45.E

Davis-Besse Nuclear Power Station

Unit No. 1

System Procedure SP 1104.15

Emergency Ventilation System

NUCLEAR SAFETY RELATED

Record of Approval and Changes

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1. PURPOSE

To provide procedures for operating the Emergency Ventilation System (EVS) in the following modes:

Mode	Section
Manual Operation/High Radiation Signals	4
SFAS Actuation	5
Abnormal Operation	6

The EVS is normally in a standby condition, and all the prerequisites of Section 4.1 must be met.

The EVS is designed to provide a negative pressure of 1/4 to 1 1/2 inches W.G. within the annular space between the shield building and the containment vessel, and in the mechanical penetration rooms following a Loss-of-Coolant-Accident, (LOCA), and to reduce airborne fission product leakage to the environment by filtration prior to release through the unit vent stack.

The EVS consists of 2 redundant, full capacity fan-filter trains. Each fan is designed for a flow rate of 8000 CFM capacity, and each filter train has a total particulate efficiency of no less than 95%. The fans are powered from separate 480v Essential Buses, E1 and F1.

Each EVS fan takes a suction through separate ductwork from Mechanical Penetration Room 4, passes it through the respective filter train and either into the unit vent stack or back into the mechanical penetration rooms. This recirculated discharge from the fan is returned to the penetration rooms to enhance the mixing of containment vessel leakage, thereby avoiding direct streaming of the radioisotopes to the filter system and increasing holdup within the annulus.

Following a LOCA, an incident level 1 Safety Features Actuation Signal (SFAS), (1600 psig Reactor Coolant System Pressure, 4 psig containment vessel pressure, or high radiation level in the containment vessel), will open the discharge to the unit vent stack dampers and start both EVS fans. (The recirculation dampers are both closed).

Immediately after the LOCA, the temperature and pressure within the containment vessel will rise rapidly, causing an increase in the temperature and pressure of the air in the annular space. The EVS begins with 100% exhaust to the unit vent to lower the pressure in the annular space. As the pressure begins to drop, the recirculation dampers begin to open, allowing partial recirculation of the air to maintain the setpoint negative pressure. This recirculation damper is controlled by a differential pressure controller which controls

from the annulus pressure. When the temperature and pressure of the annulus ceases to rise, the exhaust to the unit vent is just that required to offset the air mass addition due to containment vessel and shield building in-leakages.

The EVS is connected through motorized dampers with the Containment Purge System, Fuel Handling Ventilation System, and the Radwaste Area Ventilation System. Upon detection of a high radiation level (other than a SFAS) within the containment vessel, fuel handling, or radwaste area, the Radiation Monitoring System will stop the respective system fans, energize an alarm in the control room, and open the motorized dampers which interconnect the affected system with the EVS. The operator then opens the motorized dampers upstream of the EVS filter units, and starts the EVS fans. The discharge damper of each fan opens by means of electrical interlock. This allows use of the highly efficient filter trains in the EVS for cleanup of the affected systems.

In the event of a Hi Radiation Alarm in the fuel handling area (as sensed by RE8446 & RE8447) both EVS Fans will start automatically. EVS Fan 1-1 started by RE8446 & EVS Fan 1-2 will be started by RE8447.

NOTE: Interconnecting dampers CV5024 & CV5025 will automatically close, if they are open, by the SFAS in the event of a LOCA.

The EVS fans are connected on the suction side by cross-tie ductwork which is provided with a parallel arrangement of electric normally closed motor-operated dampers. In the event of a fan failure, the air flow through the filter would be stopped. This air flow acts to cool the charcoal filter, and when this air flow is lost, the filter will begin to heat up from heat given off by the radionuclides adsorbed in the filter. The motor-operated dampers will automatically open at 200°F, to prevent the filter from reaching the desorption temperature of 302°F. When the dampers open, the remaining fan will pull air through both filters, keeping the temperature of the filters below this desorption temperature. Temperature switches are installed in the charcoal filters to alarm in the control room when the temperature in the filters reach 200°F.

Differential pressure indicators are provided across the filters to indicate filter dust loading and replacement requirements.

2. PRECAUTIONS AND LIMITATIONS

(TS 3.6.5.1) 2.1 Two independent emergency ventilation systems shall be OPERABLE during POWER OPERATION, STARTUP, HOT STANDBY, and HOT SHUTDOWN. With one emergency ventilation system inoperable, restore the inoperable system to OPERABLE status within seven days or be

in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

14| 2.2 Prior to initiating maintenance on either train, a visual inspection of the redundant train must be performed according to AD 1839.00.

2.3 Whenever the Emergency Ventilation System is inoperable because of failure, repair work in progress or routine maintenance on the system, the operator is to turn IL 4807 "EMER VENT" ON using HS 4807 on panel C5717. This light is to remain illuminated as long as the system is inoperable.

2.4 If a SFAS actuation occurs, the following requirements apply:

2.4.1 DO NOT OVERRIDE ANY SAFETY EQUIPMENT EXCEPT AS LISTED BELOW:

1. IF PLANT CONDITIONS ARE STABLE AT NORMAL OPERATING OR HOT STANDBY CONDITIONS AFTER A TRANSIENT WITH NO EVIDENCE OF AN RCS LEAK, SYSTEM MAY BE BYPASSED WITH THE SHIFT SUPERVISOR'S PERMISSION.

2. IF THERE ARE ANY QUESTIONABLE CONDITIONS OR ANY SIGN OF AN RCS LEAK, NO SAFETY SYSTEM SHOULD BE BYPASSED WITHOUT APPROVAL OF STATION MANAGEMENT (STATION SUPERINTENDENT OR HIS DESIGNEE).

2.4.2 IF AN SFAS SIGNAL TO SOME ESF EQUIPMENT IS "BLOCKED" (I.E., OVERRIDDEN), THAT EQUIPMENT IS INCAPABLE OF RESPONDING TO EITHER ANY SUBSEQUENT AUTOMATIC ACTUATION SIGNAL OR THE SFAS SYSTEM-LEVEL MANUAL ACTUATE ("TRIP") PUSHBUTTON ON PANEL C5717. BEFORE AN OPERATOR "BLOCKS" ANY SFAS SIGNAL, HE MUST ASSURE THAT THE SAFETY FUNCTION OF THAT EQUIPMENT IS NO LONGER NEEDED. AFTERWARD THE OPERATOR IS TOTALLY RESPONSIBLE FOR THE PROPER OPERATION OF THAT EQUIPMENT, INCLUDING REACTUATION IF REQUIRED, UNTIL THE "BLOCK" IS REMOVED.

REACTUATION, SUBSEQUENT TO A "BLOCK", CAN BE ACCOMPLISHED TWO WAYS. FIRST, AT THE EQUIPMENT LEVEL, "BLOCKED" EQUIPMENT WILL RESPOND TO THE INDIVIDUAL CONTROL SWITCHES FOR THAT PIECE OF EQUIPMENT. SECOND, AT THE SFAS SYSTEM LEVEL, OPERATION OF THE SYSTEM-LEVEL "RESET" PUSHBUTTON ON PANEL C5717 WILL CLEAR ANY OUTPUT LOGIC BLOCKS IN THE SYSTEM (OUTPUT LOGIC "BLOCKS" ARE THE BLOCK SWITCHES NEXT TO THE SAM LIGHTS AND ON THE OUTPUT MODULES). THE EQUIPMENT WILL THEN RESPOND TO THE SYSTEM-LEVEL MANUAL ACTUATE ("TRIP") PUSHBUTTON AND TO AUTOMATIC ACTUATION SIGNALS. FOR GUIDANCE ON RESETTING THE SFAS AFTER A REAL OR ERRONEOUS TRIP, SEE SECTION 4 OF EP 1202.06, LOSS OF RC AND RC PRESSURE.

2.5 Requirements of AD 1839.02, Operation and Control of Locked Valves, must be satisfied in the performance of this procedure.

3. REFERENCES

(TS) 3.1 Technical Specifications, Sections 3.5.1, 3.5.4, 3.5.5, and 3.6.5.1

3.2 Davis-Besse Unit No. 1 Final Safety Analysis Report, Section 6.2.3

3.3 Containment Purge System Procedure, SP 1104.21

3.4 Auxiliary Building Radioactive Ventilation System Procedure, SP 1104.16

3.5 480 Volt Motor Control Center Switching Procedure, SP 1107.07

3.6 Instrument AC Switching Procedure, SP 1107.09

3.7 High Radiation Levels Emergency Procedure, EP 1202.12

3.8 Containment and Penetrations Room, Sheet 1, Bechtel P&ID M-029A

3.9 Bechtel Elementary Wiring Diagram, Bechtel No. E58B, Sheet 8, TED File No. 1951

3.10 Bechtel Functional Description, Emergency Ventilation System, SUS-34

3.11 EP 1202.06, Loss of RC and RC Pressure

4. MANUAL OPERATION/HIGH RADIATION SIGNALS

This system might be placed in service manually, if testing of the components was desired or if a situation arises where a high radiation signal (other than a LOCA) was received as described in Section 1 of this procedure.

4.1 Prerequisites

NOTE: This system is normally in a standby condition and the prerequisites of this section must be always met.

_____4.1.1 The emergency control transfer switches located near the local breakers for the specific equipment (see Table 1) for the EVS fans 1-1 and 1-2 are both in the "Normal" position.

_____4.1.2 All dampers are in the Emergency Standby Position as shown on Valve Verification List A.

_____4.1.3 Power is available to the following motor control centers as per SP 1107.07, and the following breakers are closed:

	Motor Control Center	Breaker
EVS Fan 1-1	E12A	B E12 19
EVS Fan 1-2	F12A	B F12 03
CV-5017	E12A	B E12 37
CV-5018	F12A	B F12 18
CV-5056	E12A	B E12 38
CV-5057	F12A	B F12 25
CV-5024	E12A	B E12 39
CV-5025	F12A	B F12 26

_____4.1.4 Power is available to the following essential distribution panels as per SP 1107.09:

Valves	Essential Distribution Panel	Breaker
CV-5000A	YE 2	YE 206
CV-5000B	YE 2	YE 207
CV-5014A	YF 2	YF 206
CV-5014B	YF 2	YF 207

_____4.1.5 The emergency control transfer switches located near the local breakers for the specific equipment (see Table 1) for the Aux. Bldg. Radioactive Ventilation System to EVS Cross-Connect Dampers CV-5024 and CV-5025 are both in the "Normal" position.

Section 4.1 completed by_____Date_____

4.2 Procedure for Manual Operation

4.2.1 Starting EVS Train 1 (2), manually close CV5024 (CV5025) using control switch HIS 5024 (HIS 5025) on control room panel C5717 (this will allow CV5017 (CV5018) to open automatically when EVS Fan 1-1 (1-2) is started). The following automatic actions will occur.

_____1. CV5024 (CV5025) will close.

_____2. A green indicating light on control room panel C5717 and the local indicating light will illuminate indicating that CV5024 (CV5025) has closed.

Section 4.2.1 completed by_____Date_____

4.2.2 Turn control switch HIS 5017 (HIS 5018) on control room panel C5716 to start position (spring loaded, return to normal). The following automatic actions will occur.

NOTE: This fan could also be started by using local switch NC0301 (NC0302).

_____1. EVS Fan 1-1 (1-2) will start.

_____2. CV5000A (CV5014A) will open. (EVS Fan 1-1 (1-2) discharge damper).

_____3. CV5017 (CV5018) will open. (Mechanical penetrations room #4 inlet damper.)

_____4. Red indicating light on panel C5716 and local red indicating light will illuminate indicating EVS Fan 1-1 (1-2) has started.

_____5. EVS Fan 1-1 (1-2) maintains the setpoint negative pressure in the annulus area of approximately .75 inches W.G. by partial recirculation of the air as needed. the rate of recirculation is regulated by differential pressure controller PDC-5000 (PDC-5014) which positions the following dampers.

NOTE: System must maintain at least 0.25 inches W.G. but should not exceed 1.5 inches W.G.

1) EVS Fan 1-1 (1-2) exhaust control damper, DV-5000A (CV-5014A).

2) EVS Fan 1-1 (1-2) exhaust recirculation damper, CV-5000B (CV-5015B).

_____6. PI-5099 (PI-5053), EVS Fan 1-1 (1-2) discharge pressure should read between 1.0" W.G. and 2.0" W.G.

_____7. PDI-5020A (PDI-5019A), differential pressure across pre-filter in filter unit 1-1 (1-2) should read less than 1.0 inch W.G.

_____8. PDI-5020B (PDI-5020B), differential pressure across HEPA filter in filter unit 1-1 (1-2) should read less than 2.0 inches W.G.

_____9. PID-5020C (PDI-5019C), differential pressure across charcoal filter #1 in filter unit 1-1 (1-2) should read less than 2.0 inches W.G.

_____10. PDI-5020D (PDI-5019D), differential pressure across charcoal filter #2 in filter unit 1-1 (1-2) should read less than 2.0 inches W.G.

NOTE: If any of the conditions of Steps 4.2.2.5 through 4.2.2.10 of this procedure do not exist, immediately inform the Shift Supervisor.

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Section 4.2.2 completed by_____Date_____

4.2.3 To stop EVS Fan 1-1 (1-2), turn control switch HIS 5017 (HIS 5018) on control room panel C5716 to stop position. (Spring loaded, return to normal.) The following automatic actions will occur.

NOTE: EVS Fan 1-1 (1-2) could be stopped using local switch NC03(1 (NC0302).

_____1. EVS Fan 1-1 (1-2) will stop.

_____2. CV5000A (CV5014A) will close. (EVS Fan 1-1 (1-2) discharge damper.

_____3. Green indicating light on panel C5716 and local green indicating light will be illuminated, indicating EVS Fan 1-1 (1-2) has stopped.

Section 4.2.3 completed by_____Date_____

4.2.4 To open the EVS motor operated cross-connect dampers CV-5024 and CV-5025 which cross connect the EVS and the Containment Purge System or Radwaste Area Ventilation System, use the control switches HIS 5024 and HIS 5025 on Control Room Panel C5717.

NOTE: These interconnecting dampers must both be opened as they are arranged in series in the duct.

The following automatic actions will occur:

NOTE: These valves could be opened using their local switches (NV-5024 and NV-5025).

_____1. Dampers CV5024 and CV5025 will open.

_____2. Red indicating lights on control room panel C5717 and local red indicating lights will be illuminated indicating that CV5024 and CV5025 have opened.

_____3. CV5017 (CV5018) will close.

Section 4.2.4 completed by_____Date_____

4.3 Procedure (High Radiation Signal other than a LOCA)

The purpose of this section is to describe the actuation of the EVS following a high radiation signal from the following areas:

Area	Section
Fuel Handling Area	4.3.1
Radwaste Area	4.3.2
Containment Vessel (Other than SFAS)	4.3.3

4.3.1 Fuel Handling Area Signal

Upon receiving a high radiation signal or test signal due to appropriate test signal from appropriate test pushbutton actuation on RE 8446 or RE 8447 modules will cause the following automatic actions to occur:

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NOTE: A signal from RE-8446 or RE-8447 will start its respectful EVS fans. Use of test pushbuttons ensures radiation detector operability with its interlocks to fuel handling ventilation.

_____1. Fuel Handling Area Exhaust Fan 1-1 and 1-2 will stop.

_____2. Fuel Handling Area Exhaust Fans suction and discharge dampers HA-5400A and HA-5400B (HA-5401A and HA-5401B) will close.

_____3. Fuel Handling Area Supply Fan 1-1 will stop.

_____4. Fuel Handling Area Supply Fan 1-1 suction and discharge dampers HA-5404A and HA-5404B will close

_____5. Fuel handling area to EVS dampers HA-5430A and HA-5430B will open.

_____6. EVS Motor Operated Cross Connect Dampers CV5024 and CV5025 should be open or should be opened manually.

_____7. EVS Fan 1-1 (1-2) will start.

a. Operator Action

_____1) Operator should monitor radiation indicating switch RIS 8446 and (RIS 8447) on panel C5755B and (C5762B) every 30 minutes.

b. When cause of high radiation has been found and corrected as per "High Radiation, AB 1203.22", and when radiation level is below the alert level for a period of greater than two hours, the following actions should be taken.

_____1) Reset RE 8446 (RE 8447) on Control Room Panel C5755B (C5762B).

_____2) Stop EVS Fans 1-1 (1-2) using Control Switch HIS 5017 (HIS 5018) on Control Room Panel C5716 and push close button 8446 (8447) in Fuel Handling Supply Fan Room.

a) The following automatic actions will occur:

(1) HV-5430A and HV5430B will close.

(2) Fuel handling area ventilation exhaust that was in operation will restart.

c. Operation Action

_____1) Restart the Fuel Handling Area ventilation supply fan 1-1 using control switch HIS 5404 on panel C4805.

Section 4.3.1 completed by_____Date_____

4.3.2 Radwaste Area Actions

1. Automatic Actions

Upon receiving a high radiation signal on Control Room Alarm Panel C5764 from Radiation Monitor RE5405 (setpoint see RMS Setpoint Book in the Control Room), the following automatic actions will occur:

11 _____a. Radwaste area exhaust fans 1-1 and 1-2 will stop.

_____b. Radwaste area exhaust fans suction and discharge dampers HA-5406A, HA-5406B, HA-5407A, and HA-5407B, will close.

_____c. Radwaste area exhaust filter inlet damper HV-5299A will close.

_____d. Radwaste area vent system to EVS damper HV-5299B will open.

_____e. Radwaste area supply fan 1-1 will stop.

_____f. Radwaste area supply fan suction and discharge dampers HA-5402A and HA-5402B will close.

_____g. Lab hood exhaust booster fan 1-1 will stop, and its discharge damper HA-5433 will close.

_____h. Access control area booster fan 1-1 will stop and its discharge damper HA-5310 will close.

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_____i. The two hot lab fume hood exhaust fans will stop.

_____j. The atomic absorbtion unit fan will stop.

_____k. The cold lab fume hood exhaust fan will stop.

2. Operator Actions

_____a. Ensure that the EVS motor operated cross-connect dampers CV-5024 and CV-5025 are open.

_____b. Start EVS fans 1-1 and 1-2 per Sections 4.2.2 of this procedure leaving CV-5024 and CV-5025 open.

_____3. Operator should monitor radiation indicating switch RIS-5405 on panel C-5765.

4. When cause of high radiation has been found and corrected as per "High Radiation, AB 1203.22", when radiation level is below the alert level for a period of greater than two hours, the following actions should be taken:

_____a. Stop EVS fans 1-1 and 1-2 as per Section 4.2.3 of this procedure.

b. Re-start the following equipment as per Section 4.3 of the Auxiliary Building Radioactive Ventilation System, SP 1104.16.

Equipment

___ Radwaste Area Exhaust Fan (1-1 or 1-2)

Equipment

___ Radwaste Area Supply Fan 1-1
___ Lab Hood Exhaust Booster Fan 1-1
___ Access Control Area Booster Fan 1-1
15| ___ Both Hot Lab Fume Hood Exhaust Fans
___ Cold Lab Fume Hood Exhaust Fan

Section 4.3.2 completed by_____Date_____

4.3.3 Containment Vessel (other than SFAS)

1. Automatic Actions

Upon receiving a high radiation signal from radiation monitor RE-5052, the following automatic actions will occur:

_____a. Alarm in control room C-5765.

_____b. Containment purge exhaust fan 1-1 will stop.

_____c. Containment purge filter inlet valve, CV-5062, and fan outlet valve CV-5013 will close.

_____d. Containment purge supply fan 1-1 will stop.

_____f. Containment purge supply fan inlet and discharge dampers CV-5003A and CV-5003B will close.

_____g. Containment purge exhaust to EVS valve, CV-5061 will open.

2. Operator Action

_____a. Ensure the EVS motor operated inlet dampers CV-5024 and CV-5025 are open.

_____b. Start EVS fans 1-1 and 1-2 per Section 4.2.2 of this procedure leaving CV-5024 and CV-5025 open.

_____3. Operator should monitor radiation indicating switch RIS-5052 on panel C-5762 once every 30 minutes.

4. When cause of high radiation has been found and corrected, as per "High Radiation, AB 1203.22",

and when radiation level is below the alert level for a period of greater then two hours, the following actions should be taken.

_____a. Ensure CV-5061 goes closed. (occurs automatically)

_____b. Stop EVS fans 1-1 and 1-2 as per Section 4.2.3 of this procedure.

_____c. Restart containment purge exhaust fan and containment purge supply fan as per Section 4.0 of Containment Purge System Proceudre, SP 1104.21.

Section 4.3.2 completed by_____Date_____

5. SFAS ACTUATION

5.1 The EVS is normally in a standby condition and is actuated by an incident level 1 SFAS signal. (SA 111A and SA 112A) The following automatic actions will occur:

_____5.1.1 EVS fans 1-1 and 1-2 will start.

_____5.1.2 EVS fan 1-1 discharge damper (CV-5000A) and 1-2 discharge damper (CV-5014A) will open.

_____5.1.3 Red indicating lights on control room panel C5716 and local red indicating light will be illuminated, indicating the fans have started.

_____5.1.4 EVS motor operated cross-connect dampers (CV-5025 and CV-5025) if open, will close (as indicated on C5716) (SFAS incident level 1).

_____5.1.5 Mechanical penetrations room inlet dampers CV-5017 and CV-5018 will open (as indicated on C5716) when dampers CV-5024 and CV-5025 leave the fully open position.

5.1.6 The setpoint negative pressure in the annulus area (1/4 to 1 1/2 in. W.G.) is maintained by the EVS using partial recirculation of the air as needed. The rate of recirculation is regulated by differential pressure controllers (PDC-5000 and PDC-5014) which position the following dampers:

_____1. EVS fan 1-1 exhaust control damper, CV-5000A
_____2. EVS fan 1-1 exhaust recirculation damper, CV-5000B
_____3. EVS fan 1-2 exhaust control damper, CV-5014A
_____4. EVS fan 1-2 exhaust recirculation damper, CV-5014B

_____5.2 Operator should verify that the pressure in the annulus area drops to the setpoint negative pressure (1/4 to 1 1/2 in. W.G.) by observing the mechanical penetration room 4 pressure gage (PDI-5000) and mechanical penetration room 3 pressure gage (PDI-5014) on panel C-5716. If pressure does not reach the 12| setpoint, operator should inform the Shift Supervisor.

_____5.3 To reset after a SFAS actuation, refer to Section 4 of EP 1202.06, Loss of RC and RC Pressure.

6. ABNORMAL OPERATION

6.1 The EVS fans are preceded by a cross tie duct with two normally closed dampers. In the event of a fan failure which causes that fan's charcoal filter bed to heat up to a preset value (200°F), a temperature switch will open the cross tie duct damper associated with that filter bed (CV-5056 for EVS Fan/Filter Train 1-1; CV-5057 for EVS Fan/Filter Train 1-2), and the operator will get an annunciator alarm (see Table 2). This allows the air from both filter trains to be drawn through one fan. This re-established air flow will then cool down the filter bed which has heated up.

6.2 If any of the four filters in the EVS filter unit 1-1 begin to be plugged, the differential pressure across the unit will begin to rise. When this pressure reaches 6" WG as read on P408, the 12| Operator should immediately notify the Shift Supervisor.

6.3 If any of the four filters in the EVS filter unit 1-2 begin to be plugged, the differential pressure across the unit will begin to rise. When this pressure reaches 6" WG as read on P409, the 12| Operator should immediately notify the Shift Supervisor.

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of 3

VALVE VERIFICATION LIST A
Emergency Ventilation System
Normal Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valves

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
EVS Fan 1-1 Exhaust Control Damper	M-029A F-1	CV5000A	Closed	
Mechanical Penetrations Room #4 EVS Suction	M-029A F-4	CV 5017	Closed	
EVS Fan 1-1 Pressure Indicator Source Vlv	M-029A F-1	CV 5099	Open	
EVS Fan 1-1 Pressure Indicator	M-029A F-2	PI 5099	In Service	
10 EVS Fan 1-1 Inlet Isolation Damper	M-029A F-2	CV 73	Locked Open[1]	
EVS Filter Unit 1-1 Char Fltr #2 D/P Source Vlv	M-029A F-2	CV5020H	Open	
EVS Filter Unit 1-1 Char Fltr #2 D/P Source Vlv	M-029A F-2	CV5020D	Open	
EVS Filter Unit 1-1 Char Fltr #2 D/P Indicator	M-029A F-2	PDI 5020D	In Service	
EVS Filter Unit 1-1 Char Fltr #1 Iso Vlv	M-029A F-2	CV 72	Open	
EVS Filter Unit 1-1 Char Fltr #1 Bypass Vlv	M-029A F-2	CV 71	Closed	
EVS Filter Unit 1-1 Char Fltr #1 D/P Indicator Source Valve	M-029A F-3	CV5020G	Open	
EVS Filter Unit 1-1 Char Fltr #1 D/P Indicator Source Valve	M-029A F-3	CV5020C	Open	
EVS Filter Unit 1-1 Char Fltr #1 D/P Indicator	M-029A F-1	PDI 5020C	In Service	
EVS Fltr Unit 1-1 Absolute Fltr D/P Indicator Source Valve	M-029A F-3	CV5020F	Open	
EVS Filter Unit 1-1 Absolute Fltr D/P Indicator Source Valve	M-029A F-3	CV5020B	Open	
EVS Filter Unit 1-1 Absolute Fltr D/P Indicator	M-029A F-3	PDI 5020B	In Service	
EVS Filter Unit 1-1 Prefilter D/P Indicator Source Valve	M-029A F-3	CV5020E	Open	
EVS Filter Unit 1-1 Prefilter D/P Indicator Source Valve	M-029A F-4	CV5020A	Open	
EVS Filter Unit 1-1 Prefilter D/P Indicator	M-029A F-4	PDI 5020A	In Service	
10 EVS Filter Unit 1-1 Inlet Isolation Damper	M-029A F-4	CV 70	Locked Open[1]	
EVS Motor Operated Inlet Damper	M-029A E-3	CV 5025	Open	

10 [1]Controlled per AD 1839.02

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VALVE VERIFICATION LIST A
Emergency Ventilation System
Normal Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valves

	VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
	EVS Motor Operated Inlet Damper	M-029A D-3	CV 5024	Open	
	EVS Fan 1-1 Exhaust Recirc Damper	M-029A F-1	CV5000B	Closed	
	EVS Fan 1-2 Exhaust Recirc Damper	M-029A G-1	CV5014B	Closed	
10	EVS Filter Unit 1-2 Inlet Iso Valve	M-029A G-4	CV 66	Locked Open[1]	
	EVS Filter Unit 1-2 Prefilter D/P Indicator Source Valve	M-029A G-3	CV5019A	Open	
	EVS Filter Unit 1-2 Prefilter D/P Indicator Source Valve	M-029A G-3	CV5019E	Open	
	EVS Filter Unit 1-2 Prefilter D/P Indicator	M-029A G-4	PDI 5019A	In Service	
	EVS Filter Unit 1-2 Absolute D/P Indicator Source Valve	M-029A G-3	CV5019B	Open	
	EVS Filter Unit 1-2 Absolute D/P Indicator Source Valve	M-029A G-3	CV5019F	Open	
	EVS Filter Unit 1-2 Absolute D/P Indicator Source Valve	M-029A G-3	PDI 5019B	In Service	
	EVS Filter Unit 1-2 Char Fltr #1 D/P Indicator Source Valve	M-029A G-3	CV5019C	Open	
	EVS Filter Unit 1-2 Char Fltr #1 D/P Indicator Source Valve	M-029A G-3	CV5019G	Open	
	EVS Filter Unit 1-2 Char Fltr #1 D/P Indicator	M-029A G-3	PDI 5019C	In Service	
	EVS Filter Unit 1-2 Char Fltr #2 Bypass Damper	M-029A G-2	CV 67	Closed	
	EVS Filter Unit 1-2 Char Fltr #1 Iso Damper	M-029A G-2	CV 68	Open	
	EVS Filter Unit 1-2 Char Fltr #2 D/P Indicator Source Valve	M-029A G-3	CV5019D	Open	
	EVS Filter Unit 1-2 Char Fltr #2 D/P Indicator Source Valve	M-029A G-2	CV5019H	Open	
	EVS Filter Unit 1-2 Char Fltr #2 Indicator	M-029A G-3	PDI 5019D	In Service	
10	EVS Fan 1-2 Inlet Iso Damper	M-029A G-2	CV 69	Locked Open[1]	
	EVS Fans Cross Tie Damper #1	M-029A F-2	CV 5056	Closed	
	EVS Fan Cross Tie Damper #2	M-029A F-2	CV 5057	Closed	

10 [1]Controlled per AD 1839.02

Sheet No. 3
of 3

VALVE VERIFICATION LIST A
Emergency Ventilation System
Normal Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valves

	VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
	EVS Fan 1-2 Press Indicator Source Valve	M-029A F-3	CV 5053	Open	
	EVS Fan 1-2 Press Indicator	M-029A G-1	PI 5053	In Service	
	Mechanical Penetrations Room #4 EVS Suction	M-029A G-4	CV 5018	Closed	
	EVS Fan 1-2 Exhaust Control Damper	M-029A G-1	CV5014A	Closed	
13	Deleted				
	Annulus Area D/P Transmitter Source Vlv	M-029A H-3	CV5014D	Open	
	Annulus Area D/P Transmitter	M-029A H-3	PDT 5014	In Service	
	Annulus Area D/P Transmitter Source Valve	M-029A J-12	CV5000C	Open	
13	Deleted				
	Annulus Area D/P Transmitter	M-029A J-11	PDI 5000	In Service	
	Annulus Area D/P Controller	J-11	PDC 5000	Setpoint at-.75"H_2O	
	Annulus Area D/P Controller	F-4	PDC 5014	Setpoint at-.75"H_2O	
	EVS Fan 1-1 D/P Switch Source Valve		CV5017A	Open	
	EVS Fan 1-1 D/P Switch Source Valve		CV5017B	Open	
	EVS Fan 1-1 D/P Switch		PDI 5017	In Service	
	EVS Fan 1-2 D/P Switch Source Valve		CV5018A	Open	
	EVS Fan 1-2 D/P Swich Source Valve		CV5018B	Open	
	EVS Fan 1-2 D/P Switch	PDI In	5018	Service	

Reviewed By_____ Date_____
Shift Supervisor or Assistant Shift Supervisor

TABLE 1
EMERGENCY VENTILATION SYSTEM

Description	EVS Fans 1-1	EVS Fan 1-1 Disch Damper	EVS Fan 1-2	EVS Fan Fan 1-2 Discharge Damper	EVS Filter Unit 1-1 Cross Tie Duct Damper	EVS Filter Unit 1-2 Cross Tie Duct Damper	EVS Motor Operate Inlet Dampers	EVS Motor Operated Inlet Dampers
Equip. Ident. Number	C-30-1	CV-5017	C-30-2	CV-5018	CV-5056	CV-5057	1-1 CV-5024	1-2 CV-5025
Control Switch Control Room Panel	HIS-5017 C-16	HIS-5017 C-16	HIS-5018 C-16	HIS-5018 C-16			HIS-5024 C-17	HIS-5025 C-17
Breaker	B E12 19	B E12 37	B F12 03	B F12 18	B E12 38	B F12 25	B E12 39	B F12 26
Breaker Location	MCC-E12A	MCC-E12A	MCC-F12A	MCC-F12A	MCC-E12A	MCC-F12A	MCC-E12A	MCC-F12A
Local Control Switch	NC 0301	NC 0301	NC 0302	NC 0302	HIS-5056	HIS-5057	NV-5024	NV-5025
SFAS Actuation Channel	CH 1&3	CH 1&3	CH 2&4	CH 2&4			CH 1&3	CH 1&3
Incidence Level	1	1	1	1			1	1

TABLE 2
EMERGENCY VENTILATION SYSTEM

Failed Fan	Filter Unit	Charcoal Filter Bank	Alarm	Cross Tie Duct Dumper Which Opens
EVS Fan 1-1	1-1	#1	TAH-5022A	CV-5056
EVS Fan 1-1	1-1	#2	TAH-5022B	CV-5056
EVS Fan 1-2	1-2	#1	TAH-5058A	CV-5057
EVS Fan 1-2	1-2	#2	TAH-5058B	CV-5057

END