



QA: QA

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BECHTEL SAIC COMPANY, LLC (BSC) QUALITY ASSURANCE (QA) SURVEILLANCE
REPORT BSCQA-02-S-27 OF METEOROLOGICAL DATA COLLECTION ACTIVITIES -
WIND DIRECTION SENSOR

Enclosed is the Surveillance Report BSCQA-02-S-27, conducted by the BSC QA Organization on May 22-30, 2002, at the Yucca Mountain Site Characterization Project (YMP) Site #4, Alice Hill, Area 25.

The scope of the surveillance was to determine the adequacy and effectiveness of Meteorological Data Collection Activities – Wind Direction Sensor, and to evaluate compliance with requirements in Administrative Procedure AP-12.1Q, *Calibration of Measuring and Test Equipment and Calibration Standards*, and associated Line Procedures.

This surveillance found effective implementation of requirements and is considered complete and closed as of the date of this letter. A response to this surveillance report is not required.

If you have any questions, please contact either John K. Devers (702) 295-0629 or John S. Martin at (702) 295-2832.

Donald T. Krisha, Manager
Quality Assurance

6/12/02
Date Signed

RFH:bw-0611022954

Enclosure:
Surveillance Report BSCQA-02-S-27

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE SURVEILLANCE REPORT

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QA Surveillance Number:
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Complete only applicable items.

1. Organization/Location ES&H/IAM, Alice Hill, Area25	2. Subject Meteorological Data Collection Activities - Wind Direction Sensor	3. Date(s) Performed 05/22 - 30/2002
4. Surveillance Scope Evaluate compliance to selected requirements in Administrative Procedure (AP) AP-12.1Q and Line Procedures (LP) LP-MM-001Q-BSC, LP-MM-002Q-BSC and LP-MM-003Q-BSC.		
5. Requirement(s) (Procedure, Specification, Drawing, etc.) a) AP-12.1Q, "Calibration of Measuring and Test Equipment and Calibration Standards", Rev 0, ICN 2, Sections 5.1.2, 5.3.1, 5.5.1, 5.5.4, & 5.5.5 b) LP-MM-001Q-BSC, "Tests and Checks of Meteorological Measuring and Test Equipment", Rev 0, ICN 1, Sections 5.1 & 5.1.1 c) LP-MM-002Q-BSC, "Tests, Checks, and Performance Audits of Meteorological Equipment", Rev 0, ICN 2, Sections 5.9.1, 5.9.3, & 5.9.4 (Continued on Page 2)		6. Originator <u>John K. Devers</u> Team Members <u>Richard L. Weeks</u>

SURVEILLANCE RESULTS

7. Description/Details
A visit was made to Site #4, located at the top of Alice Hill, Area 25, on 05/22/2002, for the purpose of evaluating implementation of specific requirements identified in Block 5 of this Surveillance Report. The specific activity evaluated was the replacement of a wind direction sensor on a crossarm of the 30 meter tower at Site #4. This activity was performed in accordance with LP-MM-002Q-BSC and described in Field Work Package, FWP-SB-99-01, Revision 0, "Field Activity in Support of Meteorological and Radiation Programs", and Work Instruction (WI) TCO-WI-0067r02.

A pre-job briefing was conducted by the Person-in Charge (PIC), who indoctrinated the surveillance personnel of the potential hazards in the work area. A safety topic, Lightning Protection, was presented in conjunction with the pre-job briefing. The PIC had the latest revision of the WI and all applicable procedures.

In conjunction with performing the activity identified above, a routine site check was performed on other meteorological equipment in relation to the tower at Site #4, in accordance with LP-MM-003Q-BSC, Section 5.2, and documented on Form LP-MM-003Q-BSC.1, "Meteorological Site Routine Visit Checklist". A review of the form was performed to determine if the tower at this site had been checked within five working days after the first day of the calendar month and at least once every seven days. The review revealed that the first site check was performed on 05/06/2002, which was within the required time period, and other routine site checks had been performed on the tower four other times during the month of May (05/09, 05/14, 05/16, & 05/20/2002), prior to the routine site check observed during this Surveillance. (Continued on Page 2)

8. Persons (and their organizations) Contacted Gary Jones, BSC, Scientist Paul Fransioli, BSC, Scientist Tim Moran, BSC, Site Technician Pete Roesner, BSC, M&TE Custodian	9. CAQ/NCR/TE Issued <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Recommendation Issued <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CAQ/NCR/TE Number(s): <u>N/A</u> CIRS Number(s): <u>N/A</u>
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10. Surveillance Conclusions SAT UNSAT

The requirements, identified in the procedures listed in Block 5 of this Surveillance Report, were effectively implemented by Environmental, Safety and Health (ES&H)/Information Analysis and Management (IAM) personnel identified in Block 8 of this Surveillance Report. The activities associated with the replacement of the Wind Direction Sensor was performed in a satisfactorily manner.

11. Completed By (Originator) (Print Name) John K. Devers	Signature <u>John K. Devers</u>	Date <u>06/11/02</u>
12. Reviewed By (Appropriate QA Manager) (Print Name) John S. Martin	Signature <u>[Signature]</u>	Date <u>6/11/02</u>
13. Approved By (QVM) (Print Name) Robert F. Hartstern	Signature <u>[Signature]</u>	Date <u>6/11/02</u>

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE SURVEILLANCE REPORT

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Complete only applicable items.

QA Surveillance Number:
BSCQA-02-S-27

1. Organization/Location ES&H/IAM, Alice Hill, Area25	2. Subject Meteorological Data Collection Activities - Wind Direction Sensor	3. Date(s) Performed 05/22 - 30/2002
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BLOCK 5 Requirement(s) (Procedure, Specification, Drawing, etc.) (Continued):
d) LP-MM-003Q-BSC, "Routine Operations and Maintenance of Meteorological Equipment", Rev 0, ICN 1, Sections 5.1, 5.2 & 5.3

BLOCK 7 Description/Details (Continued):

The Form LP-MM-003Q-BSC.1 was completed in accordance with LP-MM-003Q-BSC, Section 5.2. A binder is kept at the site containing copies of Form LP-MM-003Q-BSC.1, for the period 01/2002 through 05/2002, with the original being sent to the Field Coordinator for submittal to the Records Processing Center.

The scientists, prior to lowering the tower to replace the Wind Direction Vane/Sensor, stood at a location marker (true North) on the ground to verify the proper alignment of the crossarm. The alignment of the crossarm was found to be acceptable. Once the tower was lowered down to the ground, the scientists checked the alignment of the existing wind vane. The alignment of the wind vane was found to be acceptable.

The scientist removed the existing Wind Direction Vane #681/Sensor #17923 and performed equipment performance checks, documenting the results on Form LP-MM-002Q-BSC.2, "Meteorological Equipment Performance Check or Audit". The performance check consisted of a torque and linearity tests of the Sensor. The scientists determined that even though the test results were acceptable, the Wind Direction Vane/Sensor should be replaced due to torque test results being on the high side of the tolerance limit. A review of Form LP-MM-002Q-BSC.2 revealed that it was completed in accordance with LP-MM-002Q-BSC. The scientists performed a torque and linearity tests on the new Wind Direction Vane #665/Sensor #17949 and documented the results on Form LP-MM-002Q-BSC.2. The torque/linearity tests were found to be within acceptable tolerance limits. The new Wind Direction Vane/Sensor was installed on the crossarm and the tower was raised to its upright position.

Specific Measuring and Test Equipment (M&TE) (listed below) were examined prior to the mounting of the Wind Direction Sensor. Each of the M&TE had a calibration label containing the unique identification (ID), calibration date, calibration due date, and the initials of the person performing the calibration. The scientists completed Form YAP-12.3Q.2, "Measuring and Test Equipment Calibrated Equipment Storage Datasheet", signifying the removal of a Wind Direction Vane/Sensor from the long-term storage location, which was in the Meteorological Lab located at Met-One (60m tower) site. The Wind Direction Vane/Sensor and other M&TE used were stored in separate locked cabinets. The scientist signed and dated the Calibrated Storage Access Log prior to entering the long-term storage area to remove the wind direction vane/sensor.

M&TE listed below were documented on the Master List of M&TE. The Master List included minimal required information (unique ID, description or type of M&TE, date calibrated, recalibration due date or frequency of calibration or shelf life, required calibration tolerance or reference to same, and nonretrievability status).

DESCRIPTION	BAR CODE #	S/N	CAL. DATE	CAL. DUE DATE	CAL. CERT.
Wind Direction Sensor	17923	1946	09/18/1999**	08/14/2002	Climatronics Corp. (09/18/1999)
Wind Direction Vane	681	N/A	09/18/1999**	08/14/2002	Climatronics Corp. (09/18/1999)
Wind Direction Sensor	17949	1750	06/09/1999*	05/23/2003	Climatronics Corp. (06/09/1999)
Wind Direction Vane	665	N/A	06/09/1999*	05/23/2003	Climatronica Corp. (06/09/1999)
Torque Watch	306739	4990	03/31/2000	02/2003	CLI Metrology (110821-7)
Air Barometer	20217	2A1899	09/25/2001	09/2002	N/A
Barometric Pressure Sensor	05066	264	08/14/2001	08/31/2002	N/A
Precipitation Gauge	22315	331	08/14/2001	08/31/2002	N/A
Pyranometer	05036	29197	04/25/2002	04/2003	N/A
Relative Humidity Sensor	05105	27842	08/14/2001	08/31/2002	N/A
Storage Gauge	30006	5002	08/16/2000	08/2005	N/A
Temperature Sensor	05123	4757	08/14/2001	08/31/2002	N/A
Temperature Sensor	05027	4773	08/14/2001	08/31/2002	N/A
Wind Speed Sensor	03138	2475	03/04/1999	02/2003	N/A

* Date item was calibrated by manufacturer. The date that the 1-year calibration frequency starts is 05/23/2002.

** Date item was calibrated by manufacturer. The date that the 1-year calibration frequency starts is 08/14/2001.

The following documents were reviewed during the performance of this surveillance:

DOCUMENT DESCRIPTION	DOCUMENT ID NUMBER / DATE BAR CODE
1) Meteorological Equipment Calibration	05027; 05036; 05066; 05105; 05123; 22315; 30006
2) M&TE Calibrated Equipment Storage Datasheet	03138; 17949; 17923; 306739
3) CLI Metrology "Certificate of Calibration"	110821-7; 110824-2
4) Climatronics Corp. - Certificate of Calibration - Wind Direction Transmitter	1946; 1750
5) Meteorological Equipment Performance Check or Audit	1946; 1750
6) Meteorological Site Routine Visit Checklist	05/6, 9, 14, 16, 20 & 22/02
7) Calibration Storage Access Log	05/22/02
8) Radiological Environmental Programs Dept. (REPD) M&TE Master List	05/23/02