

ORGANIZATION: NATIONAL TECHNICAL SYSTEMS  
HARTWOOD, VIRGINIA

REPORT NO.: 99900914/83-01	INSPECTION DATE(S) 1/24-28/83	INSPECTION ON-SITE HOURS: 56
CORRESPONDENCE ADDRESS: National Technical Systems ATTN: Mr. W. Ison, Division Vice President Star Route 748, Box 38, Hartwood, Virginia 22471		
ORGANIZATIONAL CONTACT: Mr. W. Dorgeloh, Quality Assurance Manager TELEPHONE NUMBER: (703) 752-5300		
PRINCIPAL PRODUCT: Testing laboratory		
NUCLEAR INDUSTRY ACTIVITY: Approximately 35% of the National Technical Systems (NTS) total business (dollar value) is a result of testing of equipment for the nuclear power industry.		
ASSIGNED INSPECTOR: <u>A. L. Smith</u> A. L. Smith, Equipment Qualification Section (EQS)		<u>3/10/83</u> Date
OTHER INSPECTOR(S): J. Benson, Sandia National Laboratories		
APPROVED BY: <u>H. S. Phillips</u> H. S. Phillips, Chief, EQS		<u>3/10/83</u> Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : Appendix B to 10 CFR Part 50. B. <u>SCOPE</u> : This inspection consisted of: (1) a review of the 18 criterion of 10 CFR Part 50, Appendix B described in the NTS Quality Control Manual, and (2) verification that the applicable criteria of the QA program had been implemented in compliance with the approved NTS manual.		
PLANT SITE APPLICABILITY: Not identified.		
DESIGNATED ORIGINAL Certified By <u>Rheanne Clark</u>		

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A. VIOLATIONS:

None

B. NONCONFORMANCES:

1. Contrary to the requirements of Criterion V of Appendix B to 10 CFR Part 50 and Section 8.3 of the NTS Quality Control Manual (QCM), review of critical purchase orders had not been indicated by means of an inspection stamp impression.
2. Contrary to the requirements of Criterion V of Appendix B to 10 CFR Part 50 and Section 12 of the NTS QCM, the audit report for the April 1982 corporate quality internal audit did not request a response date for corrective action and there was no documented evidence to indicate that the required followup had been performed.
3. Contrary to the requirements of Criterion V of Appendix B to 10 CFR Part 50 and Section 12.1.1 of the NTS QCM, there was no documented evidence that indicated that the Quality Control Department had performed interim internal audits as required.

C. UNRESOLVED ITEMS:

During the review and verification of implementation of Criterion 18 of Appendix B to 10 CFR Part 50, the inspector determined that NTS had committed that audit personnel would be qualified as required by Supplement 2S-3 of ANSI/ASME NQA-1. Paragraph 3.3 of Supplement 2S-3 requires a lead auditor to have participated in a minimum of five quality assurance audits within a period of time not to exceed 3 years prior to the date of qualification. The inspector reviewed the auditor qualification record for the lead auditor who conducted the April 1982 corporate quality internal audit and the record indicated that the auditor had participated in only two quality assurance audits prior to certification. This individual is assigned to the NTS facility at Saugus, California, and his personnel records are located there. During this inspection, the inspector was unable to obtain the necessary information from the NTS corporate office to determine if the auditor met the audit experience requirements. This item will be resolved during a subsequent inspection.

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D. OTHER FINDINGS OR COMMENTS:

1. Quality Assurance/Control Manual: The NRC inspection team performed an in-depth review/evaluation of the NTS QCM to assure that the NTS written Quality Assurance/Control procedures are consistent with NRC regulatory requirements. The basic NTS QCM consisting of 12 sections is written to comply with Department of Defense quality assurance requirements. The basic manual is supplemented with an appendix titled "Supplementary Quality Control Procedures for Nuclear Power Industry Contracts." The appendix is organized in 19 sections, 18 sections corresponding to the 18 individual criterion contained in Appendix B to 10 CFR Part 50, plus one section which addresses 10 CFR Part 21 requirements.

The NRC inspection team did not identify any nonconformances during the review of the QCM.

2. Quality Assurance Program Implementation: The NRC inspection team verified the implementation of the NTS QCM by examining representative documents and records, personnel training and certification records, interviewing test personnel, and by visual observations and inspections.

Comments concerning the implementation review, keyed to each individual criterion of Appendix B to 10 CFR Part 50, are as follows:

- a. Organization: The NTS organization structure was reviewed as well as the organizational authorities and responsibilities. The current quality assurance staffing pattern was compared to the organization chart contained in the QCM. It was determined that the Quality Control (QC) manager reports directly to the Division Vice President who is also the facility manager. The QC manager does have the authority to stop work or testing when he deems it to be necessary.
- b. Quality Assurance Program: The inspection team evaluated this criterion by verifying the implementation of the other 17 criteria of Appendix B to 10 CFR Part 50. Training and indoctrination records for 4 individuals were reviewed to establish that the training program had been implemented per program commitments.

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- c. Design Control: The NRC determined that NTS does not design components or safety-related equipment; however, they do design test fixtures and translate applicable design requirements to test plans/procedures. One test procedure was examined to determine that design requirements were translated in accordance with NTS written procedures.
- d. Procurement Document Control: The NRC inspector reviewed nine outgoing purchase orders (related to nuclear equipment) to verify that NTS was processing procurement documents in accordance with their written procedures. One nonconformance (see paragraph B.1) was identified.
- e. Instructions, Procedures, Drawings: The NRC inspector verified implementation of the NTS written procedures, as they relate to this criterion, by reviewing one test plan and three changes to the plan.
- f. Document Control: The NRC inspector reviewed test plans, job orders, and related changes to verify proper review, approval, and issuance. Three work areas were visited to verify that current documents were being used.
- g. Control of Purchased Material Equipment and Services: The NRC inspector verified the implementation of the NTS QCM procedures for this criterion by an evaluation of representative vendor audit records, the approved vendors list, and applicable certificates of conformance.
- h. Identification and Control of Materials, Parts, and Components: The NRC inspector verified implementation of the NTS written procedures relating to this criterion by selecting two specimens from the seismic test laboratory and establishing the identification and traceability of the specimens.
- i. Control of Special Processes: The NTS does not perform any special processes, hence, this criterion is not applicable.
- j. Inspection: The NRC inspector verified that NTS was complying with their written program which contained objective evidence of work functions performed and by verifying that the quality function was being performed by individuals other than those who perform actual equipment testing.



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- k. Test Control: NTS is an independent testing laboratory and does not specify test requirements or acceptance criteria; however, they do prepare test plans/procedures which describe how it intends to conduct a test program. The NRC inspector reviewed one NTS generated test plan/procedure to verify that applicable standards were included. The complete test folder (records) for one test program was reviewed to verify that required test prerequisites such as instrumentation adequacy, current equipment calibration, test personnel qualification, compliance with specified environmental conditions, and review and approval by the appropriate authority were met.
- l. Control of Measuring and Test Equipment: The NRC inspector verified NTS compliance with written procedures as they related to the control of measuring and test equipment. This was accomplished by: (1) selecting a sample of test equipment and verifying current calibration and that calibration had been accomplished in accordance with prescribed procedures, (2) review of records of a sample of secondary and primary standards to assure traceability, (3) review of a representative sample of calibration records for test equipment, and (4) review of three evaluations performed by NTS as a result of the use of equipment for testing that was subsequently found to be out of tolerance.
- m. Handling, Storage, and Shipping: The NRC inspector verified that NTS was following their QCM procedure by examination of two receiving inspection reports and observing that these items were adequately identified and stored.
- n. Inspection, Test, and Operating Status: NTS currently uses a job traveler to indicate the status of test specimens and an attached data sheet to identify nonconforming items. The NRC inspector verified that NTS was following its written commitments in this area by performing actual visual observation in the test and storage areas.
- o. Nonconforming Materials, Parts, or Components: The NRC inspector verified NTS compliance to its QCM commitments by reviewing the general log sheets for two projects and evaluating the associated Notice of Deviations that had been generated. It was also determined that the nonconformances documented were not reportable under 10 CFR Part 21.

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<p>p. <u>Corrective Action</u>: The NRC inspector verified that NTS was following its QCM procedures for corrective action. This was accomplished by reviewing the "Request for Corrective Action" files and verifying that the stated corrective action had been performed.</p> <p>q. <u>Quality Assurance Records</u>: The NRC inspector verified that NTS was complying with the procedures contained in the QCM by performing a review of a sample of closed test projects. It was determined that the records were legible, identifiable, retrievable, and stored per the QCM procedures.</p> <p>r. <u>Audits</u>: The NRC inspector examined two audit reports and lead auditor qualification records for three employees to verify compliance to procedures contained in the QCM. Two nonconformances (see paragraphs B.2 and B.3), and one unresolved item (see paragraph C) were identified.</p>		



PERSONS CONTACTED

Company NATIONAL TECHNICAL SYSTEMS

Dates 1/24-28/83

Docket/Report No. 99900914/83-01

Inspector A. SMITH

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NAME(Please Print)	TITLE(Please Print)	ORGANIZATION(Please Print)

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PERSONS CONTACTED

Company NATIONAL TECHNICAL SYSTEMS

Dates 1/24-28/83

Docket/Report No. 99900914 183-01

Inspector J. BENSON

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NAME(Please Print)

TITLE(Please Print)

ORGANIZATION(Please Print)

WILLIAM P. DORGELOH

QA MGR

NTS D.C. DIVISION

CARL GARRISON

## NUCLEAR ENVIRON. QUALIFICATION

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Scope/Module QA PROGRAMDOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
1	4	QUALITY CONTROL MANUAL FOR THE WASHINGTON, D.C. DIVISION OF NATIONAL TECHNICAL SYSTEMS	1/20/82	1
2	8	PERSONNEL EXPERIENCE & TRAINING RECORD (CARLTON WHEELER)	-	-
3	8	PERSONNEL EXPERIENCE & TRAINING RECORD (CHARLES EMBREY)	-	-
4	8	PERSONNEL EXPERIENCE & TRAINING RECORD (DAVID T. EDELSTEIN)	-	-
5	8	PERSONNEL EXPERIENCE & TRAINING RECORD (WILLIAM DORGELON)	-	-
6	5	NTS P.O. 631-052982	1-20-83	-
7	5	NTS P.O. 631-052977C	1-18-83	-
8	5	NTS P.O. 631-052932C	1-4-83	-
9	5	NTS P.O. 631-052752	10-12-82	-
10	5	NTS P.O. 631-052627C	8-25-82	-
11	5	NTS P.O. 631-052966	1-13-83	-
12	5	NTS P.O. 631-052792C	11-4-82	-
13	5	NTS P.O. 631-052783C	10-28-82	-
14	5	NTS P.O. 631-052622	8-24-82	-
15	8	NTS APPROVED VENDORS LIST	-	-
16	8	NTS SUPPLIER QUALITY CONTROL QUESTIONNAIRE (FOR RADIATION TESTING)	4/14/81	-

## Document Types:

- |                  |                                 |
|------------------|---------------------------------|
| 1. Drawing       | 5. Purchas Order                |
| 2. Specification | 6. Internal Memo                |
| 3. Procedure     | 7. Letter                       |
| 4. QA Manual     | 8. Other (Specify-if necessary) |

## Columns:

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|-----------------------------|
| 1. Sequential Item Number   |
| 2. Type of Document         |
| 3. Date of Document         |
| 4. Revision (If applicable) |

Scope/Module QA PROGRAMDOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
17	8	NTS SUPPLIER QUALITY CONTROL QUESTIONNAIRE (FOR C&M SERVICES)	1/20/83	-
18	8	RECEIVING INSPECTION REPORT JOB# 557-1266	5/5/82	-
19	8	GENERAL LOG SHEET JOB# 557-1266	-	-
20	8	NTS NOTICE OF DEVIATION JOB# 557-1266	5/29/82	-
21	8	RECEIVING INSPECTION REPORT JOB# 557-1376	12/17/82	-
22	8	GENERAL LOG SHEET JOB# 557-1376	-	-
23	8	COC LETTER TO NTS FOR JOB # 557-1209	10/28/82	-
24	8	QUALITY CONTROL SURVEY REPORT - NTS HARTWOOD DIVISION	4/15/82	-
25	8	LEAD AUDITOR QUALIFICATION RECORD (WILLIAM H. HOYT)	5/14/82	-
26	8	LEAD AUDITOR QUALIFICATION RECORD (LESLIE H. BLUM)	3/26/82	-
27	8	LEAD AUDITOR QUALIFICATION RECORD (WILLIAM P. DORGELON)	1/20/83	-
28	8	QUALITY CONTROL SURVEY REPORT - NTS HARTWOOD DIVISION	4/6/81	-

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DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
1	4	QA MANUAL FOR WASH DC DIVISION OF NTS	1-20-82	1
2	5	P.O. # 8223-01 ENVIRONMENTAL TESTING OF ELECTRICAL COMPONENTS	12-13-82	-
3	8	MASTER JOB ORDER FOR P.O. 8223-01 (MJO 557-1376)	12-12-82	-
4	8	CHANGE IN PROCEDURE FOR 557-1376	12-22-82	1
5	8	CHANGE IN PROCEDURE FOR 557-1376	12-23-82	2
6	8	TEST PROCEDURE SUMMARY I/N 8223	12-13-82	-
7	8	GENERAL DATA LOGS MJO 557-1376 FOR 120V RELAYS	1-10-83	-
8	8	TEMP CHARTS (RAW DATA) FROM 12-24-82 TO 1-3-83 FOR 8223-01	12-24-82/1-3-83	-
9	8	RECEIVING INSPECTION ON RELAY FOR MJO 557-1376	1-6-82	-
10	5	# 9270776 - NSSS, COMBUSTION ENGINEERING ON RTD'S	5-14-82	-
11	5	" " " "	6-18-82	2
12	5	" " " "	8-6-82	2
13	8	REPORT # 557-1266 - THERMAL ANALYSIS OF - GRADE SEALANT & SILICONE RUBBER GASKET	-	-
14	3	STANDARD OPERATING PROCEDURE FOR TEST EQUIP.	10-18-82	0
		FOUND OUT OF CALIBRATION		

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- |                  |                                 |
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