM) __ YES _X_ NO

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When installed, tested, and operated, the proposed activity will influence the following SSCs: Existing WX piping in the Auxiliary Building, an Auxiliary Building wall and floor (core holes), and the South wall of the Radwaste building (core hole).

The installation of piping/valves/pump is not in the vicinity of systems or components important to safety. The small portion of pipe added to the Aux. Bldg. and its influence on wall/floor structural loads has been evaluated and confirmed to be acceptable. The addition of heat or dose to any area occupied by the pipe is negligible. As such, the proposed activity will have no negative influence on SSCs important to safety. Therefore, the proposed activity will not result in an increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the UFSAR.

3. Does the proposed activity result in more than a minimal increase in the consequences of an accident previously evaluated in the UFSAR? (See Section 6.2.3 of the RM) ___ YES _X_ NO

The response to question 1 contains the previously evaluated accidents that the proposed activity has the potential to initiate. The UFSAR, Section 15.7.2 addresses the complete release of the worst-case radionuclide inventory in the tanks containing the largest quantities of significant radionuclides in the liquid radwaste system (RHUT and Spent Resin Storage Tank). Per table 15.7-3, the radionuclide inventory of the Spent Resin Storage Tank is over 19,000 curies (due to iodine). The maximum RST activity will be 6150 curies when full (per EC362141, Design Summary), the overwhelming majority of which is comprised of tritium. If a leak were postulated to occur in the new proposed piping in the plant, the consequences of such an event would be bounded by the Spent Resin Storage Tank spill event.

The consequence of an accidental atmospheric release of the contents of the 500kgal RST was determined to be less than the 125kgal RHUT event (see EC 362141, Design Summary). The inventory of radionuclides present in the RHUT is much greater than that of the RST. The *atmospheric* release of an assumed 500kgal of tritiated water from the RST into the berm resulted in a dose at the exclusion area boundary of 19 mRem as compared to the RHUT (600 mRem per UFSAR Table 15.0-12).

The *ground* release of radioactive liquid is also evaluated in the UFSAR (15.7.3). In the case of the RHUT failure, the liquid enters the groundwater environment through postulated cracks in the auxiliary building. The UFSAR (Section 15.7.3.4) concludes that "the concentrations of any postulated accidental release of radioactive effluents from the boron recycle holdup tank would not exceed 10 CFR 20 limits at the nearest surface water intake." Also, as part of the Braidwood Final Environmental Statement (NUREG-1026, June 1984), the NRC staff evaluated the instantaneous loss of a Radwaste Storage Tank (RHUT) to the sand aquifer and determined that: "the concentrations at the nearest downgradient well (1850') would be lower than the 10CFR Part 20 limits." The radionuclide inventory and concentration of the 125,000gallon RHUT is shown in Table 2.4-20 of the Byron UFSAR (This table does not exist in the Braidwood UFSAR, but is applicable to Braidwood), and indicates that the tritium concentration of the RHUT is 3.5μCi/g = 3.5μCi/ml while the RST inventory will not be greater than 3.25μCi/ml.

In the event the proposed tank leaks or is overflowed, the water would collect in the leak tight bermed containment volume. It is sized to hold the contents of the tank plus rainwater. As such, no groundwater leakage would occur with the proposed activity.

In the event of a leak outside the berm (in the 3" or 4" pipe between the tank and the recirculation pump for example), tritiated water could enter the ground water and eventually communicate with a downgradient well. In this case, the RHUT failure can be considered to conservatively bound the RST failure when considering tritium consequences if it is assumed that no more than 125kgallons of the RST are spilled. Given the accuracy and type of instrumentation proposed for this activity, where recognizing a leak of 5000 gallons is possible (as discussed in EC 362141 Design Summary), it is considered very unlikely that 125kgallons of RST contents could be spilled outside the berm.

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In the unlikely event of an underground pipe failure, immediate actions (engineering measures) would be taken to minimize the quantity of lost effluent and prevent contamination of potable water supplies as follows: remedial wells would be installed to capture the resulting plume and direct to an appropriate outlet. The inherent slow migration of groundwater will afford ample time for corrective actions to take place and prevent long-term potable water supply contamination. RST level instrumentation will alert operators to a small loss of inventory (before 125kgallons are lost), which minimizes any impact to ground water. NUREG-1026 credits *engineering measures* to further mitigate the affects of an accidental release of radioactive material at Braidwood. The Braidwood hydrology and these engineering measures will allow the prevention of the consequences of an RST pipe failure from exceeding those of the bounding RHUT failure.

In summary, the proposed activity will not result in a minimal increase in the consequences of a previously evaluated accident.

4. Does the proposed activity result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the UFSAR? (See Section 6.2.4 of the RM)__YES X NO

As discussed in Question 2, malfunctions of SSCs important to safety are not generated by the proposed activity. The accidental release of radioactive effluent from storage tanks to surface and ground water is not considered an initiator of any SSC malfunctions in the UFSAR. The proposed activity cannot increase the consequences of the previously evaluated RHUT Accidental Releases of Liquid Effluents in Surface Waters accident described in the UFSAR since it is not physically or operationally associated with the RHUT.

Therefore, it can be concluded that the proposed activity will not result in an increase in consequences of a malfunction of an SSC important to safety.

5. Does the proposed activity create a possibility for an accident of a different type than any previously evaluated in the UFSAR? (See Section 6.2.5 of the RM)___YES _X_ NO

The only possibility of an accident created by this activity is the accidental release of radioactive effluent due to a leak or tank failure. However, this type of accident has been previously evaluated in the UFSAR (15.7.2 & 15.7.3). Per UFSAR Section 15.7.2.1, the probability of a complete rupture of the Radwaste system or a complete malfunction accident is considered to be much lower than the rupture of a single tank.

The previously evaluated tank rupture accident and failure of the proposed tank are similar in that 1) an airborne radioactivity release will result from both accidents (via the Braidwood Station vent stack in the UFSAR accident and directly to the atmosphere in the RST failure accident) and 2) hydrostatic pressure from groundwater prevents radioactive effluents from reaching a surface water body in the UFSAR accident while the containment berm liner prevents same with RST failure.

Per the UFSAR, events that could cause release of the radioactive inventory of the spent resin storage tank and the boron recycle holdup tanks are cracks in the tanks and operator error. Per Section 15.7.3.4, the radiological consequences of any postulated accidental release of radioactive effluents from the boron recycle holdup tank would not exceed 10 CFR 20 limits at the nearest surface water intake.

The system design requirements for the proposed activity meet or exceed those of the existing Radwaste System, tanks and components (Reference: Design Summary), thus equipment failures resulting in radioactive effluent loss would be similar. Human factors such as tank high-level alarms, tank overflow alarm, and tank make-up valve auto-closure feature have been engineered into the proposed activity to reduce the likely hood of operator error. Physical features such as a lined berm around the storage tank that's capable of containing its contents and an overflow on the 500kgal tank that discharges into a dedicated overflow tank (located inside the berm) have been included as well in order to reduce the quantity of radioactive effluent released in the event of operator error.

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Therefore, the proposed activity does not create an accident of a different type than previously evaluated in the UFSAR.

6. Does the proposed activity create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in UFSAR? (See Section 6.2.6 of the RM) __YES _X_ NO

The proposed activity influences the following SSCs important to safety: Auxiliary Building floor, Auxiliary Building wall. A core hole will be bored through each of these barriers in order to route 2" piping under an approved plant barrier impairment permit. These penetrations will ultimately be sealed using techniques from approved Station procedures. The wall supporting the pipe has been evaluated using approved Station procedures to ensure its integrity is not compromised. Therefore, a malfunction of these barriers with a different result than previously evaluated is not possible.

7. Does the proposed activity result in a design basis limit for a fission product barrier as described in the UFSAR being exceeded or altered? (See Section 6.2.7 of the RM) __YES _X_ NO

The UFSAR does not associate the previously evaluated accidental release of radioactive effluent from storage tanks to surface and ground water with challenges to the three fission product barriers (fuel rod, RCS pressure boundary, containment). The proposed activity would affect fission product barriers no differently than the previously analyzed accident (Section 15.7).

8. Does the proposed activity result in a departure from a method of evaluation described in the UFSAR used in establishing the design bases or in the safety analyses? (See Section 6.2.8 of the RM) __YES X NO

The proposed activity conforms to Regulatory Guide 1.143, Rev. 0, which is the evaluation methodology of record used for previous radioactive waste management system designs (UFSAR, Appendix A, Page A1.143-1). Specifically, the proposed outdoor tank (RST) is surrounded by a berm to prevent runoff in the event of tank overflow or catastrophic failure. Also, the tank is equipped with provisions to monitor tank liquid level, and local and remote alarms are provided to alert of an overflow condition. The RST overflow is routed to an adjacent 3000gallon storage tank. The berm is lined with a watertight geomembrane and collection sump. Provisions are provided to allow the sump contents to be sampled and routed back to the Liquid Radwaste system (WX) for processing.

Equipment/piping inside the Radwaste Building is designed in accordance with the same codes/standards as the other WX system equipment located in the area.

The doses for UFSAR accident 15.7.2 (Radioactive Liquid Waste System Leak or Failure - Atmospheric Release) were calculated using the UFSAR methodology (at the exclusion area boundary and the LPZ boundary using the fifth percentile +/Q values given in Table 15.0-14).

The proposed activity was evaluated in a fashion consistent with The Accidental Release of Radioactive Liquid Effluent to Surface and Ground Water (Braidwood SER, 2.4.7) and Liquid Tank Failure Accident (Braidwood SER, 15.4.7) events.

Therefore, the proposed activity will not result in a departure from a UFSAR evaluation methodology.

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II. Identify references used to perform the evaluation (if not provided in the response to each question).

UFSAR Appendix A, Pg. A1.143-1	Regulatory Guide 1.143
UFSAR Section 15.7	Radioactive Release from a Subsystem or Component
UFSAR Table 15.0-11	Potential Offsite Doses Due to Accidents
UFSAR Section 2.4.12	Dispersion, Dilution, and Travel Times of Accidental Releases of Liquid Effluents in Surface Waters
UFSAR Question 321.1	
UFSAR Question 371.5	
NUREG-1002 Safety Evaluation Report related to the operation of Braidwood Station, Units 1 and 2 Docket Nos. 50-456 and 557 November 1983	2.4.7 - Accidental Release of Radioactive Liquid Effluent to Surface and Ground Water
NUREG-0876 Safety Evaluation Report related to the operation of Byron Station, Units 1 and 2 Docket Nos. STN 50-454 and STN 50-455 February 1982	15.4.7 Liquid Tank Failure Accident
EC 362141, INSTALLATION OF NEW 500,000 Gallon RADWASTE STORAGE TANK	Design Summary

III. Based upon the results of this Evaluation: (Select one of the following)

X	Implement the Activity per plant procedures without obtaining a License Amendment.
	Request and receive a License Amendment prior to implementation.

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IV. Signoffs:

50.59 Evaluator: Howard James (Printed Name) _____ (Signature) Date: 5/25/07

50.59 Reviewer: Bruce Acas (Printed Name) _____ (Signature) Date: 5/25/07

PORC Chairman: _____ (Printed Name) _____ (Signature) Date: ___/___/___

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PORC Meeting Number