



JOB 35-1195  
Comanche Peak Steam Electric Station

Construction Procedure  
DOCUMENT CHANGE NOTICE NUMBER 1

Sheet 1 of 2

This notice applies to Construction Procedure No. 35-1195- ACP-3 Revision 8.

This change will be incorporated in the next revision of the procedure.

Change the procedure as follows:

REPLACE THE FOLLOWING PAGE WITH THE ATTACHED:

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Reason for change: Clarification

This change approved by:

Reviewed by:

*SP. [Signature]* 5/13/81  
Originator Date

*James C. [Signature]* 5/13/81  
Brown & Root Quality Assurance Date

Reviewed by:

*DC. [Signature]* 5-12-81  
Construction Project Manager Date

May 14, 1981

Effective Date



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1.0	<u>INTRODUCTION</u>				
1.1	PURPOSE				
1.1.1	To establish the program for receiving, handling, storage, issuance and pertinent inspections of plant items.				
1.2	SCOPE				
1.2.1	This procedure applies to all Q and Non-Q items to be received, handled, and stored by Brown & Root.				
1.3	RESPONSIBILITIES				
1.3.1	B&R Engineering - To provide technical assistance to construction and to perform receipt inspections of Non-Q items.				
1.3.2	Chief Warehouseman - The B&R Chief Warehouseman is responsible for the administrative activities associated with receiving and storage of items.				
1.3.3	Brown & Root QC Department - For "Q" items only, the QC department is responsible to perform receiving inspection, apply status tags (as applicable), verify and check the completeness of pertinent documentation package necessary to receive quality related items.				
2.0	<u>DEFINITION OF TERMS</u>				
2.1	Engineering - Refers to CPSES Project Engineering				
2.2	QC Department - B&R Quality Control Department				
2.3	Equipment - Refers to items which are detailed on the G&H equipment list, e.g., tanks, pumps, demineralizers, packaged systems, switchgear, motors, control cabinets, etc.				
2.4	Materials - Refers to bulk items, e. g., pipe fittings, hangers, valves, cables, etc.				
2.5	Items - To denote reference to equipment and materials.				
2.6	"Q" - Quality related items as defined in the Final Safety Analysis Report (FSAR).				



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2.7 Warehouse - Any building or open area where an item is kept in storage from the time it is received at the construction site until issued to construction. Warehouses are classified by storage environmental requirements - Type A, B, C, D, or E, as defined in Appendix 1 (Attachment 13).

2.8 In Place Storage - Storage of an item at its intended permanent location, rather than in a warehouse area.

2.9 Receiving - From a warehousing standpoint, "Receiving" involves two activities, one physical and the other administrative. Material or equipment items may be physically delivered to the warehouse and offloaded, but the shipment is not necessarily "received" until required inspections and associated administrative work are completed or at least initiated.

NOTE: Titles, when used in this procedure, signify either the person or his designee.

### 3.0 SPECIAL ITEMS AND OPERATIONS

3.1 Vendor Owned Items - Vendor owned items or tools which are not part of the permanent plant equipment shall be considered as part of the equipment package for receiving purposes. Return of these items shall be per Paragraph 5.5.

3.2 Bulk earth material will be stockpiled on the ground at selected locations at, or near the construction activity for which they are to be used. Concrete batching material will be received and handled in accordance with 35-1195-CCP-10.

3.3 Subcontractor materials will be directed to assigned subcontractor areas and record keeping will be a subcontractor responsibility unless specific arrangements are made between Brown & Root and the subcontractor.

3.4 If the item is to be delivered directly to a construction activity (after first stopping at the warehouse receiving office), a MRR and a material requisition shall be prepared, as soon as practicable, to close warehouse records on the item.

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3.5 Vendor manuals which address instructions for storage, handling, installation, etc. should be on-site prior to equipment arrival, however, additional or supplemental manuals and/or vender instructions may accompany the shipment. All manuals or instruction packages shall be transmitted to the Document Control Center for logging and distribution to the cognizant engineer.

4.0 GENERAL

4.1 Warehouse personnel must distinguish between "Q" and "Non-Q" items. For items, except pipe and fittings, either the purchase order (P.O.), quality release (QR), or G&H equipment list shall be used to determine classification. For pipe and fittings the following breakdown shall be used for receiving classification purposes.

1. ITT-Grinnell piping classifications shall be identified by the following prefixes to the vendor identification number:

PH - Non-Nuclear Piping Unit 1 and Common  
 PI - Nuclear Piping Unit 1 and Common  
 PJ - Non-Nuclear Piping Unit 2  
 PK - Nuclear Piping Unit 2

2. Brown & Root supplied piping shall be identified by the P.O.
3. All other piping which may be supplied or associated with a particular piece of equipment shall be considered the same classification as the equipment unless otherwise specified by the QR or P.O.

4.2 Documentation necessary to receive items (supplied by W, G&H, TUSI, & B&R)

1. Appropriate P.O.
2. Documentation package including QR (W supplied item)/QAR (G&H/TUSI supplied item)/Certificate of Compliance "CC" (if required by B&R P.O.) ASME Code Data Forms, etc. as appropriate.
3. Specifications and drawings as applicable.



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5.0 PROCEDURE

5.1 RECEIVING

5.1.1 Receiving Check

5.1.1.1 Prior to off-loading:

1. Verify packing list against the P.O.
2. Obtain handling and storage instructions .
3. Notify QC of the arrival of all "Q" items and Engineering of the arrival of "Non-Q" items.

NOTE: The communication medium for notifying QC personnel is the shipment packing list. The statement:  
"QC notified \_\_\_\_\_"  
will be placed on the packing list and a QC representative will sign and date the list.

4. Check for evidence of load shifting, humping or other shipping damage, and, as appropriate, document and process Over, Short and Damage (OS&D) Report.

5.1.2 For all items arriving on site, a Material Received Record (MRR - Attachment 9) shall be initiated. For "Non-Q" items, the "QC Check By" block shall be marked N/A (not applicable), along with the initials of the warehouse personnel receiving the item. The MRR for any "Q" material will, in the "QC Check By" block, be marked with an "X". Upon being presented with the MRR, QC shall sign in the QC block indicating receipt of the MRR.

5.1.3 Inventory or count, heat number verification, and documentation package receipt, etc. shall be verified. Document discrepancies shall be noted on the MRR.

5.1.4 B&R QC shall perform detailed receiving inspection in accordance with the provisions of this procedure and supplementary instructions and document the results of the inspection on the QC Receiving Inspection Report (RIR - Attachment 11). The RIR's shall be numbered sequentially and the numbers shall be controlled by the QC Receiving Supervisor.





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5.1.5 Inspection Methods:

5.1.5.1 Quality instructions shall be used to perform the inspection of "Q" materials. These documents shall form the basis for the inspection. The results of the inspection shall be documented on the RIR (Attachment 11). Attachments shall be used as necessary to explain in detail the condition of the item at receipt.

5.1.5.2 For TUSI, G&H, and B&R procured items that do not receive a final inspection release by these agencies, B&R QC personnel shall perform a receipt inspection using checklists prepared by B&R for the applicable item. Similarly, checklists shall be used to complete individual inspections waived by these agencies. All such checklists will be filed with the RIR in the Permanent Plant Records Vault. Site Engineering shall perform receipt inspections of "Non-Q" items using Attachment 8.

5.1.5.3 A complete inspection will be performed to assure compliance to code, standards, specifications, procedures and the purchase order for all items which will be code stamped by B&R. If the item has a previous code stamp, then the items should be inspected for obvious damage and adequate documentation.

5.1.5.4 On all piping (W, G&H, TUSI, B&R supplied piping), warehousing shall check the heat numbers against the Mill Test Report as applicable. B&R Engineering will check the Mill Test Reports for compliance to the material specification requirements as applicable for Non-"Q" piping. For piping which has undergone shop surveillance by TUSI, site engineering will perform a receiving check for conformance to the material specification. Attachment 6 is a wall thickness data chart which is to be used in evaluation of pipe thickness acceptability for receiving inspection only. Attachment 8 will be utilized for documenting the check. All "Q" related piping and documentation shall be checked by QC.

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5.1.5.5 Valve inspection - valves may be received under various shipping conditions, i.e., crated, boxed, strapped to pallets or loose. The inspection shall include a visual check of the valve, operator, loose parts (e.g., pressure gauges), name plate data against the packing list and/or QR and P.O. The receiving inspection should be as extensive as practical considering the use of shippers packaging for long term storage. For long term storage the integrity of the shippers packaging should be maintained. The contents of all damaged cartons must be examined.

5.1.5.6 Miscellaneous loose items such as pressure gauges, solenoid operated valves, etc. shall be removed from open crates then packed in storage boxes. These boxes shall be marked with the P.O. number and the appropriate item identification number, such as the valve number. The box shall then be sealed, stored, and the location noted on the MRR.

5.1.5.7 Items which cannot be receipt inspected:

- a. If items cannot be receipt inspected due to cleanliness or environmental/corrosion protection packaging or other reasons, a "Receiving Hold" tag shall be applied. No Nonconformance Report (NCR) is required for "Q" items.
- b. The RIR and data packages shall be maintained in the QC receiving office.
- c. The "Receiving Hold" tags may be removed only under the following condition:

The item is put in a condition whereby receipt inspection can be performed satisfactorily. An example would be if the item was previously not opened for internal inspection but at the first maintenance cycle, it was opened for desiccant change, the required inspection would be performed, and if all else was satisfactory, the hold tag would be removed and the RIR and data package would be transmitted to the QA records vault.

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- 5.1.6 Notification to the Authorized Nuclear Inspector (ANI) - The receiving Inspector shall notify the ANI of all receipts of materials to be used in the fabrication of items to be code stamped by B&R. This notification shall be by any means convenient; the method shall be documented on the RIR. If the ANI waives inspection of the item received, the inspector shall complete the ANI portion of the RIR by checking the waived section and dating. Should the ANI exercise his option to inspect the item, he shall sign the ANI portion of the RIR to indicate satisfactory or unsatisfactory results.
- 5.1.7 The Material/Equipment Receiving Log (Attachment 12) shall be used by QC to record all receipt inspections. A copy shall be sent to the QA records vault for filing when all items appearing on the log have been released for construction.
- 5.1.8 Item and Pertinent Documentation Package Status
- 5.1.8.1 The documentation packages for the items received shall be reviewed against the table of contents and P.O./Specification for completeness.
- 5.1.8.2 If any of the following items exist:
1. A Quality Release (QR) did not accompany the W furnished item, or if the QR was available but had a "C" (Contingency) entered thereon for any attribute that had not been resolved by an attached QR supplement.
  2. A Quality Assurance Release (QAR) did not accompany the G&H/TUSI furnished item which required source inspection, or if the QAR was available but had a "C" entered thereon which had not been resolved.

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3. A "CC" (Conformance Certificate) did not accompany the item when required by B&R P.O.

4. The review of the documentation package reveals incompleteness in documentation.

Then the following action shall be taken:

a. The item shall be tagged "Receiving Hold".

b. W/G&H-TUSI/B&R Purchasing or Site Vendor Surveillance as appropriate, and TUGCO QA shall be notified via a copy of the RIR with a notation for appropriate follow-up action.

c. The item and documentation package shall be maintained in the QC receiving area. The QR/QAR/CC, when received, or cleared in the case of a contingency, shall be transmitted to the QA vault along with the RIR package for final processing and filing.

5.1.8.3 If the QR/QAR/CC has a "W" (Waiver) entered thereon for any attribute, the appropriate W specifications/G&H checklist - waiver letter/B&R P.O. shall be checked to determine the requirements and perform waived inspections. They shall be documented on the RIR.

5.1.8.4 If a CC is not required by the P.O. B&R QC shall perform receipt inspection to verify compliance to P.O. requirements.

5.1.8.5 Items received damaged or in violation of the specification:

a. Upon discovery of damage or nonconformance to the specification, the QC Inspector shall tag the item with an appropriate "Receiving Hold" tag and initiate a NCR (if "Q" items) in accordance with CP-QAP-16.1. For Non-"Q" items the B&R engineer shall initiate an engineering report and the item shall be placed in a hold status.

b. "Q" items so tagged shall be noted on Attachment 12.

5.1.8.6 Color Coding - Bulk piping materials shall be color coded prior to release for construction in accordance with drawing FSM-00101. The color coding shall be applied by warehouse personnel. For "Q" materials, the color coding will be applied after QC has completed its receiving inspection

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and found the material to be acceptable. The QC Receiving Supervisor shall complete and forward the "Authorization to Color Code" form (Attachment 4) to the Chief Warehouseman. The form signifies the material is acceptable and lacks only the color coding for construction release. The QC Receiving Department will then inspect the color coding for correctness and clarity and release the material if acceptable. Any discrepancies in the color coding shall be resolved by the Chief Warehouseman and the QC Receiving Supervisor. For "Non-Q" materials, the color coding will be verified by Engineering.

- 5.1.8.7 Tagging - All nonconforming items shall be appropriately identified, pending required action. For "Q" items tags/stickers shall be used to visually reflect the inspection status of received items in accordance with QAP-15.1. In the case of bulk fittings, studs, nuts, flanges, etc., a status tag/sticker applied to bins, boxes, or other containers is acceptable in lieu of tagging each piece.
- 5.1.8.8 The "Q" item which has a nonconformance may be issued to construction provided a cognizant and responsible construction person initiates the Temporary Waiver Request and that it has been processed and granted in accordance with the provisions of CP-QAP-16.1.
- 5.1.8.9 The "Q" item with "Receiving Hold" for documentation only may be issued for in-place storage under the following conditions:
1. No further processing will take place, e.g. bolting, welding, grouting, electrical/instrumentation connections, etc.
  2. Appropriate discipline engineer shall initiate a 3 part memo on which QC concurrence for the item release shall be obtained. The copy of this memo shall be distributed to appropriate QC Engineer, Warehouse office and to the departments responsible for activities pertaining to storage and maintenance.
  3. Warehouse office shall prepare and file a relocation card.
  4. The item shall be stored in-place with the "Receiving Hold" tag on it.

## 5.2 STORAGE AND HANDLING

- 5.2.1 Within each of the storage areas (type A through E as delineated in Appendix 1) "Q" items should be physically separated from "Non-Q" items, and identified. Where segregation is not practical, due to size, configuration, or specific storage requirements, etc., positive identification shall be maintained which clearly identifies the material.



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5.2.2	Items in storage which are to become a part of temporary or permanent facilities shall be clearly identified by Purchase Order numbers with the exception of bulk items such as pipe, fittings, pipe hangers, valves, etc., which will be stored and identified by either their piece numbers, category number, size, or generic number for valves.			
5.2.3	<p>All items shall be handled and stored carefully, in accordance with good construction practice. The following are some "good practice" considerations. For additional requirements, see CCP-24.</p> <ol style="list-style-type: none"> <li>Suitable handling and spacing in storage to prevent damage by collision, chaffing, or the presence of one item against another. This is especially important for protection of threaded surfaces, machined or painted surfaces, pipe coatings and fragile protrusions, such as gauges, valve stems and electrical connections.</li> <li>Avoid jerky movements or dropping.</li> <li>Hoist, crane, or cherry picker rigging only by qualified rigger.</li> <li>All handling equipment in safe working condition.</li> <li>Equipment openings capped or plugged if required to prevent entrance of foreign matter.</li> <li>Openings kept open if required for ventilation.</li> <li>Protective coating or lubricant if required on machined surfaces and threads.</li> <li>Shelving, dunnage, storage bins, etc., suitable for size and weight of item.</li> <li>Stainless steel materials separated from carbon steel materials.</li> </ol>			
5.2.4	With the exception of stockpiled earth materials, all items shall be stored on dunnage or by other suitable means such as on racks, in bins, on clean concrete floors, etc.			
5.2.5	All storage areas shall be kept clean and neat.			



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5.2.6 With the exception of uniformed Security Guards and Brown & Root personnel assigned as Security Supervisors, personnel not assigned to specific warehouse responsibilities shall not enter a storage area unless accompanied by a person who is so assigned. Signs to this effect should be posted in all warehouse areas.

5.2.7 The location of every stored item shall be clearly noted on the MRR for the item. Any time a stored item is moved to a new location, a "Relocation Record" (Attachment 10) shall be made. The relocation record shall be filed with the warehouse copy of the MRR.

5.2.8 Within the warehouse areas, "hold" areas will be established and identified as such for storage of nonconforming "Q" items.

NOTE: As a guideline, control of nonconforming items by tagging, marking or other means of identification is acceptable where physical segregation is not practical, although physical segregation is preferred.

5.2.9 Following is a listing of miscellaneous materials and their respective storage classification requirements.

1. Bagged bulk cement, lime, sand, etc. - "C" storage or better.
2. Concrete admixture - "C" storage or better.
3. All cadweld materials except powder - "C" storage or better.
4. Cadweld powder - "C" storage, isolated for fire safety.
5. Carbon steel rod, plate, angle, rebar, etc., - "E" storage or better.
6. Carbon steel small hardware such as nuts, bolts, washers, including fasteners conforming to ASTM-A-193, 194, 307, 325, and 490, "C" storage or better in appropriate bins or shelves for handling convenience.
7. Stainless steel stored in accordance with applicable storage and maintenance instructions or type "E" storage.
8. Reference 35-1195-WCP-5 for storage of welding materials.

5.2.10 For any given item or material not cited elsewhere in this procedure the type of storage level shall be specified per 35-1195-MCP-10.

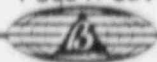




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### 5.3 ISSUANCE OF ITEM

- 5.3.1 All items shall be issued by means of Material Requisition Form (MR) (Attachment 5). QC concurrence by means of the initial on the MR Form shall be required (for "Q" items) except for the building department stock material, such as bolts, nuts, Richmond Screw Anchors, Hilti-Kwik Bolts, etc. The QC Inspector concurring the material or equipment issuance shall determine from available records the status of the items. When the determination has been made that the item is cleared for installation, the inspector shall initial and date the MR in a legible manner.
- Items for pipe fab shop (PFS) use only may be issued in bulk quantities utilizing an MR and the INTENDED USE block shall be noted, "FOR THE PFS".
- 5.3.2 For all items, the properly prepared requisition will be authorized by the appropriate department craft superintendent, or supervisor. Upon release from the warehouse, the person accepting delivery shall sign the requisition showing both name and badge number.
- 5.3.3 The applicable information required on the material requisition is self-explanatory. As a minimum it should have the P.O. number and the following information:
- a. Piping Materials - Quantity, description, heat no., (if applicable), pipe category, specification, color code or stock no, code class and, for field use other than the pipe fab shop, the drawing that material is to be used for.
  - b. Piping Sub-assembly - Subassembly number.
  - c. Valves - Quantity, size, generic number serial number, and drawing(s) on which valve(s) are shown.
  - d. Equipment - Equipment number and description.
  - e. Instrumentation Tubing & Fittings - Quantity, description and heat no. (if applicable). No drawing number or location is required as all tubing and fittings are Q and are traceable through the marking on the fittings or the heat number/color coding of the tubing as indicated on the Manufacturing Record Sheet for the particular installation. Warehouse receiving will issue fittings and tubing to the instrumentation warehouse on a bulk material MR for storage and distribution to the field with no additional MR required.





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5.3.4	The information listed will be used as a means of maintaining traceability of materials and equipment. Any deviation from the original intended use or location should be so noted on the material requisition by the craft installing the item(s), and verified by QC as being acceptable for use in the new location. Unless otherwise provided for in applicable site procedures, the MR shall be presented to the QC inspector for verification of acceptance of the item(s) and also for its comparison to the MR. The requisitioner should retain the original copy of the material requisition for making copies as required. Any discrepancies regarding the MR or the issued material should be brought to the attention of the inspector who processed the MR.			
5.3.5	The same sequence of issue is to be followed by the fabrication shops when material is issued directly from the fabrication shop to the field for installation.			
5.4	RETURN TO WAREHOUSE			
5.4.1	Items which have been withdrawn from the warehouse and are not needed or which have been fabricated by B&R construction and are to be returned to the warehouse for later installation, shall be transmitted to the warehouse by the "Material Return to Warehouse" form (Attachment 2). The responsible craft superintendent shall initiate the form. Each form shall have a unique number. The warehouse will treat these similar to the MRR's and enter the quantities returned on the Material Control Cards (Similar to Attachment 1) when applicable. The traceability markings on all "Q" items must be legible. For those items which are not traceable, they shall be placed in "Non-Q" stock. QC shall verify acceptance of the material for "Q" items.			
5.5	OFF-SITE SHIPMENTS			
5.5.1	Written request and authorization shall be required for the item to be shipped off-site. The form shown as Attachment 3 will be utilized when possible. A copy of the shipping record shall be transmitted to Quality Assurance for "Q" items.			
6.0	<u>RECORDS</u>			
6.1	Warehouse records shall be prepared and maintained by warehousing personnel. They shall be accessible only to personnel authorized by the B&R Project Manager, Administration Manager, or Chief Warehouseman.			
6.2	The key indexing number in the warehouse filing system will be the purchase order (P.O.) number. All warehouse records, such as MRR's, OS&D's, equipment maintenance records, correspondence, etc., shall be retrievable by reference to the P.O. number.			
6.3	Distribution schedules for copies of warehouse records shall be established by the B&R Manager of Administration. Reproduction and control of distribution shall be coordinated with the B&R DCC.			



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6.4	On all "Q" items, a copy of the MRR will be directed to the QC Receiving Section. The original documentation package will be sent with this MRR copy.			
6.5	Documentation Package for "Non-Q" items shall be delivered to the Completions Group Office.			
6.6	A cardex file system will be used to maintain log records of mechanical equipment, bulk piping, pipe spools, valves and pipe hangers. Attachment 1 illustrates a typical format for these cards.			
6.7	The B&R QC Receiving Supervisor shall maintain a RIR file for each item received. A file (RIR) shall also be maintained in the B&R QA records vault. The QC copy of the MRR shall be filed in the QA records vault for cross-referencing with the RIR.			
7.0	<u>SUPPORTING INFORMATION</u>			
7.1	REFERENCES			
	<ol style="list-style-type: none"> <li>1. Brown &amp; Root Construction Procedure No. 35-1195-CCP-10, "Concrete Batch Plant Operations"</li> <li>2. Brown &amp; Root Construction Procedure No. 35-1195-MCP-10, "Storage &amp; Storage Maintenance of Mechanical &amp; Electrical Equipment".</li> <li>3. Brown &amp; Root Construction Procedure 35-1195-DCP-1, "The Document Control Center's General Procedures"</li> <li>4. G&amp;H Piping Erection Specification 2323-MS-100.</li> <li>5. G&amp;H Mechanical Erection Specification 2323-MS-101.</li> <li>6. Quality Control Procedure CP-QAP-15.1, "Field Control of Inspection Status of Items &amp; Materials."</li> <li>7. Quality Control Procedure CP-QAP-16.1, "Control of Deficiencies and Non-Conforming Items"</li> <li>8. B&amp;R Construction Procedure No. 35-1195-CCP-24, "Rigging".</li> <li>9. B&amp;R Construction Procedure No. 35-1195-CPH-6.9C, "Material Identification".</li> <li>10. B&amp;R Construction Procedure No. 25-1195-WCP-5, "Control of Weld Filler Material".</li> </ol>			



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11. Quality Control Procedure CP-QAP-8.1, "QC Receiving Inspection"

#### ATTACHMENTS

1. Valve Log
2. Material Return to Warehouse Report
3. Return Goods Authorization
4. Authorization to Color Code
5. Material Requisition (from Warehouse)
6. Minimum Acceptable Wall Thickness Chart
7. (DELETED FROM PROCEDURE)
8. Receiving Checklist for Non-Q Items
9. Material Received Record
10. Relocation Record
11. Receiving Inspection Report
12. Material/Equipment Receiving Log
13. Appendix 1











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#### ATTACHMENT 4

#### AUTHORIZATION TO COLOR CODE

The following material has been checked by QC Receiving and found to be acceptable. Color Coding may be applied by B&R Receiving.

P. O. \_\_\_\_\_ MRR \_\_\_\_\_

Exceptions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
QC Engineer/Inspector



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ATTACHMENT 5

**BROWN & ROOT, INC.** NO. \_\_\_\_\_

CPSES

MATERIAL REQUISITION

DATE \_\_\_\_\_

QUANTITY	DESCRIPTION & TAG NUMBER	HEAT/LOT/SERIAL NUMBER	CODE CLASS	QC

INTENDED USE: \_\_\_\_\_

RECEIVED: \_\_\_\_\_

AUTHORITY: \_\_\_\_\_

ISSUED: \_\_\_\_\_

NAME

SUPT OR FOREMAN

WAREHOUSEMAN

REQUISITIONER



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# ATTACHMENT 6

## MINIMUM ACCEPTABLE WALL THICKNESSES CHART\*

		SCH 5S	SCH 10S	SCH 10	SCH 20	SCH 30	STD	SCH 40	SCH 60	EX STRONG	SCH 80	SCH 100	SCH 120		
1/8	.405	---	.043	---	---	---	.060	.060	---	.083	.083	---	---		
1/4	.540	---	.057	---	---	---	.077	.077	---	.104	.104	---	---		
3/8	.575	---	.057	---	---	---	.080	.080	---	.110	.110	---	---		
1/2	.840	.057	.073	---	---	---	.095	.095	---	.129	.129	---	---	.165	.257
3/4	1.050	.057	.073	---	---	---	.099	.099	---	.135	.135	---	---	.192	.269
1	1.315	.057	.095	---	---	---	.117	.117	---	.157	.157	---	---	.219	.313
1 1/4	1.660	.057	.095	---	---	---	.123	.123	---	.167	.167	---	---	.219	.334
1 1/2	1.900	.057	.095	---	---	---	.127	.127	---	.175	.175	---	---	.246	.350
2	2.375	.057	.095	---	---	---	.135	.135	---	.191	.191	---	---	.301	.382
2 1/2	2.875	.073	.105	---	---	---	.178	.178	---	.242	.242	---	---	.323	.483
3	3.5	.073	.105	---	---	---	.189	.189	---	.263	.263	---	---	.383	.525
3 1/2	4.0	.073	.105	---	---	---	.198	.198	---	.278	.278	---	---	---	---
4	4.5	.073	.105	---	---	---	.208	.208	---	.295	.295	---	.333	.465	.590
5	5.563	.095	.117	---	---	---	.226	.226	---	.328	.328	---	.438	.547	.656
6	6.625	.095	.117	---	---	---	.245	.245	---	.378	.378	---	.492	.629	.756
8	8.625	.095	.130	---	.219	.242	.262	.282	.355	.438	.438	.520	.629	.711	.793
10	10.75	.117	.145	---	.219	.269	.319	.319	.438	.438	.520	.629	.739	.875	.875
12	12.75	.137	.158	---	.219	.289	.328	.355	.492	.438	.602	.739	.875	.924	.975
14.00	14.0	.137	.165	.219	.273	.328	.328	.383	.520	.438	.656	.821	.957	1.054	1.230
15.00	16.0	.145	.165	.219	.273	.328	.328	.438	.574	.438	.739	.902	1.067	1.253	1.395
18.00	18.0	.145	.165	.219	.273	.383	.328	.492	.656	.438	.821	1.011	1.203	1.357	1.559
20.00	20.0	.165	.191	.219	.328	.438	.328	.520	.711	.438	.902	1.121	1.313	1.531	1.723
22.00	22.0	.165	.191	.219	.328	.438	.328	---	.765	.437	.984	1.203	1.422	1.641	1.859
24.00	24.0	.191	.219	.219	.328	.492	.328	.602	.848	.438	1.066	1.340	1.525	1.804	2.051
26.00	26.0	---	---	.273	.438	---	.328	---	---	.438	---	---	---	---	---
28.00	28.0	---	---	.273	.438	.547	.328	---	---	.438	---	---	---	---	---
30.00	30.0	.219	.273	.273	.438	.547	.328	---	---	.438	---	---	---	---	---
32.00	32.0	---	---	.273	.438	.547	.328	.602	---	.438	---	---	---	---	---
34.00	34.0	---	---	.273	.438	.547	.328	.602	---	.438	---	---	---	---	---
36.00	36.0	---	---	.273	.438	.547	.328	.656	---	.438	---	---	---	---	---
42.00	42.0	---	---	---	---	---	.328	---	---	.438	---	---	---	---	---

\* NOTE: Use Only For Pipe Specified By Nominal Wall Thickness  
Do Not Use For Pipe Specified By Minimum Wall Thickness  
- Specification Defines Minimum Acceptable Wall Thickness -



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ATTACHMENT 8  
RECEIVING CHECK LIST  
NON-Q PIPE, SPOOLS & FITTINGS

Date Received: \_\_\_\_\_ P.O. #: \_\_\_\_\_

B/L #: \_\_\_\_\_ Performed By: \_\_\_\_\_

Cat  
Size  
Schedule  
Actual Wall Thick  
Min. Wall  
Documentation  
ASTM/ASME#  
Heat #  
Mfg.  
Straightness  
Ovality  
Measured ID/OD  
Socket Engage  
Clean/Caps  
Physical Damage  
Markings  
Bevel End Prep.


Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_









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ATTACHMENT 11  
RECEIVING INSPECTION REPORT



**Brown & Root, Inc.**

REPORT NO. \_\_\_\_\_

QUALITY ASSURANCE  
RECEIVING INSPECTION REPORT

UNIT	SYSTEM	COMPONENT	IDENTIFICATION/SPIN NO.	DWG./SPECIFICATION & REV.
P.O.	MRR	CHARACTERISTIC INSPECTION: QCI 1.1- _____		
		SAT. <input type="checkbox"/> UNSAT. <input type="checkbox"/> NCR _____ HOLD TAG _____		
VENDOR	QR	APPARENT RESPONSIBILITY FOR UNSATISFACTORY ITEMS:		
		B&R <input type="checkbox"/> VENDOR <input type="checkbox"/> TRANSPORTER <input type="checkbox"/>		
DATE DEFICIENCY DISCLOSED _____				

ITEM	QTY.	DESCRIPTION/REMARKS
		<u>TYPICAL</u>

AUTHORIZED NUCLEAR INSPECTOR NOTIFICATION:

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ MEDIA: \_\_\_\_\_ N/A \_\_\_\_\_ INIT. \_\_\_\_\_

ANI WITNESS: SAT. \_\_\_\_\_ ☆☆ UNSAT. \_\_\_\_\_ ☆☆ WAIVED \_\_\_\_\_ DATE \_\_\_\_\_

☆☆ ANI'S INITIALS REQUIRED

STORAGE LOCATION: _____	QC ENGINEER/INSPECTOR _____	DATE _____
TYPE: _____		



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ATTACHMENT 12  
MATERIAL/EQUIPMENT RECEIVING LOG



**Brown & Root, Inc.**  
QUALITY ASSURANCE DEPARTMENT  
MATERIAL/EQUIPMENT RECEIVING LOG

DATE.

[illegible]

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### ATTACHMENT 13

#### APPENDIX-1

#### Storage Environmental Conditions for items:

1. Type A

A fire-resistant, tear resistant, weathertight and well ventilated building or equivalent enclosure which is further equipped for temperature and humidity control and filtered air ventilation.

2. Type B

A fire resistant, tear resistant, weathertight, and well ventilated building or equivalent enclosure. The floor will be paved or equal and well drained. The building shall be temperature controlled between 40°F-140°F.

3. Type C

A fire resistant, tear resistant, weathertight and well ventilated building or equivalent enclosure which does not require temperature and humidity control.

4. Type D

Outdoor storage in an area which is well drained and reasonably removed from the actual construction area and traffic. Items shall be on cribbing or equivalent and protected from the weather with weather-proof coverings.

5. Type E

Outdoor storage in an area which is well drained and reasonably removed from the actual construction area and traffic. Items shall be on cribbing or the equivalent.



35-1195  
6/25/81

Logan Root, Inc.

*Rec'd  
9/19/87 @ CA*

INTEROFFICE MEMO

IM- 20999

June 25, 1981

TO: All Site Controlled Copy Holders of  
ACP-03, Revision 8

FROM: Tom Hood

SUBJECT: Recall of Procedure

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The Document Control Center has been instructed by the Staff Engineer to recall construction procedure, ACP-03, Revision 8. The requirements in this instruction are now in CP-CPM-8.1, Revision 0.

File custodians should sign the attached RETURN DRCL and destroy the void copies of ACP-03, Revision 8 now in their possession.

If there should be any questions, please contact the DCC at extension 305.

*for* *Ray Norman*  
Tom Hood  
DCC Supervisor

TNH/dm