TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release		
a. Waste Liquid Discharge Monitor (Low Range - EMF-49)	1 per station	40
b. Turbine Building Sump Monitor (Low Range - EMF-31)	1	42
c. Steam Generator Water Sample Monitor (Low Range - EMF-34)	1	43
d. Monitor Tank Building Liquid Discharge Monitor (EMF-57)	1 per station	40
2. Continuous Composite Samplers and Sampler Flow Monitor Conventional Waste Water Treatment Line	1 per station	42
3. Flow Rate Measurement Devices		
a. Waste Liquid Effluent Line	1 per station	41
b. Conventional Waste Water Treatment Line	1 per station	41
c. Low Pressure Service Water Minimum Flow Interlock	1 per station	41
d. Monitor Tank Building Waste Liquid Effluent Line	1 per station	41

TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release				
a. Waste Liquid Discharge Monitor (Low Range - EMF-49)	D	P	R(2)	Q(1)
b. Turbine Building Sump Monitor (Low Range - EMF-31)	D	M	R(2)	Q(1)
c. Steam Generator Water Sample Monitor (Low Range - EMF-34)	D	M	R(2)	Q(1)
2. Continuous Composite Samplers and Sampler Flow Monitor				
Conventional Waste Water Treatment Line	D(3)	N.A.	R	N.A.
3. Flow Rate Measurement Devices				
a. Waste Liquid Effluent Line	D(3)	N.A.	R	N.A.
b. Conventional Waste Water Treatment Line	D(3)	N.A.	R	N.A.
c. Low Pressure Service Water Minimum Flow Interlock	D(3)	N.A.	R	Q
d. Monitor Tank Building Waste Liquid Effluent Line	D(3)	N.A.	R	Q
d. Monitor Tank Building Liquid Discharge Monitor (EMF-57)	D	P	R(2)	Q(1)

TABLE 3.3-13 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
5. Containment Purge System			
Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-39)	1	***	48
6. Containment Air Release and Addition System			
Noble Gas Activity Monitor - Providing Alarm (Low Range - EMF-39)	1	*	45
7. Monitor Tank Building HVAC			
a. Noble Gas Activity Monitor - Providing Alarm (EMF-58)	1 per station	***	47
b. Monitor Tank Building Effluent Flow Rate Measuring Device	1 per station	***	46

TABLE 4.3-9 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Vent System (Continued)					
c. Particulate Sampler (EMF-35)	W	N.A.	N.A.	N.A.	*
d. Flow Rate Monitor	D	N.A.	R	N.A.	*
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*
5. Containment Purge System					
Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-39)	D	P	R(3)	Q(1)	***
6. Containment Air Release and Addition System					
Noble Gas Activity Monitor- Providing Alarm (Low Range - EMF-39)	D	P	R(3)	Q(1)	*
7. Monitor Tank Building HVAC					
a. Noble Gas Activity Monitor - Providing Alarm (EMF-58)	D	M	R(3)	Q(2)	***
b. Discharge Flow Instrumentation	D	N.A.	R	N.A.	***

TABLE 4.11-1

RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

LIQUID RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD)[1] (µCi/ml)
1. Batch Waste Release Tanks[2] Any tank which discharges liquid wastes by ~~the~~ [either] liquid effluent monitor, EMF-49 [or EMF-58]	P Each Batch	P Each Batch	Principal Gamma Emitters[3]	5×10^{-7}
			I-131	1×10^{-6}
	P One Batch/M	M	Dissolved and Entrained Gases (Gamma Emitters)	1×10^{-5}
	P Each Batch	M Composite[4]	H-3	1×10^{-5}
			Gross Alpha	1×10^{-7}
	P Each Batch	Q Composite[4]	Sr-89, Sr-90	5×10^{-8}
			Fe-55	1×10^{-6}
2. Continuous Releases[5] Conventional Waste Water Treatment Line	Continuous[6]	W Composite[6]	Principal Gamma Emitters[3]	5×10^{-7}
			I-131	1×10^{-6}
	M Grab Sample	M	Dissolved and Entrained Gases (Gamma Emitters)	1×10^{-5}
	Continuous[6]	M Composite[6]	H-3	1×10^{-5}
			Gross Alpha	1×10^{-7}
	Continuous[6]	Q Composite[6]	Sr-89, Sr-90	5×10^{-8}
			Fe-55	1×10^{-6}

TABLE 4.11-2

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

GASEOUS RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD)(1) (μCi/ml)
1. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters(2)	1×10^{-4}
2. Containment Purge	P Each PURGE(3) Grab Sample	P Each PURGE(3)	Principal Gamma Emitters(2)	1×10^{-4}
		M	H-3 (oxide)	1×10^{-6}
3. Unit Vent	W(3),(4) Grab Sample	W(3)	Principal Gamma Emitters(2)	1×10^{-4}
			H-3 (oxide)	1×10^{-6}
4. Containment Air Release and Addition System	D(3)(5) Grab Sample	D(3)(5)	Principal Gamma Emitters(2)	1×10^{-4}
		M	H-3 (oxide)	1×10^{-6}
5. All Release Types as listed in 3. above.	Continuous(6)	D(7) Charcoal Sample	I-131	1×10^{-11}
			I-133	1×10^{-9}
	Continuous(6)	D(7) Particulate Sample	Principal Gamma Emitters(2)	1×10^{-10}
	Continuous(6)	M Composite Particulate Sample	Gross Alpha(8)	1×10^{-11}
	Continuous(6)	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}

No Changes On This Page

TABLE 4.11-2 (Continued)

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

GASEOUS RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD)(1) (µCi/ml)
6. Waste Monitor Tank Building Ventilation Exhaust	W Grab Sample	W	Principal Gamma Emitters(2)	1×10^{-4}
			H-3 (oxide)	1×10^{-6}
	Continuous(6)	W Charcoal Sample	I-131	1×10^{-11}
			I-133	1×10^{-9}
	Continuous(6)	W Particulate Sample	Principal Gamma Emitters(2)	1×10^{-10}
	Continuous(6)	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous(6)	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}

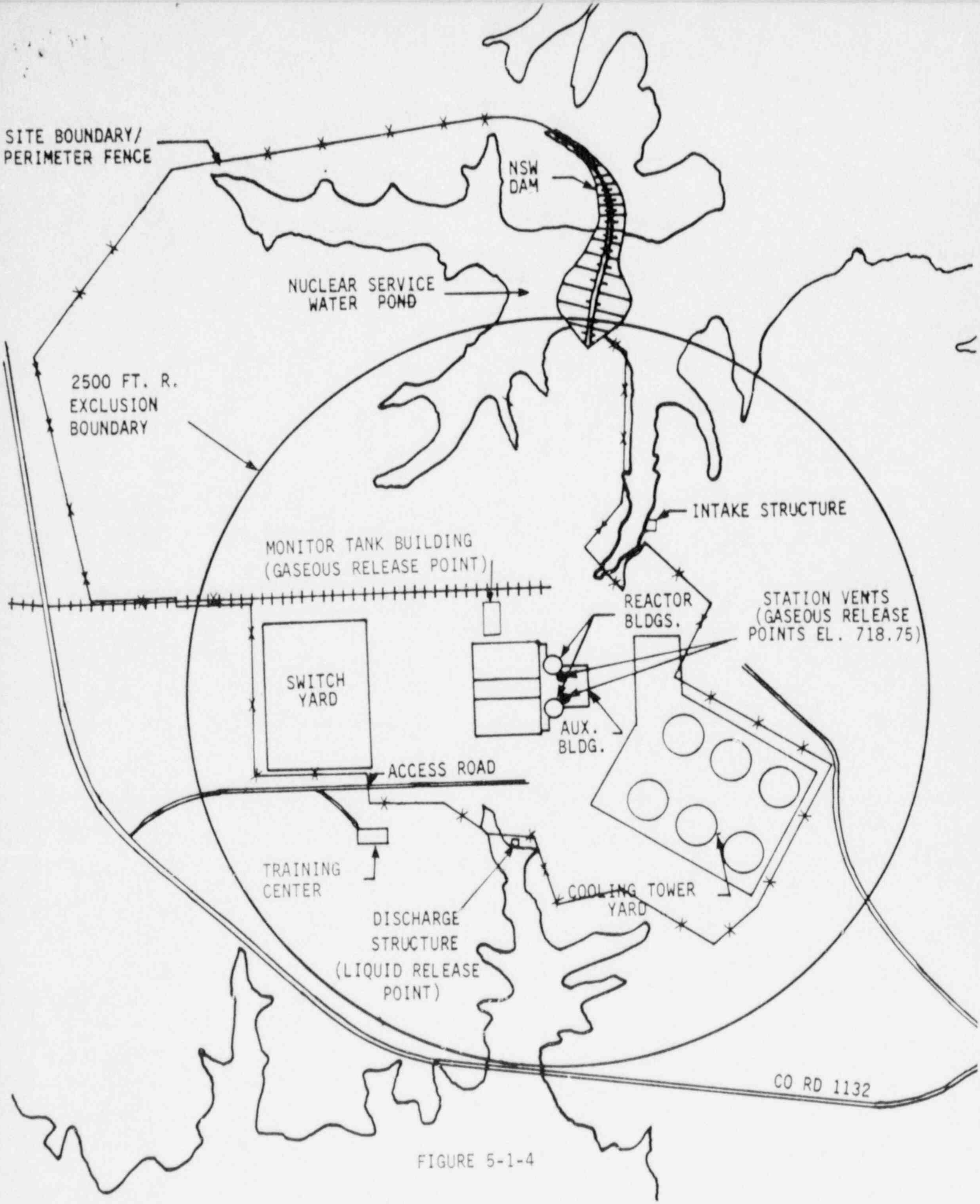

FIGURE 5-1-4

UNRESTRICTED AREA AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS EFFLUENTS

Attachment 2

Discussion and No Significant Hazards Analysis

DISCUSSION AND NO SIGNIFICANT HAZARDS ANALYSIS

The proposed amendments would add requirements to the Technical Specifications to cover operation of the waste Monitor Tank Building (MTB) which is being constructed at Catawba.

At the present time, Catawba does not have the capability to process large volumes of liquid radwaste due to unusual restrictions on releases and release rates. This is particularly true for peak load conditions associated with routine plant operations, as during refueling outages. The instantaneous release rate requirements are more restrictive at Catawba than at McGuire due to the low dilution flow available (37 times lower than McGuire).

The MTB and associated components, including additional tankage, will increase process rates and ensure segregation for the various liquid waste streams. By providing a piping arrangement and process area to accommodate portable temporary equipment, the facility will provide surge capacity and processing flexibility to incorporate such future problems as load cycling, ice condenser ice melt and potential volume reduction requirements.

The MTB includes many ALARA design features that will reduce the maintenance and operations dose currently received. Its primary functions are to provide additional processing capacity for high radwaste inventories during normal operation, primary to secondary leaks, and contaminated powdex processing. The frequency of radioactive spent resin sluicing (and associated radiation exposure) in response to waste chemistry changes will be reduced. The remotely operated crane will allow for radioactive filter and demineralizer handling at exposure levels much lower than currently experienced. The dose levels associated with contaminated powdex processing in the MTB would be much lower than if processing occurred in the Turbine Building. Also, the additional holdup capacity of the MTB will eliminate the storage of liquid radwaste in unshielded tanks near access areas. Therefore, for the same operations, the dose levels should be lower than what is currently experienced.

FUNCTIONAL DESCRIPTION

I. System Operation

The MTB is operated manually except for the sump pump operation and automatic shutoff of certain pumps on low tank level. High tank level alarms are provided at the Auxiliary Building waste processing area and in the MTB control room to insure proper system operation.

A. Monitor Tank Process Train Operation

The monitor tank process train is divided into two waste cleanup trains. The loops are called Train A and Train B respectively. Train A is primarily intended for processing of the steam generator drain tank (SGDT) waste feed via the SGDT pumps located in the Auxiliary Building. Wastes can also be processed from the Floor Drain Tank, Waste Evaporator Feed Tank and the Laundry and Hot Shower Tank. Train B is primarily intended for unusual waste process streams such as powdex decant, turbine room sump and other unusual process streams. The two train inlet headers run the length of the Inlet Valve Gallery and can feed any of the process equipment. Flow passes through the appropriate cleanup equipment and to either the outlet header or to the crossover connections (which will allow waste to pass through several pieces of process equipment in series).

The process equipment is connected via temporary piping to the permanent flanged connection located along the walls of the Process Room. From the process equipment the clean water flows to any of the Auxiliary Monitor Tanks for holdup and monitoring prior to release. Once a monitor tank is full, flow is diverted to one of the remaining tanks while the full tank is sampled. Sampling is accomplished by putting the tank in recirculation using the appropriate Auxiliary Monitor Tank Pump and initiating flash mixer operation. Once mixing of the tank is complete, a sample is drawn at the Sample Room for analysis prior to release. If the tank contents meet release requirements, the monitor tank is discharged to the Low Pressure Service Water (RL) System using the appropriate monitor tank pump. If the sample shows that further processing is required, the pump can be used to transfer the tank contents through the process equipment and back to one of the two other Auxiliary Monitor Tanks, and the sampling process is repeated prior to release. All releases are monitored by the process radiation monitor located in the Monitor Tank Room. A high radiation signal closes the discharge valve 1WLX28 to prevent release.

B. Powdex Tank Process Train Operation

The powdex tank process train is used to collect, dewater and transfer spent radioactive powdex from the condensate demineralizers located in the Turbine Building. Powdex is transferred from the Polishing Demineralizer Backwash Tanks by the Backwash Tank Pumps. The powdex resin is allowed to settle and the Powdex Dewatering Pump removes the decant and transfers this water to one of the Auxiliary Monitor Tanks. Temporary filtration located in the Process Room removes resin and fines which may remain in the decant. The process is repeated until the backwash tank is empty. When the Powdex Storage Tank is ready to be emptied, the Powdex Transfer Pump is used to transfer the contents to a truck mounted shipping container for transport and subsequent burial at an appropriately licensed facility.

II. Design Basis

A. Civil

1. Tanks

a. Auxiliary Monitor Tanks (AMT)

The AMTs are 3 - 20,000 gallon tanks which receive waste which has been processed in the Process Room or in the normal in-house process scheme. The tanks are located in the Monitor Tank Room and are constructed as a stainless steel right cylinder. A flash mixer, which is controlled from the MTB control panel, is located on each tank. Ladder access and a catwalk are provided to each tank for mixer access and maintenance.

b. Powdex Storage Tank (PST)

The PST is a 30,000 gallon tank which receives radioactive powdex from the condensate demineralizers via the CPD Backwash Tank for dewatering prior to transfer to the Truck Bay for shipping. The tank is a stainless steel right cylinder with a conical bottom and mixer. The mixer is controlled from the MTB control panel. Multiple connections are provided for tank dewatering. Sight glasses are provided on the side of the tank. Ladder access is provided to the tank for mixer access and maintenance.

2. Structures

The MTB and associated trenches were designed with the guidance of NRC Regulatory Guide 1.143 and Duke Nuclear Guide 1.143. These guides were used to design the MTB in the following ways:

The foundation and walls ("bathtub") were designed seismically (OBE) to an elevation sufficient to assure containment of the maximum liquid inventory expected to be in the building. The elevation of the maximum liquid inventory was calculated to be Elevation 599+6 feet. This elevation was calculated using the total volume of the 3-20,000 gallon AMTs and the 1-30,000 gallon PST.

The walls forming the "bathtub" consist of those walls surrounding the Powdex Rooms, the Monitor Tank Room, the Process Area, the Inlet Valve Gallery, and the Sump Room.

The Structural Steel Superstructure was designed conventionally (non-seismic). The response of the steel superstructure, however, was considered when developing seismic loads for the design of the "bathtub". In addition, the loading associated with a failure of the structural steel superstructure upon the "bathtub" portion of the MTB was not considered in the design of the "bathtub".

The two reinforced concrete trenches, which carry piping into the MTB, were not considered as part of the "bathtub" design, and therefore, were designed non-seismically.

a. Process Room

This room serves as location for temporary and semi-permanent waste processing equipment. Floor loading design is based on the largest anticipated equipment, including any portable shielding. This room is also sized for spent equipment storage prior to shipping.

The process room is a large open area approximately 75' x 30', without interior walls. Outside wall shielding is provided for a design radiation level of 3R/hr, but normal radiation levels will be much lower. A 15 ton overhead bridge crane is used to transport new and exhausted processing equipment to and from the truck bay. Overhead clearance from the crane hook to the processing room grade is 36', to accommodate spent equipment shipping.

Inlet, outlet, and crossover piping connections to and from the SGDT and AMT A, B, C are also present. All connections are standard 4-bolt 150 lb. flanges, to be adapted to for temporary hook-up of process equipment.

b. Monitor Tank Room

This room serves as location for AMTs A, B, and C, and their respective pumps. It also provides access to the Powdex Tank Room and the Process Room, in addition to containing process room outlet valves. The room is approximately 24' x 62'. The monitor tanks are positioned such that the mixer shafts can be removed using overhead space above the Process Room. Overhead clearance is sufficient for access to the tank manways and mixer motors. A liquid discharge radiation monitor is also located in this room and will be used when discharging to the RL System from the monitor tanks.

c. Pump Room

This room serves as location for the powdex transfer pump and the powdex dewatering pump. This room also serves to shield the Monitor Tank Room from the Powdex Tank and is also used as an entrance labyrinth to the Powdex Tank Room. This room is approximately 6' x 22'. Overhead clearance is the same as the Powdex Tank Room.

d. Powdex Tank Room

This room serves as location for the PST. The room is shielded to reduce exposure to both personnel inside and outside the building from powdex stored in the tank. Design level radiation is 5R/hr. Shielding extends above the top of the PST. The Powdex Tank Room is also the entrance for the trench transporting piping from the Turbine Building. This room is approximately 24' x 26' with overhead clearance sufficient for access to the tank manway and mixer.

e. Truck Bay

This area serves as shipping and receiving area for new and exhausted waste processing equipment. It also serves as a transfer area for spent radioactive powdex to a truck mounted liner, although normal dewatering will probably occur in the Process Room. The truck bay has doors on each end to allow trucks carrying equipment or liners to pull in or out without backing.

Connections are located on the south wall in the Process Room for transfer of the powdex and subsequent dewatering. Access to the Monitor Tank Room, Sample Room, Lab Area, HVAC Equipment Area, Control Room and Corridor is also provided. Approximate bay size is 15' x 72', with overhead bridge crane located over the Truck Bay. Floor drains collect any spills from the truck bay, lab, sample and change areas and direct it to the truck bay sump, which discharges to the MTB sump. Overhead clearance is 32.5'.

f. Inlet Valve Gallery

This room serves as an inlet valve and piping area. Inlet and crossover piping headers are located in this room. Inlet piping form the Auxiliary Building enters here and branches to the appropriate parts of the Process Room. Crossover piping and valves for interconnection of the processing equipment are located for convenience and exposure reduction. The inlet piping and valves are located approximately 16 feet above the floor, with the inlet piping on the east wall and the valves located between the west and east wall of the gallery. A steel grating type platform is located just below the inlet piping and valves, for maintenance access. Access to the platform is provided from the south end of the Inlet Valve Gallery. Access to the Inlet Valve Gallery is provided from the Corridor and the Process Room, with approximate size of the gallery being 76' x 6'. Overhead clearance is the same as the Process Room, with shielding as appropriate to reduce exposure to personnel in the corridor.

g. Pipe Chase and Sump

This room serves as a pipe chase area for pipes entering the Process Room. It has appropriate shielding to protect personnel in the corridor and areas outside the building. In addition, the MTB sump is located in this room. This sump serves to collect and transfer liquid waste from the floor and equipment drains to the SGDT. The approximate room size is 4' x 6' with lighting per general area requirements. Overhead clearance is the same as the Process Room.

h. Sample Room

The Sample Room serves as a location to collect and sample various points in the processing streams and certain tanks. Sample tubing is routed from the process piping to the sample hood located in the room. The room is located in the non-seismic portion of the building. Ceiling clearance is a minimum of 9 feet with approximate room size of 18' x 12'.

i. Lab Area

The Lab Area provides area for the preparation of sample, analysis of samples and setup of analysis instrumentation. It is located in the non-seismic portion of the building. Ceiling clearance is a minimum of 9 feet with approximate room size of 18' x 26'.

j. Change Area

This area contains two change booths for changing clothes prior to access to the controlled areas of the Sample and Lab Areas. It is located in the non-seismic portion of the building. Ceiling clearance is a minimum of 9 feet with approximate room size of 18' x 16'.

k. Control Room

This area contains the control panel for equipment in the MTB, with the exception of HVAC equipment area. The control panel is arranged with mimic designations where possible.

l. Pipe Trenches

The MTB pipe trenches are non-seismic. The Turbine Building trench contains the Turbine Building sump discharge, powdex transfer and MTB service piping. The Auxiliary Building trench will contain Liquid Waste piping to and from the MTB. Space is provided in each trench for future piping additions. Sump pumps are provided in each trench to accommodate any trench in-leakage.

m. HVAC Equipment Area

The HVAC equipment area is located above the Sample, Lab, and Change areas and serves as location of MTB ventilation equipment and filters. Space for storage is also provided in this area.

B. Mechanical

1. Pumps

a. Monitor Tank Pumps

This pump is capable of transferring water from the monitor tanks to the Low Pressure Service Water System discharge, via the Turbine Building. It also has tank recirculation and transfer capability within the MTB. The design basis for these centrifugal pumps is based on a 200 gpm discharge to the RL system with system pressure drop requirements as calculated. Material of construction is stainless steel. Controls are located on the MTB control panel and on the Auxiliary Building control panel. These pumps are also protected by a Lo tank level alarm and trip.

b. Powdex Dewatering Pump

This pump is capable of transferring water from the powdex storage tank via dewatering connections, through filtration and other processing equipment in the Process Room and back to the monitor tanks. Material of construction is stainless steel. Pump controls are located on the MTB control panel and on the Auxiliary Building control panel.

c. Powdex Transfer Pump

This pump is capable of transferring powdex resin from the PST to a truck mounted liner. This is a peristaltic type hose pump. Material of construction is stainless steel. Main controls are located on the MTB control panel and on the Auxiliary Building control panel.

An emergency pump cut off is located in the Truck Bay Area for use during resin transfer to a truck mounted cask liner.

d. Monitor Tank Building Sump Pumps

Floor drains and equipment drains are routed to the MTB sump. Sump pumps are provided to transfer water which is collected in the sumps to the SGDT. In addition to automatic controls supplied by sump level switches, manual control is provided on the MTB control panel and on the Auxiliary Building control panel. The sump has a stainless steel liner plate.

e. Truck Bay Sump Pump

A small submersible sump pump is also provided to transfer drainage in the Truck Bay to the MTB sump. The operation of this pump is fully automatic utilizing a pump mounted float level switch. The sump has a stainless steel liner plate.

f. Auxiliary and Turbine Building Trench Sump Pumps

The sump pumps in the Turbine and Auxiliary Building trench sumps adjacent to the MTB transfer any trench leakage to the MTB sump. The pump in the sump between the MTB and the Auxiliary Building pumps trench leakage to Floor Drain Sump C. These three pumps operate automatically utilizing a pump mounted float level switch.

2. HVAC

MTB HVAC requirements are divided into three areas:

Area 1. This includes the portions of building which require ventilation due to the presence of process equipment. The entire seismic portion of the building is included in the area, plus the Truck Bay. This consists of the Powdex Tank, Powdex Pump, Monitor Tank and Process Rooms and the Inlet Valve Gallery, Corridor and Truck Bay. Climate control in Area 1 is sufficient for general equipment protection, habitability for work and freeze protection. The Monitor Tanks are vented through activated carbon adsorbers and HEPA filters prior to monitored release.

Areas 2 and 3. These areas occupy the non-seismic portion of the building. Area 2 includes the Change Area, the Sample Room and the Control Room. Area 3 consists of only the Lab. These rooms have climate control for general protection of equipment, habitability for work and freeze protection. The Sample Room also has exhaust provisions for the 2 sample hoods. Area 3 has climate control to meet instrumentation requirements, which are similar to Auxiliary trunks for portable equipment.

3. Valves

All remotely operated valves will be operated from the MTB control panel and from the Auxiliary Building radwaste area control panel, unless otherwise specified. Indicating lights will be provided on each panel to verify position.

4. Mixers

A flash mixer is provided in each AMT and in the PST. Each mixer will be operated from the MTB control panel.

C. Electrical

1. Waste Liquid System Controls

This system can be controlled from the MTB or from the Auxiliary Building. Primary control is from the MTB.

Each of the control cabinets contain pushbutton operators, selector switches, annunciator panel, receiver gauges, flow totalizers, mimic buss, and interior lighting. Transfer circuitry is provided to transfer the controls from one cabinet to the other.

2. Power Supply

Two 600 VAC Motor Control Centers feed the following equipment:

Two 208Y/120 VAC Power Panelboards
Two 208Y/120 VAC Lighting Panelboards
One Heat Tracing Transformer 600V/208V/120V
One Miscellaneous Transformer (600V/480V-30) for Receptacles
Various Pumps, Fans, and Receptacles

The Power Panelboards provide 208 VAC, 10, 30, and 120 VAC for the miscellaneous power requirements of the MTB.

3. Normal lighting includes lighting and convenience receptacles fed from lighting panelboards.

4. DC Emergency Lighting System includes 90 Minute Emergency Battery Lighting Units and Exit Lights to illuminate exits, pathways, and areas which need light for personnel safety.

5. Paging System Communications System for paging.

6. Telephone System Communications System for plant telephones.

7. Sound Powered System Communications System for radwaste chemistry.

8. Site Assembly System Communications System for site assembly during an emergency.

9. Electrical Heat Tracing for critical piping freeze protection.

10. Radiation Monitors

    The MTB microprocessor based radiation monitoring equipment provides real time information on 1) radioactive concentrations in the AMT liquid discharge and the MTB ventilation exhaust and 2) dose rates for the Valve Gallery, Truck Bay and corridor areas of the MTB. Information is displayed and control functions are provided at the operator consoles, one adjacent to the MTB Control Panel and the other in the main plant Control Room. High radiation, loss of flow and system trouble alarms are provided on the MTB Control Panel and the MTB Control Panel Remote Annunciator panels. The liquid monitor also provides a control interlock to close Valve 1WLX28 on high radiation.

The controls (Surveillance Requirements, Action Statements, Sampling Frequency, etc...) proposed to be placed on the processing and monitoring equipment are consistent with the controls placed on similar equipment already contained within the Technical Specifications. Radioactive Liquid and Gaseous Effluent Monitoring Instrumentation Tables will contain appropriate Surveillance Requirements and operability requirements to ensure that the necessary instrumentation will remain operable or adequate compensatory measures will be taken.

Radioactive Liquid and Gaseous Waste Sampling and Analysis Program Tables will also be amended to add programs to ensure that all releases made will be checked to ensure that releases will be made in accordance with regulatory requirements.

In particular, the proposed changes to Table 3.3-12 would add channel requirements and applicable Action Statements for the MTB Radioactive Liquid Discharge Monitor and the MTB Waste Liquid Effluent Line flow rate measurement device. The proposed Action Statements are the same as those applicable to similar instrumentation. The changes to Table 4.3-8 would add Surveillance Requirements for the above two Instruments consistent with Surveillance Requirements for other similar instrumentation.

The proposed changes to Tables 3.3-13 and 4.3-9 would add channel requirements, Action Statements, and Surveillance Requirements for the MTB Noble Gas Activity Monitor and the Gaseous Effluent Flow Rate Measuring Device. These changes are consistent with requirements already in place for similar instrumentation.

Proposed change to Tables 4.11-1 and 4.11-2 would Sampling and Analysis requirements for Gaseous and Liquid Effluent releases. The changes are consistent with requirements currently in place for similar release paths.

Figure 5.1-4, Unrestricted Area and Site Boundary for Radioactive Gaseous Effluents is to be revised to show the MTB as a potential release point.

10 CFR 50.92 states that a proposed amendment involves no significant hazards considerations if operation in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

The proposed amendment does not involve a significant increase in the probability or consequences of any previously evaluated accident.

The MTB and associated trenches do not house any equipment which is important to safety and being a remote facility, cannot adversely affect any equipment which is important to safety. An accident or malfunction within the facility can, however, result in a radioactive release to the environment. The most severe consequences would be those following a tank failure.

The accident which is already analyzed in the FSAR is the failure of the refueling water storage tank (RWST) which results in the release of 395,000 gallons of contaminated water directly to Lake Wylie. Since the total volume of all MTB tankage is much less than that of the RWST and since the radionuclide concentrations of liquids within the MTB will be less than those assumed in the RWST analysis, the consequences of the MTB accident will be much less severe than the RWST accident. The releases resulting from the postulated RWST failure were determined to be within the limits of 10 CFR 20, Appendix B.

Accidents and malfunctions within the MTB will, therefore, not affect the safe operation or shutdown of the plant and will not adversely affect the health and safety of the public.

The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The failure of an outside storage tank has been analyzed. The worst case consequences of the failure of the RWST have been analyzed and bound those associated with a failure of the MTB.

The proposed amendment does not involve a significant reduction in a margin of safety. The changes would impose operating restrictions on the MTB and its components. The MTB itself is meant to reduce worker exposure and will allow flexibility in the processing of radioactive wastes. All postulated accidents involving the MTB are bounded by analyses existing for other systems.

Based on the above discussion, Duke Power concludes that the proposed amendment does not involve Significant Hazards Considerations.