



QA: QA

Mark T. Peters, Manager
Science & Engineering Testing
Bechtel SAIC Company, LLC
1180 Town Center Drive
Las Vegas, NV 89144

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF DEFICIENCY REPORT
(DR) BSC(V)-02-D-042 RESULTING FROM THE BECHTEL SAIC COMPANY, LLC (BSC)
QUALITY ASSURANCE AUDIT BSC-SA-02-006 OF CAROLINA COMMERCIAL HEAT
TREATING, INC.

BSC Quality Assurance has verified implementation of corrective action for DR
BSC(V)-02-D-042 and determined the results to be satisfactory. As a result, the DR has
been closed.

If you have any questions, please contact either Robert D. Habbe at (702) 295-1631 or
Daniel A. Klimas at (702) 295-2665.

A handwritten signature in cursive script that reads 'D. T. Krisha'.

Donald T. Krisha, Manager
Quality Assurance

3/15/02

Date Signed

RDH:bw-0312021769

Enclosure:
DR: BSC(V)-02-D-042

Handwritten notes:
11/17/09
11/17/09

March 15, 2002

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cc: w/encl:

L. H. Barrett, DOE/HQ (RW-2) FORS
L. W. Bradshaw, Nye County, Pahrump, NV
J. R. Dyer, DOE/YMSCO, Las Vegas, NV
W. J. Glasser, NQS, Las Vegas, NV
S. H. Horton, BSC, Las Vegas, NV
D. A. Klimas, BSC, Las Vegas, NV
B. R. Komegay/B.L. Wilson, BSC, Las Vegas, NV
D. T. Krishna, BSC, Las Vegas, NV
Robert Latta, NRC, Las Vegas, NV
S. W. Lynch, State of Nevada, Carson City, NV
Ram Murthy, DOE/OQA, Las Vegas, NV
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J. M. Replogle, DOE/YMSCO, Las Vegas, NV
N. K. Stablein, NRC, Rockville, MD
D. D. von der Linden, BSC, Las Vegas, NV
Engelbrecht von Tiesenhausen, Clark County, Las Vegas, NV

cc: w/encl:

R. W. Andrews, BSC Las Vegas, NV
K. O. Gilkerson, BSC Las Vegas, NV
R. D. Habbe, BSC Las Vegas, NV
R. E. Rucinski, BSC Las Vegas, NV
Roxanne Van Dillen, BSC Las Vegas, NV

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RADIOACTIVE WASTE MANAGEMENT
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WASHINGTON, D.C.**

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8. DEFICIENCY REPORT
 CORRECTIVE ACTION REPORT

NO. BSC(V)-02-D-042

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DEFICIENCY/CORRECTIVE ACTION REPORT

1. Controlling Document Carolina Commercial Heat Treating (CCHT) Quality Policy Manual, Revision 3		2. Related Report No.: BSC-SA-02-006	
3. Responsible Organization: BSC/ Carolina Commercial Heat Treating (CCHT)		4. Discussed With: M. Peters, BSC; G. Smith, CCHT	
5. Requirement. A. CCHT Quality Policy Manual, Section 4.11.2.5, states: "Equipment is identified with suitable indicators or records to show calibration status." B. CCHT Quality Procedure QSP-125E, Section 4.2 states: "Furnace control and over-temp device thermocouples whose operating range is less than 1400 degrees F will be replaced every 2 years..." C. CCHT Quality Policy Manual, Section 4.11.2.1 states: "The scope of this policy includes all inspection, measuring, test equipment and SOFTWARE used to demonstrate the conformance of product to the specified requirements. Section 4.11.2.3 states: "Documented calibration and/or verification procedures are maintained and used."			
6. Description of Condition: Contrary to the above: A. Thermocouples B-5996-5 and -8 used in Air Draw oven # 3 and thermocouples B-7515-5 and -6 used in the DOW oven did not have calibration status indicators. B. No objective evidence could be provided to indicate when the thermocouples were placed in service. C. CCHT is using a software program "Surface Trend/Alarm Log" to record the temperature readings of the furnace control and over-temp thermocouples in several ovens. The program is used to produce temperature charts for the customer when requested. There is no objective evidence to demonstrate that the software program is operating and recording the temperature readings to specified requirements, i.e. no validate/verification records.			
7. Initiator: <i>Robert D. Habbe</i> Robert D. Habbe Date 12/13/01		9. Does a stop work condition exist? (Not required for a DR) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	
10. Recommended Actions. Take the necessary action to label the thermocouples with status indicators to indicate calibration status and establish a date thermocouples were placed in service or establish a date when thermocouples will be removed from service. Take the necessary action to validate and document that the software is operating and recording temperature correctly. Revise procedures as necessary to ensure that each software version change is validated. Determine if condition had any affect on the heat treating work performed on Metal Samples Company specimens used on YMP orders.			
11. QA Review: <i>Robert D. Habbe</i> QAR Robert D. Habbe Date 12/13/01		12. Response Due Date: 20 Working Days From Issuance	
13. DOQA Issuance Approval: Printed Name Donald T. Krishna Signature <i>Donald T. Krishna</i> Date 12/14/01			
22. Corrective Actions Verified QAR <i>Robert D. Habbe</i> Date 2-25-02		23. Closure Approved by: <i>Donald T. Krishna</i> Date 3/15/02	

TYPE RESPONSE:
 Initial
 Complete
 Amended
RAA 2-25-02

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DEFICIENCY/CORRECTIVE ACTION REPORT (RESPONSE)

14a. Immediate Actions:

N/A

Compliance Date: *N/A RAA 2-25-02*

14. Remedial Actions:

- A. CCHT performed a review of all ovens to ensure they contained suitable indicators to show calibration status. All ovens have a status indicator. See Attachment A. This Calibration Verification Status log will be date controlled and updated each time a new thermocouple is replaced.
- B. CCHT revised QSP-125E to remove the requirement to replace thermocouples, whose operating range is less than 1400 degrees F, every 2 years.
- C. CCHT contacted outside service (Conrad Kacsik) to add Surface Trend System to CCHT's instrument checklist. Unit was calibrated on 1/14/02 and found to be in tolerance, in accordance with QSP-125C, Rev. *2*.
3 RAA 2-25-02

15. Extent of Condition:

The deficient conditions stated in this DR did not have an impact on the heat treating work performed on Metal Samples Company specimens, because the thermocouples used were in acceptable calibration status at the time of the heat treating and the Surface Trend System was found to be in tolerance on 1/14/02.

16. Cause: (Attach results of root cause determination prepared in accordance with AP-16.4Q for a significant deficiency.)

- A. The thermocouples were checked and found to be tagged with traceable numbers to calibration records, which are provided by the manufacturer or sub-contractor.
- B. The service life of type K thermocouples is short and all of CCHT thermocouples are expendable type thermocouples, which are not re-calibrated or reused in any way. They are verified every three months by an outside service as well as internal uniformity surveys performed as verification that the system is working. There is no need for service data to be kept by CCHT.
- C. The system is calibrated by an outside service (Conrad Kacsik) for verification. The software is part of the M&TE.

17. Action to Preclude Recurrence:

Applicable personnel will be trained to QSP-125E, Rev. 3.

18. Due Date: February 28, 2002
 For submittal of complete response
 For completion of corrective action
RAA 2-26-02

19. Response by: Mark Peters (Roxie VanDillen - Resp. Ind.)
William W. Peters for M&P Roxie VanDillen 2/14/02
 Date: February 14, 2002 *PK* Phone: 5-3644 *RAA 2/14/02 BSC QP*

20. Evaluation: Accept Partially Accept Reject

21. Concurrence:
 DOQA *W.T. Kacsik* Date *3/1/02*

QAR *R. D. Habbe* Date *2-25-02*

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8. DR/CAR
 Stop Work Order

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DEFICIENCY/CORRECTIVE ACTION REPORT/STOP WORK ORDER CONTINUATION PAGE

The Initial Response dated 2/14/02 is Partially Acceptable with the following comments:

The Immediate Actions, Remedial Actions and Extent of Condition responses are acceptable.

The Cause response provided appears to be additional support information to the remedial actions and does not address the cause of the deficient conditions. Please identify the cause of the deficiencies and resubmit as an amended response.

The Action to Preclude Recurrence should reflect the action taken to address the cause of the deficient conditions.



Robert D. Habbe, 2/27/02

TYPE RESPONSE: <input type="checkbox"/> Initial <input checked="" type="checkbox"/> Complete <input checked="" type="checkbox"/> Amended	OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.	DR/CAR NO. BSC(V)-02-D-042 PAGE 4 OF 6 QA: QA
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DEFICIENCY/CORRECTIVE ACTION REPORT (RESPONSE)

14a. Immediate Actions:

N/A

Compliance Date: N/A

14. Remedial Actions:

A. CCHT performed a review of all oven thermocouples to ensure they contained suitable indicators to show calibration status. All oven thermocouples are labeled and their calibration status is indicated on the Calibration Verification Status log. This Calibration Verification Status log will be date controlled and updated each time a new thermocouple is replaced.

B. CCHT revised QSP-125E to remove the requirement to replace thermocouples, whose operating range is less than 1400 degrees F, every 2 years. The service life of type K thermocouples is short and all of CCHT thermocouples are expendable type thermocouples, which are not re-calibrated or reused in any way. They are verified every three months by an outside service as well as internal uniformity surveys performed as verification that the system is working. There is no need for service data to be kept by CCHT.

C. CCHT contacted outside service (Conrad Kacsik) to add Surface Trend System to CCHT's instrument checklist. Unit was calibrated on 1/14/02 and found to be in tolerance, in accordance with QSP-125C, Rev. 2. The software is part of the M&TE.

15. Extent of Condition:

The deficient conditions stated in this DR did not have an impact on the heat treating work performed on Metal Samples Company specimens, because the thermocouples used were in acceptable calibration status at the time of the heat treating and the Surface Trend System was found to be in tolerance on 1/14/02.

16. Cause: (Attach results of root cause determination prepared in accordance with AP-16.4Q for a significant deficiency.)

A. Some status indicators (labels) were inadvertently mislabeled with thermocouple identification and date placed in service.

B. Procedure was overly restrictive on the time period for change out of thermocouples.

C. The calibration of the Surface Trend System was inadvertently not included in the calibration performed by an outside service (Conrad Kacsik).

17. Action to Preclude Recurrence:

A. Maintenance of the Calibration Verification Status log will ensure that the oven and thermocouple calibration status is accurate.

B. Procedure was revised and applicable personnel were trained to QSP-125E, Rev. 3.

C. The Surface Trend System is now included as a piece of equipment calibrated by an outside service.

18. Due Date: February 28, 2002

For submittal of complete response

For completion of corrective action

19. Response by: Mark Peters (Roxie VanDillen - Resp. Ind.)

Mark Peters 2/28/02 *Roxie VanDillen* 2/28/02

Date: February 28, 2002 Phone: 5-3644

20. Evaluation: Accept Partially Accept Reject

QAR **R.O. HABBE** *R.O. Habbe* Date **3-11-02**

21. Concurrence:

DOQA _____ Date _____

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 Stop Work Order

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DEFICIENCY/CORRECTIVE ACTION REPORT/STOP WORK ORDER CONTINUATION PAGE

Verification of corrective action and closure of DR BSC(V)-02-D-042.

This verification was based on a review of documentation provided by CCHT.

Verification of Remedial Actions

Item A. The QAR performed a review of Attachment A, which provides a listing of the calibration verification status of all thermocouples, and their respective ovens where they are used. All ovens/thermocouples functional operation were checked/calibrated on 1/14/02 and are next due on 4/14/02.

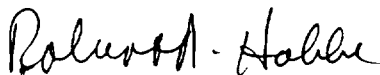
Item B. The QAR performed a review of CCHT procedure QSP-125E, Revision 3 revised on 12/28/01 and found that CCHT revised section 4.2 to state that thermocouples will be replaced as needed instead of every two years.

Item C. The QAR performed a review of Conrad Kacsik calibration documentation of the Surface Trend System performed on 1/14/02 and found that the Surface Trend System was found to be in calibration.

Verification of Action to Preclude Recurrence

The QAR performed a review of an internal CCHT training form documenting training to CCHT procedure QSP-125E, Revision 3 on 2/14/02.

The documentation provided and the corrective actions taken provide satisfactory implementation of correction actions for this DR. Based on the above this DR is considered closed.



Robert D. Habbe, 03/11/02

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CALIBRATION VERIFICATION STATUS

COPY

Furnace ID#'s	Instrument Cal Verified		Next Due Date	Thermocouple ID#'s		Out of Service
	Control	High Limit		Control	High Limit	
Round Draw	1/14/02		4/14/02	B-6169-5	B6169-7	
Box Draw	1/14/02		4/14/02	B-7138-1	B-7138-9	
DOW	1/14/02		4/14/02	B-7515-5	B-7515-6	
Air Draw #1	1/14/02		4/14/02	AB-4474-5	B-4294-6	
Air Draw #2	1/14/02		4/14/02	B-4474-3	B-4474-4	
Air Draw #3	1/14/02		4/14/02	B-7205-12	B-7205-10	
Air Draw #4	1/14/02		4/14/02	B-4645-9	B-4645-8	
Air draw #5	1/14/02		4/14/02	B-4645-11	B-4645-2	
Vac #1	1/14/02		4/14/02	B-4714-B	B-4714-A	
Vac #2	1/14/02		4/14/02	S-30-4	S-30-3	
Vac #3	1/14/02		4/14/02	S-30-9	S-30-10	
Vac #4	1/14/02		4/14/02	070299B 041598C 052699A 041598A	072498B	
Vac Temper #1	1/14/02		4/14/02	B-5323-D	B-3244-2	
Vac Temper #2	1/14/02		4/14/02	B-5323-A	B-5323-B	
Uni-Draw #1	1/14/02		4/14/02	B-7138-4	B-7138-5	
Uni-Draw #2	1/14/02		4/14/02	B-7515-1	B-7515-2	
Super Temper #1	1/14/02		4/14/02	B-4645-2	B-4645-5	
Super Temper #2	1/14/02		4/14/02	B-4645-6	B-4645-3	
AllCase #1	1/14/02		4/14/02	B-7318-6	B-7318-8	
AllCase #2	1/14/02		4/14/02	B-7205-5	B-7352-6	
AllCase #3	1/14/02		4/14/02	B-7205-12	B-4474-4	

Hardness Tester ID	Calibration Verified	Next Due Date	Dial Indicator ID	Calibration Verified	Next Due Date
United (TB)- 87370	11/01	2/02	073561	11/01	11/02
Wilson (#2)- 299	11/01	2/02	17993	11/01	11/02
Wilson (#3)- 959	Out of Service	---	CB053315	8/01	8/02
NewAge (Port.)-751	11/01	2/02	Gage Blk 980327	7/01	7/02
NewAge (Port.)-2803	11/01	2/02	Gage Blk 923634	7/01	7/02
Brinell Scope-2322SD	11/01	2/02	Gage R&R	9/01	9/02

Alnor Dewpointer ID	Date Calibrated	Next Due Date	Quench Oil Analysis Performed	Next Due Date
S/N 6221	1/02	1/03		
			1/01	4/02