NINE MILE POINT NUCLEAR STATION

UNIT NI OPERATIONS

LICENSED OPERATOR LESSON PLAN (OLP)

02-LEQ-001-255-2-00-4

CONDENSER AIR REMOVAL AND OFFGAS

07-191-91

Prepared By: Unit #2 Training Department

APPROVALS	SIGNATURES	DATE AND INITIALS REVISION 4
Training Supervisor Unit 2 G. L. Weimer		4/20/88
Asst. Superintendent Training-Nuclear R.T. Seifried	R. T. Seifried	RB 4/22/88
Superintendent of Operations Unit 2 R. Smith		4/25/88

Summary of Pages

Revision: 4 (Effective Date: 4/25/88)

Number of Pages: 23

Date	Pages
April 1988	1 - 23

NIAGARA MOHAWK POWER CORPORATION

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I. TRAINING DESCRIPTION

A. TITLE: Condenser Air Removal and Off Gas System

B. PURPOSE: In a lecture presentation, the instructor shall present information for the student to meet each Student Learning Objective. Additionally, he shall provide sufficient explanation to facilitate the student's understanding of the information presented.

C. TOTAL TIME: 2 Hours

D. TEACHING METHODS:

- Classroom Lecture
- Assign the Student Learning Objectives as review problems with the students obtaining answers from the text, writing them down and handing them in for grading.

E. REFERENCES

1. Technical Specifications
   a. 3.4.5 Specific Activity
   b. 3.11.2.1 Dose Rate
   c. 3.11.2.2 Dose -Noble Gases
   d. 3.11.2.4 Gaseous Radwaste Treatment System
   e. 3.11.2.6 Explosive Gas Mixture
   f. 3.11.2.7 Main Condenser Off-Gas
2. Procedures
   a. N2-OP-9 Condenser Air Removal System
   b. N2-OP-42 Off-Gas System
3. NMP-2 FSAR
   a. Design Bases Sections 10.4.2 and 11.3

II. REQUIREMENTS AND PREREQUISITES

A. REQUIREMENTS FOR CLASS:

1. AP-9, Rev. 2, Administration of Training
2. NTP-10, Rev. 1, Training of Licensed Operator Candidates
3. NTP-11, Rev. 4, Licensed Operator Retraining and Continuing Training
4. NTP-12, Rev. 2, Unlicensed Operator Training

B. PREREQUISITES

1. Instructor
   a. Demonstrated knowledge and skills in the subject, at or above the level to be achieved by the trainees, as evidenced by previous training or education, or
   b. SRO license for Nine Mile Point Unit II or a similar plant, or successful completion of SRO training including simulator certification at the SRO level for Nine Mile Point Unit II, and
   c. Qualified in instructional skills as certified by the Training Analyst Supervisor.
2. Student
   a. Meet eligibility requirements per 10CFR55, or
   b. Be recommended for this training by Operations Superintendent, his designee, or Training Superintendent.

III. TRAINING MATERIALS

A. TEACHING MATERIALS

1. Transparency Package
2. Overhead Projector
3. Whiteboard and Felt Tip Markers
4. N2-OLP-52
5. N2-OLT-52
6. See Section I.E.1
7. See Section I.E.2

B. STUDENT MATERIALS

1. N2-OLT-52
2. See Section I.E.1
3. See Section I.E.2

IV. QUIZZES, TESTS, EXAMS AND ANSWER KEYS

Will be generated and administered as necessary. They will be on permanent file in the Records Room.

V. OBJECTIVES

Objectives For The Condenser Air Removal And Off Gas System

52-1 State the purpose of the Condenser Air Removal System.

52-2 State the purpose of the Offgas System

52-3 Given a diagram of the Condenser Air Removal and Offgas Systems trace the normal flow path and state the purpose of the following components:

a. Condenser Vacuum Breakers
b. Condenser Air Removal Pumps
c. Offgas Recombiner Trains
d. 75 Second Holdup Pipe
e. Offgas Dryer Section
f. Offgas Vacuum Pumps

52-4 Explain the operation of the Steam Jet Air Ejectors. 4

52-5 Explain why it is important to control the Hydrogen buildup in the offgas stream.

52-6 Explain how the Recombiner train functions to reduce the Hydrogen concentration in the offgas stream.

52-7 Describe how the Freeze out Dryer functions to remove moisture from the Off Gas Stream.

52-8 Describe the operation of the Charcoal adsorbers including isotopes of concern and holdup times.

52-9 Given N2-OP-9 Condenser Air Removal System and N2-OP-42 Offgas System, use the procedures to identify the appropriate actions and/or locate information related to:

a. Startup
b. Normal Operations
c. Shutdown
d. OFF-NORMAL Operations 4
e. Procedures for correcting alarm conditions

52-10 (SRO ONLY) Given Technical Specifications, identify the appropriate actions and/or locate information related to Limiting Conditions for Operation, bases, and surveillance requirements for the Condenser Air Removal and Offgas Systems.

Attachment "A"

OBJECTIVE APPROVAL

Author: UNIT II TRAINING

Training Dept: Unit 2 Ops Trng

Lesson Title: CONDENSER AIR REMOVAL AND OFFGAS

Lesson Plan #: OLP-52

Training Setting(s): NLOT, LIC CLASS, REQUAL

Purpose: The instructor shall present information for the student to meet each Student Learning Objective. Additionally, he shall provide sufficient explanation to facilitate the students' understanding of the information presented.

Trainee Job Title: PLANT OPERATOR

Approvals/Review	Signatures	Date
Training Supervisor	[signature]	4/20/91
Plant Supervisor	[signature]	4/20/91
Training Analysts Supervisor		

When complete, attach this form to the master lesson plan.

Attachment "A"

OBJECTIVE APPROVAL

Author: J. Kaminski

Training Dept: U-2 OPS TRNG

Lesson Title: Condenser Air Removal and Offgas System

Lesson Plan #: 52

Training Setting(s): Classroom

Purpose: In a lecture presentation, the instructor shall present information for the student to meet each Student Learning Objective. Additionally, he shall provide sufficient explanation to facilitate the student's understanding of the information presented.

Trainee Job Title: RO/SRO Candidates

Approvals/Review	Signatures	Date
Training Supervisor		
Plant Supervisor		
Training Analysts Supervisor	C. Schneider	4-19-88

When complete, attach this form to the master lesson plan.

VI. LESSON CONTENT

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
I. INTRODUCTION			
A. Student Learning Objectives	i		
B. System Purpose			
1. The condenser air removal system establishes and maintains a vacuum in the main condenser by drawing the noncondensable gases from the condenser.	1		1
2. The offgas system processes and controls the release of gaseous radioactive effluents from the condenser to the environment through the stack.			2
C. General Description			
1. Use figures 1-4 and discuss system operation and major flowpaths.			
2. Condenser Air Removal (ARC) Startup Subsystems		1	
a. The startup subsystem consists of two motor driven vacuum pumps which take suction on the air cooler sections of the main condenser.			
b. The pumps discharge the gas and water mixture to a separator which discharges the gas to the main stack and supplies the water to the pump seal cooler.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
3. Condenser Air Removal Holding Subsystem	1		
a. The holding subsystem is placed on the line after the condenser air removal vacuum pumps have drawn sufficient condenser vacuum.			
b. The holding subsystem consists of two full capacity steam jet air ejectors (SJAE's)			
1) Each SJAE consists of:			
a) Precooler,			
b) First stage double jet,			
c) Intercondenser,			
d) And second stage double jet.			
2) SJAE uses auxiliary steam to draw non-condensables from the main condenser and discharge them to the offgas system.			
4. Offgas System (OFG)	2	2,3,4	
a. The OFG consists of preheaters and recombiners which remove hydrogen gas.			
b. The resulting water vapor is removed by an offgas condenser.			
c. Flow of the remaining gases is directed through a long pipe run to allow sufficient time for short lived radioactive isotopes to decay.			
d. The moisture content of the gas stream is further reduced by freezeout dryers.			
e. The gases are then sent through a series of charcoal adsorbers and are drawn through high efficiency particulate air filters by vacuum pumps which discharge out the main stack.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
II. DETAILED DESCRIPTION	2		
A. Condenser Air Takeoff Header		1	
1. The condenser air take-off header supplies the air removal startup subsystem through air operated valve 2ARC-AOV105 and the air removal holding subsystem through air operated valve 2ARC-AOV104.			
2. Each of the three main condenser shells (2CNM-CND1A-C) contains two tube bundles.			
a. Each tube bundle has an air cooling section.			
b. Noncondensable gases flow into vapor ducts in the air cooler section.			
c. Two air take-off lines per condenser connect the air cooling section to the header via air operated valves (2ARC-HV25A-C, HV26A-C)			
B. Condenser Vacuum Breakers (2ARC-MOV5A-C)			3a
1. A 10-inch motor operated valve is provided on the north end of each main condenser to rapidly admit air through the shell to the condenser and decrease condenser vacuum.			
2. Decreasing the vacuum increases the turbine blade windage losses and greatly reduces coast down time.			
C. Condenser Air Removal Vacuum Pumps (2ARC-P1A/B)	3		3b
1. There are two parallel, motor driven, two stage, centrifugal vacuum pumps that remove air and noncondensable gases from the main condenser during startup.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
D. Separator (2ARC-SP1A/B)	3		
1. The separator separates the pump discharge gas from water.			
a. Water is collected at the bottom of the separator.			
1) Water overflow is directed to turbine building equip. drain system.			
2) Seal water makeup is supplied from water treatment system.			
2. Recirculation pump 2ARC-P2A/B takes a suction from the bottom of the separator and discharges it to the pump seal cooler 2ARC-E1A/B where it is cooled by service water. The water then flows back to the air removal pump.			
3. Gases from the separator go through a swing check valve, a silencer, and a manual butterfly valve to a startup discharge header common to both vacuum pumps.			
a. The discharge header is equipped with a drain tank 2ARC-TK1 to collect any moisture that may be carried over from the separators. The drain tank drains to the main condenser.			
b. The discharge header directs non-condensable gases to the main stack.			
E. Steam Jet Air Ejectors		1	
1. The holding air supply branches into two lines that supply the SJAE sets.			
2. Each SJAE consists of:			
a. Motor operated inlet valve MOV15A/B,			
b. Precooler E2A/B			
c. 1st stage air ejector jets J1A/B1 and 2			
d. Intercondenser E2A/B			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
e. 2nd stage air ejector jets(J2A/B1 and 2)	3		
3. Each SJAE is located in a shielded cubicle which is inaccessible when the set is in operation.	4		
4. Valves can be operated from either the control room or locally using a hand wheel connected to the valve by a reach rod.			
5. The precooler condenses water vapor entrained in the air.			
a. The water is returned to condenser by a loop seal.			
b. Precooler is cooled by service water.			
6. 1st stage air ejector		6	
a. Each is 100% capacity			
b. Utilizes aux. steam as a driving mechanism			
c. Aux. steam enters air ejector at high velocity and gas molecules in the suction chamber are entrained in the steam flow. This creates a low pressure area and draws in more gases from the Main Condenser and maintains condenser vacuum during operation.			4
7. Intercondenser receives the discharge from the 1st stage.			
a. The intercondenser uses condensate water to cool the gas/steam mixture.			
b. The intercondenser drains to main condenser by way of a loop seal.			
8. 2nd stage air ejector			
a. Increases system efficiency by further reducing condenser pressure.			
b. The 2nd stage air ejectors take suction from the respective intercondenser shell.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.	
c. They are supplied with sufficient aux. steam flow to ensure the hydrogen concentration in the discharge is less than the lower explosive H_2 concentration of 4 percent by volume.	4			
d. The discharge of 2nd stage air ejectors combine in a single header to supply the offgas system.				
F. Offgas Recombiner Trains	5	2	3c	
1. Two 100% capacity offgas recombiner trains are provided. These combine Hydrogen from the condenser with Oxygen to prevent H_2 buildup in the Offgas System. Each train consists of:				| 4 |
a. Preheater, (20FG-E1A/B)				
b. Catalytic recombiner, (20FG-RBNR 1A/B)				
c. Condenser (20FG-CND 1A/B),				
d. Air operated inlet (20FG-AOV1A/B) and outlet (20FG-AOV11A/B) isolation valves.				
2. Service air is supplied for additional makeup air to maintain sufficient system flow to prevent localized hydrogen buildup and therefore prevent the possibility of a Hydrogen Detonation.			5	| 4
3. The preheater uses aux. steam as heating source to raise the steam/gas mixture from approximately 250°F to 290°F.				
a. The temp. increase in combination with recombiner catalyst begins the recombination of oxygen and hydrogen.			6	
b. The recombination reaction produces additional heating (exothermic).				

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
c. Aux. steam is also used for warmup of the recombiner trans.	5		
4. Offgas Condenser (CND1A/B) condenses any moisture in the mixture.			
a. The condenser is cooled by TBCLCW.			
b. Condensate is returned to the main condenser.			
c. Noncondensable gases in offgas condenser are vented through a flow element (FE3A/B) and a discharge train isolation valve (AOV11A/B) to a header that supplies the offgas dryer section.			
G. Offgas Dryer Section	6	3	
1. Offgas dryer section supply line provides a 75 second holdup time for system flow to allow short lived isotopes to decay.			3d
2. There are 3 parallel 100% capacity offgas dryers (DRY1A-C) used to reduce moisture content in the Offgas stream.			3e | 4
a. Dryers are freeze out type having a set of 2 refrigerators each.			
1) The medium temperature-refrigerators supply freon to the 1st set of dryer cooling coils.			
a) The 1st set of coils consists of 2 condenser coils which cool the gases to approximately 40°F.			7

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
b) A hotwell collects condensed moisture and drains it to the main condenser.	6		
c) Hotwell level is controlled by LV28A-C			
2) The low temperature refrigerators supply freon to the 2nd set of coils.			
a) The 2nd set of dryer cooling coils consists of a single freezing coil that cools the gas to approximately -20°F.			7
b) Moisture freezes on coil.			
c) Dryer is periodically removed from service for defrosting.			
d) Moisture from defrosting of the dryer is collected in the hotwell.			
3. Each dryer is provided with air operated inlet (AOV4A-C) and outlet (AOV5A-C) isolation valves.			
4. A common discharge header supplies the offgas system charcoal adsorbers.			
5. Two dryers are on line during system operation with the third dryer in standby. Of the two dryers on line, one is in operation while the other defrosts.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
H. Offgas Charcoal Adsorbers	6	4	
1. There are 8 charcoal adsorbers each containing 6 tons of charcoal.			
a. The adsorbers are normally operated in series.			
b. They can also be operated as:			
1) 2 parallel trains of 4.			
2) A single train operation with one train isolated.			
c. Charcoal has a large surface area made of small openings and has a large affinity for xenon and krypton.			8
2. Charcoal bed operational theory	7		
a. Air acts as a carrier gas for xenon, krypton and other fission product gases.			
b. Xenon for example, is adsorbed by charcoal. (a weak electrostatic bond is established)			
c. The atoms' random motion will break the electrostatic bond and cause the xenon atom to be carried further into the charcoal bed until it is adsorbed by another charcoal granule.			8
d. The gas temp. of -20°F and adsorber temp. of 70°F reduces the KE of gases to allow an individual gas atom to stay at a given site longer which provides a 26.6 hr holdup time for krypton and a 20 day holdup time for xenon which allows decay to take place.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
e. Krypton and xenon decay to rubidium and cesium respectively. Rb and Cs are particulate and become permanently lodged in charcoal beds.	7		
J. Offgas Vacuum Pumps (P1A/B)		4	3f
1. The vacuum pumps maintain the system at a negative (below atmospheric) pressure to prevent outleakage of gas which could result in hydrogen pockets or radioactive gas buildup in the offgas system.			
2. This is the motive force to draw the gas stream through the offgas system.			
3. The Pumps take a suction from the Hepa filters which are used to remove charcoal dust and other particulates to prevent their discharge out the stack			
4. The pumps are equipped with air operated inlet (AOV45A/B) and outlet (AOV52A/B) isolation valves.			|4
5. Service air connections to each pump suction line insures that sufficient pump suction pressure is maintained.			
6. The pumps discharge to the main stack through a line joining the condenser air removal vacuum pump discharge.			
III. INSTRUMENTATION, CONTROLS AND INTERLOCKS			
A. Instrumentation			
1. Moisture			
a. Measured at off-gas dryer outlets.			
2. Hydrogen	8		
a. Measured at outlet of off-gas condensers and common dryer piping.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
b. Alarms in control room on high concentration.	8		
3. Flow			
a. Measured in recombiner trains. Indication on Panel 851 used to control makeup air valve to adjust service air flow.			
4. Radiation			
a. Measured in common charcoal adsorber supply line and provides off-gas system isolation on high radiation.			
b. Stack radiation level also measured.			
5. Level			
a. Recombiner Condenser			
b. Off-gas dryers			
c. Level used to control level control valves which allow water to drain to the main condenser.			
6. Pressure			
a. Off-gas preheater - adjust auxiliary steam flow for optimum performance.			
b. Off-gas pump suction pressure used to adjust service air flow to maintain system pressure.			
B. Local Controls			
1. Freeze Out Dryer Control	9		
a. Thermostatic expansion valves (TCV6A-C and TCV7A-C) are used to maintain a constant degree of superheat at the coil discharge of the condensing portion.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
b. The expansion valve uses a temp. sensing bulb located at the discharge of the freon coil to modulate its position.	9		
c. A pressure regulator (PV63A-C) valve maintains a constant coil inlet pressure and thus a constant coil operating temp.			
d. Freezer portion has a similar control but no pressure regulating valve and thus the operating temperature is controlled by the capacity of the refrigerator.			
C. Control Room Controls (Panel 851)			
1. Condenser Air Removal Pumps (P1A/B)			
2. Air Ejector Air Removal Pump Valves (AOV-104/105)			
3. Strainer Blowdown Valves (HV16A/B, HV17A/B)			
4. Condenser Air Take Off Valves (HV25A-C, HV26A-C)			
5. Condenser Vacuum Breakers (MOV5A-C)			
6. Air Ejector Precooler Inlet Valves (MOV15A/B)			
D. Interlocks			
1. Condenser Air Removal Pumps (2ARC-P1A/B) trip when:			
a. Pump running with respective seal water flow less than 10 gpm for longer than 10 seconds.			
b. Main steam line radiation level high-high, greater than 3xNFPB or radiation monitor inoperative			
c. Sustained undervoltage.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
2. Seal Recirculation Water Pump (2ARC-P2A/B)	10		
a. The seal recirculation pump auto starts when the respective air removal pump is started and stops when it is secured.			
b. The pump trips on pump motor overload.			
3. Air Removal Pump Isolation Valve (2ARC-AOV105) Auto closes when:			
a. Neither air removal pump is running or			
b. Main steam line radiation 3xNFPB or			
c. Main steam line radiation monitor inoperative.			
4. Air Ejector Isolation Valve (2ARC-AOV104) Auto closes when the air removal pump is running.			
5. Air Removal Pump Discharge Header Condenser Drain Tank (2ARC-TK1) Drain Valve (2ARC-SOV111)			
a. The valve opens when tank level is high (8 in.)			4
b. The valve closes when tank level is low (6 in.)			4
6. Offgas Recombiner Inlet (2OFG-AOV1A/B) and Outlet (2OFG-AOV2A/B) Valves will auto close when any of the following occur in the respective train:	11		
a. Condenser outlet flow low-low (<6 SCFM)			
b. Recombiner outlet temperature high (>790°F)			4
c. Recombiner inlet temperature low-low (<240°F)			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.	
d. Condenser outlet H_2 concentration high (>4%)	11			|
e. Condenser outlet temperature high (>200°F)				4
f. High Radiation Preatreatment System A and B (9.6 $^{uci}/_{cc}$)				|
After automatic closure has occurred, the operator must reset the valves by pushing the reset pushbuttons.				
7. Service Air Supply Valve (SOV112)				
a. Low air flow through either train causes valve to open.				
b. High air flow causes makeup valve to close.				
c. A closing signal overrides an opening signal.				
8. Offgas Condenser Level Control Valve (LV20A/B) The valve closes on low level and opens on high level.				
9. Offgas Vacuum Pump (20FG-P1A/B) trips when:				
a. Inlet or outlet valve not open,				
b. Pump suction pressure high, (10.9 psia) (in this case the inlet and outlet valves also shut and the standby pump inlet and outlet valves will open. When the valves are open the standby pump will start.)				4
c. Discharge radiation level (adsorber supply line) high-high, or				
d. Motor overload				

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
10. Offgas System Discharge Isolation Valve (AOV103) a. Valve auto closes on high-high discharge radiation level. b. High-high radiation signal must be reset by operator.	12		
11. Offgas System Refrigerator Unit trips when: a. Refrigerator discharge pressure high, b. Refrigerator pressure low, c. Compressor oil failure or d. Refrigerator motor overload. The freezeout units are normally selected so that 2 of them alternate on line and defrost time. The units transfer on a high differential pressure (30" WC) across the on line freezout dryer.			4
12. Refrigerator Hotwell Drain Valve (LV28A-C) opens on a high level (5" WC) and closes on a low level (3" WC).			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
IV. SYSTEM OPERATION			
A. Normal Operation	14		
1. One of the two SJAE sets is in service maintaining condenser vacuum.			
2. Steam is supplied to air ejectors from the main steam system through the auxiliary steam system.			
3. Steam and noncondensable gases from the air ejector flow through one of two recombiner trains to one of the dryer units.			
4. From the dryer unit, the gases flow through the eight charcoal adsorbers and one of the HEPA filters to the suction of one of the vacuum pumps which discharges the gases out of the main stack.			
C. Start-Up			
1. On system startup, initial condenser vacuum is drawn by the condenser air removal pumps.			
2. Hydrogen analyzers are started 24 hours prior to Off-Gas System operation.			
3. Catalytic recombiner warmup is commenced eight hours prior to system operation.			
4. When auxiliary steam pressure is at least 150 psig (from aux boiler) and main condenser vacuum is 23 inches Hg, the steam jet air ejectors are placed in service.	15		
5. At sufficient main steam pressure, the air ejectors are shifted from the aux. boilers to main steam.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
V. SYSTEM INTERRELATIONS	15		
A. Condensate System (CNM)			
1. The condenser air removal system removes air from the main condenser.			
2. Condensate system flow is used to cool the steam jet air ejector intercondenser.			
3. Water from the offgas and air removal systems is sent to the main condenser.			
B. Turbine Building Closed Loop Cooling Water System (CCS)			
The offgas recombiner train condensers and the offgas refrigeration unit condensers are cooled by Turbine Building Closed Loop Cooling Water.			
C. Service Water System (SWP)			
The service water system cools the air removal vacuum pump seal coolers (2ARC-E1A/B) and the steam jet air ejector precoolers (2ARC-E2A/B).			
D. Main Stack			
The air removal pumps and the offgas system discharge to the main stack.			
E. Auxiliary Steam System (ASS)	16		
The auxiliary steam system supplies the steam for the steam jet air ejectors, the preheating of the offgas recombiners, and heating in the offgas preheaters.			
F. Instrument Air System (IAS)			
The instrument air system supplies air for system instrumentation and operation of pneumatic valves.			

Activity	Text Ref. Page	Text Ref. Fig.	S.L.O.
G. Service Air System (SAS) The service air system supplies makeup air to the offgas recombiner train inlet and offgas vacuum pump inlet.	16		
H. Plant Electrical The plant electrical system provides electrical power for component operation and control.			

VI. DETAILED SYSTEM REFERENCE REVIEW

Review each of the following referenced documents with the class.

A. Technical Specifications

1. 3.4.5 Specific Activity
2. 3.11.2.1 Dose Rate
3. 3.11.2.2 Dose-Noble Gases
4. 3.11.2.4 Gaseous Radwaste Treatment System
5. 3.11.2.6 Explosive Gas Monitor
6. 3.11.2.7 Main Condenser - Off-Gas

B. Procedures

1. N2-OP-9 Condenser Air Removal
2. N2-OP-42 Off-Gas

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VII. RELATED PLANT EVENTS

Refer to Addendum A and review related events with class (if applicable).

VIII. SYSTEM HISTORY

Refer to Addendum B and review related modifications with class (if applicable).