2.10 Power Cycle Systems

2.10.1 Turbine Main Steam System

Design Description

The Turbine Main Steam (MS) System, as shown in Figure 2.10.1, supplies steam generated in the reactor to the turbine, steam auxiliaries and turbine bypass valves. The MS boundaries are shown in Figure 2.10.1. The MS System does not include the seismic interface restraint nor main turbine stop or bypass valves.

The MS System:

(1) Accommodates operational stresses such as internal pressure and dynamic loads without failures.

(2) Provides a seismically analyzed fission product leakage path to the main condenser.

(3) Has suitable access to permit in-service testing and inspections.

(4) Closes the steam auxiliary (SA) valve(s) on a main steam isolation valve (MSIV) isolation signal. These valves fail closed on loss of electrical power to the valve actuating solenoid or on loss of pneumatic pressure.

The MS System main steam piping consists of four lines from the seismic interface restraint to the main turbine stop valves. The header arrangement upstream of the turbine stop valves allows the valves to be tested on-line and also supplies steam to the power cycle auxiliaries.

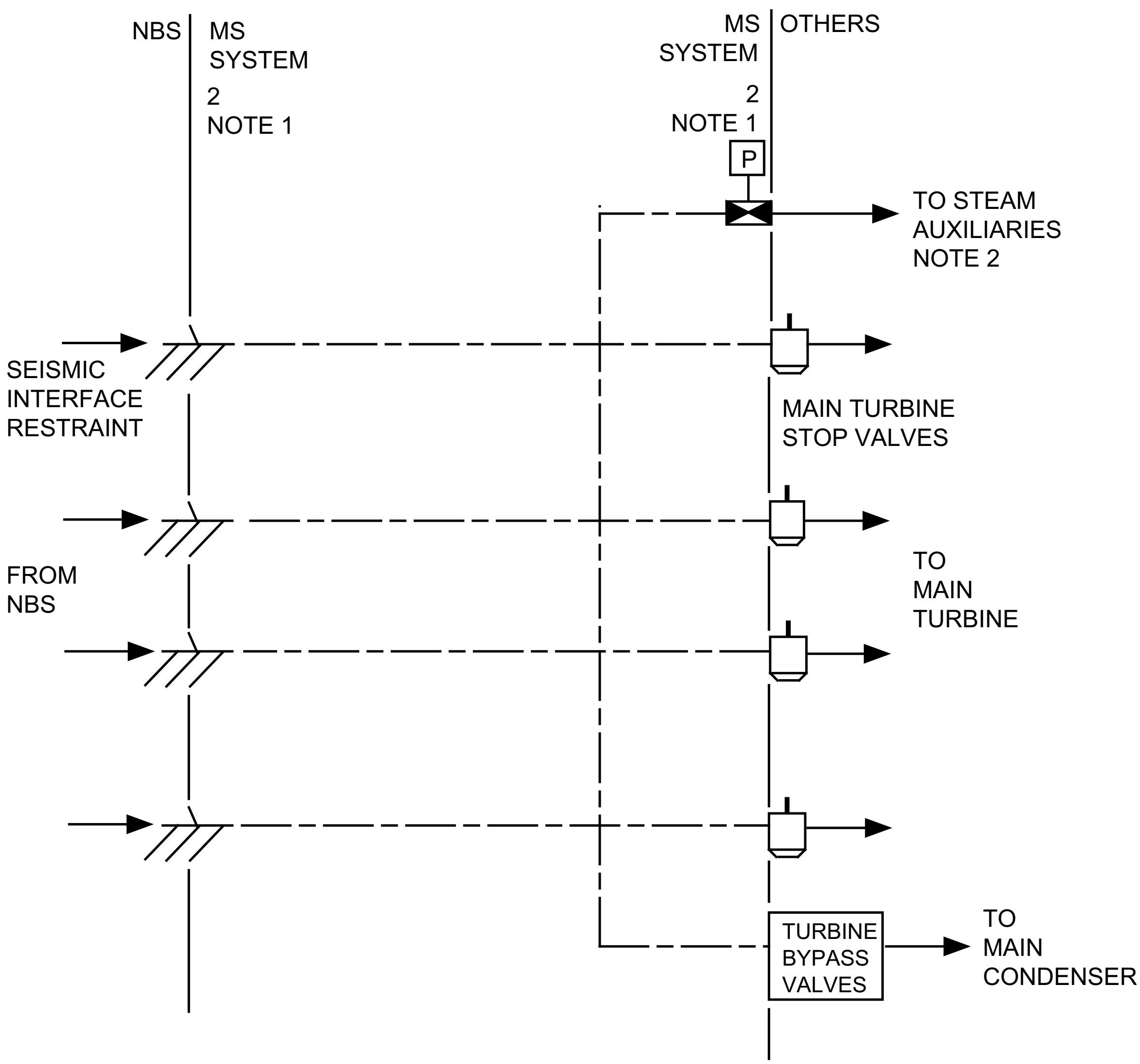
The MS System is classified as non-safety-related. However, the MS System is analyzed, fabricated and examined to ASME Code Class 2 requirements, and classified as non-Seismic Category I. Inservice inspection shall be performed in accordance with ASME Section XI requirements for Code Class 2 piping. ASME authorized nuclear inspector and ASME Code stamping is not required.

MS piping, including the steam auxiliary valve(s), from the seismic interface restraint to the main stop and main turbine bypass valves is analyzed to demonstrate structural integrity under safe shutdown earthquake (SSE) loading conditions.

The MS System is located in the steam tunnel and Turbine Building.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the MS System.



NOTES:
1. AS MODIFIED PER DESIGN DESCRIPTION.
2. MULTIPLE LINES MAY BE USED.
   ISOLATION PROVISIONS ARE REQUIRED
   FOR EACH STEAM AUXILIARY LINE.

Figure 2.10.1 Turbine Main Steam System

Table 2.10.1 Main Steam System

Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The basic configuration of the MS System is as shown on Figure 2.10.1.	1. Inspections of the as-built system will be conducted.	1. The as-built MS System conforms with the basic configuration shown in Figure 2.10.1.
2. The ASME Code components of the MS System retain their pressure boundary integrity under internal pressures that will be experienced during service.	2. A hydrostatic test will be conducted on those Code components of the MS System required to be hydrostatically tested by the ASME Code.	2. The results of the hydrostatic test of the ASME Code components of the MS System conform with the requirements in the ASME Code, Section III.
3. Upon receipt of an MSIV closure signal, the SA valve(s) close(s).	3. Using simulated MSIV closure signals tests will be performed on the SA valves.	3. The SA valve(s) close(s) following receipt of a simulated MSIV closure signal.
4. The SA valve(s) fail(s) closed on loss of electrical power to the valve actuating solenoid or on loss of pneumatic pressure. The pneumatically operated SA valve(s) close(s) when either electrical power to the valve actuating solenoid is lost or pneumatic pressure to the valve(s) is lost.	4. Test will be performed on SA valves.	4. The SA valve(s) close(s) on loss of electrical power to the valve actuating solenoid or on loss of pneumatic pressure.
5. MS piping, including the SA valve(s) from the seismic interface restraint to the main stop and main turbine bypass valves are analyzed to demonstrate structural integrity under SSE loading conditions.	5. A seismic analysis of the as-built MS piping and SA valve(s) will be performed.	5. An analysis report exists which concludes that the as-built MS piping and SA valve(s) can withstand a SSE without loss of structural integrity.

2.10.2 Condensate Feedwater and Condensate Air Extraction System

The Condensate Feedwater and Condensate Air Extraction (CFCAE) System consists of two subsystems: the Condensate and Feedwater System (CFS) and the Main Condenser Evacuation System (MCES).

Design Description

Condensate and Feedwater System

The function of the CFS is to receive condensate from the condenser hotwells, supply condensate to the Condensate Purification System (CPS), and deliver feedwater to the reactor. Condensate is pumped from the main condenser hotwell by the condensate pumps, passes through the low pressure feedwater heaters to the feedwater pumps, and then is pumped through the high pressure heaters to the reactor. Figure 2.10.2a shows the basic system configuration. The CFS boundaries extend from the main condenser outlet to (but not including) the seismic interface restraint outside the containment.

The CFS is classified as non-safety-related.

The CFS is controlled by signals from the Feedwater Control System.

The CFS is located in the steam tunnel and Turbine Building.

The CFS has parameter displays for the instruments shown on Figure 2.10.2a in the main control room.

Main Condenser Evacuation System

The MCES removes the hydrogen and oxygen produced by the radiolysis of water in the reactor, and other power cycle noncondensable gases. The system exhausts the gases to the Off-Gas System (OGS) during plant operation, and to the Turbine Building compartment exhaust system at the beginning of each startup. The MCES consists of redundant steam jet air ejector (SJAE) units for power plant operation, and a mechanical vacuum pump for use during startup. Figure 2.10.2b shows the basic system configuration.

The MCES is classified as non-safety-related.

The MCES is located in the Turbine Building.

Steam supply to the SJAE provides dilution of the hydrogen and prevents the offgas from reaching the flammable limit of hydrogen. When the steam flow drops below the setpoint for stream dilution, the Off-Gas System is isolated.

The vacuum pump is tripped and its discharge valve is closed upon receiving a main steamline high radiation signal.

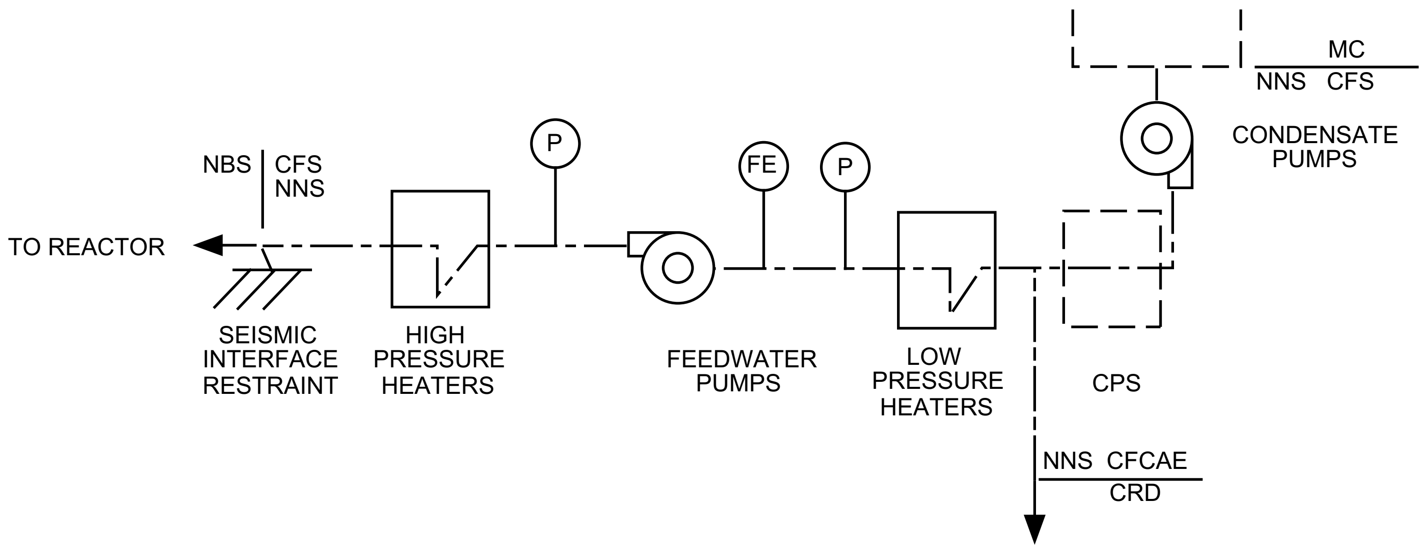
The MCES has the following displays in the main control room:

(1) Parameter displays for the instruments shown on Figure 2.10.2b.

(2) Status indication for the vacuum pump and SJAE discharge valves.

Inspections, Tests, Analyses and Acceptance Criteria

Tables 2.10.2a and 2.10.2b provide a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the CFCAE System, respectively.



NOTES:
1. RELIEF VALVE DISCHARGE AND VENTS ARE CHANNELED THROUGH CLOSED SYSTEMS.
2. FEEDWATER AND CONDENSATE PUMP REDUNDANCY IS PROVIDED.

Figure 2.10.2a Condensate and Feedwater System

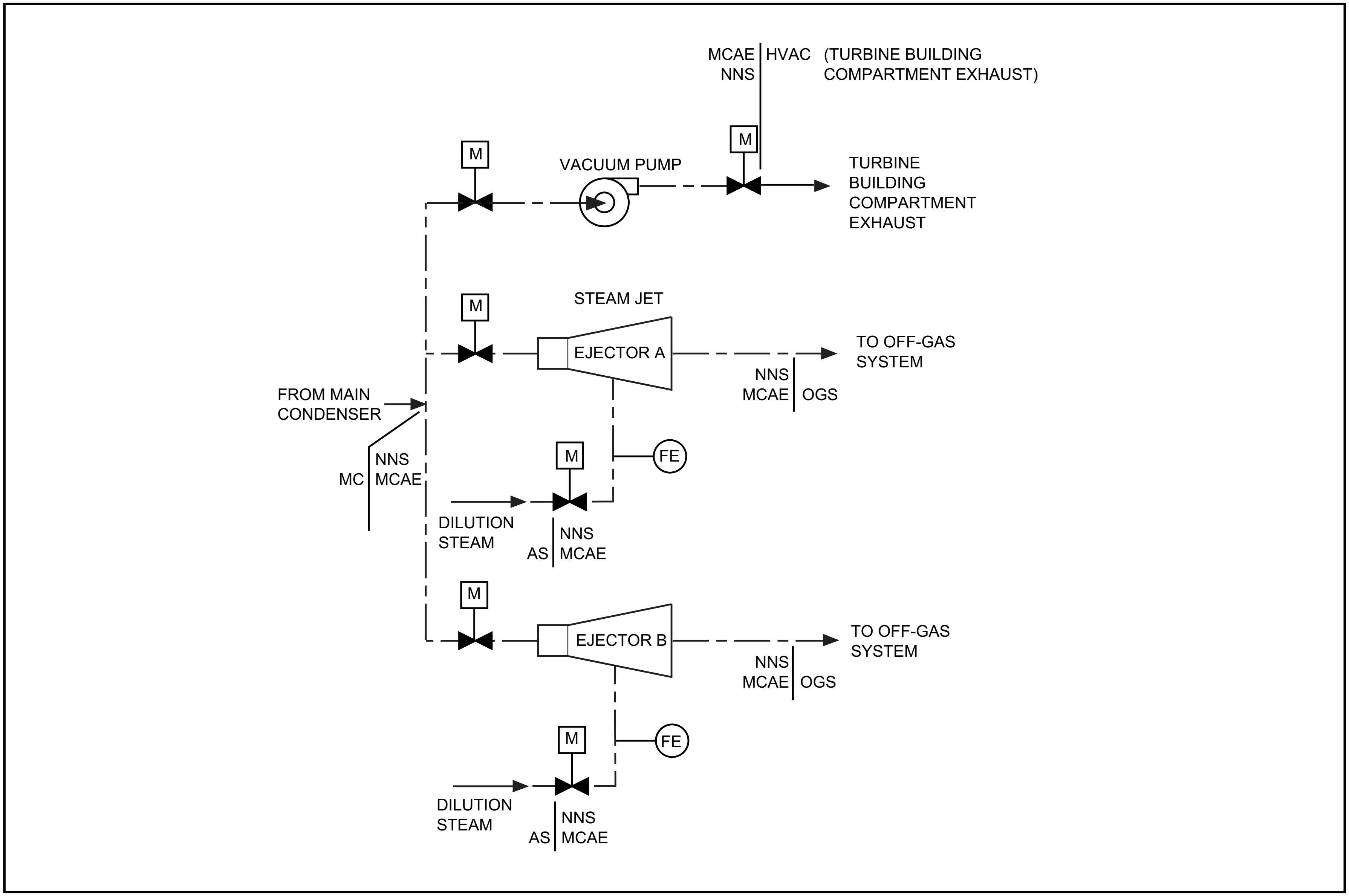


Figure 2.10.2b Main Condenser Evacuation System

Table 2.10.2a Condensate and Feedwater System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The basic configuration of the CFS is as shown on Figure 2.10.2a.	1. Inspections of the as-built CFS will be conducted.	1. The as-built CFS conforms with the basic configuration shown in Figure 2.10.2a.
2. The CFS is controlled by signals from the Feedwater Control System.	2. Tests of the as-built CFS will be conducted using simulated input signals.	2. The CFS starts and operates in response to the simulated signals.
3. Main control room displays provided for the CFS are as defined in Section 2.10.2.	3. Inspections will be performed on the main control room displays for the CFS.	3. Displays exist or can be retrieved in the main control room as defined in Section 2.10.2.

Table 2.10.2b Main Condenser Evacuation System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The basic configuration of the MCES is as shown on Figure 2.10.2b.	1. Inspections of the as-built MCES will be conducted.	1. The as-built MCES conforms with the basic configuration shown in Figure 2.10.2b.
2. When the steam flow drops below the setpoint for steam dilution, the Off-Gas System is isolated.	2. Tests will be conducted on the as-built MCES using simulated signals for steam flow.	2. The SJAE suction valves close on receipt of a simulated low flow signal.
3. The vacuum pump is tripped and its discharge valve is closed upon receiving a main steamline high radiation signal.	3. Tests will be conducted on the as-built MCES using simulated signals for radiation in the main steamlines.	3. The vacuum pump trips and the discharge valve closes upon receipt of a simulated high radiation signal.
4. Main control room displays provided for the MCES are as defined in Section 2.10.2.	4. Inspections will be performed on the main control room displays for the MCES.	4. Displays exist or can be retrieved in the main control room as defined in Section 2.10.2.

2.10.3 Heater Drain and Vent System

No entry for this system.

2.10.4 Condensate Purification System

Design Description

The Condensate Purification System (CPS) purifies and treats the condensate, using filtration to remove insoluble solids, and ion exchange demineralizer to remove soluble solids. The CPS consists of full flow high efficiency particulate filters followed by full flow deep bed demineralizers. Figure 2.10.4 shows the basic system configuration.

The CPS is classified as non-safety-related.

The CPS is located in the Turbine Building.

The CPS has alarms and display for effluent conductivity in the main control room.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.4 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the CPS.

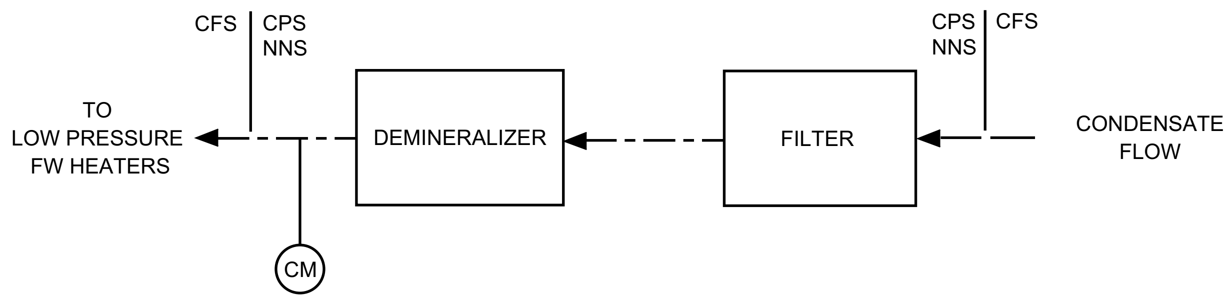


Figure 2.10.4 Condensate Purification System

Table 2.10.4 Condensate Purification System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The basic configuration of the CPS is as shown on Figure 2.10.4.	1. Inspections of the as-built System will be conducted.	1. The as-built CPS conforms with the basic configuration shown in Figure 2.10.4.
2. Main control room alarm and display provided for the CPS are as defined in Section 2.10.4.	2. Inspections will be performed on the main control room alarm and display for the CPS.	2. Alarm and display exist or can be retrieved in the main control room as defined in Section 2.10.4.

2.10.5 Condensate Filter Facility

No entry. Covered in Section 2.10.4.

2.10.6 Condensate Demineralizer

No entry. Covered in Section 2.10.4.

2.10.7 Main Turbine

Design Description

The Main Turbine (MT) uses the energy in steam from the reactor to drive the plant generator.

The major turbine components are:

(1) A high pressure section.

(2) An intermediate section (between high pressure and low pressure sections).

(3) Low pressure sections.

The major fluid system boundaries are:

(1) Turbine Main Steam 2.10.1.

(2) Main Condenser 2.10.21.

(3) Turbine Gland Seal 2.10.9.

(4) Extraction System 2.10.12.

The MT is classified as non-safety-related.

The MT has the following features that prevent overspeed:

(1) Main turbine stop valves (MTSV)/Control valves (CV) [MTSVs trip/CVs trip and modulate].

(2) Combined intermediate valves (CIVs) consist of intercept valves (IVs) and intercept stop valves (ISVs) [IVs trip and modulate/ISVs trip].

(3) Extraction line non-return valves (trip).

(4) Redundant valve closure mechanisms (i.e., fast acting solenoid valves and emergency trip fluid system).

(5) Redundant normal speed control.

Three levels of signals to MT valves (i.e., normal speed control/overspeed trip/backup overspeed trip).

Overspeed trip occurs as follows:

	Overspeed Condition	Protective Action
(1)	Exceeds normal speed control setpoint.	Normal speed control signals the CVs and IVs to close.
(2)	Exceeds overspeed trip setpoint.	Overspeed trip signals MTSVs, CVs, IVs, ISVs, and extraction line non-return valves to close.
(3)	Exceeds backup overspeed trip setpoint.	Backup overspeed trip signals MTSVs, CVs, IVs, ISVs, and extraction line non-return valves to close.

The turbine MTSV closes in 0.1 seconds or greater. The turbine CV trip closure is 0.08 seconds or greater. In the modulating mode, the full stroke servo-closure of the turbine CV is 2.5 seconds or greater.

The MT System has the following alarms and displays in the main control room:

(1) Overspeed alarm.

(2) Parameter displays for turbine speed and inlet steam pressure.

The main turbine stop valves are analysed to demonstrate structural integrity under safe shutdown earthquake (SSE) loading conditions.

The MT is located within the Turbine Building. The axis of the turbine and generator is orientated within the Turbine Building to be inline with the Reactor and Control Buildings.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.7 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the MT System.

Table 2.10.7 Main Turbine System

Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The basic configuration of the MT System is as described in Section 2.10.7.	1. Inspection of the as-built MT will be conducted.	1. The as-built MT conforms with the basic configuration described in Section 2.10.7.
2. MT System overspeed protective actions are as defined in Section 2.10.7.	2. Tests will be conducted on the as-built MT System using simulated overspeed signals.	2. The following protective actions occur: **Overspeed Condition** / **Protective Action** a. Exceeds normal speed control setpoint. — Normal speed control signals the CVs and IVs to close. b. Exceeds overspeed trip setpoint. — Overspeed trip signals MTSVs, CVs, ISVs, IVs, and extraction line non-return valves to close. c. Exceeds backup overspeed trip setpoint. — Backup overspeed trip signals MTSVs, CVs, ISVs, IVs, and extraction line non-return valves to close.
3. The turbine MTSV closes in 0.10 seconds or greater.	3. Tests will be conducted on the as-built turbine MTSV.	3. The turbine MTSV closes in 0.10 seconds or greater
4. The turbine CV trip closure is 0.08 seconds or greater.	4. Tests will be conducted on the as-built turbine CV.	4. The turbine CV trip closure is 0.08 seconds or greater.

Table 2.10.7 Main Turbine System (Continued)

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
5. In the modulating mode, the full stroke servo closure of the turbine CV is 2.5 seconds or greater.	5. Tests will be conduced on the as-built turbine CV.	5. In the modulating mode, the full stroke servo closure of the turbine CV is 2.5 seconds or greater.
6. Main control room alarms and displays provided for the MT are as defined in Section 2.10.7.	6. Inspections will be performed on the main control room alarms and displays for the MT.	6. Alarms and displays exist or can be retrieved in the main control room as defined in Section 2.10.7.
7. The axis of the turbine and generator is oriented within the Turbine Building to be inline with the Reactor and Control Buildings.	7. Inspections will be conducted of the as-built turbine and generator.	7. The axis of the turbine and generator is oriented within the Turbine Building to be in line with the Reactor and Control Buildings.
8. The MTSVs are analysed to demonstrate structural integrity under SSE loading conditions.	8. A seismic analysis of the as-built MTSVs will be performed.	8. An analysis report exists which concludes that the as-built MTSVs can withstand an SSE without the loss of structural integrity.

2.10.8 Turbine Control System

No entry. Covered in Section 2.10.7.

2.10.9 Turbine Gland Seal System

Design Description

The Turbine Gland Seal (TGS) System prevents the escape of radioactive steam from the turbine shaft casing penetrations and valve stems and prevents air inleakage through subatmospheric turbine glands. Figure 2.10.9 shows the basic system configuration.

The TGS System consists of a sealing steam pressure regulator, steam seal header and a gland seal condenser (GSC) with two full capacity exhaust blowers and associated piping, valves and instrumentation.

The TGS System is bounded by the Main Turbine and the Turbine Bypass System. The TGS System receives steam from either the Turbine Main Steam System, the feedwater heater drain tank vent header or auxiliary steam sources. The exhaust blowers discharge to the Turbine Building compartment exhaust system.

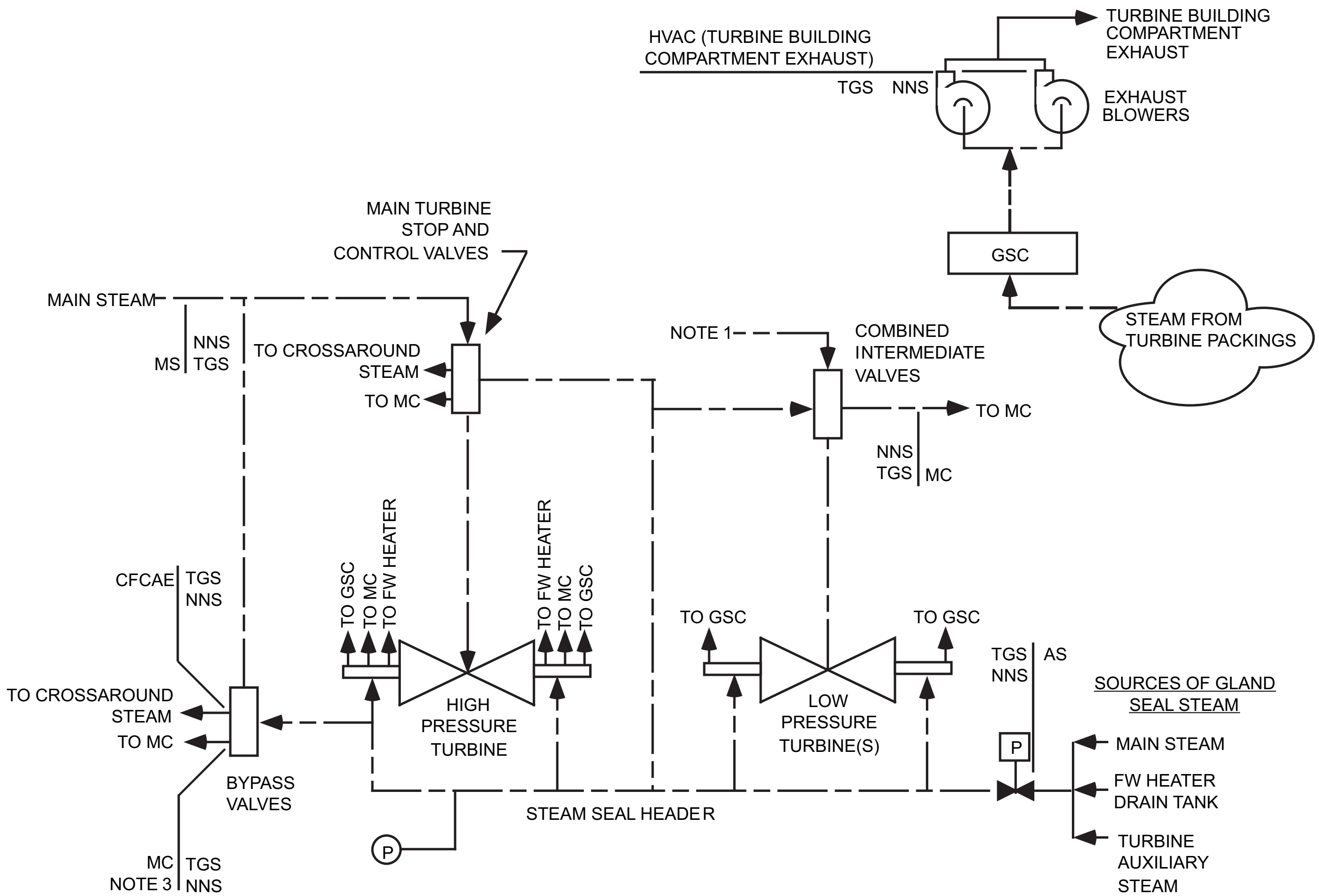
The TGS System is classified as non-safety-related.

The TGS System is located in the Turbine Building.

The TGS System has displays for gland seal condenser and steam seal header pressure in the main control room.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.9 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the TGS System.



NOTES;
1. STEAM PATH BETWEEN HIGH AND LOW PRESSURE TURBINES.
2. DELETED
3. TYPICAL FOR INTERFACES WITH MC.

Figure 2.10.9 Turbine Gland Seal System

Table 2.10.9 Turbine Gland Seal System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The basic configuration of the TGS System is as shown on Figure 2.10.9.	1. Inspections of the as-built system will be conducted.	1. The as-built TGS System conforms with the basic configuration shown on Figure 2.10.9.
2. Main control room displays provided for the TGS System are as defined in Section 2.10.9.	2. Inspections will be performed on the main control room displays for the TGS System.	2. Displays exist or can be retrieved in the main control room as defined in Section 2.10.9.

2.10.10 Turbine Lubricating Oil System

No entry for this system.

2.10.11 Moisture Separator Heater

No entry for this system.

2.10.12 Extraction System

No entry for this system.

2.10.13 Turbine Bypass System

Design Description

The Turbine Bypass System (TBS) discharges main steam directly to the condenser. The TBS is bounded by the Turbine Main Steam System and the Main Condenser.

The TBS is classified as non-safety-related.

The TBS consists of a valve chest that is connected to the main steamlines upstream of the main turbine stop valves, and dump lines that connect each regulating valve outlet to the condenser shell.

The turbine bypass valves are opened by a signal from the Steam Bypass and Pressure Control System.

The turbine bypass valves open upon turbine trip or generator load rejection, automatically trip closed whenever the vacuum in the condenser falls below a preset value, and fail closed on loss of electrical power or hydraulic system pressure.

The TBS is analyzed to demonstrate structural integrity under the safe shutdown earthquake (SSE) loading conditions.

The TBS is located in the Turbine Building.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.13 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the TBS.

Table 2.10.13 Turbine Bypass System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The basic configuration for the TBS is described in Section 2.10.13 and Turbine Main Steam System, Figure 2.10.1.	1. Inspections of the as-built TBS will be conducted.	1. The as-built TBS conforms with the basic configuration of Section 2.10.13 and Turbine Main Steam System, Figure 2.10.1.
2. The turbine bypass valves are opened by a signal from the Steam Bypass and Pressure Control System.	2. Tests will be conducted using a simulated signal.	2. Turbine bypass valves open upon receipt of simulated signal from the Steam Bypass and Pressure Control System.
3. The TBS is analysed to demonstrate structural integrity under SSE loading conditions.	3. A seismic analysis of the as-built TBS will be performed.	3. An analysis report exists which concludes that the as-built TBS can withstand a SSE without loss of structural integrity.

2.10.14 Reactor Feedwater Pump Driver

No entry. Covered in Section 2.10.2.

2.10.15 Turbine Auxiliary Steam System

No entry for this system.

2.10.16 Generator

No entry for this system.

2.10.17 Hydrogen Gas Cooling System

No entry for this system.

2.10.18 Generator Cooling System

No entry for this system.

2.10.19 Generator Sealing Oil System

No entry for this system.

2.10.20 Exciter

No entry for this system.

2.10.21 Main Condenser

Design Description

The Main Condenser (MC) condenses and deaerates the exhaust steam from the main turbine (MT) and provides a heat sink for the Turbine Bypass (TB) System. The MC is also a collection point for other steam cycle drains and vents.

The MC hotwell provides a holdup volume for main steam isolation valve (MSIV) fission product leakage.

The MC is classified as non-safety-related and non-seismic Category I. The supports and anchors for the MC are designed to withstand a safe shutdown earthquake (SSE).

The MC is located in the Turbine Building (T/B).

The MC tubes are made from corrosion-resistant material. The MC operates at a vacuum; consequently, leakage is into the shell side of the MC. Circulating water leakage from the tubes to the condenser is detected by measuring the conductivity of sample water extracted beneath the tube bundles. In addition, a conductivity monitor is located at the discharge of the condensate pumps, and alarms are provided in the main control room.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.21 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the MC.

Table 2.10.21 Main Condenser

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. The supports and anchors for the MC are designed to withstand a safe shutdown earthquake.	1. An analysis of the ability of the as-built condenser supports and anchors to withstand a safe shutdown earthquake will be performed.	1. An analysis report exists which concludes that the as-built main condenser supports and anchors are able to withstand a safe shutdown earthquake.
2. A conductivity monitor is located at the discharge of the condensate pumps.	2. The as-built system will be inspected.	2. A conductivity monitor exists at the discharge of the condensate pumps.
3. Main control room alarms provided for the main condenser are as defined in Section 2.10.21.	3. Inspections will be performed on the main control room alarms for the main condenser.	3. Alarms exist in the main control room as defined in Section 2.10.21.

2.10.22 Off-Gas System

Design Description

The Off-Gas System (OGS) treats the gas exhausted from the main turbine condensers to control the release of gaseous radioactivity discharged to the plant environment.

The OGS has redundant hydrogen/oxygen recombiners to reduce process gas volume and noble gas adsorption beds to provide radionuclide retention/decay. A high efficiency particulate air (HEPA) filter is also provided. Figure 2.10.22 shows the basic system configuration.

Radiation levels in the OGS discharge stream are monitored (two channels). A main control room alarm and automatic OGS isolation are initiated when the radiation level exceeds setpoints.

The system pressure boundary of the OGS (including the hydrogen analyzers) is capable of withstanding an internal hydrogen explosion.

The adsorption beds and their support structure do not collapse under seismic loads corresponding to the safe shutdown earthquake (SSE) ground accelerations.

The OGS is classified as non-safety-related.

The OGS is located in the Turbine Building.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.22 provides a definition of the inspection, tests and/or analyses, together with associated criteria, which will be undertaken for the OGS.

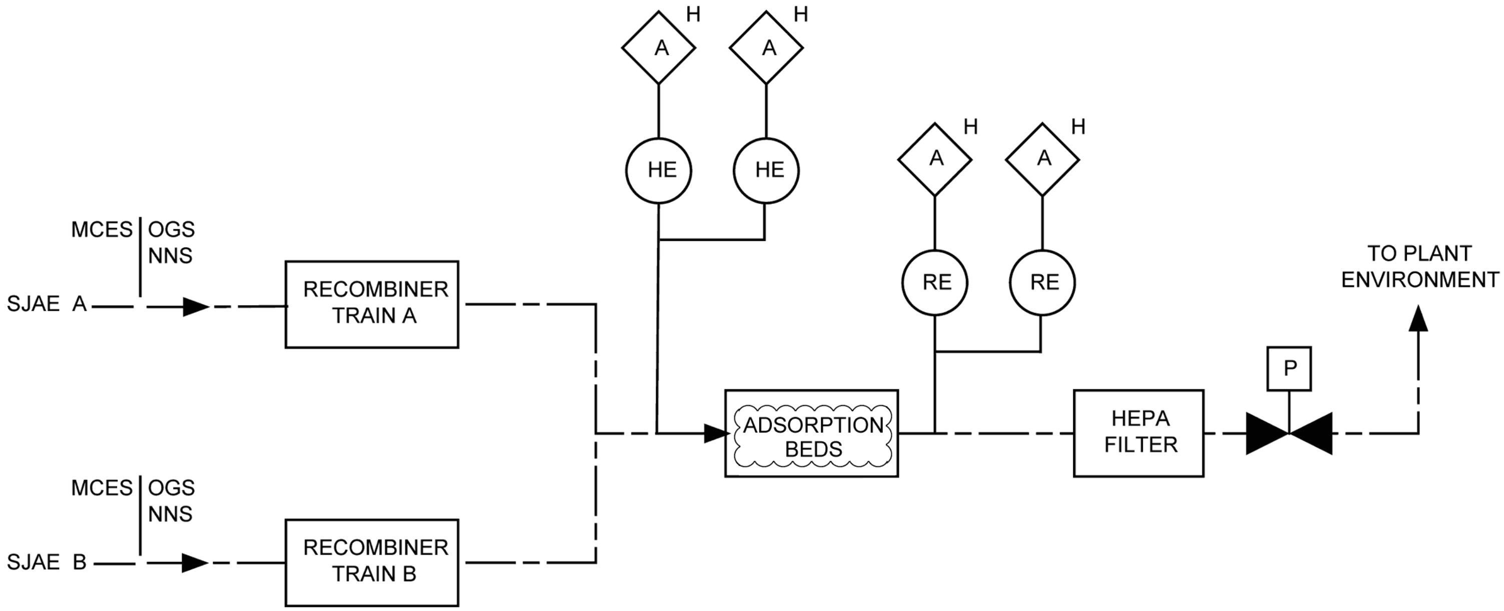


Figure 2.10.22 Off-Gas System

Table 2.10.22 Off-Gas System

Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The basic configuration of the OGS is as shown on Figure 2.10.22.	1. Inspections of the as-built system will be conducted.	1. The as-built OGS conforms with the basic configuration shown in Figure 2.10.22.
2. The OGS pressure-retaining components retain their integrity under internal pressure that will be experienced during service.	2. A hydrostatic test will be conducted on those pressure-retaining components of the OGS.	2. The results of the hydrostatic tests demonstrate that the pressure-retaining components of the OGS can retain their integrity under internal pressure that will be experienced during service.
3. Automatic OGS isolation is initiated when radiation levels in the discharge stream exceed the setpoint.	3. Tests will be conducted on the as-built OGS using a simulated radiation signal.	3. OGS automatically isolates when the simulated signal exceeds the setpoint.
4. Main control room alarm provided for the OGS is as defined in Subsection 2.10.22.	4. Inspections will be conducted on the main control room alarm for the OGS.	4. Alarm exists in the main control room as defined in Section 2.10.22.
5. The adsorption beds and their support structures do not collapse under seismic loads corresponding to the SSE ground accelerations.	5. A seismic analysis of the adsorption beds and their support structures will be performed.	5. A structure analysis report exists which concludes that collapse of the adsorption beds and their support structures do not occur.
6. The system pressure boundary of the OGS is capable of withstanding an internal hydrogen explosion.	6. A hydrostatic test of the OGS pressure boundary will be conducted in the plant with test pressures equal to or greater than 1.5 times design pressure.	6. The OGS pressure boundary retains its integrity under the test conditions.

2.10.23 Circulating Water System

Design Description

The Circulating Water (CW) System provides a supply of cooling water to the Main Condenser to remove the heat rejected by the turbine cycle and auxiliary systems and transport it to the power cycle heat sink. The parts of the CW System that are in the Turbine Building are within the Certified Design. Those parts of the system that are outside the Turbine Building are not in the Certified Design. Figure 2.10.23 shows the system basic configuration and scope of the CW System within the Certified Design.

The CW System is classified as non-safety-related.

For the CW System, condenser area water level sensors are provided. A high water level signal causes an alarm in the main control room (MCR). A high-high water level signal closes the condenser valves in the CW System.

The CW System motor operated valve position indications are provided in the main control room (MCR).

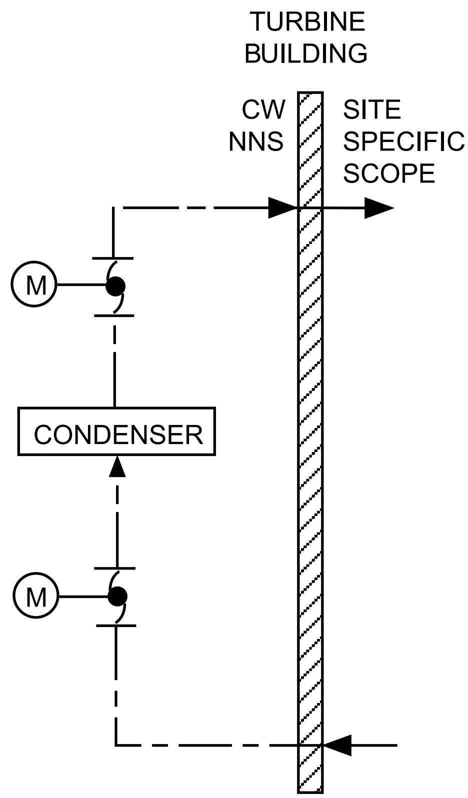
Interface Requirements

The parts of the CW System (including the power cycle heat sink) which are not within the Certified Design shall meet the following requirements:

(1) Design features shall be provided to limit flooding in the Turbine Building.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.10.23 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the parts of the CW Systems within the Certified Design.



NOTES:
1. MULTIPLE LINES MAY BE USED.
2. CONDENSER ISOLATION PROVISIONS ARE REQUIRED FOR EACH LINE.

Figure 2.10.23 Circulating Water System

Table 2.10.23 Circulating Water System

Inspections, Tests, Analyses and Acceptance Criteria		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. A basic configuration for the CW System is as shown on Figure 2.10.23.	1. Inspections of the as-built system will be conducted.	1. The as-built CW System conforms with the basic configuration shown on Figure 2.10.23.
2. The circulating water condenser valves are closed in the event of a system isolation signal from the condenser area level switches.	2. Testing of the as-built CW System will be performed using simulated signals.	2. The circulating water condenser valves are closed in the event of a system isolation signal from the condenser area level switches.
3. MCR alarms and displays provided for the CW System are as defined in Section 2.10.23.	3. Inspections will be performed on the MCR alarms for the CW System.	3. Alarms and displays exist or can be retrieved in the MCR as defined in Section 2.10.23.

2.10.24 Condenser Cleanup Facility

No entry for this system.