

ENCLOSURE
BECHTEL LETTER TO
SUPER STRUT
DATE JUL 6 1978

Monroe H. Butler

ER: *Timothy W. Lundy*

Jan 13, 1900

Josef A. Gull

PG. 1/6

039741

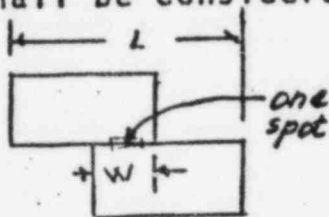
ATTACH-B

ATTACH-B

ATTACH-B

1. Start production.-- Two shear test specimens from the first length and every 20th piece in a lot shall be shear tested.-- A shear test shall also be made when weld tips are changed, and weld machine settings are changed. They must pass 3500# shear test before lot production is resumed. Record acceptable tests on form 10C. Record unacceptable test on SS Form 4; SS Form 4 should go to "Hold" with rejected piece (See III-2). Mark any rejected length with red and confine to "Hold" area for Engineering advice as to disposition. After a lot rejection as described in I-2 below or after welding machine repair a restart of production shall be considered as a new lot.

Gauge Range	W	L
0 to .030	5/8"	3"
.031 to .050	3/4"	3"
.051 to .100	1"	4"
.101 to .130	1 1/4"	5"



With minor dimension changes shear test to be performed in accordance with AWS C1.1-6 Paragraph 504.1

2. If the above tests are acceptable, produce the lot. Test each length of the lot at every 7th weld with a 3000 lbs. non-destructive pull test. Do not pull first or last spot on a piece. Align test apparatus and center on the spot being tested. Failure of this test is indicated by a popping sound at weld failure or separation of the channels. Record acceptable test on Form 10C. If any piece should fail the non-destructive test, record on Form SS-4, attach hold tag, mark that piece with red, and confine to "hold" area for engineering disposition. Three such failed pieces from any lot shall cause the entire lot to be recorded on Form SS-4, have hold tag attached, be marked with red, and confine to "hold" area for engineering disposition. Engineering disposition may be either 1) reweld and retest, or 2) reject for use in Limerick. Any failed pieces which exhibit channel separations shall not be rewelded. They shall be rejected for use in Limerick.

JUL 6 1978

PG. 3/6
039741

II. General Requirements

1. Each piece shall be visually inspected for spot weld spacing. Any piece with spacing between welds longer than $3\frac{1}{4}$ " center to center shall be marked with red, have hold tag attached and confine to "hold" area for engineering disposition. Record on SS Form 4. The "Hold Tag Number" shall show the lot number. Item description will name the Job number and the Super Strut part number. A copy of SS Form 4 shall be attached with tape to the lot or piece as the case may be. A copy shall go to permanent files. A third copy shall be attached to order file copy. For the Limerick Job the "In-process disposition of material" on SS Form 4 will be either "rework to weld repair" or "scrap" as outlined in this Limerick T-2 revision dated June 5, 1978.
2. Fabrication testing instruments will be tested each Monday morning with an Enerpac TM5 test gauge which itself shall be calibrated every six months with calibration traceable to the National Bureau of Standards. Testing records of testing instruments shall be maintained on Form 10-E. Six-month calibration and certificates will be retained for three years; also records of testing of fabrication test instruments.
3. Lot No.'s shall be stamped out on a flat washer which shall be wired through a hole in the end of one piece in each lot. All pieces of a lot shall be banded together in one bundle. If the lot is too heavy to be banded together each bundle of each lot shall have the lot no. wired to it.
4. More than one lot may be recorded on form 10C.
5. Procedures and test results shall be recorded and kept by Super Strut for three years.
6. Attached are Diagrams of Test Equipment.
7. In the event of a reweld, treat the first series of welds as if they were not there in counting every seventh weld.

JUL 1978

PG. 3/6

039741

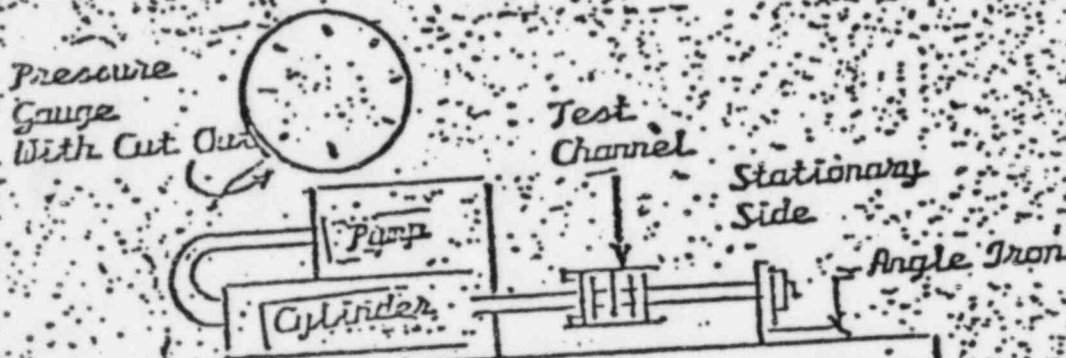
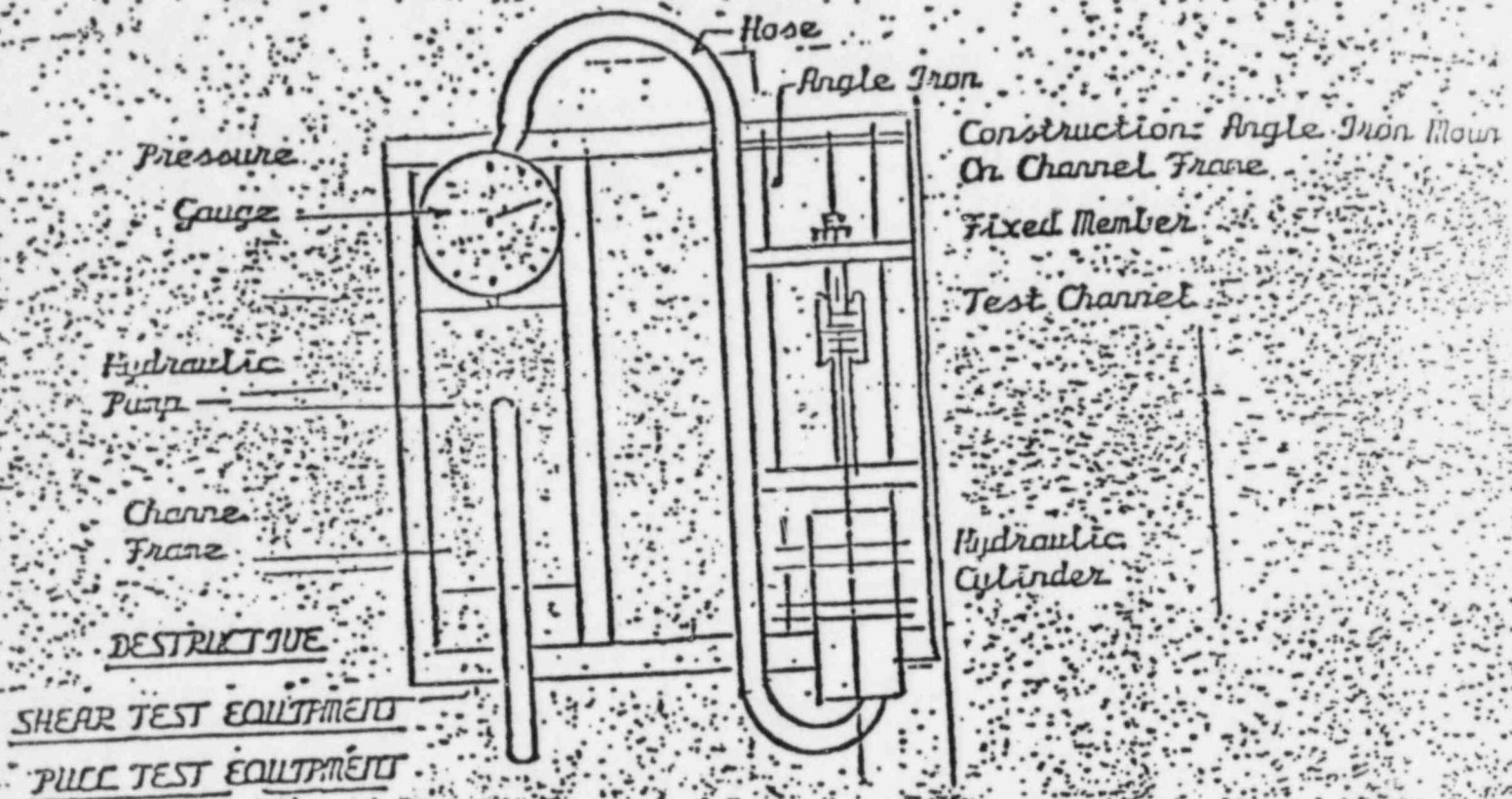
III. Reworking Welded and Coated Material

1. If it should become necessary to rework previously welded and coated material; each length requalified shall be marked with blue paint inside one end of channel following acceptable testing on the non-destructive test equipment. New welds shall be touched up with zinc rich paint.
2. Non-acceptable rework material shall be marked with red as above and controlled into a holding area with SS Form 4 for Engineering advice as to disposition. Mark Lot.No.
3. Should rework material be considered acceptable when total non-destructive testing of the lot is not required by customer such material will be marked with green paint and the footage recorded on SS Form 10-C. (Not applicable to Limerick).

JUL 10 1978

Pg. 4/6

039741



NON DESTRUCTIVE
3000# Loading Equipment
Shown Mounted On Table
Can be Mounted At Welding
Machine

Date JUL 6 1978

PG. 5/6

FORM 10C OPERATOR/PRODUCT/MACHINE QUALIFICATION TEST RECORD

039741

ator's Name _____
 Identification# _____ (Social Security #)

Identification# _____ (Social Security #) _____
 in accordance with Procedure Specification No. 10T1 or 10T2
 (Circle Procedure Used)

10T1 or 10T2 Revision No. _____ Date _____

Material specification _____ Lot Thickness _____

Customer Name	Minimum
...	...

[illegible]

Identities will indicate the date (i.e., Lot No. 1-6-5-8 is first lot on 6th of May 1978).

If 10-T2 procedure is used lots will be identified with wired, stamped washer tag. Those which do not meet the minimums will be treated as described in 1-T2 procedure.

Test every 7th weld starting one weld in from front end - Do not pull last weld.

Test conducted by _____ Lab/Shop Test No. _____

Date _____ Accepted (Circle) _____

Tests inspected by _____ Date _____ Lot: Accepted (one)
Rejected (one)

(If rejected, follow SS Form 4)

We the undersigned, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of Super Strut Procedure 10-T2.

Authorized by _____ Per _____
(QA/QC Manager) (Authorized Designee)

Date _____

039741

DATE JUL 6 1978

DISCREPANT REPORT AND CORRECTIVE ACTION

PG. 6/6

SS JOB NO. _____ CONTRACT NO. _____

C. TOWER _____ DWG NO. _____

HOLD TAG NO. _____ REJECT TAG NO. _____

Lot No. _____ Tag No. of Rejected Piece _____

ITEM DESCRIPTION _____

☐ FAILURE ☐ DEFECT ☐ UNDER TOLERANCE ☐ DAMAGE ☐ OUT OF SPEC ☐ OTHER ☐ INCORRECT ASSEMBLY

RECEIVING SS-1 NO. _____ HOLD TAG NO. _____

P.O. NO. _____ VENDORS INVOICE NO. _____

MATERIAL CERTIFICATIONS _____

DESCRIPTION OF DISCREPANCY OR NON-CONFORMANCE:

IN PROCESS (DESCRIBE DISPOSITION OF MATERIAL)

CHECK ONE	CORRECTIVE ACTION			QC
	RESPONSIBLE DEPT OR VENDOR	PURCHASING	ACTION TAKEN BY DEPT. HEAD	
<input type="checkbox"/> REWORK TO DRAWINGS				
<input type="checkbox"/> REWORK TO WELD REPAIR				
<input type="checkbox"/> SCRAP				
<input type="checkbox"/> RETURN TO VENDOR				
<input type="checkbox"/> OTHER	DEFINE CORRECTIVE ACTION TAKEN:			
<input type="checkbox"/> DEPT HEAD	Approved Engineering by: _____			Date: _____
<input type="checkbox"/> CC-QC DEPT	REVIEW BY QC _____	DATE _____	QC APPROVAL _____	DATE _____
<input type="checkbox"/> CC-PLANT MGR	REVIEW BY INSP _____	DATE _____	PLANT MGR APPROVAL _____	DATE _____

ATTACH. A

032784

Job 8031 Limerick Units 1 and 2

Cold-formed Back to Back Channels (struts) for Electrical Supports

Interim Acceptance Criteria for Replacement Material. The following acceptance criteria shall be used pending final acceptance criteria by Spec. E-1406 Revision.

A. Replacement Material on hand at the Super Strut Goshen, Ind. Plant (APPR. 7000 ft.)

1. Struts shall be hot-dip galvanized after shop welding, or pre-galvanized channels welded by the 4-tip automatic Teledyne-Peer machine at the Superstrut Goshen, Ind. Plant.
2. For each back to back channel type, the 3,000 lb. pull test lining up on a single spot weld shall be applied at the following rate:

Rate of Testing

Sequence ^①	No. pieces	Frequency of Pieces Tested	Spacing of tensile Tests
1	1-100	Every piece	18" O.C.
2	101-200	every alternate piece	18" O.C.
3	201-up	every piece	3 welds ^②

- ① If any one weld fails in any piece, the entire length shall be rejected and the above testing sequence shall be restarted beginning with the piece following the reject. All previously tested sample found satisfactory are acceptable.
- ② One weld shall be located at each end and one near the mid-length of the piece.

Indications of weld failure during testing shall be a loud popping noise under load and/or physical separation between the channel sections at the weld.

3. Tension - Shear tests shall be performed in accordance with AWS C1.1-66 paragraph 504.1, Test No. 1 with minor exception to the dimensions of the specimens. The test specimens shall be cut from the ends of channels used for the pull tests. One specimen shall be obtained from the first channel and every 20th channel thereafter from the designated shipping lot. No less than two test specimens shall be tested per lot. The ultimate shear capacity of a single spot weld shall be not less than 3,500 lb. If the first 20 tests pass this

load, such testing may be terminated. If any one specimen fails at a lesser load two retests from that piece are permitted; the retests must be successful. Otherwise, the entire replacement lot initially designated for shipment shall be held pending Bechtel project engineering disposition. Bechtel will accept delivery of any channels from which specimens had been cut and successfully tested.

4. Specimen for direct tension test for information only shall be cut from the same length as for the shear test specimen such specimen shall be at least 3 inches long with one spot weld at the center and shall be pull-tested to destruction.
5. All testing equipment shall be calibrated and certified within the last 6 months. Calibration shall be traceable to the National Bureau of Standards. Super Strut to propose calibration accuracy for Bechtel SFHO approval. Super Strut shall also prepare procedures for tests in par. 2, 3, & 4 for prior Bechtel SFHO approval.
6. Each piece shall be visually inspected for spot weld spacing. Any piece with any spacing larger than 3 1/4" shall be rejected.
7. The testing and inspection shall be performed by Super Strut, Inc. and witnessed by Bechtel personnel.
8. All pieces actually pull tested and with shear test samples cut and found acceptable shall be uniquely identified and marked. All pieces not tested but acceptable for shipment shall be likewise uniquely identified and marked. All rejected pieces shall also be uniquely marked.
9. Ultimate Strength values of the shear tension test and the direct tension test and all tests not meeting acceptance criteria, shall be submitted for information to Bechtel Field before shipment.

B. Replacement Material by Returning Super Strut Back to Back Channels at Limerick Site to Super Strut Goshen, Ind. Plant for Rewelding

1. Reweld channels at 3" on centers as in Item A(1) above.
2. Such repaired material will be considered as a new channel type independent of the classification in Item A.
3. All sampling, testing and marking shall be in accordance with Item A(2) through A(9) above.