PRIORITY Normal Disposition of the original document will the transmittal signature unless recipies otherwise identified below 1) 02532 MCG NRC INSP MG-ADMIN MAIL RM Otherwise identified below 2) 02546 WC LIBRARY - MG01WC 030044 MCG DOC CNTRL MISC MAN MG05DM 3) 03044 MCG DOC CNTRL MISC MAN MG05DM 4) 03379 D E CALDWELL MG01MM 5) 03447 HARRY J SLOAN MG01RP 6) 03614 MCG OPS PROCEDURE GP MG010P 7) 03744 OPS TRNG MGR. MG030T 8) 03759 U S NUC REG ROCKVLE, MD 9) 04809 MCG PLANT ENG. LIBR. MG05SE 10) 05162 MCG SHIFT WORK MGRS MG010P 11) 09460 W C SPENCER MG01RP 12) 09665 JAMES SHEA, PM, USNRC								Date: 02/21/07 Document Transmittal #: QA CONDITION OTHER ACKNOWLEDGEMENT IF QA OR OTHER ACKNOWLEDGEM ACKNOWLEDGE RECEIPT BY RETUR Duke Energy McGuire DCRM MG01S2 13225 Hagers Ferry Roa Huntersville, N.C. 280			ENT REQUIRED, PLEASE RNING THIS FORM TO:		No							
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REMARKS: PLEASE UPDATE ACCORDINGLY

RECIPIENT # 00422 PREVIOUSLY COMPLETED

G R PETERSON

VICE PRESIDENT

MCGUIRE NUCLEAR STATION

BY:

B C BEAVER MG01RC BCB/CMK

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February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update 1

Please revise your copy of the manual as follows:

REMOVE	INSERT
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

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Revision 73

SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99



16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

- 2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be ≤ specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is <u><</u> specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	°C.1	Restore BR-XF to OPERABLE status.	30 days

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION	I	REQUIRED ACTION	COMPLETION TIME
D.	Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
		AND		
		D.2	Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.	7 days
		<u>AND</u>	uniocked/restored.	
		D.3.1	Verify temperature in Battery Room No. 701 is < 95°F.	Once per 2 hours
			<u>OR</u>	
		D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is <u><</u> 104°F.	Once per 2 hours
		<u>AND</u>		
		D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
		D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is $\leq 2\%$.	Once per 2 hours

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not met.	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	inct.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is ≤ 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours

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BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

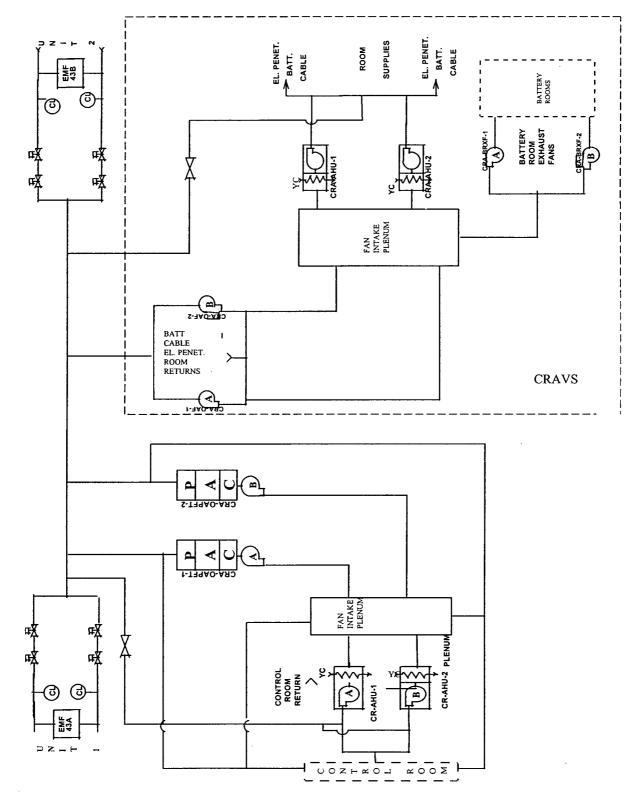
REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance



SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	1/3//03
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

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SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

- 2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION REQ		REQUIRED ACTION	COMPLETION TIME
Α.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is ≤ specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days

(Continued)

REMEDIAL ACTIONS (Continued)

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	CONDITION		REQUIRED ACTION	COMPLETION TIME
D.	Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
		AND		
		D.2	Restore at least one BR- XF to OPERABLE status with all check dampers	7 days
		AND	unlocked/restored.	
		D.3.1	Verify temperature in Battery Room No. 701 is <pre> </pre> <pre> </pre> </td <td>Once per 2 hours</td>	Once per 2 hours
			<u>OR</u>	
		D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is <u><</u> 104⁰F.	Once per 2 hours
		AND		
		D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
		D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is $\leq 2\%$.	Once per 2 hours

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not met.	E:1 <u>AND</u>	Restore temperature to within limit.	4 hours
	inct.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours

BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	мах. темр. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

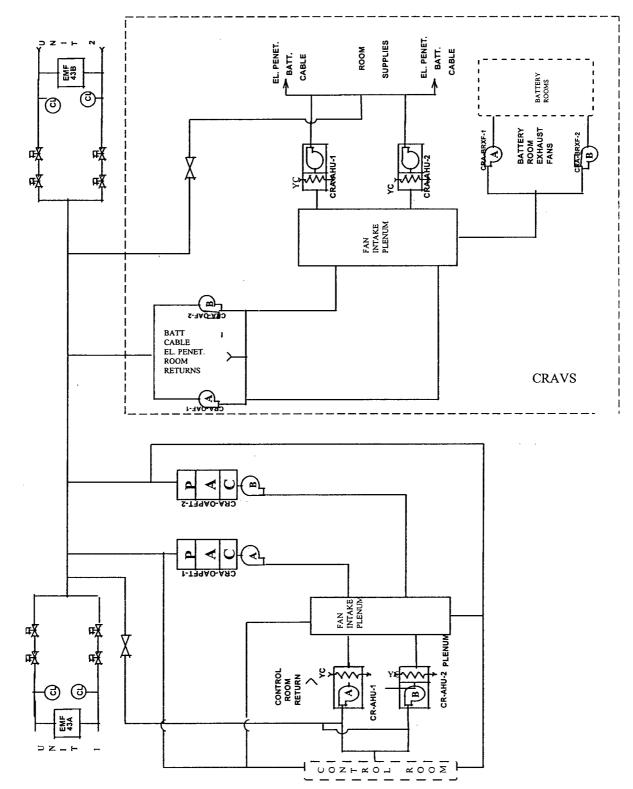
REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT	
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)	
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)	

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

Revision 73

SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

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16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

COMMITMENT 1	l.	Two trains of CRAVS shall be OPERABLE.
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- 2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
Α.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is <u><</u> specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days
		I		(Continued)

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION	F	REQUIRED ACTION	COMPLETION TIME
D.	Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
		AND		
		D.2	Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.	7 days
		AND	uniockea/restorea.	
		D.3.1	Verify temperature in Battery Room No. 701 is ≤ 95⁰F.	Once per 2 hours
			<u>OR</u>	
		D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is <u><</u> 104°F.	Once per 2 hours
		AND		
		D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
		D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is $\leq 2\%$.	Once per 2 hours
		·····		(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	met.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours



BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

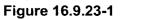
ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
926 ·	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

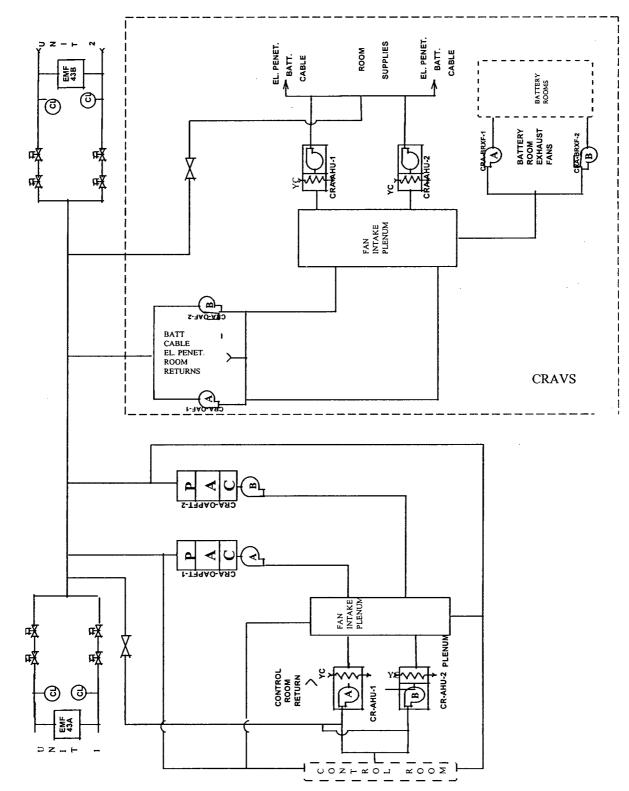
ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001



SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

Revision 73

SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 0	10/1/03
	Not Used – Rev 75	
16.13.2		8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

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16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

COMMITMENT 1.	. Two trains of CRAVS shall be OPERABLE.
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2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.

APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
Α.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is <pre></pre>	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
D.	Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
		AND		
		D.2	Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.	7 days
		AND	uniocked/restored.	
		D.3.1	Verify temperature in Battery Room No. 701 is < 95°F.	Once per 2 hours
			OR	
		D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is ≤ 104°F.	Once per 2 hours
		AND		
		D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
		D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is $\leq 2\%$.	Once per 2 hours

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not met.	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	met.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
	<u> </u>	G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours

BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

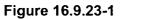
ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	мах. темр. (°F)
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708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104 .
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

REFERENCES

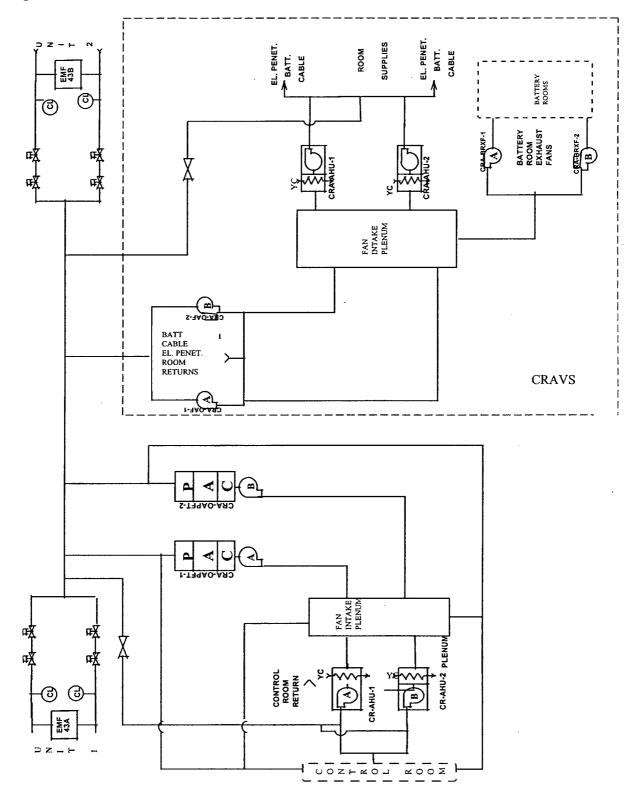
- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

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CRAVS 16.9.23



SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

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Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

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16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 83	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 72	7/25/05
16.9.9	REVISION 34	2/26/03
	REVISION 34 REVISION 13	
16.9.10		2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

Revision 73

SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

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16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

COMMITMENT 1. Two	trains of CRAVS shall be OPERABLE.
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- 2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION	REQUIRED ACTION		COMPLETION TIME
Α.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is ≤ specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days
		I		(Continued)

(Continued)

McGuire Units 1 and 2

REMEDIAL ACTIONS (Continued)

	CONDITION	1	REQUIRED ACTION	COMPLETION TIME
D.	Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
		AND		
		D.2	Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.	7 days
		<u>AND</u>		
		D.3.1	Verify temperature in Battery Room No. 701 is ≤ 95⁰F.	Once per 2 hours
			<u>OR</u>	
		D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is <u><</u> 104°F.	Once per 2 hours
		AND		
		D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
		D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is $\leq 2\%$.	Once per 2 hours

RE	REMEDIAL ACTIONS (Continued)			
	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not met.	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
		E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
. <u></u>		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours

BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	мах. темр. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

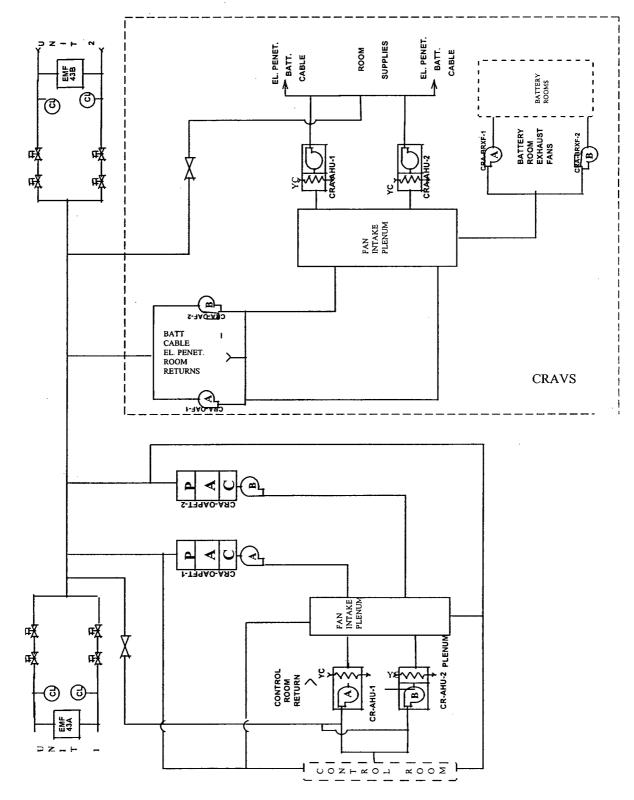
REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

Revision 73

SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	
		12/14/99
16.11.20	REVISION 0 REVISION 0	12/14/99
16.12.1 16.12.2	REVISION 0	12/14/99
16.13.1		12/14/99
	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

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16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be ≤ specified limits.

APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
А.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is ≤ specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days
		I		(Continued)

CRAVS 16.9.23

REMEDIAL ACTIONS (Continued)

CONDITION	1	R	EQUIRED ACTION	COMPLETION TIME
D. Two BR-XFs inor	erable. D.	.1	Lock open all BR-XF check dampers.	Immediately
	A	<u>ND</u>		
	D.	.2	Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.	7 days
	<u>A</u>	<u>ND</u>		
	D.	.3.1	Verify temperature in Battery Room No. 701 is ≤ 95⁰F.	Once per 2 hours
			<u>OR</u>	
	D.	.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
	<u>A1</u>	ND		
	D.	.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
			<u>OR</u>	
	D.	.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is < 2%.	Once per 2 hours

REMEDIAL ACTIONS (Continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	met.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
	······································	G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours



BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	мах. темр. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

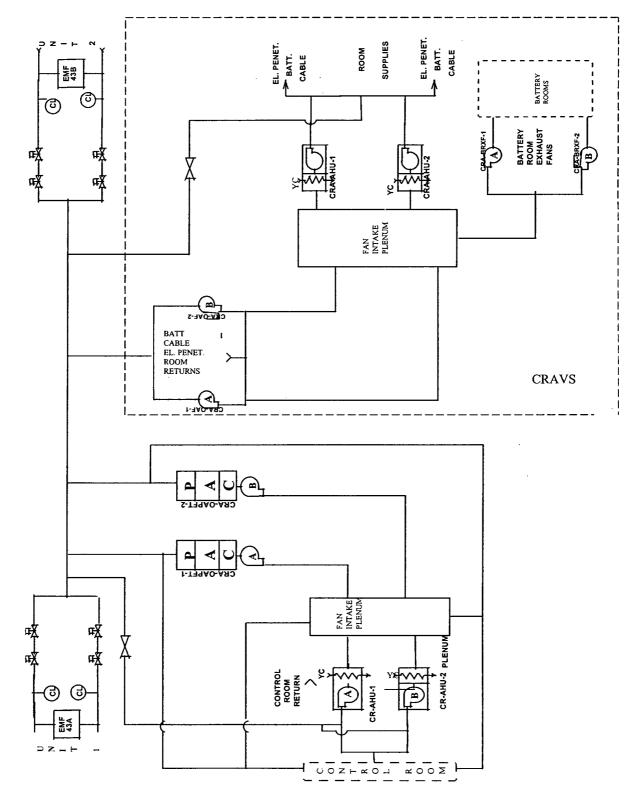
REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



February 15, 2007

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT	
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)	
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)	

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance



SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

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SECTION	REVISION NUMBER	DATE
16.9.13	Not Used - Rev 13	2/26/01
16.9.14	REVISION 22	2/25/02
16.9.15	REVISION 68	2/28/05
16.9.16	REVISION 65	12/21/04
16.9.17	REVISION 48	7/31/03
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 48	7/31/03
16.9.20	REVISION 8	11/30/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 29	7/10/02
16.9.23	REVISION 88	1/17/07
16.9.24	Not Used – Rev 74	6/20/05
16.10.1	REVISION 56	4/6/04
16.11.1	REVISION 9	2/1/01
16.11.2	REVISION 84	7/19/06
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 59	6/1/04
16.11.7	REVISION 84	7/19/06
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 41	8/21/03
16.11.12	REVISION 67	2/28/05
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 21	1/17/02
16.11.15	REVISION 21	1/17/02
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 51	10/1/03
16.13.2	Not Used – Rev 75	8/05
16.13.3	Not Used – Rev 75	8/05
16.13.4	REVISION 58	5/11/04
16.14.1	REVISION 0	12/14/99

16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

- 2. Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

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REMEDIAL ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is <pre></pre>	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days

(Continued)



REMEDIAL ACTIONS (Continued)

CONDITION		REQUIRED ACTION	COMPLETION TIME
Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
	AND		
	D.2	Restore at least one BR- XF to OPERABLE status with all check dampers	7 days
	AND	uniocked/restorea.	
	D.3.1	Verify temperature in Battery Room No. 701 is 95°F. 	Once per 2 hours
		OR	
	D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
	AND		
	D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
		<u>OR</u>	
	D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is < 2%.	Once per 2 hours
		Two BR-XFs inoperable.D.1AND D.2D.2AND D.3.1D.3.1D.3.2D.3.2	Two BR-XFs inoperable.D.1Lock open all BR-XF check dampers.ANDD.2Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.ANDD.3Verify temperature in Battery Room No. 701 is $\leq 95^{\circ}$ F.D.3.1Verify temperature in each battery room listed in Table 16.9.23-2 is $\leq 104^{\circ}$ F.ANDD.4.1Verify total flow through battery rooms is ≥ 770 cfm.D.4.2Verify hydrogen concentration in each

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not met.	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	met.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is <u><</u> 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 <u>AND</u>	Restore total flow or hydrogen concentration to within limit.	4 hours
		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours

BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

BASES (Continued)

Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	мах. темр. (°F)
926	ELECTRICAL PENETRATION	767	. 104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

REFERENCES

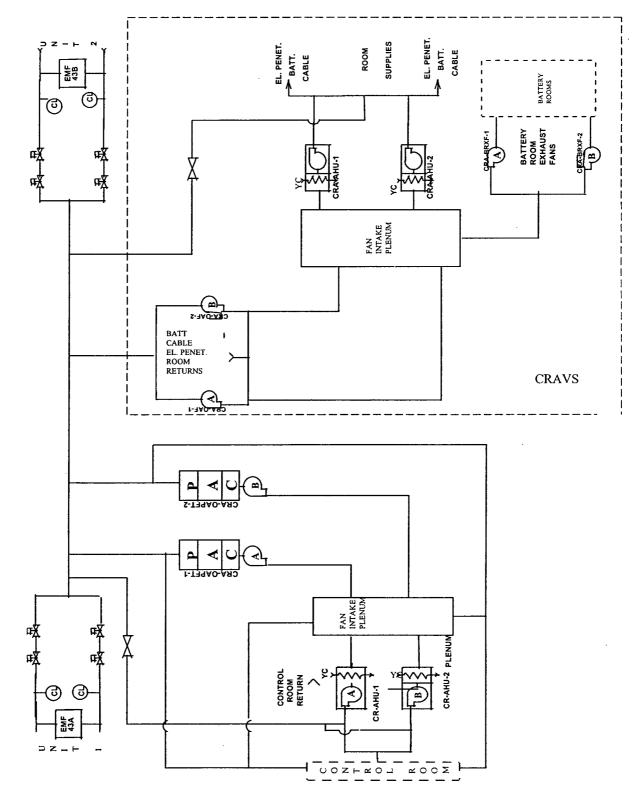
- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

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CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



McGuire Units 1 and 2

February 15, 2007 .

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders Subject: McGuire SLC Manual Update

Please revise your copy of the manual as follows:

REMOVE	INSERT
List of Effective Sections (Rev 72)	List of Effective Sections (Rev 73)
SLC 16.9.23 (entire section) (Rev 29)	16.9.23 (entire section) (Rev 88)

Revisions may skip numbers due to Regulatory Compliance Filing System.

Please call me if you have questions.

Bonnie Beaver Regulatory Compliance

SECTION	REVISION NUMBER	DATE
16.1	REVISION 32	12/2/02
16.2	REVISION 62	7/21/04
16.3	REVISION 48	7/31/03
16.4	Not Issued	
16.5.1	REVISION 82	6/12/06
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 55	3/23/04
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 53	1/13/04
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 38	4/9/03
16.6.1	REVISION 0	12/14/99
16.6.2	DELETED	6/11/03
16.6.3	REVISION 61	04/07/05
16.6.4	REVISION 27	06/12/02
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 80	10/1/05
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 77	10/12/05
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.7.11	REVISION 71	05/25/05
16.8.1	REVISION 85	10/12/06
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 65	12/21/04
16.9.1	REVISION 53	1/13/04
16.9.2	REVISION 81	6/15/06
16.9.3	REVISION 81	16.15.06
16.9.4	REVISION 83	7/12/06
16.9.5	REVISION 81	6/15/06
16.9.6	REVISION 81	6/15/06
16.9.7	REVISION 72	6/02/05
16.9.8	REVISION 76	7/25/05
16.9.9	REVISION 34	2/26/03
16.9.10	REVISION 13	2/26/01
16.9.11	REVISION 22	2/25/02
16.9.12	REVISION 34	2/26/03

McGuire Units 1 and 2

Revision 73

SECTION	REVISION NUMBER	DATE	
16.9.13	Not Used - Rev 13	2/26/01	
16.9.14	REVISION 22	2/25/02	
16.9.15	REVISION 68	2/28/05	
16.9.16	REVISION 65	12/21/04	
16.9.17	REVISION 48	7/31/03	
16.9.18	REVISION 0	12/14/99	
16.9.19	REVISION 48	7/31/03	
16.9.20	REVISION 8	11/30/00	
16.9.21	REVISION 0	12/14/99	
16.9.22	REVISION 29	7/10/02	
16.9.23	REVISION 88	1/17/07	
16.9.24	Not Used – Rev 74	6/20/05	
16.10.1	REVISION 56	4/6/04	
16.11.1	REVISION 9	2/1/01	
16.11.2	REVISION 84	7/19/06	
16.11.3	REVISION 0	12/14/99	
16.11.4	REVISION 0	12/14/99	
16.11.5	REVISION 0	12/14/99	
16.11.6	REVISION 59	6/1/04	
16.11.7	REVISION 84	7/19/06	
16.11.8	REVISION 0	12/14/99	
16.11.9	REVISION 0	12/14/99	
16.11.10	REVISION 0	12/14/99	
16.11.11	REVISION 41	8/21/03	
16.11.12	REVISION 67	2/28/05	
16.11.13	REVISION 0	12/14/99	
16.11.14	REVISION 21	1/17/02	
16.11.15	REVISION 21	1/17/02	
16.11.16	REVISION 1	4/11/00	
16.11.17	REVISION 1	4/11/00	
16.11.18	REVISION 0	12/14/99	
16.11.19	REVISION 0	12/14/99	
16.11.20	REVISION 0	12/14/99	
16.12.1	REVISION 0	12/14/99	
16.12.2	REVISION 0	12/14/99	
16.13.1	REVISION 51	10/1/03	
16.13.2	Not Used – Rev 75	8/05	
16.13.3	Not Used – Rev 75	8/05	
16.13.4	REVISION 58	5/11/04	
16.14.1	REVISION 0	12/14/99	

16.9 AUXILIARY SYSTEMS

16.9.23 Control Room Area Ventilation System (CRAVS)

- Temperature in areas listed in Table 16.9.23-1 and Table 16.9.23-2 shall be < specified limits.
- APPLICABILITY Whenever the specified equipment in an affected area is required to be OPERABLE.

REMEDIAL ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
Α.	One control room area air handling unit (CRA-AHU) inoperable.	A.1	Restore CRA-AHU to OPERABLE status.	30 days
В.	Two CRA-AHUs inoperable.	B.1 <u>AND</u>	Restore one CRA-AHU to OPERABLE status.	7 days
		B.2	Verify temperature in areas listed in Table 16.9.23-1 is <u><</u> specified limits.	Once per 2 hours
C.	One battery room exhaust fan (BR-XF) inoperable.	C.1	Restore BR-XF to OPERABLE status.	30 days

(Continued)

REMEDIAL ACTIONS (Continued)

CONDITION		REQUIRED ACTION	COMPLETION TIME
Two BR-XFs inoperable.	D.1	Lock open all BR-XF check dampers.	Immediately
	AND		
	D.2	Restore at least one BR- XF to OPERABLE status with all check dampers	7 days
	AND	uniocked/restored.	
	D.3.1	Verify temperature in Battery Room No. 701 is < 95°F.	Once per 2 hours
		<u>OR</u>	
	D.3.2	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
	AND		
	D.4.1	Verify total flow through battery rooms is \geq 770 cfm.	Once per 2 hours
		OR	
	D.4.2	Verify hydrogen concentration in each battery room listed in Table 16.9.23-2 is < 2%.	Once per 2 hours
		Two BR-XFs inoperable.D.1AND D.2D.3.1O.3.2AND D.3.2D.3.2	Two BR-XFs inoperable.D.1Lock open all BR-XF check dampers.ANDD.2Restore at least one BR- XF to OPERABLE status with all check dampers unlocked/restored.ANDD.3.1Verify temperature in Battery Room No. 701 is $\leq 95^{\circ}$ F.D.3.1Verify temperature in each battery room listed in Table 16.9.23-2 is $\leq 104^{\circ}$ F.ANDD.4.1Verify total flow through battery rooms is ≥ 770 cfm.D.4.2Verify hydrogen concentration in each battery room listed in

(Continued)

REMEDIAL ACTIONS (Continued)

	CONDITION		REQUIRED ACTION	COMPLETION TIME
E.	Room temperature in Table 16.9.23-1 or Table 16.9.23- 2, except temperature in Battery Room No. 701, not	E.1 <u>AND</u>	Restore temperature to within limit.	4 hours
	met.	E.2	Initiate an engineering evaluation to determine the effect of the off-limit temperature on the affected equipment.	Immediately
F.	Temperature in Battery Room No. 701 not met.	F.1	Verify temperature in each battery room listed in Table 16.9.23-2 is \leq 104°F.	Once per 2 hours
G.	Total flow through battery rooms or hydrogen concentration in battery room not met.	G.1 AND	Restore total flow or hydrogen concentration to within limit.	4 hours
		G.2	Suspend all battery equalize charging.	Immediately

TESTING REQUIREMENTS

	TEST	FREQUENCY
TR 16.9.23.1	Verify one CRA-AHU and one BR-XF OPERABLE and in service.	12 hours



BASES

The CRAVS (see Figure 16.9.23-1) provides cooling for the electrical penetration rooms, battery rooms, motor control center (MCC) rooms, cable rooms, restricted instrument shop, instrument storage room, and mechanical equipment room. The restricted instrument shop and instrument storage room temperature limits are not required by this SLC since they do not contain equipment vital to the operation of the plant. The CRAVS has two redundant trains. Each train consists of a non-safety control room area outside air fan (CRA-OAF), an air handling unit (AHU) and a battery room exhaust fan (BR-XF). The CRA-OAFs are not required to maintain operability of the CRAVS trains. An AHU of the CRAVS contains a prefilter, water cooling coils and a fan. Air conditioning is provided through circulation of chilled water in the AHU water cooling coils. Temperature control for the CRAVS is affected by a room thermostat located in each of 24 zones. The air is cooled to a desired temperature by exchanging heat with the chilled water. The supply air to the battery rooms is returned via BR-XFs. These fans assist cooling by exhausting more air than is supplied. These fans also prevent hydrogen concentration from increasing to a 2% volume limit. Total flow of at least 770 cfm through the battery rooms is adequate to maintain hydrogen concentration less than or equal to 2% volume based on minimum supply flow to maintain temperature of 104°F. Hydrogen is emitted during discharging, float operation and especially during equalize charging of the batteries.

Each train of the CRAVS is capable of maintaining the temperature in the rooms to less than or equal to 104°F. This temperature is based on the maximum allowable temperature for continuous duty rating for equipment and instrumentation found in the areas served by CRAVS. The 95°F limit for Battery Room 701 in Table 16.9.23-1 is an administrative limit while the 104°F limit for Battery Rooms 706 through 711 in Table 16.9.23-2 is the actual equipment duty rating limit. This temperature limit is provided to assure that the equipment in the room will have an acceptable service life; therefore, it will not affect the battery or MCC OPERABILITY. When the room temperature limit or hydrogen concentration limit is exceeded, alternate cooling method or hydrogen purging method can be used to return the temperature or hydrogen concentration to within limit within 4 hours.

The Batteries capacities can also be affected at a minimum temperature of 60 degrees. Technical Specification Surveillance Requirement 3.8.6.3 verifies the average electrolyte temperature remains equal to or above 60 degrees. In addition, it has been shown by calculation MCC-1211.00-00-00042 that the CRAVS cannot drive the Battery room's temperature below 60 degrees. Therefore, there is no need for minimum temperature requirement within this SLC

If both CRA-AHUs or both BR-XFs are secured, verify temperature in Table 16.9.23-1 is less than or equal to the specified limits once per two hours.

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BASES (Continued)

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Table 16.9.23-1

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
926	ELECTRICAL PENETRATION	767	104
928	ELECTRICAL PENETRATION	767	104
808	MCCs 1EMXA AND 1EMXA-1	750	104
722	MCCs 1EMXB, 1EMXB-1, 1EMXB-2 & 1EMXB-3	733	104
821	MCCs 2EMXA, 2EMXA-1 & 1EMXH	750	104
724	MCCs 2EMXB, 2EMXB-1, 2EMXB-2 & 2EMXB-3	733	104
723A	MCC 2EMXH	733	104
801	CABLE	750	104
801C	CABLE	750	104
933	MECHANICAL EQUIPMENT	767	104
701	BATTERY	733	95

Table 16.9.23-2

ROOM NO.	DESCRIPTION	ROOM ELEV. (ft.)	MAX. TEMP. (°F)
707	BATTERY EVCA	733	104
708	BATTERY EVCB	733	104
710	BATTERY EVCC	733	104
711	BATTERY EVCD	733	104
706	BATTERY CXA	733	104
709	BATTERY CXB	733	104

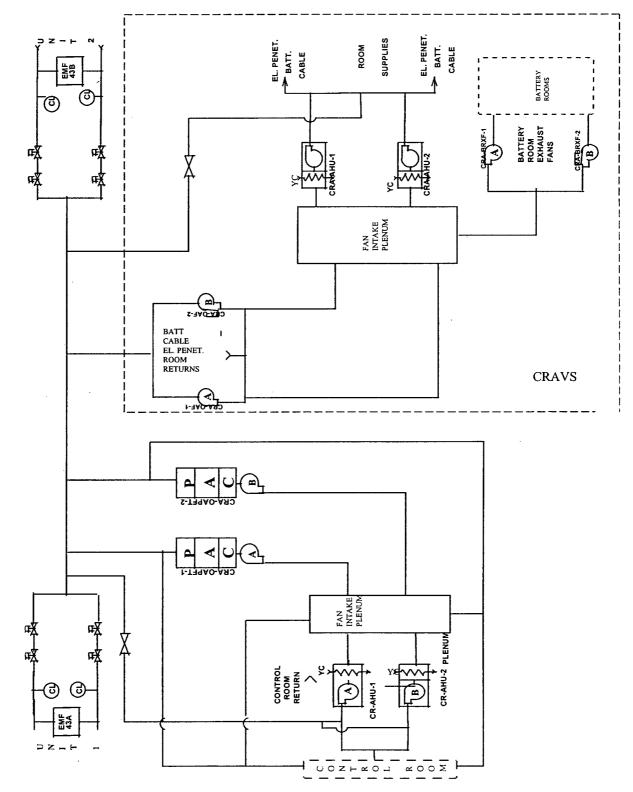
REFERENCES

- 1. PIR 0-M91-0114, PIP M99-1819, PIP M99-4473, PIP M00-1604, PIP M-04-3742
- 2. UFSAR 6.4
- 3. UFSAR 7.6.10
- 4. MCC-1211.00-00-00042
- 5. MCS-1578.VC-00-0001

CRAVS 16.9.23

Figure 16.9.23-1

SIMPLIFIED CONTROL AREA VENTILATION SYSTEM



McGuire Units 1 and 2