VERMONT YANKEE NUCLEAR POWER CORPORATION

185 OLD FERRY ROAD, PO BOX 7002, BRATTLEBORO, VT 05302-7002
(802) 257-5271

March 28, 2002
BVY 02-20

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Reference: a) Letter, VYNPC to USNRC, "Removal of Primary Containment Isolation Valve Table, Revised SBGT Heater Rating and Miscellaneous Administrative Changes," BVY 01-85, dated November 20, 2001.

Subject: Vermont Yankee Nuclear Power Station
License No. DPR-28 (Docket No. 50-271)
Clarifying Information for Proposed Change No. 251

Following discussion with the Staff on March 13, 2002, this letter provides a copy of a calculation, VYC-2130 "SBGT Heater Power Requirement," referenced in our earlier submittal and explains how the incoming air temperature assumption was determined.

VYC-2130, establishes the required heater output of the Standby Gas Treatment system (SBGT) in kW necessary to ensure that the Relative Humidity (RH) of the air entering the SBGT charcoal filters is ≤ 70%. This calculation makes an assumption that the maximum air temperature entering the SBGT heater is equal to 150° F with a relative humidity of 100%, which ensures that the calculated heater output is conservative.

The 150° F entering temperature is conservative based on the following:

- Reactor Building temperature as calculated in VYC-2066, "Post LOCA Reactor Building Heatup Analysis Using the Gothic Computer Program," does not exceed 150°F. Additionally, the actual temperature of the air entering the SBGT heater will be considerably lower. The SBGT inlet air is taken from Reactor Building elevations 252', 280', and 303' in the following proportions: 50% (El. 280'), 25% (El. 252'), and 25% (El. 303'). Based on the temperatures determined in VYC-2066, the maximum SBGT heater inlet temperature is estimated to be approximately 113° F.

- Use of a conservatively high inlet air temperature will also ensure a conservative calculation of the maximum required heater power output. At a given % RH, air at a higher temperature will retain a greater amount of water than air at a lower temperature. Therefore, for a given mass flow rate more heat input will be required to affect a given reduction in RH. For example, VYC-2130 calculates a required heat input of 7.1 kW to raise the temperature of the air from 150° F to 165.1° F (reduces RH to 70%). If the inlet air temperature is assumed to be 113° F, a heat input of approximately 6.5 kW would be required to raise the temperature to approximately 125° F and reduce RH to 70%.

A001

The attachment to this letter is a copy of VYC-2130, Revision 0, entitled "SBGT Heater Power Requirement." This calculation is current as of the date of this submittal and it is not Vermont Yankee's intent to maintain the docket current with regard to future changes to this calculation.

Additionally, this clarifying information does not alter the no significant hazards consideration conclusion or the environmental impact conclusion contained in our original submittal.

If you have any further questions, please contact Mr. Jeff Meyer at (802) 258-4105.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Michael A. Balduzzi
Senior Vice President and Chief Nuclear Officer

STATE OF VERMONT)
)ss
WINDHAM COUNTY)

Then personally appeared before me, Michael A. Balduzzi, who, being duly sworn, did state that he is Senior Vice President and Chief Nuclear Officer of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on behalf of Vermont Yankee Nuclear Power Corporation, and that the statements therein are true to the best of his knowledge and belief.

Mary J. Dower, Notary Public
My Commission Expires February 10, 2003

Attachment

cc: USNRC Region 1 Administrator
USNRC Resident Inspector - VYNPS
USNRC Project Manager – VYNPS
Vermont Department of Public Service

VY CALCULATON TITLE PAGE

VY Calculation Number	Revision #	Vendor Calculation #	Revision #
VYC-2130	0	N/A	N/A

Title: SBGT Heater Power Requirement

QA Status: ☒ SC ☐ NNS ☐ OQA Operating Cycle Number N/A

Calculation Supports A Design Change/Specification? ☐ Yes ☒ No N/A
VYDC/MM/TM/Spec. No.

Calculation Supports An Independent Analysis? ☐ Yes ☒ No ______ Reference

Calculation Done as a Study Only? ☐ Yes ☒ No

Safety Evaluation Number: N/A

Superseded Calculation Number, Title, Revision: N/A

UNCONTROLLED COPY FOR INFORMATION ONLY

Review and Approval: (Print and Sign Name)

Preparer: ~~Carl D. Fago~~ SGW Silvia G. Westerlind [signature] Date: 11/2/00

Interdiscipline Reviewer(s): Don Garbe [signature] Date: 11/2/00

Independent Reviewer(s): Bill Timofeev [signature] Date: 11-2-00

Approved: [signature] CARLO. FAGO Date: 11/8/00

Open Items Associated with Calculation? ☐ Yes ☒ No ☐ Closed

Total No. Pages in Package (including all attachments) 13 pages

Installation Verification

☒ Calculation accurately reflects plant as-built configuration, OR

☐ N/A, calculation does not affect plant configuration

SILVIA WESTERLIND / [signature] / 11/8/00
Printed Name / Signature / Date

Page 1 of 9 Pages (body of calculation)

VY CALCULATION DATABASE INPUT FORM

VYC-2130	0	N/A	N/A
VY Calculation/CCN #	Revision #	Vendor Calculation #	Revision #

Vendor Name: N/A PO Number: N/A

Originating Department: Design Engineering, Fluid Systems

Implementation Required: ☐ Yes ☒ No

Asset/Equipment ID Number(s): EUH-2, EUH-4

Asset/System ID Number(s): 1-125 (Standby Gas Treatment)

Keywords: SBGT (Standby Gas Treatment), Heater

General References

Reference #	Reference Title (including Rev. No. and Date, if applicable) (See App. A, Section 3.1.7 for Guidance)	Critical Ref (√)
1.	Document SGT, Rev. 0, Design Basis Document for Standby Gas Treatment System / Secondary Containment	✔
2.	ASHRAE Fundamentals, 1989	
3.	SPUCSF-042: "Setpoint Program Uncertainty Analysis Functional Screening Justification", dated 7/27/00	
4.	Marks', "Standard Handbook for Mechanical Engineers", Eighth Edition, Chapter 15	
5.	VYNPC Technical Specifications	
6.	VYNPC Routine Work Order 99-009855-000, 10/06/1999	
7.	VYC-2066 Rev.0:"Post LOCA Reactor Building Heatup Analysis Using GOTHIC Computer Program", dated 5/31/00	

Design Input Documents – The following documents provide design input to this calculation. (Refer to Appendix A, section 4)

Document #	Document Title (including Rev. No. and Date, if applicable)	Critical Ref (√)
7.	VYC-2066 Rev. 0, "Post-LOCA Reactor Building Heat-Up Analysis Using the GOTHIC Computer Code"	
3.	SPUCSF-042: "Setpoint Program Uncertainty Analysis Functional Screening Justification", dated 7/27/00	

Design Output Documents – This calculation provides output to the following documents. (Refer to Appendix A, section 5)

Document #	Document Title	Critical Ref (√)
1.	Document SGT, Rev. 0, Design Basis Document for Standby Gas Treatment System / Secondary Containment	√

Table of Contents

1.0 Introduction

This calculation determines the minimum required Standby Gas Treatment heater power output required to ensure that the relative humidity of the air entering the charcoal filter beds is ≤70% [1]

2.0 Analysis

The following basic psychrometric equation set will be used to determine the heat input required to reduce the relative humidity of the incoming air from the worst-case reactor building conditions to 70% RH at the new dry bulb temperature. The equation set is from ASHRAE Fundamentals [2]

$$ {}_1q_2 = m_a(h_2 - h_1) \qquad (1) \qquad \text{(Ref.2, pg. 6.16, Eq. 40)} $$

$$ h = 0.240t + W(1061 + 0.444t) \qquad (2) \qquad \text{(Ref. 2, pg. 6.13, Eq. 30)} $$

$$ W = 0.62198\left(\frac{p_w}{p - p_w}\right) \qquad (3) \qquad \text{(Ref. 2, pg. 6.12, Eq. 20)} $$

$$ \phi = \frac{p_w}{p_{ws}} \qquad (4) \qquad \text{(Ref. 2, pg. 6.13, Eq. 22)} $$

$$ m_a = 60\frac{V_m}{v_1} \qquad (5) \qquad \text{(Ref.2)} $$

where ${}_1q_2$ = heat input required to raise air temperature from t_1 to t_2, BTU/hr
m_a = mass flow of dry air, lbm/hr
h = enthalpy of moist air, BTU/lbm dry air
t = dry-bulb temperature, °F
W = humidity ratio of moist air, lbm water / lbm dry air
p_w = partial pressure of water vapor in moist air, psia
p = total pressure of moist air, psia
ϕ = relative humidity
p_{ws} = pressure of saturated water vapor, psia
V_m = volumetric flow of moist air, cfm
v_1 = specific volume of dry air at point 1, ft^3/lbm dry air

Rearranging Eq. 4 and substituting into Eq. 3 yields:

$$ W = 0.62198\left(\frac{\phi\, p_{ws}}{p - \phi\, p_{ws}}\right) \qquad (6) $$

Solving for p_{ws} yields:

$$p_{ws} = \frac{pW}{0.62198\phi} \frac{1}{\left(1+ W/_{0.62198}\right)} \quad (7)$$

Additionally, the heat input required to increase air from temperature, t_1, to temperature, t_2, in terms of temperature and a constant humidity ratio can be determined by substituting Eq. 2 into Eq. 1. As well, Eq. 5 can be substituted into Eq. 1. These operations yield:

$$_1q_2 = \frac{V_m \cdot 60}{v_1}\left[0.240(t_2 - t_1) + 0.444\,W(t_2 - t_1)\right] \quad (8)$$

For the problem at hand, the final air temperature is an unknown. However, the beginning and final relative humidity, the total pressure, the flow rate and the inlet temperature are known. Therefore, Eq. 7 can be solved to determine the final pressure of saturated water vapor at the heater outlet temperature. Looking up the saturated water vapor pressure will yield the final temperature.

With the outlet temperature now known, Eq. 8 can be solved to provide the total required heat input.

3.0 Inputs/Outputs/Assumptions

The following input assumptions are made:

- SBGT heater inlet conditions, 150°F at 100% RH (Ref.7).
- SBGT heater outlet required relative humidity, 70% (Ref.1)
- SBGT heater air flow, 1650 SCFM (1500 SCFM +10% margin) (Ref.1)
- Humidity ratio of moist air, W=.21273 lbm water/lbm dry air (Ref. 2, pg.6.5, Table 1)
- It is assumed that a maximum of 3% heater current phase variance exists; this is a conservative assumption as measurements (Attach.B) indicate that the imbalance between the three phases is insignificant (less than 1%).
- Specific volume of dry air: v_1=20.589 Ft^3/lbm at t_1=150°F and v_1=17.875 Ft3/lbm at t_1=133°F (Ref.2, Table 1)

The heater inlet conditions are selected to produce the maximum required heat input, as defined in equations (1) and (8). As illustrated in equation (8), the heater inlet conditions that result in the maximum temperature differential across the heater,(t_2-t_1), and the highest humidity ratio, *W*, should be selected. Thus, for this calculation, the post-LOCA Reactor Building conditions determined in Ref.7 are used, i.e. heater inlet temperature of 150°F, as these conditions were found to bound the system design conditions, as shown in section 4.0 below.

4.0 Results

As described in Section 2, the heater outlet temperature is determined based upon the required outlet relative humidity. Solving for the saturated water vapor pressure at the heater outlet conditions:

$$p_{ws} = \frac{pW}{0.62198\phi}\frac{1}{\left(1+W/0.62198\right)}$$

$$= \frac{14.7 \cdot 0.212730}{0.62198 \cdot 0.70}\frac{1}{\left(1+0.212730/0.62198\right)}$$

$$= 5.352 \text{ psia}$$

From Table 2 of Ref. 2, the corresponding dry-bulb temperature is determined by linear interpolation:

$$t = \left(\frac{5.352-5.3422}{5.4685-5.3422}\right)(166-165)+165$$

$$= 165.1°F$$

The required heat input can now be determined:

$${}_1q_2 = \frac{V_m \cdot 60}{v_1}\left[0.240(t_2 - t_1) + 0.444W(t_2 - t_1)\right]$$

$$= \frac{1650 \cdot 60}{20.589}\left[0.240(165.1-150)+0.444 \cdot 0.212730(165.1-150)\right]$$

$$= 24283.5 \text{ BTU/hr} = 7.1 \text{kw}$$

Alternately, a calculation of the required heat input at design conditions is also performed:

From Ref.1 the heater inlet temperature is t_I=133 °F, thus the corresponding humidity ratio from Ref.2 is W=0.122855 and the specific volume of dry air is 17.875 Ft^3/lbm. The saturated vapor pressure becomes:

$$p_{ws} = \frac{14.7 \cdot 0.122855}{0.62198 \cdot 0.70}\frac{1}{\left(1+0.122855/0.62198\right)}$$

$$= 3.464 \text{ psia}$$

From Table 2 of Ref.2 the corresponding dry bulb temperature is determined as follows:

$$t = \left(\frac{3.464 - 3.4548}{3.44226 - 3.4548}\right)(148 - 147) + 147$$

$$= 147.103°F$$

Thus the heat input at design conditions becomes:

$$_1q_2 = \frac{V_m \cdot 60}{v_1}\left[0.240(t_2 - t_1) + 0.444\,W(t_2 - t_1)\right]$$

$$= \frac{1650 \cdot 60}{17.875}\left[0.240(147.1 - 133) + 0.444 \cdot 0.122855(147.1 - 133)\right]$$

$$= 23001.9\ \text{BTU/hr} = 6.742\text{kw}$$

Therefore the heater power required to reduce the relative humidity of the incoming air from the worst-case reactor building conditions to 70% would be 7.1 kW. Surveillance tests performed on the SBGT System require readings of the heater phase current and voltage and the determination of the heater power (OP-4117). However, in order to ensure heater operability, namely a heater output of 7.1 kW, the heater power determined during the surveillance test must be higher than this value to account for the uncertainties associated with readings of voltage and current. The following uncertainties are applied to the calculated power of 7.1 kW:

1. 10% Instrument error uncertainty – Ref. 3

While the OP-4114 requires current measurement for all three phases and the selection of the lowest value to calculate the heater power, only one phase voltage is being measured (Bus 9(8)) during the surveillance test according to procedure. It is presumed that the three phases could be slightly unbalanced. Therefore an uncertainty accounting for voltage variance between any two phases should be considered. It is assumed that a maximum of 3% difference between the lowest and the highest phase voltage could exist. This is a conservative assumption as indicated by the phase voltage measurements on the attached Work Order (Ref.6/pg.9). Thus, it will be conservative to assume that the voltage being measured is the lowest of the three phases. Then an adjustment to increase the measured voltage by 3% should be made. This adjustment translates into a power uncertainty of 3.%, as shown:

2 3.0% phase variance uncertainty

Given a three-phase voltage and current at the heater, the heater power output is determined as:

$$P = \sqrt{3}\ (VxI) \qquad \text{Ref. 4}$$

V- = heater phase voltage [volts]
I- =heater phase current [ampers]

Then the corrected power for phase variance becomes

$$P_{corrected} = \sqrt{3}\ (1.03VxI) = 1.03\left[\sqrt{3}(VxI)\ \right] = 1.03xP\text{, thus}$$

For conservatism, the two uncertainties above, the instrument and the phase variance uncertainties, are added and the required power output for the SGT System heater will be determined as follows:

Power Uncertainty = 10% Instrument Error + 3.0% Phase Variance = 13.0%

$$P_{required} = 1.13xP_{analytical} = 1.13x7.1\,kw = 8.02\,kw$$

5.0 Conclusion

This calculation determined that the required power for the SBGT System heater is 8.02 kW. This value represents the heat input needed to reduce the relative humidity of incoming air from the worst-case reactor building conditions to 70% including instrument and phase variance uncertainties. The Technical Specification (Ref. 5/pg.152) requires at least 9 kW heater input therefore providing sufficient margin to the analytically derived heater power. This calculation affects the information presented in the SBGT Design Basis Document (DBD). A DBD change needs to be initiated to include the required SBGT heat input for the most bounding reactor building conditions. No 50.59 Safety Evaluation is required.

DBD Pending change 2000-020 4/8/00

6.0 References

1. Document SGT, Rev. 0, Design Basis Document for Standby Gas Treatment System / Secondary Containment
2. ASHRAE Fundamentals, 1989
3. SPUCSF-042: "Setpoint Program Uncertainty Analysis Functional Screening Justification", dated 7/27/00
4. Marks', "Standard Handbook for Mechanical Engineers", Eighth Edition, Chapter 15
5. VYNPC Technical Specification
6. VYNPC Routine Work Order 99-009855-000, 10/06/1999 (Attch.B)
7. VYC-2066 Rev.0: "Post LOCA Reactor Building Heatup Analysis Using GOTHIC Computer Program", dated 5/31/2000

Attachment A:

VY CALCULATION REVIEW FORM

Calculation Number: VYC-2130 Revision Number: 0 CCN Number: NA

Title: SBGT Heater Power Requirement

Reviewer Assigned: W. Timofeev Required Date: NA

☐ Interdiscipline Review ☒ Independent Review

Comments*	**Resolution**
1. Pg. 2&7 - should agree on references & Ref. numbers	✓
2. Pg. 4 - Reference equation (5)	✓
3. Pg., Calc. Review Form – should read page 8 of 8	
4. Pg. 2 Design Input Document # 2 – where is it used?	Provides ref. for 10% uncertainty on pg. 8
5. Pg. 5 – Should reference Input	✓
6. Pg. 7, Sect. 5 – Tech, Spec. page 152 should be a ref. for 9KW	✓
7. Pg. 4, 5 & 6 – Equation should read $V_m 60/V_1$	✓
8. Pg. 6 (Bus 9(8)) – Should "(8)" be attached to the end of the sentence "to calculate heat power,"?	
9. Pg. 7 – In Conclusion, state why Safety Eval. is not applicable	✓
10. Pg. 5, – Ref. W=.212730 from ref. 2 page 6.5, Table 1 @150°F	✓

[signature] / 11-2-00
Reviewer Signature Date

Silvia M[signature] / 11/2/00
Calculation Preparer (Comments Resolved) Date

Method of Review: ☒ Calculation/Analysis Review
☐ Alternative Calculation
☐ Qualification Testing

~~Silvia M~~ [signature] / 11/2/00
Reviewer Signature (Comments Resolved) Date

*Comments shall be specific, not general. Do not list questions or suggestions unless suggesting wording to ensure the correct interpretation of issues. Questions should be asked of the preparer directly.

VERMONT YANKEE NUCLEAR POWER
*** Routine Work Order ***
99-009855-000 (C)
*** Closed ***

Attachment B

DATE/TIME PRINTED:
26 Oct 2000 15:12:38

Originator : MACKIN, TIMOTHY
Requester : DONALD GARBE
Planner : MACKIN, TIMOTHY
Reference :
G/L Overlay: ..4415.5301
WOR Number : 99-041517

Start Date: 10/06/1999
Shutdown : NORMAL OPERATI
Parts Reqd:
Area Code : 480AC
CWD : 1427
WOR Entry Date: 28 SEP 1999

Action Code: PLANNED PMS
Priority : 2 START AND COM
Project No : 5320-5320
Date Reqrd : 10/05/1999
Late Date :
Frequency :
Drawing No : G-191301 SH.1
Model No. : TYPE W

Asset Descr: MCC 9A COMPARTMENT 2D SERVICING STANDBY GAS TREAT HTR EUH-2

---------- WORK ORDER CLASSIFICATION ----------
PRIORITY: 2

Safety Class: SCE Fire Protection: Environment Qual: N Class. of Work: 0/E

[ ] Fire AP0042
[ ] Radiation Work Permit AP0502
[ ] ANI
[ ]

[ ] Chemical use Permit
[ ] White Tags AP0140
[X] Housekeeping Zone AP-6024 ZN-V
[ ]

[X] M. Rule In-Scope
[X] M. Rule Risk Significant

Work Desc: Measure the in service amperage to EUH-2 with a clamp-on ammeter. Measurement should be conducted during the next monthly SBGT surveillance (OP 4117).
This relates to the issue identified by ER 99-1075 and ER 99-1074. The heater output is in question when concidering rounding of indicator readings coupled with calibration accuracy of the installed ammeters on MCC-9A.
Please record the Bus 9 voltage at the time of these measurements so that heater power can be calculated. Power = (amps x volts x 1.73)
The intent of this is a one time verification of heater operation.
There is no operability concern with the heaters at this time (reference the above mentioned ER's).

Prob. Desc: Measure the in service amperage to EUH-2 with a clamp-on ammeter. Measurement should be conducted during the next monthly SBGT surveillance (OP 4117).
This relates to the issue identified by ER 99-1075 and ER 99-1074. The heater output is in question when concidering rounding of indicator readings coupled with calibration accuracy of the installed ammeters on MCC-9A.
Please record the Bus 9 voltage at the time of these measurements so that heater power can be calculated. Power = (amps x volts x 1.73)
The intent of this is a one time verification of heater operation.
There is no operability concern with the heaters at this time (reference the above mentioned ER's).

Asset : MCC-9A-2D Revision No: 1
Asset/Cat : MCC-9A-2D 000 CUBICLE, MCC
Location : CRB 248/EAST SWGR ROOM

OPG PMT Review: [ ]
Drop Dead Date:

---------- DESCRIPTION ----------

Step	Crew	Craft	Schedule Date	Persons	Hours
1	E1	ELEC		2	2.00

MEASURE EUH-2 AMPERAGE WITH CALIBRATED CLAMP ON AMMETER

NOTE: Indicate any remarks or comments on the reverse side.
Completed by Emp#: _______ Signature: ____________ Date: ________ Reconciliation: ____ Failure: ____
Accepted by Emp# : _______ Signature: ____________ Asset Downtime: _______ Meter Reading: ___________
Accepted by Date : ___/___/___

VERMONT YANKEE DESIGN ENGINEERING
CALCULATION NO. VYC-2130 rev.0
____
~~ATTACHMENT~~ ____ PAGE 10 OF 13

*** Closed ***

Asset : MCC-9A-2D Revision No: 1
Asset/Cat : MCC-9A-2D 000 CUBICLE, MCC

-- DESCRIPTION --

Step	Crew	Craft	Schedule Date	Persons	Hrs

1. USING A CALIBRATED CLAMP-ON AMMETER MEASURE AND RECORD RUNNING AMPS ON EUH-2.

   A PHASE __12.68_________ AMPS LOCAL METERS ON MCC-9A AM-1 - 11 AMPS

   B PHASE __12.87_________ AMPS AM-2 - 11 AMPS AM-3 - 12 AMPS

   C PHASE __12.67_________ AMPS

2. MEASURE AND RECORD BUS VOLTAGE.

   A - B __487____ VOLTS

   A - C __486___________ VOLTS

   C - B __489___________ VOLTS

3. ENTER CALIBRATED METER DATA BELOW.

   VOLTMETER VY#__6241____ CAL DUE DATE __7/31/00___

   AMMETER VY#___L-2586___ CAL DUE DATE __9/30/00___

4. FORWARD A COPY OF THIS PAGE TO DON GARBE AT MAIL CODE 1225

NO PMT NECESSARY

Step	Crew	Craft	Schedule Date	Persons	Hrs
2	P1	PLAN		1	0.75

PLANNING TIME TRACKING

-- RECORD TIME DAILY --

Date	Emp#	Hrs	Ent	Date	Emp#	Hrs	Ent	Date	Emp#	Hrs	Ent
______	______	______	[ ]	______	______	______	[ ]	______	______	______	[ ]
______	______	______	[ ]	______	______	______	[ ]	______	______	______	[ ]
______	______	______	[ ]	______	______	______	[ ]	______	______	______	[ ]
______	______	______	[ ]	______	______	______	[ ]	______	______	______	[ ]

*** Closed ***

Asset : MCC-9A-2D Revision No: 1
Asset/Cat : MCC-9A-2D 000 CUBICLE, MCC

------------------------------------ NOTES ------------------------------------

Subject	Date Entered	Entered By
PACKAGE & CLOSE OUT NOTES	11/02/1999	AMY KELLOM

WO PACKAGE RETURNED TO PLANNER

SS INIT: KAG FOR CJW 10/13/99

AS FOUND: NORMAL OPS

CORRECTIVE ACTIONS: VOLTAGE & CURRENT READINGS ON 9KW HEATERS

M/TE USED: MULITMETER 6241 DUE 7/31/00
CLAMP ON AMMETER L-2586 DUE 9/30/00

PROBABLE CAUSE: NA

PMT: NONE

NO DISCREPANCIES, FOLLOW UP RECOMMENDATIONS, DISPOSITION OR JO FILE REQUIRED.

SUPERVISOR VERIFY PROPER AREA RESTORATION/DECON

NO FORMS

K.GAMACHE, AAG, 10/13/99, WLS, A.KELLOM

*** Closed ***

Asset : MCC-9A-2D Revision No: 1
Asset/Cat : MCC-9A-2D 000 CUBICLE, MCC

---------------------------------- NOTES ----------------------------------

Subject	Date Entered	Entered By
WO NOTES	10/13/1999	ALAN GASPARDINO

TO RJK FOR CLOSE-OUT. AAG 10=13=1999.

TO E1 CREW. AAG 10-13-1999.

RTND TO MAIN W.O. FILE, FOR RESCHEDULING. AAG 10-05-1999.

TO E1 CREW. AAG 10-04-1999.

WORK ORDER IS IN THE MAIN FILE. TEM 10-4-1999

HAVE A CALL IN TO D. GARBE ASKING WHAT IS REQUIRED OF THE INFORMATION TAKEN PER THIS WORK ORDER. HE REQUESTS A COPY OF THE READINGS ALONG WITH VOLTMETER AND AMMETER VY NUMBERS AND CAL DATES BE FORWARDED TO HIM.

CHANGED THE ASSET NUMBER TO REFLECT THE MCC CUBICLE THAT FEEDS THE HEATER. THIS IS WHERE THE WORK WILL BE PERFORMED.

TEM

10-4-1999