



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30323

Report No.: 50-518/87-01

Licensee: Tennessee Valley Authority  
6N38 A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

Docket No.: 50-518

License No.: CPPR-91

Facility Name: Hartsville 1

Inspection Conducted: December 16-18, 1987

Inspector:

*G. A. Walton*  
G. A. Walton, Senior Resident Inspector,  
Construction, Watts Bar - Team Leader

*February 12, 1988*  
Date Signed

Team Members: J. York

T. Powell

Approved by:

*S. A. Elrod*  
S. A. Elrod, Section Chief  
Office of Special Projects

*February 12, 1988*  
Date Signed

#### SUMMARY

Scope: This special team inspection was conducted at the Hartsville facility to assess warehouse storage, preventive maintenance, record storage and adequacy, and to follow-up on employee concerns. The areas inspected included warehouse storage of pumps, valves, snubbers, fasteners, and electric cable; housekeeping; and preservation of equipment. Follow-up inspection on two allegations was performed.

Results: One Violation (with multiple examples) involving failure to follow procedures for proper control of in-place storage and preservation of equipment. Two Unresolved Items were identified, one regarding missing records documenting that preventive maintenance was performed and one documenting the implementation of design changes. Of the two allegations, the one regarding storage controls was partially substantiated. The second one, regarding inadequate records (legibility) for the Hartsville diesel generators was not substantiated.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*R. Cook, Manager, Hartsville Project
- J. Gonzales, Q. C. Supervisor
- \*P. Jackson, Materials Inspector
- \*W. Jolly, Materials QA Supervisor
- \*B. McClain, QC Inspector

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on December 18, 1987, with those persons indicated by an asterisk in paragraph one above. The following new items were discussed:

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
518/87-01-01	Open	Violation - Failure To Follow Procedure For Equipment In Warehouse Storage (Paragraphs 5 and 7).
520/87-01-01	Open	
518/87-01-02	Open	Unresolved Item (URI) - Adequacy of Preventive Maintenance Program (Paragraph 4.b.).
520/87-01-02	Open	
518/87-01-03	Open	URI - Tracking and Implementing Modifications, Bulletins, and Information Notices for Equipment In Power Stores Storage (Paragraph 6).
520/87-01-03	Open	

The licensee acknowledged the inspection findings with no dissenting comments. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection period.

### 3. Unresolved Items

Unresolved Items are matters about which more information is required to determine whether they are acceptable or may involve Violations or Deviations.

Two Unresolved Items were identified during the inspection and are discussed in paragraphs four and six.

## 4. Procurement, Receiving and Storage (35065)

## a. Procedure Review

The inspector reviewed procedures that govern the storage of equipment at the Hartsville facility. The Power Stores Quality Assurance Manual (PS-QAM) contains procedures used by the Power Stores Branch personnel when performing activities covered by the quality assurance program at the Hartsville facility. The following Power Stores Quality Assurance Procedures (PS-QAP) were reviewed for compliance with ANSI N45.2.2-1972, "Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants".

<u>Procedure</u>	<u>Revision</u>	<u>Title</u>
PS-QAP 1.1	1	Power Stores Organization
PS-QAP 2.2	1	Indoctrination and Training
PS-QAP 5.1	1	Documented Instructions and Procedures
PS-QAP 5.2	2	Preparation, Control and Distribution of PS-QAP's and PS-QAM's
PS-QAP 5.3	1	Power Stores Quality Assurance Procedures
PS-QAP 7.1	1	Receipt of Items
PS-QAP 7.3	1	Storage of Items
PS-QAP 8.1	1	Preventive Maintenance of Items
PS-PM-001		Power Stores Preventive Maintenance Program

No deficiencies were identified with the above procedures.

## b. Implementation of Preventative Maintenance

The inspector reviewed the implementation of Preventive Maintenance (PM) on items in storage. The requirements for PMs at the Hartsville facility are specified in Division of Nuclear Engineering (DNE) drawing 89-3GA0200-00-0A (note: no title given) and Nuclear Power Standard, TS 01.00.15.14.03, Rev. 0, "Equipment and Material Storage Requirements For Nuclear Power Stores". Except as noted below, it was determined these requirements were properly implemented for the sample inspected and were being tracked by a computerized system. The accomplishment was documented on a computerized card. Numerous cards were examined and found to be neatly and properly filled out before the cards were stored in the QA records vault.

The inspector reviewed the QA records for a sample of equipment in the PM program to ensure that required PM's had been performed. The following deficiencies were identified:

<u>PM#</u>	<u>Task</u>	<u>Equipment</u>	<u>Inspection Records From/or Date Equipment Received on Site</u>
PM00034	Rotate Shaft	ESW motor	4/11/80 - Notes 1, 2, 4
PM00082	Rotate Shaft	Fire Protection Pump Motor	9/22/82 - Notes 1, 4
PM00178	Heat Check	Recirculation Pump Motor	6/10/80 - 9/21/79 - Notes 3, 5
PM00288	Heat Check	Crane-Main Hoist control Panel	5/26/81 - 4/7/79 - Note 5
PM01262	Humidity Check	Off Gas Dryer	4/24/79 - Notes 1, 4
PM01525	Storage Area Inspection	Building CWF	5/14/82 - NA

Note 1: Receipt Inspection documents could not be located for this equipment.

Note 2: No record of annual shaft rotation (PM0034) for the ESW motor between 9/18/81 to 3/24/83.

Note 3: No record of monthly heat check (PM00178) for Recirculation Pump Motor in the following months: 7/80, 9/80, 10/80, 12/80, 6/84, 7/86, 8/86, 9/86, and 10/86.

Note 4: No receipt inspection reports could be found for equipment in PM00034, PM00082, and PM01262.

Note 5: No record of PM's being performed between dates indicated for equipment in PM00178 and PM00288.

The oil used in the below listed equipment was not verified by TVA as equivalent to the manufacturer's requirements:

<u>Equipment</u>	<u>Oil Used</u>	<u>Manufacturer's Required Oil</u>
Fire Protection Pump Motor	Shell Rimula 10 weight	Texaco N.3364 or Regal Marine VSI TL-10104
Reactor Water Cleanup Pump	Shell VSI 32	Shell VSI 27
Residual Heat Removal Pump Motor	Shell Rimula 10 weight	Shell Ensis 10w or Gulf NO-Rust Engine oil, Grade No. 1

This is URI 581, 520/87-01-02, "Adequacy of Preventive Maintenance Program", pending review of the licensee's disposition of this issue.

The inspector reviewed the PM program for implementation of vendors' storage requirements. ANSI N45.2.2 indicates maintenance requirements specified by the manufacturer's instructions for the item shall be performed. The following equipment was inspected to determine if the manufacturers' requirements had been incorporated into the PM program. Deficiencies associated with various equipment items are as follows:

- Fire Protection Pump Motors purchased under contract No. 821689 were required by the manufacturer to be stored in compliance with the US Electric Motors Instruction 509-1, November 1979. However, the requirements listed below were not implemented.

Preventive coatings were not being checked periodically.  
Oil was not being changed every 12 months  
Oil level was not being maintained. (Of the two pumps inspected - each with two oil level indicators, one indicator was overfilled, one underfilled, one empty, and one acceptable)  
Space heater or energizing of one phase of the motor winding were not provided to heat the motor.  
Windings were not being monitored to ensure they were 5C above ambient.  
Motor shafts were not being rotated every two weeks (they were being rotated quarterly vice every two weeks)

In addition, vendor requirements were not incorporated in drawing 89-3-GA0200-00-0A or TS 01.00.15.14.03.

- Reactor Water Cleanup Pumps were supplied under General Electric (GE) Contract and listed on the Master Part List (MPL) G33-C001. Manufacturer's storage requirements for these pumps are specified in Union Pump Company Manual, Order N753764 A & B. The following deficiencies were noted when comparing the PM activities with the vendor's requirements:

Semi-annually, bearing housings were not being drained and refilled with oil.

No protective coating on pumps' (serial No. 5463752 and N753764A201) shafts. The inspector observed rust on bolts for pumps (serial No. 5463752 and N753764A20) and rusty sealing surfaces on the suction flange for pump serial No. 5463752

Though DNE drawing 89-3GA-0200-00-0A indicates PMs for the reactor water cleanup pumps are to be in accordance with vendor's requirements, the licensee failed to perform inspections with attributes that would comply with the vendor's requirements.

- Manufacturer's requirements for the residual Heat Removal Pump Motors GE MPL E12-C002 were specified in GE Instruction Manual GEK70205, "Residual Heat Removal Motors For Boiling Water Nuclear Reactors". Deficiencies noted in implementing the vendor's requirements for PM activities were:

Oil level was not being maintained. Motors overfilled with oil were No. LHJ-1103027, JMJ-908021, LM1-1103028. Motors underfilled with oil were No. ENJ-525002, FNJ-601022, CNJ-309001, FNJ-601021.

Quarterly inspections did not include checks for physical damage, cleanliness, oil leaks, oil level, signs of condensation, discoloration of paint, integrity of protective coatings, and integrity of all closures.

Though DNE drawing 89-3GA0200-00-0A indicates PMs for the RHR pump are to include vendor's requirements, the licensee's inspections failed to consider the vendor requirements.

The inspector was informed that PS-PM's were specified by DNE Drawing 89-3GA0200-00-0A, and Nuclear Power Standard TS 01.00.15.14.03, Rev. 0. "Equipment and Material Storage Requirements For Nuclear Power Stores". This failure to specify manufacturer's storage maintenance in instructions procedures or drawings and to implement drawing 89-3GA0200-00-0A requirements is identified as a Violation 518, 520/87-01-01, "Failure to Implement Manufacturer's Storage Maintenance Requirements and to follow procedures for storage."

6. Transfer of Items to Nuclear Power Plants (92703)

Information was requested as to how equipment modifications that were being implemented at nuclear power plants (examples: Engineering Change Notices (ECN), responses to NRC Compliance Bulletins, etc.) would be incorporated in equipment shipped from the Hartsville facility to nuclear power plants. The Power Stores management position was that they could only ship equipment as requested. The tracking of necessary modifications at a specific site was not their responsibility. Specifically, the licensee was requested to supply information regarding their plan to comply with NRC Compliance Bulletin 87-02, "Fasteners", for the Hartsville and Yellow Creek facilities. This Bulletin asked the licensee to test samples of studs, bolts, cap screws, and nuts in stores at their facilities to ensure they meet required mechanical and chemical specifications. The inspector identified in storage A-193 grade B7 bar stock which is covered by this Bulletin. Some examples of this material are in contracts 33039A, 370172, and 254379. The management at Hartsville knew nothing about the requirement to respond to this NRC Compliance Bulletin.

This item is URI 518, 529/87-01-03, "Tracking and Implementing Modifications, Bulletins, and Information Notices For Equipment In Power Stores Storage".

7. Walkdown Inspection of Storage Buildings (35065)

Eighteen buildings at the Hartsville facility are specified as meeting storage levels A and B. Both levels of storage require temperature, humidity and access control. Also required are: housekeeping requirements, rodent protection, access control to stored material, proper arrangement of stored items, and periodic inspections of the storage facilities. These are all requirements from Quality Assurance Procedure (QAP) 7.3, Rev. 1, "Storage Of Items". There are other buildings that provide C level storage and locations for outside storage (D level storage).

Procedure QAP7.3 requires that Materials QC Inspectors perform a quarterly inspection of all of the warehouses that have QA controlled storage items. These records were checked back to March 1986 and the licensee appeared to be performing the required quarterly inspection. Prior to approximately March 1986, the licensee had been performing monthly area inspections under the Site Construction Organization. The inspectors randomly examined some of the records dating back five years.

The inspectors performed walkdown inspections of seven randomly selected level B storage warehouses. These warehouses have QA and non-QA material stored adjacent to each other. During the walkdown, it was difficult to distinguish between these two levels of material and approximately

seventeen components and/or groups of components were identified with deficient conditions. The following QA material (safety related) storage was found to be deficient:

- TIIC No. BCC 830M, 10" diameter gate valve, cap not on one opening.
- TIIC No. BCE 499B, 10" diameter gate valve, cover off one valve opening.
- TIIC No. BCA 726F, 8" diameter gate valve, opening untaped.
- TIIC No. BCA 464K, 3" diameter gate valve, opening not capped.
- TIIC No. BCA 357A, 3" diameter gate valve, uncapped line.
- TIIC No. BCG 081V, 4" diameter gate valve, mud on valve.
- MPL No. T41-FF028A, 10" diameter vacuum relief valve, uncovered fine machined surfaces (internals), rusting bolts, and rusting weld preparation.
- PM No. 1435, electrical box on this compressor did not have a cap, and 3 electrical boxed openings had covers missing (building BWT).

The licensee's procedure PS-QAP 7.3, Rev. 1, Par. 5.1 states that the Power Stores Warehouse Services Section (PS WSS) and the Nuclear Distribution Center Supervisor (NDC) shall....(B) maintain the storage areas and storage level requirements. These requirements are further defined in attachment 1 to this procedure. "In Warehouse Storage Area Requirements," Paragraphs A through O, define the requirements in more detail. In particular, the following requirements were not being maintained in the previous eight examples:

- (M) Caps and Coverings - (the Materials QC Inspector) verifies that end caps, blank flanges, and other protective covers are in place to prevent damage or the accumulation of dirt, dust, moisture....

Failure to maintain the storage requirements for the items identified is a second example of Violation 518, 520/87-01-01, "Failure to Implement Manufacturers' Storage Requirements and to Follow Procedures For Storage of Safety Related Equipment".

#### 8. Allegations (92701)

- a. Allegation OSP-87-A-0075, "Safety Related Equipment In Warehouse Storage Is Being Removed, Then Later Returned To The Warehouse For Nuclear Application".

##### Concern:

The NRC was informed that at the Hartsville Facility, which is presently being used as a Power Stores warehouse for cancelled nuclear plants, nuclear equipment stored in warehouses was being taken out of the warehouse to be junked. When removed from the warehouse, it was placed outside in the rain, wind, and freezing weather, then later on, it was returned to the warehouse for nuclear storage. The concern regarded how such material could go back in

nuclear storage (warehouses) after it has been ruined. Yellow transformers marked BBC from Secheron located outside building TWG were given as an example.

Discussion:

The Hartsville facility was officially cancelled by the licensee on August 29, 1984. Subsequently, the licensee directed that the Hartsville facility be controlled by the "Materials, Power Stores Branch" of the "Office of Power". The items in storage were then the responsibility of the Office of Power, which is separate from the "Office of Nuclear Power" (ONP). The Office of Power has an approved Quality Assurance Manual which interfaces with the Nuclear Quality Assurance Manual (NQAM) in the following manner:

- The Nuclear Quality Assurance Manual (NQAM) documents the overall quality assurance program for TVA's nuclear power plants.

The Power Stores Quality Assurance Program, contained in the Power Stores Quality Assurance Manual (PS-QAM), is an element of the overall quality assurance program developed to comply with the policies and requirements contained in NQAM, Part I, Section 3.5, "Procurement", and Section 3.6, "Packaging, Shipping, Receiving, Storage, and Handling".

- The Power Stores Quality Assurance program is applicable to those activities related to: (a) the procurement of certain materials, parts, and components in support of the ONP and (b) the offsite receiving, storage, packaging, maintenance, handling, and shipping of materials, parts, and components which have been declared surplus from the canceled nuclear plants and reserved by ONP for potential use at other TVA nuclear plants.
- The methods of accomplishing these activities are documented by the Power Stores Quality Assurance procedures and are used by Power Stores Branch personnel when performing activities covered by the quality assurance program.

The PS-QAM, therefore, controls the storage and preventive maintenance activities for on-site storage. It establishes the criteria for QA and non-QA items. It also controls the transfer of items from Hartsville, Phipps Bend, Yellow Creek, and the Nuclear Distribution Center to Nuclear Power Plants.

The licensee established a program for dispersing and/or reserving the equipment remaining from the cancelled facilities. For all equipment at Hartsville, each department of TVA, including the fossil plants, had the option of reserving the equipment for later use at their facility. The reserved items reserved were then stored (if not needed immediately) at Hartsville. The cost of storing was billed to

the organization reserving the equipment. The reserved items are designated "Category A". Items not reserved which are available for sale or other use within TVA are designated "Category C".

A tour of the storage areas revealed a sizable portion of the nuclear equipment had been reserved by fossil plants. It was also identified that some items reserved by the fossil plants were being dropped from the reserved list due to the expense involved. Therefore, the reserved item would go from Category A to Category C. In the Category C status, the item is removed from warehouse storage to the yard. It is then offered to other TVA organizations, including nuclear facilities. If it is reserved by another TVA organization, it is returned to Category A status and returned to warehouse storage. Otherwise it is moved to the "9355" yard location and offered for sale outside TVA. If not marketable, it is eventually sold as scrap.

While touring the area in the vicinity of building TWG, the inspector noted two control valves in the yard that were unprotected from the weather. A follow-up on these items, identified as TIIC BEK 558F and BEK 559D, found they were originally reserved by Bellefonte and placed in warehouse storage, Category A. On July 15, 1987, a letter from the Office of Nuclear Power advised Hartsville that ONP agrees to release items BEK 558F and BEK 559D. The ONP advised that this decision was made after re-evaluating the expense of removing the internal parts needed by Bellefonte. At that point, Hartsville placed the items in Category C status and removed them from the warehouse to the yard.

On August 10, 1987, a second letter was issued by ONP advising Hartsville that, after discussions with Bellefonte personnel, they do not want to release the valves controlled by TIIC BEK-558F and BEK-559D and to please remove the valves from the 9355 location. Therefore, these valves fit the alleged pattern in that they had been previously removed from warehouse storage and placed in the yard where they are subject to damage by the weather. They are presently located in the 9355 location. Meanwhile, Bellefonte has reserved them for possible use at that nuclear facility. From discussions held with various on-site personnel, it appears that occurrences of removing items from the warehouse (Category A) to the yard (Category C) are quite frequent.

The inspector noted the licensee implemented a procedure on March 13, 1987, titled "PS-QAP 4.5-Reallocation of Items", to establish methods and assign responsibilities for reallocation of items from Hartsville, Phipps Bend, and Yellow Creek non-nuclear reserve, either inside or outside of the warehouse, to the Office of Nuclear Power. This procedure does not prohibit the transfer and shuffling of equipment from warehouse to yard and vice-versa. It does establish a QC inspection for damage before being offered [shipped] to ONP plants.

Conclusion:

The allegation was partially substantiated in that equipment reserved for use in nuclear applications could be shuffled between Category A and Category C storage status. It was not substantiated that equipment damage actually occurred as a result of this practice.

In regards to the referenced yellow transformers from BBC, Secheron, located outside building TWG, the inspector visited building TWG and toured the interior and exterior surrounding areas. Five yellow transformers from BBC Secheron were found inside building TWG. A close inspection of the transformers found no apparent damage. The present storage condition of these transformers was found to be excellent, including a positive pressure of 6 PSI on each transformer. Attached to the front transformer was a card titled "Request To Stock New Item" and was dated November 12, 1987. The licensee's representative advised this request was being made to place the item in a TVA Item Identification Code (TIIC). At the time of this inspection, the items had not yet been placed on a TIIC. It was determined the items were received on site in 1979. However, since they had not been placed on a TIIC, it was not possible to track the storage status of the items. It was also determined the items are for non-nuclear turbines. Therefore, no further efforts were expended on them.

- b. Portion of Allegation OSP-86-A-0058. This segment of the allegation relates to a Department of Energy (DOE) letter to the Tennessee Valley Authority (TVA), "Diesel Generator Vendor Information", dated July 29, 1983, and memorandum of agreement pursuant to contract no. AT (49-18-12), between TVA and DOE.

Concern:

In a letter forwarded to the NRC, dated November 27, 1985, several concerns were referenced. The area discussed in this issue is item no. 14 on the enclosure of the letter which deals with the legibility of drawings and documents associated with the Delaval Diesel Generators.

Discussion:

Drawings and documents were copied and transmitted to the DOE that were associated with a Delaval Diesel Generator purchased from TVA by the DOE. Problems existed with the legibility of the associated paperwork.

Although the NRC is not specifically concerned with the Diesel Generator supplied to the DOE for the Clinch River Breeder Reactor Program and then subsequently sold to a non-nuclear utility, inspectors noted that one diesel generator remaining at Hartsville is reserved for the Bellefonte Nuclear Plant.

The inspectors discussed the issue with the licensee's personnel involved in the original issue and verified that additional submittals were forwarded to DOE to resolve the issue. It was further stated that the problem was basically a fault with the reproduction process and that these drawings and documents were reproduced a second time and retransmitted to DOE.

In addition, the inspectors further reviewed drawings associated with this equipment by taking a random sample of 28 drawings, listed on Attachment 1, and reviewing them for acceptability of print quality. Many of these drawings were supplied by vendors other than Delaval. An example is the drawing "General Assembly - Potential XFMR", number 4.0102, Rev. A, supplied by the Norlake Manufacturing Company. Five of the 28 drawings reviewed on the view graph were determined to be less legible than the remaining 23. These five were requested by the inspectors to be printed to review the final product. Drawings, 65-500-77024, X9-1247-01-100 Rev. L, 03-80-E, 09-805-77024 Rev. C, and R-3998 Rev. G were printed and determined to be legible.

The result of this review was that many of these drawings were of less than desired quality and three of the 28 reviewed were stamped "Not Suitable For Microfilming". Those three pertained to the generator control panel, numbers 9-1247-01-100, sheets 1,3, and 8. However, the pertinent information was legible. The accompanying information such as blocks on the drawings containing proprietary information warnings, authorization signatures and changes associated with each revision was not completely legible on some of these drawings.

#### Conclusion:

It was determined that the quality of the drawings was sometimes poor but the pertinent information was legible. This situation was determined not to result in a safety issue. This issue is closed.

Attachment 1

The drawings reviewed regarding Allegation OSP-86-A-0038 are listed below:

1. "Coupling - Elastomeric"  
No. AK007-000 Rev. B  
Legible
2. "Governor Drive Assembly"  
No. 02-410-3358  
This drawing title block was difficult to read, the drawing was stamped "Not Suitable for Microfilm" and the "Revision and Remarks" table was not legible. The remainder of the drawing was legible.
3. "Governor. Drive Assembly"  
No. 01-411-06  
This drawing was legible. However, the quality was not very good.
4. "Bracket Ass'y"  
No. 02-411-3675  
Legible
5. "Accessory Drive Ass'y"  
No. 03-410-6877  
This drawing was legible. However, the "Revision and Remarks" table was not of good quality.
6. "Ass'y Dwg-Generator Control Panel"  
No. 9-1247 01 100 Rev. T, Sh. #1  
Legible.
7. "Ass'y Dwg-Generator Control Panel"  
No. 9-1247 01 100 Rev. T, Sh. #3  
Legible.
8. "Parts List- Generator Control Panel"  
No. 9-1247-01-100 Rev. T, Sh. #8  
Legible.
9. "Schematic-Control Panel IE (Power)  
No. 9-1247-01-910 Rev. N, Sh. #1  
Legible.
10. "Schematic- Control Panel IE (Power)  
No. 9-1247-01-910 Rev. N, Sh. #2  
Legible.
11. "Schematic IE D.C. Control And Instrumentation Synchronizing Sys."  
No. 9-1247-01910, Rev. N  
Legible.

12. "Final Assy-Neutral Grounding Cubicle"  
No. 9-1247-02-100 Rev. N, Sh. #8  
Legible.
13. "Parts List-Neutral Ground Cubicle"  
No. 9-1247-100 Rev. N, Sh. #13  
Legible - except the confidential information comment is not legible (use of Dwg.)
14. "Exhaust, Intake & Crankcase Piping Schematic"  
No. 09-805-77024 Rev. C  
Approved and accepted; block not legible for units.
15. "Control Panel Schematic"  
No. 09-500-77024 Rev. K, Sh. #4  
Legible.
16. "Installation Dwg DSRV-16"  
No. R-3998 Rev. G  
Alterations block not legible.
17. "1 1/4 Strainer, F.O. Duplex"  
No. 103-80-E Sh.#1  
Legible.
18. "General Assembly-Potential XFMR"  
No. 4-01-2 Rev. A, Norlake Mfg. Co.  
Legible.
19. "3' - 300 Pound O.S.Y. Globe Valve With Flanged Ends"  
No. 68660  
Poor Legibility.
20. "Schematic-Control Panel IE DC Power, AC Power, & Instrumentation"  
No. 9-1247-01-910 Rev. F, Sh. #5  
Legible.
21. "Nameplate For DeLaval"  
No. 8504-15 Rev. B  
Legible.
22. "Shutoff Valve"  
No. N6-851 Sh. #1  
Pertinent information is legible.
23. "Material Lists Outline Drawing"  
No. CN13906  
Legible.

24. "Wiring Connections"  
No. 62-500-77024 Rev. F, Sh. #4  
Legible.
25. "Parts List-Generator Control Panel"  
No. X9-1247-01-100 Rev. L, Sh. #6  
Legible.
26. "Parts List-Generator Panel"  
No. X9-1247-01-100 Rev. L, Sh. #13  
Poor Legibility.
27. "1"-300 Pound O.S.Y. Globe Valve Flanged End"  
No. 054704 Sh. #1  
Legible.
28. "Wiring Diagram"  
No. 65-500-77024 Sh. #12  
Legible.