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December 23, 1980

Director of Office of Inspection
and Enforcement
Att Mr Victor Stello
US Nuclear Regulatory Commission
Washington, DC 20555

MIDLAND PROJECT -
ALAB-106 MONTHLY REPORT FOR NOVEMBER 1980
DOCKET NOS 50-329 AND 50-330
FILE: 0.4.6 UFI: 70*01 SERIAL: 10088

In accordance with Condition of Memorandum and Order ALAB-106, dated March 26, 1973, and Amendment No 1 of the Midland Plant Construction Permit, enclosed are ten copies of the following documents written or closed during the month: Bechtel Nonconformance Reports, sheets from the Bechtel Nonconformance Report Log; Bechtel Quality Action Requests; Babcock & Wilcox Reports of Nonconformity; B&W ISI NCR's; and Consumers Power Company Nonconformance Reports, Audit Finding Reports, Quality Action Requests, and Corrective Action Reports.

James W. Cook

WRB/lr

CC: JGKeppler, USNRC Region III (w/enc)
RJCook, NRC Resident Inspector, Midland Site (w/enc)

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2 NCR NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
1768	1-9-79	M-51-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-51	Use As Is	9-27-79	R. Moray
1769	1-9-79	M-52-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-52			
1770	1-9-79	M-54-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-54			
1771	1-9-79	M-56-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-56	Use As Is	10-17-80	R. Moray
1772	1-9-79	M-61-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-61	Use As Is	9-12-79	R. Moray
1773	1-9-79	M-64-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-64	Use As Is	10-11-79	R. Moray
1774	1-9-79	M-75-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-75			
1775	1-9-79	M-92-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-92	Use As Is	9-13-79	R. Moray
1776	1-9-79	M-93-BC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-93	Use As Is	4-26-79	R. Moray
1777	1-9-79	M-117-AC.Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-117			
1778	1-9-79	M-118-A. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-118	Use As Is	1-11-80	D. Delaney
1779	1-9-79	M-118-BC.Q-mat-l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-118	Use As Is	11-13-79	R. Moray
1780	1-9-79	M-120-AC. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-120	Use as is	10-18-79	C. R. fugate
1781	1-9-79	M-123-B. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-123-B	Use As Is		
1782	1-9-79	M-123-CC.Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-123-C	Use As Is	11-12-80	R. MacGlashan
1783	1-9-79	M-125-A. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-125	Use As Is	11-20-79	F. Mahala
1784	1-9-79	M-125-B. Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M- 125	Use AS Is	4-26-79	R. Moray
1785	1-9-79	M-125-CC.Q-mat'l indeterminate in regards to satisfactory completion of qualification test req'mts per spec M-125	Use As Is	10-11-79	R. Moray

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2 NCR NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
2080	4-17-79	Hanger 2-619-2-15. Hanger has welded lug attachment improperly installed per sketh.	Use as is non-nonconformance	8-14-79	L. Brown
2081	4-18-79	Hanger 2-657-3-18. Hanger not installed in compliance with pipe support design drawings.		4-19-79	L. Brown
2082	4-18-79	E-650 Sh. 1. Type 14 supports have continuous welds. E-42 Sh. 335 specifies intermittant welding.	Use As Is	7-9-79	R. Amos
2083	4-19-79	E-532. Conduit 2AA037 was damaged by core drilling the slab.	Rework	1-23-80 ~~4-24-79~~	C. Spinks ~~J. Kekel~~
2084	4-19-79	M-1.29. Certificate of conformance is required in the QA Data Package for B & W QRM 48-1239-02.	Doc. Rework	8-3-79	R. Valentine
2085	4-19-79	M-1.2. No documentation received for three tube assemblies.	Doc. Rework	3-27-80	D. Delaney
2086	4-19-79	F-31391. Chemical composition not included in MTR submitted with returned bolts originally rejected on NCR-1695.	Reject	6-5-79	M. Moore
2087	4-20-79	F-34605. G-321-D furnished with Quality Verification Documentation was not signed by vendor.	Doc. Rework	4-30-79	T. Estes
2088	4-20-79	Hanger 2-619-1-3. Inadequate installation of 5/8" expansion anchors.	Rework	~~2-15-80~~	~~E. Urbanawic~~
2089	4-20-79	M-14. Terminal box 1P-05A (Aux. Feed Water Pump) has burn hole caused by arc strike.	Rework or Repair	10-3-80	C. Stevens
2090	4-20-79	M-104C. Two pipe spools delivered to jobsite with unapproved Bechetl drawings.	Use as Is	2-26-80	F. Mahala
2091	4-20-79	E-535. Six conduits have incorrect supports as per E-42, Rev. 39.	Rework	7-16-79	D. Squires
2092	4-24-79	C-231 Cadwelding was done and was not qualified until one day later.	Use As Is	5-8-79	S. Kirker
2093	4-24-79	M-342 PipeSpool 1HCB-1-S-612-8-1 has an excessive amount of contrete splatter near FW 18.	Rework	2-12-80	F. Mahal
2094	4-24-79	M-1.16 Misc. Parts for B&W makeup pump MTR# 1MU-PLC this cannot be located&has not been inspected or released.	N/A	4-3-80	D. Delaney
2095	4-24-79	M-204 4" 2HCB-11 (M-608sht.1 FW21) A pitted area was found on this spool.	Std. Repair	11-17-80	C. Fugate
2096	4-24-79	E-42&E-46 Pull Boxes NEMA Type1A, boxes has 4 holes1/2"in diameter &are not repaired per E-42DCN63 pg. 2.	Rework	8-18-79	D. Squires
2097	4-24-79	E-42 Unscheduled pullbox size, three boxes do not meet criteria of E-42.	Use As Is	5-30-79	R. Amos

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[2] NCR NO.	[3] DATE	[4] NONCONFORMANCE DESCRIPTION / REMARKS	[5] DISPO.	[6] DATE NCR CLOSED	[7] CLOSED BY
2169	5-8-79	E-617 Sh.2. Four additional conduit supports installed for 2AKA012 thru 2AKA017 were not as shown in drawing.	Repair	3-12-80	E. Mann
2170	5-8-79	M-619 Sh. 3. Spool 2HBC-120-S619-3-1 has a gross amount of concrete on the 90° elbow.	Rework	9-28-79	D. Fredianelli
2171	5-8-79	E-42. Type 11 Conduit support has been installed with P1001A3 substituted for P1000 and P3300.	Rework	2-28-80	C. Cameron
2172	5-9-79	E-27952. Fittings certified to ASTM-A276-73 rather than ASME-SA-479 as called out by PO.	Doc. Rework	8-22-79	M. Moore
2173	5-9-79	OUM-01A & OUM-01B, Air Handling Units, released from storage without megger testing the motors.	Doc. Rework	2-20-80	F. Mahala
2174	5-9-79	C-383. Structural steel beam to the north of the reactor headstand opening at El. 656-9 exceeds tolerance of error.	Repair Use As Is	6-22-79	L. Harrison
2175	5-9-79	E-22. 350 MCM 3/C B-11 Cable, several reels are indeterminate on the basis of sampling or use.	~~Use-As-Is, & Repair~~ Doc. Rework		
2176	5-11-79	J-201. Dwg. 540. Control Panel, 1C14, five wire terminations loose from soldered connection to individual switches.	Rework	11-25-80	A. Lobrovich
2177	5-11-79	M-326. Hangers are indeterminate because heat no.'s are not traceable to doc., incorrect or illegible numbers.	~~Rework Use As Is~~		
2178	5-11-79	M-1.35. Documentation not available for Differential Pressure Transmitters.	Doc. Rework	3-5-80	D. Delaney
2179	5-12-79	M-614 Sh. 10. Valve, 12"HCC-GT-RL, below FW #6 a depression leaves wall thickness indeterminate.	Repair	9-13-79	J. Hamler
2180	5-14-79	E-640 Sh. 2. Conduit/box support installed without adequate prior approval or documentation.	Use As Is	6-4-79	C. Cameron
2181	5-14-79	E-624 Sh. 2. Tray support has been installed with continuous across the flange welds.	Use As Is	9-17-79	C. Cameron
2182	5-14-79	A-41. Paint Storage Area, no temperature readings available for 5-12-79 thru 5-14-79.	Use As Is	5-14-79	S. Kirker
2183	5-14-79	E-532. Motor Control Centers, units installed back to back; rear & top compartments rendered inaccessable.	Reject	8-31-79	A. Lobrovich
2184	5-14-79	F-3107, C-233. Vendor, NPS, descrepancies in NDE reports and inspection processes not documented per requirements.	Use As Is	1-11-80	S. Kirker
2185	5-14-79	E-532. Panelboards, CDP,1 & 2D20, four additional holes for anchors drilled not required by drawing.	Use As Is	1-31-80	C. Spinks

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[2] NRC NO.	[3] DATE	[4] NONCONFORMANCE DESCRIPTION / REMARKS	[5] DISPO.	[6] DATE NCR CLOSED	[7] CLOSED BY
2461	8-21-79	Spec. C-305. Nine Hilti Drop-In Anchors failed the tension test.	Rework Use As Is		
2462	8-21-79	E-7AC. Misc. Replacement Parts; several discrepancies found in documentation. G-321-D incomplete from supplier, no Shop Insp. sign.	Doc. Rework	8-27-79	B. Mac Glashan
2463	8-22-79	M-618 Sh. 1. FW #42 on 30" Check valve (418-019) S/N 3N668 during liquid penetration exam a linear indication found in heat affected zone.	Repair	10-11-79	E. Urbanawiz
2464	8-22-79	E-42. Seismic conduit supports installation made with length of welds and spacing between weld segments exceeding maximum tolerances.	Use AS Is	11-15-79	R. Amos
2465	8-22-79	E-650 Sh. 1. Spec. C-305 specifies minimum embedment for Hilti Drop-in anchors; installation exceeds this minimum.	Rework	11-14-80	D. Preslar
2466	8-22-79	Dwg. E-617 Sh. 2. Welding procedure stated on draw. E-42 Sh. 339a is inconsistent with spec. requirements of G-27.	Use As Is	10-19-79	D. Hallenbeck
2467	8-22-79	C-226. Beam welded across the flange, this continuous weld was ground out by field leaving a 1/8" gouge in 4 locations across flange.	Repair	9-17-80	N.Plante
2468	8-23-79	M-123B. TRC Solenoid valve received with documentation dicrepancies to P.O. number on tags, G-321-D incorrect, valve tag numbers	Doc. Rework	12-13-79	M. Moore
2469	8-23-79	J-256AC. Solenoid valves, document category numbers 22.0, 25.0 & 17.5 are nonconforming in page count number.	Doc. Rework	12-20-79	M. Moore
2470	8-23-79	E-655. Two stud anchors for a type 1A conduit support have embedment length exceeding minimum required by Spec. C-305.	Use As Is	9-24-79	J. Miller
2471	8-23-79	FSK-JIO-0040/41. External contamination of tubing, at several points, tubing is coated with zinc paint.	Use As Is	9-20-79	L. Brown
2472	8-24-79	F-31591. Jack screws received are defective. Threads of jack screws are slivered and pitted.	Reject	1-10-80	J. Kramer
2473	8-24-79	F-3151. Pipe fittings received on AEO-10213, supplier submitted G-321-D forms from Rev. 3 of M-305.	Doc. Rework	10-5-79	R.A. Montreuil
2474	8-24-79	F-37108. Forged fittings received on AEO-10428, discrepancies with manganese content; tinsile strength is less than minimum.	N/A	3-24-80	D. Delaney
2475	8-24-79	E-616 Sh. 2. 2 type 14 conduit supports installed with leg lengths of stitch welds exceeding the ¼" maximum.	Use As Is	2-21-80	E. Mann
2476	8-24-79	FSK-DVI-M-604-5. SW #52 was welded completely prior to attachment of copy #4 of the QCIR W-1.00B or fit-up acceptance by the F.W.E.	Rework	5-6-80	F. Mahala
2477	8-27-79	M-619 Sh. 5. 20" 150# RF flange has indentations running across the raised face.	Use As Is Reject	8-12-80	C. Fugate
2478	8-27-78	F-35137. Flanges have dents or gouges on the tongue & butt weld preparation areas of the flanges.	Rework	1-8-80	E. Urbanawiz
2479	8-27-79	FSK-JBI-0025. Expansion anchor for instrument support 1FT-1002A installed too close to abandoned anchor hole.	Rework Repair		

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2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
2632	10-17-79	Cable 1CQ215A. Conduit 1CE018 removed from box 1CJ526 stretching cable making quality indeterminate.	Rework	1-10-80	R. Gibbons
2633	10-17-79	Dwg. E-650 shl. Welding discrepancies on unistrut to structural steel. (Type 14 conduit support is for 2BG045)	Use As Is	2-29-80	R. Amos
2634	10-17-79	E-37. Cable Packet pulled without Quality Control Verification.	Rework	3-27-80	C. Urbany
2635	10-17-79	C-305. HDI anchors violate the min. edge distance to embedded conduit. Scheduled Pull boxes 1BJ476 and 2DJ803	Use As Is	1-25-80	H. Tuttle
2636	10-19-79	M-632-3. Prior to inservice inspection, FW #1 on 2ELB-12-S632-3-1 was accepted, radiographed & PWHT performed.	Repair	3-26-80	F. Mahala
2637	10-19-79	F-37517. No G-321-D or documentation received for material on AEO-10720.	Doc Rework	11-27-79	R. Montreuil
2638	10-23-79	C-2. INRYCO Field Installation Manual. 161 tendons installed without the required high strength washers.	Use As Is	11-5-79	K. Gunser
2639	10-22-79	Cable Code B-24, scheme 2BB6401L cable pulled exceeding minimum bend radius per FPE 4.000 Rev. 3.	Reject	3-4-80	C. Urbany
2640	10-22-79	M-104A. During review of documentation, discrepancies found in work orders #5170, 5577, 5187, 5140.	Doc Rework	12-11-79	R. MacGlashan
2641	10-23-79	Several vertical tendons were filled while bulk tank temperature exceeded required range per post-tensioning installation manual.	Use As Is	11-27-79	K. Siegel
2642	10-23-79	E-36237. Prior to quality control's inspection & release of A-36 rod, 4' was cut & removed from the 16' length of rod.	Reject	1-31-80	S. Kirker
2643	10-23-79	C-241. The web of steel beam was drilled through while drilling a penetration for a 1" conduit.	Use As Is	11-26-79	P. Haren
2644	10-23-79	E-650 Sh. 1. ½" stud anchor installed with no marking or code.	Test & Use As Is	3-21-80	J. W. Miller
2645	10-23-79	FSK-M-2HBC-257-1. Hold point of the QCIR (2.1.c) was bypassed prior to the Authorized Inspector's inspection.	Rework	11-3-80	G. Fulmer
2646	10-23-79	FSK-M-2EBC-10-1. Hold point of the welding QCIR (2.1.c) was bypassed prior to the Authorized Inspector's inspection.	Reject	10-14-80	C. Fugate
2647	10-23-79	E-614. Type 14 & 16 conduit supports installed using attachment welds which violate E-42.	Use As Is	4-22-80	D. Squires
2648	10-24-79	Two 8" core drilled holes through south wall of diesel generator bldg. violating spec. C-231.	NA	12-20-79	S. Gelnett
2649	10-24-79	E-611. motor operated valve, 1MO-1010, hole punctured in the casing of the electric motor.	Rework	5-7-80	R. Narcavage
2650	10-24-79	F-3107 & F-3103. Misc. Pipe whip restraints received without the charpy test required by spec. C-233.	Rework Use As Is		

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[2] NRC NO.	[3] DATE	[4] NONCONFORMANCE DESCRIPTION / REMARKS	[5] DISPO.	[6] DATE NCR CLOSED	[7] CLOSED BY
2879	1-31-80	Spec. C-305. Vertical rebars cut without prior approval; cut made at a radial distance to next cut below requirement.	Use As Is	4-15-80	C. Pavledes
2880	1-31-80	Spec. C-231. Core drilled holes made through south wall of diesel gen. bldg. without project approval.	Use As Is	2-12-80	S. Kirker
2881	2-1-80	J-1245-25. Differential pressure electronic transmitters do not function within range of normal to maximum PSIG as required by P.O.	Rework	3-13-80	R. MacGlashan
2882	2-4-80	E-750 Sh 2, 751 Sh 1. Two anchors installed on support tray below edge distance requirements, 2 cut off & abandoned below c-c spacing	Use As Is	4-7-80	J. W. Miller
2883	2-4-80	Vertical axial fans, 1VV68A&B, 1&2VV84A-D, 2VV68A, were installed in the field while listed on NCR-1118 without conditional release.	Use As Is	8-12-80	D. Hallenbeck
2884	2-5-80	One 2½" embed stud, bolting flange sheared off at some point below the flange. Top portion of stud pushed upwards.			
2885	2-5-80	C-305. Fourteen ½" expansion anchors cut off at the concrete surface to aid installation of an existing conduit.	Rework	3-12-80 3-6-80	S. Gelnett J. Petrosino
2886	2-7-80	C-231. Welding of rebar; weld metal applied to existing rebar in 18 locations contrary to AWS D12-1-75.	Rework Repair		
2887	2-7-80	E-656. 2 type 14 supports welded with 3/16" fillets, both sides, across beam which is contrary to spec. E-42 size & length of weld.	Use As Is	3-25-80	J. W. Miller
2888	2-7-80	C-306. 2 rebar cut in same direction within 5' & there is a below minimum distance to next cut rebar contrary to spec.	Use As Is	3-27-80	S. Kirker
2889	2-7-80	E-643 Sh 2. Rebar cut in block wall without prior field eng. approval.	Rework		
2890	2-8-80	C-305. Expansion anchors used to install pipe supports which are called out for in the spec. do not have expansion anchors used.			
2891	2-12-80	C2-146. Vent on tendons H13-205 & H13-239 were not opened prior to greasing and remained closed throughout greasing operation.	Use As Is	5-22-80	A. Akbar
2892	2-12-80	Spec. C-305. Expansion anchor on a type 11-3A supports is installed with less than 1/8" unused threads contrary to spec.	Rework	5-2-80	J. W. Miller
2893	2-12-80	F-44591. Paint received AEO-11799 per Spec. A-15; no G-321-D received, also cert. rpt. forms are those as found in Spec. A-41.	Doc Rework	3-5-80	F. Kanchwala
2894	2-12-80	C2-146. Tendon H13-219 during buttonheading process, on wire gouged by the clamping jaws of buttonhead machine.	Wire Reject & Use As Is	2-14-80	K. Gunser
2895	2-12-80	F-39874. No G-321-D received with documentation as required by Spec. M-56.	Doc. Rework	2-25-80	J. Kramer
2896	2-13-80	FSK-2HBC-198-2. Socket welds are undersized per Spec. G-27.	Rework	11-17-80	C. Fugate
2897	2-13-80	E-614. Unscheduled box installed on a 9B box support using expansion type concrete anchors being inaccessable for torque or tensioner testing.	Rework	5-15-80	J. C. Miller

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2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
2917	2-27-80	F-44393. Tube steel, 2 heat numbers on one piece of steel; no heat numbers on 5 other pieces, 1 piece has nontraceable heat no.	Reject	3-18-80	J. Kramer
2918	2-28-80	Cable 1AB2331D at tray 1AJD04. Cable insulation developed excessive wrinkles during removal from conduit 1AD001.	Reject	4-2-80	C. Urbany
2919	2-28-80	M-610-4 FW #74. ASME Code A.I. was not notified prior to welding therefore, the A.I. could not make the necessary inspections.	Use As Is	6-3-80	F. Mahala
2920	3-3-80	All 2" and under socket welds, welded prior to 12-5-79, fillet size is indeterminate; Spec. G-27.			
2921	3-3-80	Dwg. E-750 Sh 2, Spec. C-304. Seismic tray supports not installed per drawings; cross flange welding without prior proj. eng. approval.	Use As Is	4-9-80	J. W. Miller
2922	3-3-80	Hanger 12" 2HCB-5-H3, Sk. 2-613-4-21. Shop welds #3 & 4 are undersized.	Rework	5-21-80	E. Urbanawiz
2923	3-3-80	Spec. C-231. During concrete curing surface temperature in bay 3 dropped below the required maintaining temperature for 13 hours.	Use As Is	5-8-80	T. Gelnett
2924	3-5-80	Dwg. 177. 24" 1HCB1 & 2, has a wall thickness less than required by Spec. M-481.	Use As Is	11-10-80	C. Fugate
2925	3-5-80	2 conductor #10 cable on reel #1265 does not have polyester binder tape between outer jacket & insulation as required by Dwg. E-26-8-3.	Reject	5-5-80	R. MacGlashan
2926	3-5-80	Tubing for instruments 2FT-0440C&D are clamped together at points shown on FSK-JB2-0041 contrary to Spec. J-218	Rework		
2927	3-6-80	Dwg. C-2050. A bond beam was cut into while core drilling contrary to drawing detail 1, note 1.	use as is	9-18-80	P. Vanderveer
2928	3-11-80	Dwg. E-36 calls for conduit 1AH017 to be 2" GRS, contrary to this 2" Sealtite has been installed.	Use As Is	5-9-80	D. Squires
2929	3-11-80	Spec. C-230. Concrete repair Y(634.5)DD; concrete placed at 62° & 64°, spec. requires temperature between 40° & 60°.	Use As Is	5-13-80	T. Gelnett
2930	3-12-80	E-510. Conduit 2BA074, obstruction approx. 90' back from point where conduit enters Service Water Bldg.	Reject	6-23-80	D. Hollenbeck
2931	3-13-80	F-44824. Six circuit breakers are 250VAC-250AMP; P.O. requires 250VAC-175AMP-2.	Doc. Rework	3-21-80	F. Kanchwala
2932	3-13-80	Spec. C-231. Concrete curing, surface temperature was 33° which is contrary to spec. 50° is required with an occasional drop.	Use As Is	4-24-80	C. Pavaledes
2933	3-13-80	C2-146. During insertion of vertical tendon V39-1 one bent wire was found with unacceptable bend radius per Post-ten. manual.	Use Is As	5-29-80	P. Vanderveer
2934	3-14-80	C-24. Sluice gate stem guide, OM-96A, crack in the lower stem guide support.	Rework		
2935	3-17-80	Cable 2AB2307B, damaed. Excessive wrinkle approximately 120' from the end of cable.	Std Repair	4-16-80	C. Urbany

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PROJECT NAME: Midland JOB NO.: 7220

2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
2955	4-1-80	M-610 sheet 6. Fw's 77, 78, 79, 80. Attachment welds welded to incorrect procedure.	Use As Is	6-23-80	C. Griffis
2956	4-2-80	Area adjacent to FW-49 on dwg. M-611-1 has been gound below minimum wall thickness, per Spec. M-204.	Std. Repair		
2957	4-2-80	E-532, Spec. E-6. Load Centers 1&2B17, 1&2B18 have terminal blocks with marker tags that are not engraved per Dwg. E-50.	Use As Is	6-23-80	C. Stevens
2958	4-4-80	E-11, replacement transformer T1273 for battery charger 1D27, documentation requirements are indeterminate.	Use As Is		
2959	4-4-80	C-439, C-477 embedded bolts for pump return line restraints; drawing change requires bolts be charpy tested.	Use As IS	7-3-80	S. Kirker
2960	4-4-80	Spec. C-2. post-tensioning V-65-1, during buttonheading process, one wire was gouged.	Reject Use As Is	4-25-80	P. Vanderveer
2961	4-4-80	M-146-28-1. 1&2VP-59A&B, oil pump motors namplates have incorrect information, no marking for time rating, temperature & code letter.	Use as is	9-15-80	E.Badmagharian
2962	4-4-80	Rodent damage in several locations on various cables in trench duct 1AX076.	Rework	5-1-80	C. Urbany
2963	4-7-80	C2-146. Several tendons, documented having the same anchor head heat no.s & group of tendons have identical bushing heat no.s			
2964	4-7-80	C2-146. Tendon H21-234 has 2 broken wires, 3 unseated buttonheads while completing stressing of reinspeciton of tendon.	Reject	4-15-80	K. Gunser
2965	4-7-80	F-1-402. Paint (Spec. A41); temperature exceeded exceptable requirements.	Use As Is	4-23-80	F. Mahala
2966	4-7-80	M-204. Pipe Spool 2HBC-109-S619-1-6. during repair of arc strike, violation of minimum wall thickness was found.	Use As Is	4-30-80	F. Mahala
2967	4-7-80	J-255A. Valves, OPV-6580A-1, A-2 & OPDV-657SA, numerous documentation problems; documentation indeterminate.			
2968	4-8-80	F-44645. Coupling nuts; per Spec. G-33 Charpy test report shows results do not meet 25 mils laterial expansion minimum requirement.	Reject	4-23-80	F. Kanchwala
2969	4-8-80	E-602-1. E-42. Field installed tray covers on cable trays 1AFL01 & 1AFL02. 1AGL01 & 1CGD02 using a stitch weld contrary to spec.	Use As Is	6-12-80	D. Squires
2970	4-9-80	C-305. 5/8" expansion anchors installed with less than minimum center to center spacing without prior project eng. approval.	Use As Is	5-20-80	S. Kirker
2971	4-9-80	C-50B. Replacement outer door seal, no shop inspection release or signature on G-321-D with documentation.	Use As Is Reject	11-12-80	R. MacGlashan
2972	4-9-80	J-201. Control wires to various devices in control panels show inconsistency in wiring identification on all modification drawings.	Use As IS		
2973	4-10-80	F-45925. Paint received, upon inspection manufacturer's date on container & on certification exceeds 3 months old. Spec. A-41.	Use As Is	4-16-80	S. Kirker

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2993	5-2-80	PCR-C-2419 shows rebar to be cut while core drilling penetrations; penetration at El. 669'8" has 2 horizontal bars cut instead of one.	Use As Is	6-5-80	S. Gelnett
2994	5-2-80	C2-146 Post Tensioning, tendon V107 has three broken wires during stressing.	Use As Is	5-15-80	P. Vanderveer
2995	5-5-80	E-655 Sh 1. Two P1000 strut supports for 1CJ620 is welded with 3/16" continuous fillet welds, across flange contrary to E-42.	Use As Is	5-29-80	J. W. Miller
2996	5-8-80	C-305. A vertical bar was cut 8'4" away from two other cut vertical bars which is contrary to spec.	Use As Is	6-26-80	S. Kirker
2997	5-8-80	C-2AC. No documentation received for field bushings, nor MRR showing receipt of the bushings.	Doc. Rework	7-1-80	R. MacGlashan
2998	5-8-80	E-650 Sh. 1. 6" conduit 2BVA002 is less than 1" from a non-Q listed conduit which is contrary to spec. E-42.	Rework	7-3-80	J. W. Miller
2999	5-12-80	Spec. C-88. During a reading of the inline flowmeter, the meter was found not functioning properly.	Repair		
3000	5-15-80	Spec. C-304. Bolt holes burned on pipe restraints 611-1-24 & 611-1-29 to a diameter equal to or exceeding final diameter	Repair	9-16-80	S. Gelnett
3001	5-15-80	Spec. G-27. Socket weld #3 on FSK-M-2CCC-15-2 has scribe lines.	Rework	6-10-80	F. Mahala
3002	5-20-80	Spec. C-306. 3 east-west bars cut while core drilling for grouted anchor bolts for pipe hanger 633-2-17, 1HBC-322-H8.	Repair		
3003	5-20-80	F-45770. High speed auxiliary relay, has no statement of conformance which is required by Spec. G-33.	Doc. Rework	6-6-80	J. Kramer
3004	5-22-80	Dwg. 533. Vendor termination 0VM94A & 0VM94B; conductors are nicked or cut.	Rework		
3005	5-23-80	F-46088. Master Builders 814 cable grout; no final results of the compressive strength or the shrinkage tests have been received.	Use As Is	~~8-26-80~~ 9-3-80	B. DeArmond
3006	5-27-80	F-44893. Hex head bolts; no charpy v-notched tests received for bolts, several pieces have injurious surface defects & thread damage.	Doc Rework Reject		
3007	5-27-80	F-45514 requires spare parts furnished per original Spec. M-123A & P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc. Rework	8-18-80	J. Kramer
3008	5-27-80	F-45796 requires spare parts furnished per original Spec. M-123B & P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc. Rework	11-5-80	J. Kramer
3009	5-27-80	F-44060 requires spare parts furnished per original Spec. M-117 & P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc Rework	8-18-80	J. Kramer
3010	5-27-80	F-45567 requires spare parts furnished per original Spec. M-125B & P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc. Rework	11-5-80	J. Kramer
3011	5-27-80	F-45566 requires spare parts furnished per original Spec. M-123B P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc. Rework	11-5-80	J. Kramer

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3012	5-28-80	E-599 Sh 1. Expansion anchors for conduit & box supports installed violating Spec. C-305 center to center, center to edge distance spacing.	Rework Repair Use As Is	9-23-80	C. Bawtinheimer
3013	5-28-80	Motor controllers removed from motor control center, indicating lights and pushbuttons mounted on door contrary to Spec. E-7.	Reject		
3014	5-30-80	C-230. Pozzolanic Activity Index; fly-ash received on 5-30-80 at Allied concrete does not conform to ASTM C-618. Minimum not met.	Use As Is	7-7-80	S. Gelnett
3015	6-2-80	C-233, Dwg. C-370. Discrepancies noted in the radius and elevations of the support rings, will not permit the seal plate to fit properly.	N/A	6-19-80	S. Kirker
3016	6-3-80	C-208. ASTM-C-289-71. Chemical analysis of aggregate found to be non-conforming.	Reject	11-7-80	B. DeArmond
3017	6-4-80	C-87. No monthly inspection was performed for the lot that consisted of the odd number vertical tendons (# V01-1 to V109-1, excluding V11-1, V101-1.	Use As Is	7-24-80	S. Gelnett
3018	6-4-80	C-2. Shop heads with heat codes #PW. Post tensioning system; heat treatment cert. of conformance has not been signed.	Doc Rework	7-1-80	D. Delaney
3019	6-4-80	F-45748, 45518 requires spare parts furnished per original Spec. M-123CC & P.O.; this spec. leaves doc. for spare parts indeterminate.	Doc Rework		
3020	6-6-80	M-104A, 1 piece of 10" Sch. 160 SS pipe, incorrect length & heat no., rust, flat spots, dents, scratches & gouges on inside & outside.	Reject Rework	~~9-9-80~~ 11-18-80 ~~9-18-80~~	~~J. Kramer~~ J. Kramer ~~J. Kramer~~
3021	6-6-80	Cable tray 2BFH01 is shown on 2 separate layout dwgs. E-603 Sh 1 & E-643 Sh 1; E-36 shows 2BFH01 on E-643	Rework Use As Is	7-8-80	H. Tuttle
3022	6-6-80	M-106AC. Item 2, 1 piece #56 constant support spring can has dent in the side of the can.	Use As Is	7-14-80	J. Kramer
3023	6-9-80	Tolerance measurements required by Spec. C-111 (radial locations & slope) have not been taken for the construction opening liner plate sections, since being replaced.	N/A	7-18-80	S. Gelnett
3024	6-10-80	Spec. C-230. Calibration of Admixture vials found to be out of tolerance.	Rework	6-24-80	T. Lieb
3025	6-12-80	M-1.2 B&W QA data package has not been received for vent valve modification parts	Doc. Rework	7-14-80	D. Delaney
3026	6-12-80	F-45139, sockolets. No G-321-D form received with documentation contrary to Spec. M-305 requirement.	Doc Rework	7-29-80	F. Kanchwala
3027	6-12-80	F-45749, nuts, requires spare parts to comply with original Spec. M-123CC & P.O.; this spec. leaves doc. for spare parts indeterminate	Doc Rework	7-29-80	F. Kanchwala
3028	6-12-80	F-46498, nutserts, received on AEO-13002, no statement of conformance received from vendor as required by P.O.	Doc Rework	6-23-80	J. Kramer
3029	6-12-80	F-45721, concentric reducer. Material test report & G-321-D not received from vendor as Spec. M-215.	Doc Rework	8-28-80	F. Kanchwala
3030	6-12-80	F-46404, 6" tee, marking for 'one of the two tees" received on AEO-13094 has been buffed off, marking is illegible.	Rework	6-30-80	F. Kanchwala

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3050	7-11-80	F-46216. Doors. Dimensions of door when received are not as specified on P.O.	Reject	8-11-80	J. Kramer
3051	7-11-80	F-46108, Item 7, tube steel, heat no. 43894. No certified material test report received for this heat number.	Doc Rework	8-18-80	J. Kramer
3052	7-11-80	F-45396. socket weld orifice flange, no quality verification documentation supplied, AEO-13208.	Doc Rework	7-23-80	F. Kanchwala
3053	7-15-80	F-45571, socket head cap screws & nuts, have marking 8 instead of 8 8c.(hex nuts); marking B8 instead of B8c (cap screws)	Reject	9-18-80	J. Kramer
3054	7-15-80	Spec. C-306. grouted anchor bolt holes for hanger 638-13-6 were drilled in the secondary shield wall without project approval, no concrete drilling permit.	N/A	7-17-80	S. Schumitch
3055	7-11-80	F-45571. Heavy hex nuts to be ASTM A-194 Grade 8C, markings are 8 on hex nuts.	N/A	7-29-80	J. Kramer
3056	7-17-80	Spec. G-27, Dwg. 2-632-1-4, two embeds used for hanger 26" 2ELB-10-H35 were not preheated.	Use As Is	9-23-80	E. Urbanawiz
3057	7-18-80	Spec. A-14. Test sample of the mortar was not taken on the 3rd consecutive working after the first day of masonry work.	N/A	8-4-80	B. DeArmond
3058	7-21-80	E-20 Spec. Elec. Pene. Module; only 22 cables exist in module 780501-1-06 & terminals X10, 11, 12 could not be identified.			
3059	7-21-80	Spec. C-306. 3 grouted anchor bolt holes for hanger (Sk FSK-M-2ECB-1-AH2) drilled in sec. shield wall w/o concrete permit or QC notification.	Use As Is	11-10-80	Tim Gelnett
3060	7-23-80	Spec. C-208. Contrary to spec. requirements, 4 yds. of C-1 concrete was placed with 3/4" aggregate not meeting project specs.	Use As Is	9-17-80	B. DeArmond
3061	7-24-80	C-305. 3/4" anchors installed with center-to-center spacing reduced without prior approval.	Use As Is	8-27-80	S. Gelnett
3062	7-25-80	ASTM C 94-78a, admixture vial - WRDA, out of tolerance for ACC C-1 concrete placed 7-24-80.	Rework	8-21-80	B. DeArmond
3063	7-25-80	ASTM C 94-78a, concrete aggregate, aggregate out of tolerance.	Use As Is	9-17-80	B. DeArmond
3064	7-25-80	ASTM C-31-69. Initial cure of concrete specimens were maintained at a temperature exceeding the required range.	Use As Is	11-7-80	B. DeArmond
3065	7-28-80	Dwg. E-755 Sh. 1. Tray support installed with incorrect size fillet weld per FCR E-1990	Use As Is	9-19-80	J. Miller
3066	7-28-80	Dwg. A-52. Block wall #12 exceeds the height shown on the drawing, detail 8.			
3067	7-29-80	FW #2 on spool 1HCC-46-603-13-1, completed w/o QA records to control & identify filler material or weld process, or weld inspection.	Rework		
3068	8-1-80	E-26. 600 Volt control cable, no sealing cap on end of cable, sealing cap torn off, insulation jacket torn.	Rework	9-12-80	C.Urbany

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3069	8-1-80	1EBC-5-S638-13-1A linear indication found on radiograph for Shop weld A, film rejected by ASME	Repair	11-20-80	C. Fugate
3070	8-4-80	Spec C-305 three bars were cut within a radial distance of ten feet in the service water building	use as is	9-18-80	P. Vanderveer
3071	8-4-80	ASTM C-31-69 concrete specimens were cured at temperatures exceeding spec requirement for the first 24 hours	Use As Is	11-7-80	B. DeArmond
3072	8-4-80	M-619-2 tack welds 72 & 73 were not inspected and no W-1,00 QCIRs were opened	Use As Is	11-10-80	W. Smith
3073	8-5-80	F-45757 G-321D verification documentation has not been received on this P. O.	Doc Rework	9-16-80	John Kramer
3074	8-5-80	Dwg. A-720 Rev. 8 adhesion test on snubber brackets ID No E-4-D-1 and C-1 failed to meet the tensile strength requirements	Rework	9-10-80	J.Musser
3075	8-6-80	Spec M-343 Dwg. FSK-M-2HBC-11-2-H5 hanger is welded across the flange of a structural beam in violation of Spec M-343	Use As Is	11-4-80	R. Smith
3076	8-7-80	E-20 Rev. 6 the black conductor of Cable #1 in module Serial No. 800227-104 failed continuity, termination labeled S1	use as is		
3077	8-7-80	E-20 Rev. 6 only 22ea cables exist in module serial #780524-1-03 and that terminals X10, X11, & X12 could not be identified	use as is		
3078	8-6-80	ASTM C-31-69 concrete specimens were cured at temperatures exceeding spec requirement for the first 24 hours	Use As Is	10-15-80	B. DeArmond
3079	8-7-80	WFMC-1 Rev. 6 weld rod was removed from the test shop and not marked or segregated which rendered the filler indeterminate	Reject	9-11-80	B.Daly
3080	8-7-80	F-46802 a statement of conformance has not been supplied by the vendor for the material received on AEO-13360	Doc Rework	9-9-80	F. Kanchwala
3081	8-7-80	Tendon D215-1 had no evidence of trapped air released from the vents during pressure greasing. Note: Vent tube was provided	Use As Is	10-16-80	P. Vanderveer
3082	8-8-80	C-46-AC Rev. 5 there is no shop inspection release of signature on the G-321D and other documentation discrepances	Doc Rework	9-23-80	R. MacGlashan
3083	8-11-80	M-614-10 field weld 79 was completed with no QC inspection or IR generated	Rework	10-20-80	C. Fugate
3084	8-11-80	Spec C-304 W-8x31 beam cut in west edge of top flange: cut is greater than 5% nominal cross-sectional area of the structural element allowed	Use As Is	9-22-80	N. Plante
3085	8-12-80	C-38 Beam 412B9 at el. 652' has a cut in the web at the cope which is beyond the point of tangency and is encased in concrete	Use As Is	10-8-80	S. Gelnett
3086	8-14-80	M-634-5 Field weld 80 was completed without obtaining the necessary authorized Nuclear Inspector's inspection	Use As Is	9-5-80	L.Harrison
3087	8-14-80	E-42 Dwg E-656 Sh 1 three conduit supports were found to have 5/16" and larger fillet attachment welds	use as is	9-24-80	J. Miller

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3088	8-14-80	Spec. C-305 expansion anchors installed on FSK-M-2HCD-498-4-H 2 & FSK-M-2HCD-498-H3 in the cont. sec. shld. wall w/o project approval			
3089	8-14-80	FSK M-2FCB-40-2 valve ECBGB was installed in the piping system without the nameplate with the nuclear code symbol stamp	Rework		
3090	8-15-80	F-46222 contrary to Spec-M-305 rev. 5 no form G-321-D has been received on this P. O.	Doc Rework	8-26-80	J. Kramer
3091	8-19-80	M-1,17 conduit box for 1P60A pump motor has holes thru the welds from pin size to 3/16"			
3092	8-18-80	Spec. C-304 the field utilized P1-A-LH (A588) 5R o an unapproved procedure by Project Eng. to weld a L5" x 3½" x 3/4" to exist. 1" plate	Use As Is	10-6-80 10-2-80	E. Dutton P. Vanderveer
3093	8-19-80	C-2-146-58 vertical tendon V-10-1 has a bend of less than ½" bend radius experienced during insetion of the last 30'.	Reject	8-29-80	M. Stark
3094	8-19-80	Spec. C-305 Installation of anchor on Hanger FSK-M-1HBC-145-1 H-1a exceed minimum edge distance	STD Repair	10-30-80	J. Miller
3095	8-19-80	F-47260 The G-321-D documentation for this P. O. has not been received	Reject	8-22-80	R. MacGlashan
3096	8-22-80	P.O. E-22-AC Spec E-22 Rev. 7 The sealing cap for Reel No. 3055 of Code B-07 cable was torn exposing the end of the cable	Rework	9-12-80	C.Urbany
3097	8-22-80	F-45751 Contrary to Spec M-305 no G-321-D documentation has been received for this P. O.	Doc Rework	11-5-80	J. Kramer
3098	8-22-80	F-46336 Contrary to Spec. G-33 charpy U-notched test on 6 - 2½" x 7" long hex coupling nuts is below acceptable limits	Reject	11-13-80	J. Kramer
3099	8-25-80	Spec. C-305 Contrary to the spec cuts were made on a bar less than required radial distance	Use as is	10-9-80	P. Vanderveer
3100	8-25-80	Spec. C-2 Dwg. C2-146-12 Vertical Tendon V-20-2 was leaking tendon sheathing material through a fractured pipe plug	Repair	10-2-80	P. Vanderveer
3101	8-28-80	F-3091 Rel. 39 Spec C233 requires a form G-321-D and this documentation has not been received on this P. O.	Use As Is	10-17-80	J. Kramer
3102	8-28-80	E-60 G-321-D is incomplete: cable reels do not have sealing caps	Doc. Re work	10-17-80	C. R. Urbany
3103	8-29-80	Spec- C-304 Dwg. E-710 has more than 10% of its welds under 1/16" welds are also unacessable for visual inspection	Rework Use As Is		
3104	9-3-80	Spec E-42 Dwg. E-655 Sh 1 Oversized fillet welds of conduit support	Use As Is	11-6-80	J. Miller
3105	9-4-80	Pressure check done on the pressure grouting of the Diesel Gen. footing was found to be less than the required psi	Use As Is	10-2-80	P. Vanderveer
3106	9-3-80	Spec C-24 Dwgs C-495 & 496 Reactor 2 sump area has mud-cracking & excessive dry film thickness	Repair STD	10-20-80	J. Musser
3107	9-5-80	M-18 Dwgs M-18-3 7 M-18-348(1) Diesel Gen Bldg. anchor bolt holes drilled for lube oil cooler center supprt were misaligned also in the aux. skid frame.	Rework	10-7-80	F. Mahala

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3108	9-8-80	Hanger 6" 2EBB-13-H9R #1 4" stroke Fig 306 Mechanical Shock suppressor is of indeterminent integrity and possibly damaged			
3109	9-8-80	Dwg. Sk 2-604-3-18 the south sway strut for the self-aligning bushing is partially knocked out of place.			
3110	9-8-80	Dwg. 618-1-8, 618-1-9, 618-1-10, & 618-1-12 all have sway struts of indeterminent integrity and possible damage			
3111	9-9-80	M-379 C P. O. Spec. 132 Non drawings or instructions or G-321-D documentation have been received.			
3112	9-9-80	Spec. C-230 9 yds of concrete exceeding the allowable limits by ½" were placed in pour #Y(628.42)8'.			
3113	9-11-80	2" Dia. Engine bolt for Diesel Eng. 1G-11 has numerous gouges	Use As Is	11-25-80	C. Fugate
3114	9-11-80	ASTM- C31-69 During curing of concrete specimens temp. exceeded required temp.	Use As Is		
3115	9-10-80	E-7-AC, 125 volt D.C. Relay found damaged during inspection	Reject	11-3-80	J. Kramer
3116	9-11-80	Pipe spools 1FCB-42-S610-4-4,-3 & 2FCB-42-S611-4-3,-5 do not have code data reports nor "N" stamp on code data nameplates. Spec M-204	Rework		
3117	9-12-80	Expandion Anchors for conduit supports are 2 3/4" center to center spacing when requirements are 4". Spec C-305	Rework		
3118	9-15-80	Spec C-230 Concrete slump, retest of working limits was found to be exceeding maximum of 5".	Use As Is		
3119	9-17-80	Spec M-204 Piping Drain Connection #4 as shown on FSK-DVI-M-610 Rev 1 & FSK-M-610-3 #4 Rev 0 was not inspected for cleanliness prior to instl.	Use As Is	11-3-80	R. Moaray
3120	9-17-80	Per FPG-2.100 Center to edge & center to center spacing for instal. anchors is not within requirements (E-642 Sh. 2)			
3121	9-17-80	F-45750 Requires spare parts furnished per original Spec. M-125A and P.O. This spec leaves Doc. for spare parts Indeterminate	Doc. Rework	10-16-80	F. Kanchwala
3122	9-17-80	C-2022 Borros Anchors have no Doc. weekly readings as required by DCN #2 of Drawing.	Use As Is		
3123	9-18-80	C-305 Four Horizontal Bars cut within a 4' to 2½" radius which is contrary to Spec. Requirements			
3124	9-19-80	Vertical Tendon Filling, V28-1, Requirements not met per C2-146, Q.C. could not verify waste Mat'l in grease or record temp. of grease	Use As Is		
3125	9-19-80	Contrary to Spec C-2, V40-1, has evidence of a leak of Tendon Filler Material through seam weld on the cap's tube			
3126	9-19-80	M-018, Rotor, 1G-11, damaged during transportation from warehouse to Diesel Generator Building.			

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3127	9-18-80	E-60, reel # C-0117, excessive peeling of outer insulating jacket of cable	Reject		
3128	9-22-80	Spec C-231, 2 Rebar cut within a radial distance less than the minimum 10' requried.	Use As Is	11-4-80	J. Sercu
3129	9-22-80	Control Valve, 2XV-0431B, on FSK-M-2HCC-47-1, installed without nameplate; has no serial number.			
3130	9-23-80	NPS Sway Struts have varying degrees of disengagement of the self aligning bushing.			
3131	9-23-80	M-106, 2-619-2-30, Mechanical Shock Suppressor has a self aligning bushing disengaged			
3132	9-23-80	F-47785 6" Concrete blocks were contrary to the purchase order	Reject	10-8-80	J. Kramer
3133	9-24-80	Initial cure of concrete specimens temp. of 60°-80°F were not maintained during the first 24 hr. after molding	Use As Is	11-7-80	B. DeArmond
3134	9-24-80	E-12 Battery Racks 1&2 DQ1 & 1&2 DQ2 have rust and corrosion			
3135	9-24-80	E-6.42 SH2 HDI Anchors instal. contrary to center to center & center to edge spacing per FPG-2.100			
3136	9-25-80	E-11 & E-51 (MCAR-1-41) Buss Bar 90° bends on a transformer are broken			
3137	9-25-80	F-45841 Pipe with Heat No. 06094 & HT# 05520 has numerous pits & scale like condition			
3138	9-26-80	F-47360, One 18" stainless steel pipe received on AEO-13614 was found damaged	Reject		
3139	9-26-80	Excessive tendon cut off length, H21-022 was cut 2½" from end contrary to the required 11/8" stated in C2-146 Rev. 5B	Reject	10-16-80	P. Vanderveer
3140	9-26-80	C2-158, Vertical Tendon Grease Can-V-108-1 does not meet requirements per C2-146, Filter Caps not properly plugged			
3141	9-29-80	M-018, 1 1/4x40" Long Foundation Anchor Bolt for Diesel Gen. #1G-12 has thread damage	Use As Is	11-25-80	C. Fugate
3142	9-30-80	Portion of Fin Blade on Truck #18 was measured per NRMCA checklist & was found excessively worn	N/A	10-17-80	R. Siple
3143	9-29-80	C-306, Cut rebar allowance exceeded per Section 2.2	Use As Is	11-4-80	J. Sercu
3144	9-29-80	Spec C-24, Sluice Gate Stems, OM-91 A&B, were bent or bowed during compression			
3145	9-30-80	314 HDT Anchor #2,3,&4 Center to center spacing do not meet requirements per FPG-2.100			

LOG OF NONCONFORMANCE REPORTS

PROJECT NAME: Midland JOB NO.: 07220 PAGE: 185

2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
3146	10-2-80	Temp. Closure Plates for 4 18" spools were not Doc. on separate QCIR's for installation and removal			
3147	10-3-80	Sampling/Fabrication of fresh concrete, contrary to ASTM C172-71, 20 min. wait between composite sampling & molding of specimens			
3148	10-3-80	Concrete material proportions, the cement & the cement & Pozzolan was below required amount per C-94-78a			
3149	10-3-80	M-1.16, During an inspection, a leak was found in Lube Oil Cooler for 2P-58A			
3150	10-3-80	Embedded conduit 2AA055 was found damaged by Core Drilling in Cont. #2	Std Repair	10-28-80	J. W. Miller
3151	10-2-80	E-47666, P.O. Item #9, Transformers JAK-0 have no Certificate of Conformance, and is required per G-33 Rev. 12	Rework	10-27-80	J. Kramer
3152	10-2-80	E-22 Contrary to Hold placed on Q cables for scheme # 1BD2001AD, 1BD2001AC, 2BD2001AA, 2BD2001AC, & 2BC2001AD have been installed	Use As Is		
3153	10-3-80	ASME NB-4411 Sect. 3, Contrary SW#1 completed without Q.A. Record to identify and control filler material or weld process	Rework		
3154	10-6-80	During a Hydrostatic test on spools 1HCC-35-S-603-15-4 & 6 Two shop welds were found that were not on ISO drawing M-603 SH 15 Rev. 7/F2	N/A	12-1-80	W. Creel
3155	10-6-80	Spec M-481 SH 100B, contrary to spec., Drain Connection #1 on FSK-DVI-M619-18 was installed using a half coupling on FW 11.	N/A		
3156	10-7-80	M-18, Rotor, 1G-12, damaged during installation			
3157	10-8-80	Dwg. C-2022, During temp. dewatering, settlement monitoring is required. Soil monitoring devices not read from 8-29-80 on.			
3158	10-8-80	M-118B, Valves 2XV-3966A1P & 1XV-3866B1P have corrosion, rust & scaling of the valve internals	Rework	11-18-80	C. Fugate
3159	10-8-80	F-31122, Structural backfill received on AEO-13773 was not tested by contractor as required per Spec. C-211	Use As Is		
3160	10-8-80	E-756 SH 1 & E-751 SH 2, 3/4" Hilti Drop In Anchors no installed with edge to edge distance as required by FPG-2.100			
3161	10-8-80	Dwg. FSK-MPY-153, Thermowell supports for temperature elements not installed per drawing detail			
3162	10-8-80	E-650 SH 1, Type 12 & 14 conduit supports & type 9E box support installed on misc. steel contrary to E-42			
3163	10-9-80	Supports on Dwg. FSK-CA-2213 were welded by Standish welders S-2, S-5, & S-7 who are not qualified on only 3/8" plate per ASME			
3164	10-9-80	Dwg. M-166, 4" ODBC-1 Subassembly from FW 150 to 166 released from field shop without A.I. signature	Doc. Rework	10 -10-80	M. Meeks

LOG OF NONCONFORMANCE REPORTS

PROJECT NAME[1] Midland JOB NO.[1] 07220

[2] NRC NO.	[3] DATE	[4] NONCONFORMANCE DESCRIPTION / REMARKS	[5] DISPO.	[6] DATE NCR CLOSED	[7] CLOSED BY
3165	10-9-80	Dwg. C-45, Lift thickness of uncompacted backfill exceeded the 4" requirement per Spec. C-211.	Reject	10-22-80	C. Pavledes
3166	10-14-80	C-230 Fineness Modulus of concrete sand over successive test samples varied more than 0.20 form the average.	Use As Is		
3167	10-13-80	Post-Tensioning Field Installation Manual C2-146-12, double end stressing, H32-030, does not meet requriements per manual	Rework Reject	11-19-80	M. Stark
3168	10-13-80	Dwg E-644 SH 2, Conduit to Control Broads were installed with ½"x 20" machine screws not ½"x20" and 6 to 8 machine screws instead of 4			
3169	10-14-80	Cross Flange Welding, the installation of a type 14 Conduit Support on a W24x160 beam does not meet require. per E-42 SH 306A	Use As Is	11-11-80	J. C. Miller
3170	10-14-80	F-47635, Carbon Steel Pipe received on AEO-13692 has no documentation.	Doc. Rework	10-24-80	F. Kanchwala
3171	10-14-80	M-1.7, Spare parts for Reactor Coolant Pumps, no documentation or TWX received with material			
3172	10-14-80	C2-146, Stressing gauge #N-133 not accurate & replaced by gauge #N-286, Last tendon not rechecked with new gauge.			
3173	10-15-80	Magna Magic, BPC#2079, Not in tolerance during recalibration per Peabody Testing proced. Items tested are indeterminate.	Rework		
3174	10-15-80	Dwg M-326, Generic defficency in the disengagement of the self-aligning bushings in the end piece of sway struts & snubbers			
3175	10-16-80	Pipe spool 2GCB-33-611-5-1 has 1" half coupling installed without verification of cleanliness by QC at FW#60, Spec M-204			
3176	10-16-80	Spec M-18 Aux. Sub-Base, Mounting brackets and anchor bolt holes are not installed according to drawing	Repair		
3177	10-20-80	E-723 SH1, Siesmic cable tray supports were not installed or welded according to the drawing	Use As Is		
3178	10-22-80	PGS-113, Pipe Guide Support for hangers, FSK-M-2HBC-9-1-H's, 3-4-5-6 8, 2HBC-13-1-H2, 2HBC-13-2-H4-5, 2HBC-355-2-H10, 2HBC-497-4-H2 insuf. clear.			
3179	10-22-80	Allowance of cut rebar exceeded requriements per Spec C-306			
3180	10-23-80	Spec C-231, Pour# Y 3)A exceeded the maximum 12 hr. cure at the minimum temp. of 40°			
3181	10-23-80	ASTM C31-69, Concrete specimens during the first 24 hr. after molding temp. exceeded the 80° requirements			
3182	10-24-80	Spec C-305, Hangers 0-618-1-12&14 have anchor bolts installed w/o full thread engagement & wrong washer used	Rework		
3183	10-27-80	Feedwater Pump, 1P-05B, Arc strike on 1" vendor supplied cooling water piping for the pump repaired without QCIR.			

LOG OF NONCONFORMANCE REPORTS

PROJECT NAME: Midland JOB NO: 07220 PAGE: 188

2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
3203	11-11-80	Contrary to Spec. A-15 four units of Nukem 109 Nu-Klad Filler compound-Batch #810235 with older shelf date than spec. allows.			
3204	11-11-80	F-47869. Upon inspections of subject flanges 4 of 8 pieces were found to be damaged on raised face sealing surface.			
3205	11-12-80	Contrary to Spec. C-231 containment 2 dome repair CC(778)c had one recording of acummulative time below 50°F of 16 hours.			
3206	11-13-80	Dwg. M-657-45. Two welding IRs were generated for weld 113A and is also located in two places.			
3207	11-13-80	F-47527. Contrary to G-33, the material test report received for the clevis mat. received on AEO-13794 does not have physical prop.	Reject		
3208	11-13-80	Dwg. M-619-7 Rev. 8?F2 was completed without obtaining the necessary AI action.			
3209	11-18-80	Dwg. M-603-18. Contrary to PQCI W-1.00 FW 23 was completed with no PQCI W-1.00A being issued.			
3210	11-19-80	Contrary to Spec. C-2. during the buttonheading process on H13-041 one wire was sheared in half by the buttonhead machine.			
3211	11-18-80	Contrary to Spec. C-208. on 11-16-80 tank #8 had a temperature of 69°F exceeding the minimum temperature by 1°F.			
3212	11-19-80	Spec. C-304. Dwg. C-192 shows the monorail in Sc. R was cross flange welded to existing W30x99 with a 5/8" fillet weld.			
3213	11-19-80	M-120AC & Spec. M-204. A gouge exists in one end of the valve and porosity is visible in the bottom of the gouges area.			
3214	11-19-80	M-349A Rev.4. 34 piece thermostat G-321-D & Spec. requirements and/or eng. do not differentiate between OVD & eng. procedures and qualification reports; no OVD submitted.			
3215	11-20-80	Spec. M-481 Rev.18. Two 900# weld neck R.F. flanges, sch 80 were installed on plant side of tanks CVT 28A and B should be sch 120.			
3216	11-26-80	Dwg. 619 sh 3 Pipe spool 2HBC-10? S-619-3-4 has an arc gouge that is 3/4" x 1 7/8" x 1/4" deep (approx)			
3217	11-26-80	Dwg. M-604-9 Valve (404-2-161)S?N 10 was installed with several gouges on the outside surface there by leaving the integrity of this indet.			
3218	11-26-80	PO F-45573 Contrary to Spec C-233 no G-32ID has been received Both CMTRs received are illegible making the material indeterminate			
3219	11-26-80	M-18-AC No certificate of compliance or CMTR were received for stud & nut for Valve #77001-139 Serial No. N61848-00-0004			
3220	11-26-80	Contrary to Spec. C-306 4 anchor bolt holes were core drilled for H. FSK-M-1CCA-42-1-H7 & one 1CCA-42-1-AH6 One rebar was cut on hanger FSK-M-1CCA-42-1-AH7			

LOG OF NONCONFORMANCE REPORTS

PROJECT NAME[1] Midland JOB NO.[1] 7220 PAGE[8] 189

2 NRC NO.	3 DATE	4 NONCONFORMANCE DESCRIPTION / REMARKS	5 DISPO.	6 DATE NCR CLOSED	7 CLOSED BY
3221	11-26-80	Contrary to Spec C-306 Rev 6 A #8 vertical bar was cut 7'1" from two other cut vertical bars on the same face			
3222	11-26-80	Contrary to ASTM C-31-69 concrete specimens cast on 11-25-80 were measured at 83° F.			
3223	11-26-80	Dwg. M-604 Sh 8 FW #41 was welded completely , prior to the attachment of Copy #4 of QCIR-W-1.00 or fit-up acceptance by the FWE			

7220 FORM QC G-3. 1-3

R.S. STEVE HARVEY

Alab

NONCONFORMANCE REPORT START UPCODE: INDETERMINATE

1. PROJECT NAME: MID. IND	JOB NO.: 07220			19. NO. 3194	20. PAGE 1 OF 2
2. UNIT(S): IND	3. DRAWING/PART NO.: NA	REV: NA	4. ITEM DESCRIPTION: 150 pc. 1½" x 12" Hex Bolts ASTM A 354 GR. BD	5. ITEM LOCATION: QC HOLD AREA WAREHOUSE I	
6. P.O. ~~OR SPEC~~ NO.: F46351Q	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV ____ SER NO. ____	9. SOURCE: Supplier	10. ~~CONTRACTOR~~/SUPPLIER: United States Fastner Corp.	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. R-1.00-13873 NO. G-33 rev 10	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD	

16. NONCONFORMING CONDITION: Technical Specification G-33 rev. 10 requires a Certificate of Compliance, Certified Material Test Report, and charpy V-Notch Impact test Report as Quality Verification documentation Submittal. Contrary to this, No Certified Material Test Report or charpy V-Notch Impact test report has been received. Supplier has submitted a Certificate of Compliance, but the certificate was found unacceptable. In addition Specification ASTM A-354 Paragraph 9.2 requires (continued on page 2)

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
John Kramer	10/31/80	DD E. Smith	11-3-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER ____ DATE ____

PROJECT ENGINEER ____ DATE ____

PROJ CONSTR QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 3194

Block #16a contd. Grade BD Bolts 1/4" through 1 1/8" diameter to be marked with six radial lines 60 degrees apart on the top of the head. Contrary to this, all of Sample 35 inspected were marked with Grade Symbol BD rather than 6 radial lines as required. "Q" number is Indeterminate. 8 Hold tags applied. Hold pending final disposition.

NONCONFORMANCE REPORT

clear

S/U NONTESTABLE

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3195	20. PAGE 1 OF 2
2. UNIT(S): N/A	3. DRAWING/PART NO.: C-1148	REV: 0	4. ITEM DESCRIPTION: SETTLEMENT MONITORING		5. ITEM LOCATION: PLANT AREA
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA: (X) DWG ( ) SPEC ( ) OTHER IR NO. FIR NO. C 1148 2a	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng ( ) FLD	

16. NONCONFORMING CONDITION:

NOTE B.6. OF DRAWING C-1148 (2) STATES "READINGS SHALL BE TAKEN ON THE SETTLEMENT MONITORING POINTS LISTED IN TABLE 1, FOR THE TANK BEING TESTED, AT THE FOLLOWING TIMES:" SUBSCRIPT "C" STATES "DAILY WHILE THE TANK IS ONE-HALF FULL (APPROXIMATELY 16 FT. LEVEL)" CONTRARY TO THE ABOVE THERE IS NO EVIDENCE THAT READINGS WERE PERFORMED FOR TANKS 1T-60 & 2T-60 ON 10/18/80 AND 10/19/80. NOTE: TANK 1T-60 REACHED 16'-0¼" SEE CONTINUATION

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
James G Secco	11/3/80	by E. Swanlt	11-3-80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER	DATE
PROJECT ENGINEER	DATE
PROJ CONSTR QC ENGINEER	DATE
NR (illegible) 11/3/80	
AUTHORIZED INSPECTOR	DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER	DATE
AUTHORIZED INSPECTOR	DATE

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 3195

BLOCK #16 CONTINUED

-ON 10/13/80 AND TANK 2T-60 REACHED 15'-11 1/4" ON 10/16/80.
READINGS REQUIRED OF THE FOLLOWING SETTLEMENT MARKERS FOR 10/13/80 & 10/14/80.

TF-1 THRU TF-6 , BW-1 , BW-2 , BA-A4 THRU BA-A6
TF-19 THRU TF-24 , BW-8 , BW-9 , BA-A2 , BA-A3
HOLD FOR ENGINEERING DISPOSITION, Q LIST NUMBER INDETERMINATE.
NO HOLD TAGS APPLIED

Contacted - Date Sheet

5/4 1BNA / 2BKA

NONCONFORMANCE REPORT

1. PROJECT NAME: Midland	JOB NO.: 7220			19. NO. 3196	20. PAGE 1 OF 2
2. UNIT(S): 1 and 2	3. DRAWING/PART NO.: 1-612-5-33 / 2-613-2-4	REV	4. ITEM DESCRIPTION: Attachment Welds	5. ITEM LOCATION: Aux Bldg / Cont 2	
6. P.O. OR SPEC NO.: NA	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV NA SER NO. NA	9. SOURCE: Const.	10. CONTRACTOR/SUPPLIER: NA	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO P2/0-613-2-4 NO P2/0-612-5-12		12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )Eng (X)FLD

16. NONCONFORMING CONDITION:

Requirement: Asme Section III paragraph NC-3645 states: External and internal attachments to piping shall be designed so as not to cause flattening of the pipe, excessive localized bending stresses or harmful thermal gradients in the pipe wall.

Condition: During the installation of Attachment lugs Q list No. is 4.12.1 and 4.13.1 2 Hold Tags Applied

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
William Smith	11-3-80	E. Smith	11-3-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Block 16 Continued:

for Hgrs - 1-612.5 33 Sub 4/F3 Δ, 2613 2.4 Sub 3/F3 Δ, excessive shrinkage of the pipe, in areas over a 1/4" approx has caused flattening of the pipe in the areas of the attachment welds. Therefore the stresses, created by welding, leaves the condition of the pipe indeterminate.

STEVE HARVEY

NONCONFORMANCE REPORT

S/U CODE INDETERMINATE

1. PROJECT NAME: MIDLAND	JOB NO. 7220			19. NO. 3197	20. PAGE 1 OF 1
2. UNIT(S): INDETERMINATE	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: P.O. ITEM # 2 2500 EACH 5/16" x 3" A-307 HEX HEAD BOLTS	5. ITEM LOCATION: WAREHOUSE #1	
6. P.O. OR SPEC NO.: F-47860	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV N/A SER NO. ____	9. SOURCE: SUPPLIER	10. ~~CONTRACTOR~~/SUPPLIER: NORTH CENTRAL FASTENERS	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (✓) OTHER IR NO R-1-00-13962 NO. ____	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (✓) NO	13. SKETCH ATTACHED ( ) YES (✓) NO	14. Discovered During (✓) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (✓) FLD	

16. NONCONFORMING CONDITION: ASTM A-307 REQUIRES THAT THE BOLT HEADS SHALL BE MARKED TO IDENTIFY THE MANUFACTURER. CONTRARY TO THE ABOVE A SAMPLE SIZE-80 OUT OF 2500 (5/16" x 3" HEX HEAD BOLTS) RECEIVED ON AEO-13962 WERE FOUND WITH NO MARKINGS. LEAVING THE STATUS OF THE MATERIAL INDETERMINATE. HOLD FOR ENGINEERING DISPOSITION. 'Q' NUMBER IS INDETERMINATE. ONE (1) HOLD TAG APPLIED TO THE NON-CONFORMING ITEM.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
F Kanchwala	11/4/80	R. Smith	11-5-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER ____ DATE

PROJECT ENGINEER ____ DATE

PROJ CONSTR QC ENGINEER ____ DATE

AUTHORIZED INSPECTOR ____ DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER ____ DATE

AUTHORIZED INSPECTOR ____ DATE

S/U 1 AL 4

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO.: 07220				19. NO. 3199	20. PAGE 1 OF 4
2. UNIT(S): 1	3. DRAWING/PART NO.: 1-638-14-19	REV: 1/F1	4. ITEM DESCRIPTION: 6"-1EBB-6-H11		5. ITEM LOCATION: CONT. #1 EL. 638'-9"	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (✓) SPEC ( ) OTHER	IR NO. C-1-50-638.14-2 NO.	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (✓) NO	13. SKETCH ATTACHED (✓) YES ( ) NO	14. Discovered During ( ) Rec'g (✓) Const ( ) Test	15. Equip Furnished By ( ) Client (✓) Eng ( ) FLD	

16. NONCONFORMING CONDITION: REQUIREMENT: SPEC. C-305 SCN-10006 STATES IN PART "SPICIFIC CONDITIONS FOR INSTALLING EXPANSION TYPE CONCRETE ANCHORS IN SECONDARY SHEILD WALL FROM EL. 628' TO 644' UNITS 1 & 2. ① THE FOLLOWING REQUIREMENT SHALL BE MET FOR EACH EXPANSION ANCHOR, INSTALLED ON THE NORTH AND SOUTH SECONDARY SHEILD WALLS (INCLUDING WING WALLS)". CONTINUED ON PAGE TWO (2)

17. REPORTED BY: John Hamla DATE: 11/5/80

18. VALIDATED BY: [signature] DATE: 11-6-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

CONTINUATION OF BLOCK 16:

1.1 "QUALITY CONTROL SHALL PROVIDE 100% INSPECTION OF THE INSTALLATION OF EXPANSION ANCHORS." ALSO 2.1 STATES IN PART; "THAT QUALITY CONTROL SHALL WITNESS DRILLING OF ALL HOLES AND PERFORM FINAL INSPECTION TO ASSURE THAT NO REBAR HAS BEEN COMPROMISED AND THE PROPER DIAMETER AND DEPTH OF THE HOLE IS ACHEIVED."

② ADDITIONALLY ARTICLE 2.4.2 OF C-305 STATES "EXPANSION ANCHORS SHALL BE LIMITED TO A MAXIMUM OF 2½" EMBEDMENT LENGTH".

CONDITION: HANGER 6"-1EBB-6-H11 SKETCH 1-638-14-19 SHEET 20.

THERE IS NO EVIDENCE THAT THE INSTALLED ANCHORS WERE EVER INSPECTED BY QUALITY CONTROL CIVIL OR MECHANICAL.

ALSO INSTALLED ANCHORS ARE 5/8"Ø, AND MIN. EMBEDMENT LENGTH, REQUIRED BY C-305 TABLE 4.1 IS 3¾" AFTER TORQUING, THUS REQUIRMENTS OF ARTICLE 2.4.2 WERE NOT MET.

SUBSEQUENTLY BECAUSE OF HAVING NO APPARENT INSPECTIONS PERFORMED THE TYPE OF ANCHOR INSTALLED IS INDETERMINATE (GROUTED OR EXPANSION).

FOR ANCHOR LENGTH REFER TO ATTACHED LIT REPORT.

Q LIST # 4.381

Peabody Testing
X-Ray Engineering Company

FOSTER CITY — MAIN OFFICE 1118 Chess Drive, Foster City, CA 94404, (415) 573-6000

ULTRASONIC THICKNESS MEASUREMENT TEST REPORT

CUSTOMER: Bechtel Power Corporation			DATE: 9-17-80
ADDRESS: P.O. Box 2167 Midland, MI 48640	XRE 2303		CONTROL NO. OR REPORT NO.: 11859
JOB OR PROJECT LOCATION: Midland Nuclear Power Project	P.O. NO.: 7220-FSC-206		PLAN OR DWG. NO.: 1-638-14-19
SYSTEM: 6"-1EBB-6	TYPE OF MATERIAL: C/S	ACCEPTANCE STANDARD: N/A	N.D.T. PROCEDURE NO.: IPUT-453-2303 B

ULTRASONIC EXAMINATION

EQUIPMENT: KB CL204 BPC 576 EXP 5-5-81

CALIBRATION RANGE: 2¾ " to 8½ "

TRANSDUCER (SIZE & FREQ.): ¼" DIA 10 MHZ

ITEM OR WELD NO.	MINIMUM THICKNESS REQ'D (DESIGNATED BY CUSTOMER)	THICKNESS RECORDED	DISPOSITION ACCEPT	DISPOSITION REJECT	REMARKS
4 ANCHOR BOLTS					
1 "EAST BOLT		6"			
TOP WEST BOLT		6½"			
BOTTOM EAST BOLT		6½"			
BOTTOM WEST BOLT		5"			

Technician: John D Bayless SNT-TC-1A Level III

Asst. Technician: N/A

Customer: E. R. Stanley LII

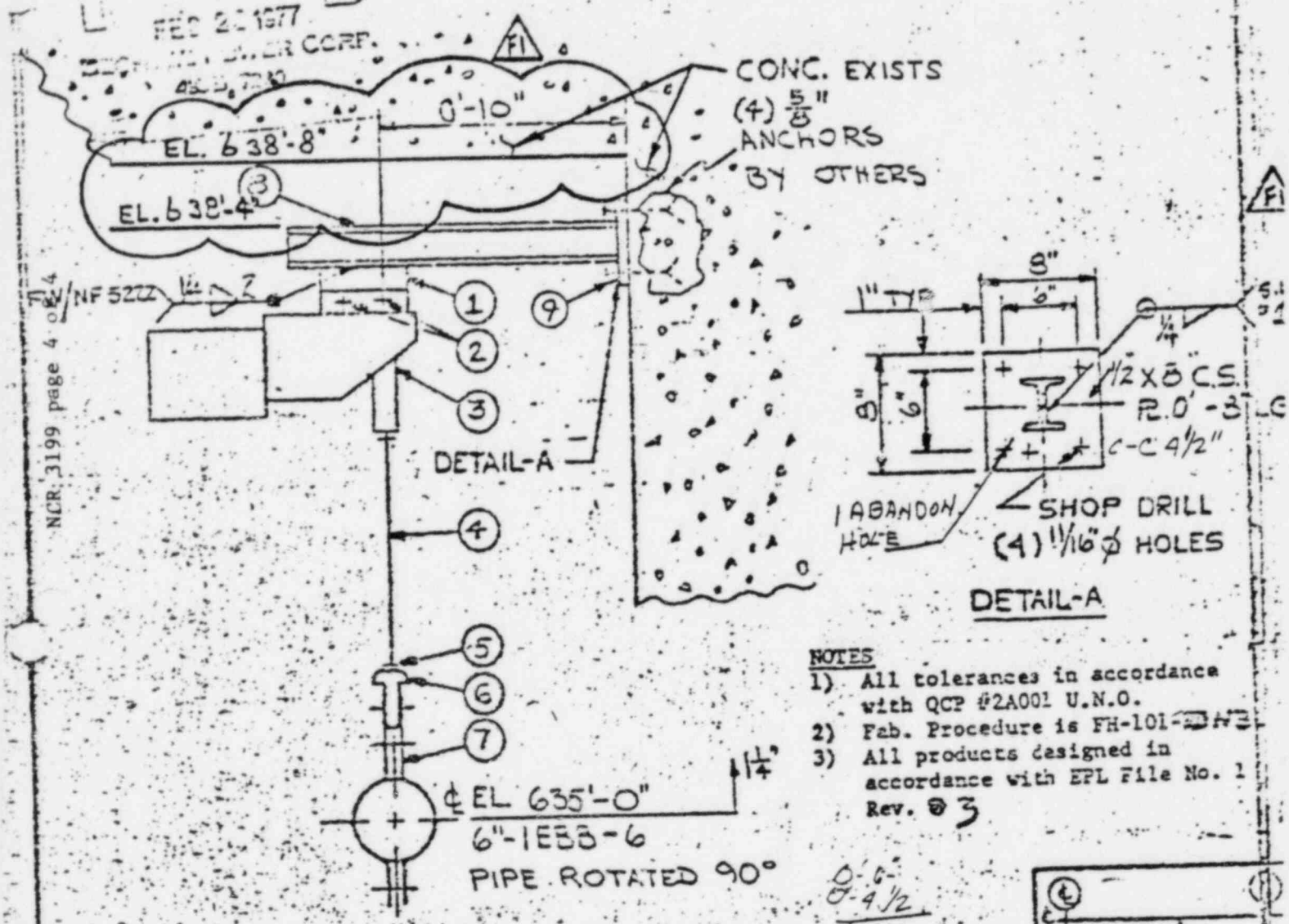
Witnessed by: E. R. Stanley LII
SIGNATURE

ENCLOSURE ADDED Yes ☐ No ☒

Page 1 of 1

NCR 3199

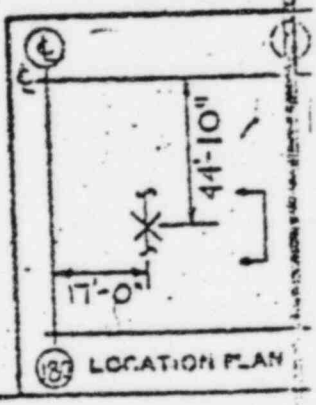
* ALL BOLTS & STUDS IN ACCORDANCE W/ DRW AH-1506



NCR 3199 page 4 of 4

NOTES
1) All tolerances in accordance with QCP #2A001 U.N.O.
2) Fab. Procedure is FH-101-[illegible]
3) All products designed in accordance with EPL File No. 1 Rev. # 3

#1	1-01-1-11	I-SF-1750 NF½
SHOP WELD NO.	WELD PROCEDURE	EXAM. PROCEDURE



REV.	DATE	
0	[illegible]	ISSUED
1	2-3-77	CHANGED TOTAL

PIPE ISO.	H-638 SH 14(Q) Rev. 1
DATA POINT	225
PIPE MATERIAL	SA-106 GR. B
INSULATION	2½" [illegible] 2

REV. DATE REV

0

BECHTEL

alab SU 2 BBA

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO.: 3200	20. PAGE 1 OF 1
2. UNIT(S): 2	3. DRAWING/PART NO.: 2-604-3-34	REV: SUB2 F1	4. ITEM DESCRIPTION: HANGER 3"-2CCA-19-H1 SWAY STRUT	5. ITEM LOCATION: STANDISH	
6. P.O. OR SPEC NO.: F32165 Q	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: SUPPLIER	10. CONTRACTOR/SUPPLIER: BERGEN-PATERSON	
11. INSPECTION CRITERIA: [X] DWG [X] SPEC [ ] OTHER IR NO. N/A SPEC NO. M-326	12. ASME AUTHORIZED INSPECTION REQ'D: [ ] YES [X] NO	13. SKETCH ATTACHED: [ ] YES [X] NO	14. Discovered During: [ ] Rec'g [X] Const [ ] Test	15. Equip Furnished By: [ ] Client [ ] Eng [X] FLD	

16. NONCONFORMING CONDITION:

A BERGEN-PATERSON PART NO 2100, SIZE 1.5 SWAY STRUT PURCHASED FOR HANGER SKETCH 2-604-3-34 HAS A SELF-ALIGNING BALL BUSHING WHICH IS LOOSE AND CAN BE EASILY KNOCKED OUT OF PLACE.

Q No. is 4.045.

1 HOLD TAG APPLIED

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Rick Marl	11-6-80	E Arnold	11-6-80

21. ROUTING: [ ] TO FIELD ENGINEERING [ ] TO OTHERS (SPECIFY)

22. [ ] Field Engineering Disposition [ ] Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NONCONFORMANCE REPORT

SIU # 2 PGB

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3201	20. PAGE 1 OF 1
2. UNIT(S): 2	3. ~~DRAWING~~/PART NO.: 2G-12	REV: N/A	4. ITEM DESCRIPTION: ROTOR FOR DIESEL GENGRATOR	5. ITEM LOCATION: WAREHOUSE #1	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: 1770392-200	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: PROCUREMENT	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (✓) OTHER IR NO. NO FRG-4.000	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (✓) NO	13. SKETCH ATTACHED ( ) YES (✓) NO	14. Discovered During ( ) Rec'g (✓) Const ( ) Test	15. Equip Furnished By ( ) Client (✓) Eng ( ) FLD	

16. NONCONFORMING CONDITION: ROTOR (2G-12) DAMAGED DURING STORAGE: 1.) A PIECE OR A PLATE ON A POLE-WINDING HAS BEEN BROKEN OFF (EXCITOR SIDE). 2) A COOLING FIN, ADJACENT TO DAMAGED POLE-WINDING HAS BEEN BENT. NOTE, EQUIPMENT IS SKID MOUNTED WITH DAMAGE IN THE 12:00 O'CLOCK POSITION.
"Q"-LIST Nº 4.522 ONE (1) HOLD TAG APPLIED TO SKID

17. REPORTED BY: J. Maluda DATE: 11/6/80

18. VALIDATED BY: E. Bennett DATE: 11-6-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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BECHTEL

NONCONFORMANCE REPORT

1 BCA

1. PROJECT NAME: MIDLAND	JOB NO.: 07220					19. NO. 3202	20. PAGE 1 OF 1
2. UNIT(S): ONE	3. DRAWING/PART NO.: 1-610-6-22	REV	4. ITEM DESCRIPTION: 1-610-6-22 GROUTED ANCHOR (INSPECTION)			5. ITEM LOCATION: Aux Bldg. 593' 8'W/6.2 1'N/F	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A		9. SOURCE: CONST	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER NO. C-306	IR NO. P-2.10-610 6-47	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD		

16. NONCONFORMING CONDITION:

Specification C-306 para 7.0 requires visual inspection of the process of grouting anchor bolts to ensure correct installation. (Replaces DR PM1514)

There is no record of QC inspection of the grouting of hgr 1-610-6-22 anchors, rendering their status indeterminant

I hold tag applied Q list # 4,102

17. REPORTED BY: E Ubanowski DATE: 11-7-80

18. VALIDATED BY: R. Smith DATE: 11/10/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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NONCONFORMANCE REPORT

S/U CODE INDETERMINATE

1. PROJECT NAME: MIDLAND	JOB NO. 7220			19. NO. 3203	20. PAGE 1 OF 1
2. UNIT(S): INDETERMINATE	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: 4 UNITS NUKEM 109 NU-KLAD FILLER COMPOUND.	5. ITEM LOCATION: PAINT SHOP	
6. P.O. OR SPEC NO.: 7220 A-15	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV N/A SER NO. ____	9. SOURCE: CONTRACTOR	10. CONTRACTOR/SUPPLIER: J. L. MANTA	
11. INSPECTION CRITERIA ( ) DWG (M) SPEC (M) OTHER IR NO. R-1-00-14040 NO. A-15		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (M) NO	13. SKETCH ATTACHED ( ) YES (M) NO	14. Discovered During (M) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (M) FLD

16. NONCONFORMING CONDITION: SPECIFICATION A-15 REV. 8 PARA 6 SUB-PARA 6-1 STATES IN PART THAT THE COATING MATERIAL OLDER THAN MANUFACTURER'S RECOMMENDED SHELF LIFE SHALL NOT BE USED. CONTRARY TO THE ABOVE (4) FOUR UNITS OF NUKEM 109 NU-KLAD FILLER COMPOUND - BATCH # 810235 RECEIVED ON AEO 14040 HAD THE MFG'S RECOMMENDED SHELF LIFE ON CONTAINERS AS FOLLOWS. 10-9-78 TO 10-9-80. LEAVING THE STATUS OF THE MATERIAL INDETERMINATE. HOLD FOR ENGINEERING DISPOSITION. 'Q' NUMBER IS INDETERMINATE. ONE (1) HOLD TAG APPLIED.

17. REPORTED BY: [signature] DATE: 11/10/80

18. VALIDATED BY: [signature] DATE: 11/11/80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER ____ DATE ____

PROJECT ENGINEER ____ DATE ____

PROJ CONSTR QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

5

BECHTEL REF. BILL SWENSON

NONCONFORMANCE REPORT START UP CODE: INDETERMINATE

1. PROJECT NAME: MIDLAND	JOB NO.: 07220			19. NO. 3204	20. PAGE 1 OF 1
2. UNIT(S): IND	3. DRAWING/PART NO.: NA	REV	4. ITEM DESCRIPTION: 4 Pair 10" 300# R.F. W.N. ORIFICE FLANGES Sch40	5. ITEM LOCATION: QC HOLD AREA WAREHOUSE I	
6. P.O. ~~OR SPEC~~ NO.: F47869	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV ____ SER NO. ____	9. SOURCE: SUPPLIER	10. ~~CONTRACTOR~~/SUPPLIER: CHICAGO TUBE AND IRON	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER	IR NO R-80-14042 NOM-215 rev 3	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION: PQCI R-1.00 Activity number 3.2 requires inspection for physical damage. Upon inspection 4 of 8 pieces of subject flanges were found to be damaged on raised face sealing surface. "Q" number is INDETERMINATE. 4 Hold Tags applied. Hold pending final disposition.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
John Kramer	11-10-80	QA E Smith	11/11/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

BECHTEL

CONTACT: JIM KELLEHER

NONCONFORMANCE REPORT

S/U - NON-TESTABLE

1. PROJECT NAME: MIDLAND 1 & 2			JOB NO.: 7220	19. NO. 3205	20. PAGE 1 OF 3
2. UNIT(S): UNIT # 2	3. DRAWING/PART NO.: N/A	REV	4. ITEM DESCRIPTION: CONCRETE CURING	5. ITEM LOCATION: CONT. # 2 - EXTERIOR DOME	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER — IR NO. C-1,40-5068 NO. C-231 REV. 19		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( )Rec'g (X)Const ( )Test ( )Client	15. Equip Furnished By N/A ( )Eng ( )FLD

16. NONCONFORMING CONDITION: SPEC. 7220 - C-231 REV. 19, SECTION 13.2.4.b, STATES THAT THE SURFACE TEMPERATURE OF CONCRETE MEMBERS SHALL BE MAINTAINED AT A TEMPERATURE OF AT LEAST 50°F, WITH AN OCCASIONAL DROP OF 10°F FOR A PERIOD OF TIME NOT TO EXCEED 12 HOURS CUMULATIVE. CONTRARY TO THIS, THE CONTAINMENT #2 DOME REPAIR CC(778)C HAD ONE RECORDING THERMOMETER THAT SHOWED A CUMULATIVE TIME BELOW 50°F OF 16 HOURS. HOLD FOR ENGINEERING DISP. "Q-LIST" NO. 1.105. ⊥ HOLD TAG APPLIED.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Paul Vanden	11/11/80	R. Smith	11-12-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

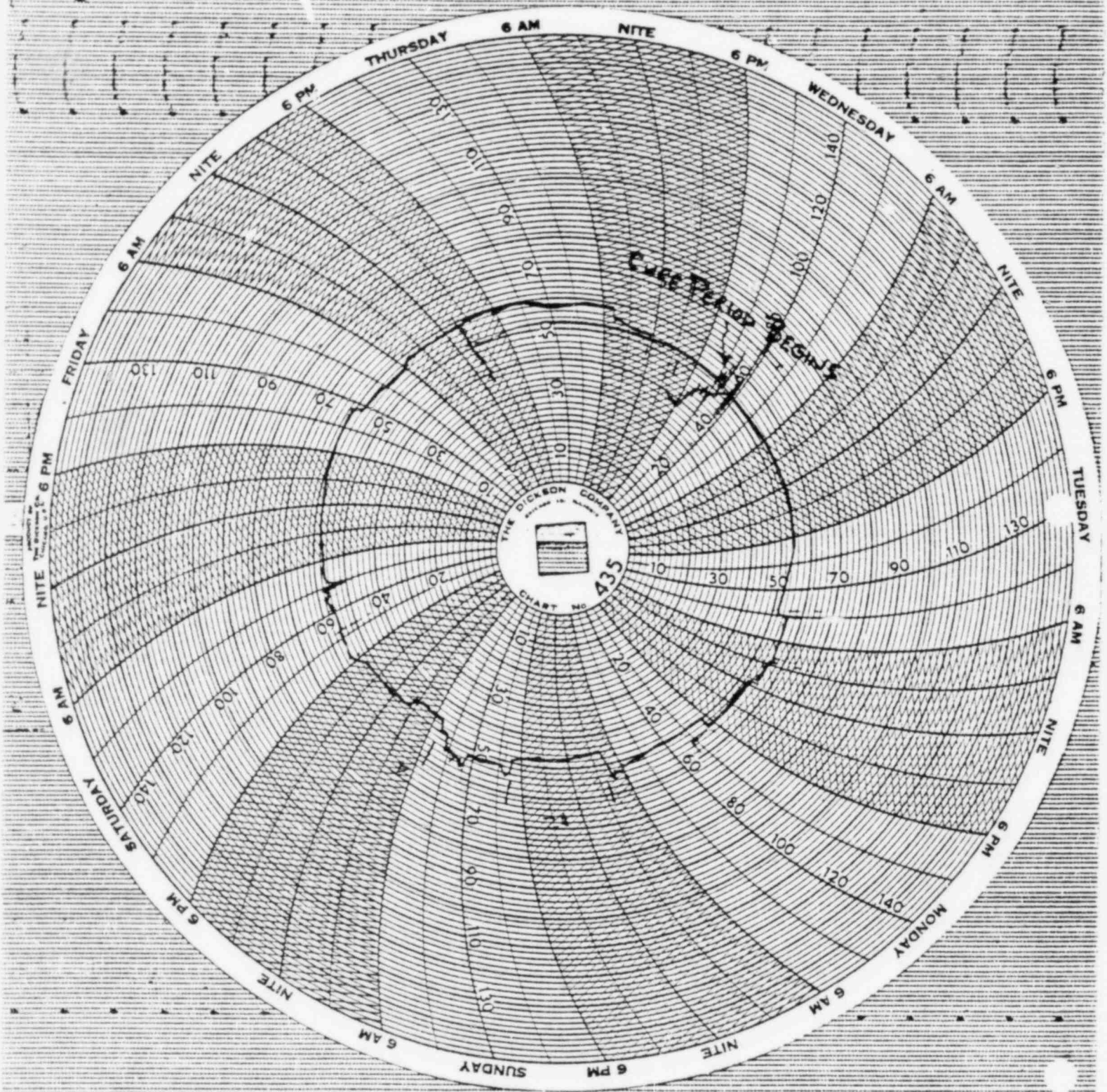
26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

PAGE 2 OF 3

AUCR # 3205



Project 7220

QC Acceptance _____ Date _____

Control No. _____ File No. _____

See Sketch

2 Placement Location & Elevation	3 Cure Started	4 QCIR No.
Cont #2, Repair of Dome @ EL 787±	Time 15:30 Date 10/22/80	C1.40-5068

DAILY CURE RECORD

5 Time	6 Weather	7 Thermometer/ Cal Due Date	8 Ambient Temperature	9 Surface Temperature	10 QCE Initial/Date	11 D.R. YES	11 D.R. NO
9:05pm	clear	2680 1/17/81	61°	56°	TG 10/22/80		✓
8:45 Am	clear	2680 1/17/81	70°	60°	TG 10/23/80		✓
5:10 pm	clear	2680 1/17/81	66°	61°	TG 10/23/80		✓
8:30 Am	clear	2680 1/17/81	63°	58°	TG 10/24/80		✓
4:00 pm	cloudy	2680 1/17/81	65°	57°	TG 10/24/80 10/25/80		✓
2:45 pm	cloudy	2680 1/17/81	58°	46°	TG 10/25/80	✓	
6:20 pm	cloudy	2680 1/17/81	61°	53°	TG 10/26/80		✓
12:50 pm	cloudy	2680 1/17/81	50°	55°	TG 10/26/80		✓
9:45	Cloudy	2680 1/17/81	52°	46°	59 10/20/80	✓	✗ 59 10/27/80
8:45Am	cloudy	2840 12/2/80 2680 1/17/81	56°	53°	TG 10/27/80		✓
16:45	Cloudy	2681 2/20/81	70°	50°	TU 10/27/80		✗
10:30 Am	Cloudy	2680 1/17/81	49°	52°	TG 10/28/80		✓
16:42	CLEAR	2680 1/17/81	68°	55°	TU 10/28/80		✗
10:40Am	cloudy	2840 12/6/80 2680 1/17/81	58°	51°	TG 10/29/80		✗
17:22	CLOUDY	2680 1/17/81	60°	50°	TU 10/29/80		✗
8:45 Am	clear	2508 2/20/81 2885 4/28/81	46°	50°	RH 10/30/80		✓

12 Cure Started	
1 Day	✓
2 Days	
3 Days	

Concrete Repair (2 temp recorders)

X Discussed with George Cully

NONCONFORMANCE REPORT

5/U # 2GJA

1. PROJECT NAME: Midland	JOB NO.: 7220				19. NO. 3206	20. PAGE 1 OF 2
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: 11657-45	REV: 13	4. ITEM DESCRIPTION: Field Weld 113A		5. ITEM LOCATION: 885' Elev. Aux. Bldg.	
6. P.O. OR SPEC NO.: NA	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV NA SER NO. NA	9. SOURCE: ENGINEER	10. CONTRACTOR/SUPPLIER: NA		
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. NO PCE WICC	12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g ( )Const ( )Test	15. Equip Furnished By ( )Client ( )Eng ( )FLD		

16. NONCONFORMING CONDITION: REQUIREMENT. SECTION 7130 OF THE BQAM REQUIRES THAT ASME WELDS GENERATED BY BECHTEL BE DOCUMENTED IN ACCORDANCE WITH QCI-W-1.00 (WHICH REQUIRES ASME WELDS TO BE IDENTIFIED BY INDIVIDUAL WELD NUMBER).

Continued on Pg 2

Q-Listed # 4.572 / Hold Tag Applied

Weld

17. REPORTED BY: C K Faugate DATE: 11-11-80

18. VALIDATED BY: R Smith DATE: 11-13-80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Block 16 CONTINUED: CONTRARY TO THE ABOVE, Field weld 113A on Dwg M659-45 Rev 7/F3 is located in two places. The FIRST LOCATION → FW113A is located where FW112A on line 3"-CHBC-81 is presently located. This Field weld was originally identified as FW113A. The second location → FW113A is located on line 3" CHBC-80 where FW 113A is identified at present.

NOTE: The FIRST FW113A location was made with proper Q.C. documentation (IR M659-45-113A, Log # 49176) Then Field weld numbers on Dwg M659-45 were relocated, and the second FW113A location was welded as FW113AC1 (IR M659-45-113AC1, Log # 61707) indicating that the original FW113A was cut and welded again.

S.R. Fugate
11-11-80

OSCAR HEIKKINEN

NONCONFORMANCE REPORT

S/4 CODE INDETERMINATE

1. PROJECT NAME: MIDLAND	JOB NO. 7220					19. NO. 3207	20. PAGE 1 OF 1
2. UNIT(S): INDETERMINATE	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: 1" TURNBUCKLE AND CLEVIS ASSEMBLIES.			5. ITEM LOCATION: WAREHOUSE #1	
6. P.O. OR SPEC NO.: 7220 F-47527	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV N/A SER NO. ____		9. SOURCE: SUPPLIER	10. ~~CONTRACTOR~~/SUPPLIER: NORTHWOOD STEEL.		
11. INSPECTION CRITERIA ( ) DWG (✓) SPEC ( ) OTHER — IR NO. R-1-00-13794 NO. G-33 REV. 12	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (✓) NO	13. SKETCH ATTACHED ( ) YES (✓) NO	14. Discovered During (✓) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (✓) FLD			

?? CIVIL

16. NONCONFORMING CONDITION: SPECIFICATION G-33 REV. 12 PARA 3.0 SUB-PARA 3.2 STATES IN PART THAT THE MATERIAL TEST REPORTS SHALL INCLUDE ALL CHEMICAL, PHYSICAL & MECHANICAL PROPERTIES ON MATERIAL TEST REPORTS. CONTRARY TO THE ABOVE THE MTR RECEIVED FOR THE CLEVIS MATERIAL RECEIVED ON AED-13794 DOES NOT CONTAIN THE PHYSICAL PROPERTIES. LEAVING THE STATUS OF THE MATERIAL INDETERMINATE. HOLD FOR ENGINEERING DISPOSITION. 'Q' NUMBER IS INDETERMINATE. ONE (1) HOLD TAG APPLIED.

17. REPORTED BY: FKanchwala DATE: 11/11/80

18. VALIDATED BY: B. Smith DATE: 11/13/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Contacted FWE: Earl Smith

NONCONFORMANCE REPORT

IEAC

1. PROJECT NAME: Midland	JOB NO. 7220				19. NO. 3208	20. PAGE 1 OF 1
2. UNIT(S): 1	3. DRAWING/PART NO.: M-619-7	REV: 8/F2	4. ITEM DESCRIPTION: 1HBC-536 FW109		5. ITEM LOCATION: Aux Elev 614 5.6 & D	
6. P.O. OR SPEC NO.: NA	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV NA SER NO. NA	9. SOURCE: Const.	10. CONTRACTOR/SUPPLIER: NA		
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. 4100a M619-7-16	12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD		

16. NONCONFORMING CONDITION:

Requirement: Act 21c (Fitup of the Joint) on Rod I-R weld A, Rev 8, was assigned an Authorized Nuclear Inspector Hold Point by the Authorized Nuclear Inspector. Condition: Contrary to the above, Field weld 109 on Dwg. M-619-7 Rev 8/F2 was completed without obtaining the necessary Authorized Nuclear Inspectors Inspection / Hold Tag applied. Quest # 4-192

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
P. Ciuffo	11/13/80	E Smith	11/13/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Discussed with Butch Boone

NONCONFORMANCE REPORT

S/u # CHEA

1. PROJECT NAME: Midland	JOB NO.: 7220			19. NO. 3209	20. PAGE 1 OF 2
2. UNIT(S): 1	3. DRAWING/PART NO.: A1603-SH 18	REV: 7/F1	4. ITEM DESCRIPTION: FW #23 on Spool 1HCC-44-603-18-1	5. ITEM LOCATION: Aux Bldg 56 + EK Line	
6. P.O. OR SPEC NO.: NA	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV NA SER NO. NA	9. SOURCE: Construction	10. CONTRACTOR/SUPPLIER: NA	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. NO. PQCI W-100	12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD	

16. NONCONFORMING CONDITION: REQUIREMENT: PQCI W-100 STATES "ALL ASME FULL PENETRATION GROOVE WELDS SHALL BE IDENTIFIED BY INDIVIDUAL WELD NUMBER ON THE QCI INSPECTION RECORD (IR) W-100A." PQCI W-100 ALSO REQUIRES THE RECORD TO BE PLACED ON OR NEAR THE WELD PRIOR TO [illegible] LISTED # 4.037 (cont. on Pg 2) 1 Hold Tag Applied

17. REPORTED BY: P.C. Fregate DATE: 11-17-80

18. VALIDATED BY: H. G. Smith DATE: 11/18/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 3209

Block # 16 CONTINUED: FABRICATION. Condition: CONTRARY TO THE ABOVE, FW 23 WAS COMPLETED WITH NO PQCI-FR W-1.00.A BEING ISSUED. SK Fregate 11-17-80

CONTACT : LARRY MORRIS

NONCONFORMANCE REPORT

5/11 NONTESTABLE

1. PROJECT NAME: MIDLAND	JOB NO. 7220			19. NO. 3210	20. PAGE 1 OF 1
2. UNIT(S): UNIT #1	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: POST TENSIONING : TENDON WIRE	5. ITEM LOCATION: HORIZONTAL TENDON H13-041	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. C9.10-271 NO. C2 (2)		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )FLD

16. NONCONFORMING CONDITION:

POST TENSIONING SPEC. C-2 SECTION 9.1.4 STATES IN PART "NO HEADING PROCEDURE SHALL BE USED THAT CAUSES SERIOUS INDENTATIONS IN THE WIRE, ALL SUCH WIRES SHALL BE REJECTED ON INSPECTION." CONTRARY TO THIS, DURING THE BUTTONHEADING PROCESS ON H13-041, ONE WIRE WAS SHEARED IN HALF BY THE CLAMPING JAWS OF THE BUTTONHEAD MACHINE (APPROX. 1 5/8" UP THE WIRE). THERE ARE NO FAILING BUTTONHEADS ON THE REMAINDER OF THE TENDON. HOLD FOR ENGINEERING DISPOSITION Q-LIST # 1.107. 1 HOLD TAG APPLIED.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
James G Setzer	11/14/80	R. Smith	11/15/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

CONTACTED: J. WEITHER
FIELD ENG,

S/U: NON TESTABLE

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND PROJECT	JOB NO.: 7220			19. NO. 3211	20. PAGE 1 OF 3
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: CONCRETE CURING TEMPERATURE		5. ITEM LOCATION: TEST LAB
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: SUBCONTRACT	10. CONTRACTOR/SUPPLIER: US TESTING COMPANY	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. 5105-206 NO. C-208 Rev 20	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD	

16. NONCONFORMING CONDITION:

SPEC. 208 REV. 20 SECTION 7.3.2 STATES IN PART THAT ALL CYLINDERS SHALL BE MADE, CURED, AND TESTED IN ACCORDANCE WITH ASTM C-31-69. ASTM C-31-69 STATES IN PART THAT CYLINDERS SHALL BE STORED IN A MOIST CONDITION OF A TEMP. OF 73.4°F ± 3°F. CONTRARY TO THE ABOVE, ON 11-16-80 TANK #8 HAD A TEMP. OF 69°F, EXCEEDING THE MIN. TEMP by 1°F. @ LIST 6.101. NO HOLD TAGS APPLIED. ATTACHED LIST OF CYLINDERS IN TANK #8

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
R Murdock	11-17-80	BD E. Smith	11-18-80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NCR 3211

TANK # 8 69°F C 0705 11-16-80

SET No.	CYL. No.	BREAK DATE	Q	Non. Q	TEST AGE	PLACEMENT IDENTIFICATION
4715	9364	12-1-80	✓		90	TRIAL BATCH
/	9365	/	✓		/	/ /
4715	9366	12-1-80	✓		90	TRIAL BATCH
4716	9371	12-3-80	✓		90	y (628.42) A'
"	9372	"	✓		"	" " "
4717F	9377	12-3-80	✓		90	y (628.42) A'
"	9378	"	✓		"	" " "
4718	9383	12-4-80	✓		90	TF (627.0) B
"	9384	"	✓		"	" " "
4719F	9389	12-4-80	✓		90	TF (627.0) B
"	9390	"	✓		"	" " "
4729	9449	12-10-80		✓	90	CT (681.99) D
"	9450	"		✓	"	" " "
4730F	9455	12-10-80		✓	90	CT (681.99) D
"	9456	"		✓	"	" " "
4731F	9462	12-10-80	✓		90	DG (630.0) B
4768F	9683	1-1-81		✓	90	TF (629.0) A
"	9684	"		✓	"	" " "
4788	9843	1-11-81		✓	90	y (632.80), y (634.5) KK
4813	9991	12-2-80		✓	28	ES (613) B
|	9992	"		✓	"	|
|	9993	2-2-81		✓	90	|
4813	9994	"		✓	"	ES (613) B
4814F	9997	12-2-80		✓	28	ES (613) B
|	9998	"		✓	"	|
|	9999	2-2-81		✓	90	|
4814F	1001	"		✓	"	ES (613) B
4815	1004	12-4-80		✓	28	ES (631.58) A
|	1005	"		✓	"	|
|	1006	2-4-81		✓	90	|
4815	1007	"		✓	"	ES (631.58) A

NCR3211

TANK #8 69°F @0705 11-16-80

SET No.	CYL. No.	BREAK DATE	Q	Non Q	TEST AGE	PLACEMENT IDENTIFICATION
4816F	1010	12-4-80		✓	28	E5 (631.58) A
|	1011	"		✓	"	|
|	1012	2-4-81		✓	90	|
4816F	1013	"		✓	"	E5 (631.58) A
4821F	1041	12-9-80		✓	28	OW (636.0) A
|	1042	"		✓	"	|
|	1043	2-9-81		✓	90	|
4821F	1044	"		✓	"	OW (636.0) A
4822	1047	12-12-80	✓		28	DG (634.08) E
|	1048	"	✓		"	|
|	1049	2-12-81	✓		90	|
1822	1050	"	✓		"	DG (634.08) E
4823F	1053	12-12-80	✓		28	DG (634.08) E
|	1054	"	✓		"	|
|	1055	2-12-81	✓		90	|
4823F	1056	"	✓		"	DG (634.08) E
SP1032	5159	12-3-80	✓		21	TRIAL MIX
|	5160	/	✓		/	|
|	5161	12-3-80	✓		21	|
|	5162	12-10-80	✓		28	|
|	5163	/	✓		/	|
SP1032	5164	12-10-80	✓		28	TRIAL MIX

Contacted P. Wetsworder

NONCONFORMANCE REPORT

S/U NONTESTABLE

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3212	20. PAGE 1 OF 1
2. UNIT(S): COMMON	3. DRAWING/~~PART NO.~~: C-192 (Q)	REV: 6	4. ITEM DESCRIPTION: CROSS FLANGE WELD	5. ITEM LOCATION: AUX BLDG. EL. 649'	
6. ~~P.O.~~ OR SPEC NO.: C-304 (Q)	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. NO. C-304	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )Eng ( )FLD	

16. NONCONFORMING CONDITION: SPECIFICATION C-304 (Q), SECTION 6.2.6 STATES "NO WELDING ACROSS THE FLANGE OF A BEAM SHALL BE DONE WITHOUT PRIOR APPROVAL BY PROJECT ENGINEERING." CONTRARY TO THIS THE MONORAIL SHOWN IN SECTION R OF DRAWING C-192 (Q) WAS CROSS FLANGE WELDED TO EXISTING W30x99 WITH A 5/8" FILLET WELD. HOLD FOR ENGINEERING DISPOSITION

Q LIST #1,201

1 HOLD TAG APPLIED

17. REPORTED BY: Edwin Smith DATE: 11/17/80

18. VALIDATED BY: R. Smith DATE: 11-19-80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NONCONFORMANCE REPORT S/U LEAD

1. PROJECT NAME	JOB NO.	19. NO. 3213	20. PAGE 1 OF 2
Midland	7220		

2. UNIT(S)	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
1	M 619 Sh 7 (Q)	9	8" HBC Gate Valve 1M01996B	EL 614, West Wing Wall

6. P.O. OR SPEC NO.	7. SERIAL NO.	8. REPLACEMENT PART P/N REV SER NO.	9. SOURCE	10. CONTRACTOR/SUPPLIER
M120AC 11213	5206-38-001-40	N/A N/A N/A	Constr/Supplie	Anchor / Darling

11. INSPECTION CRITERIA	12. ASME AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
( ) DWG (X) SPEC ( ) OTHER IR NO. NO Blk No	(X) YES ( ) NO	(X) YES ( ) NO	( ) Rec'g (X) Const ( ) Test	( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION:

Specification 7220 M 221 Rev 2 requires..."Butt weld ends of all valves shall be examined by the magnetic particle or liquid penetrant method." This should assure that the weld ends are free of rejectable indications.

Specification M 204 Rev 13 5.23 para 5 states... "care shall be taken to prevent damage to the valve."

17. REPORTED BY: Ron Murphy DATE: 11-14-80

18. VALIDATED BY: R. Smith DATE: 11/19/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Excavate defect and repair in accordance with procedure ED-1. A liquid penetrant examination is to be performed before filler metal is added and after completion of the repair.

The manufacturer's concurrence is to be obtained prior to repairing this defect. 11-20-80

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
		STOP	

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

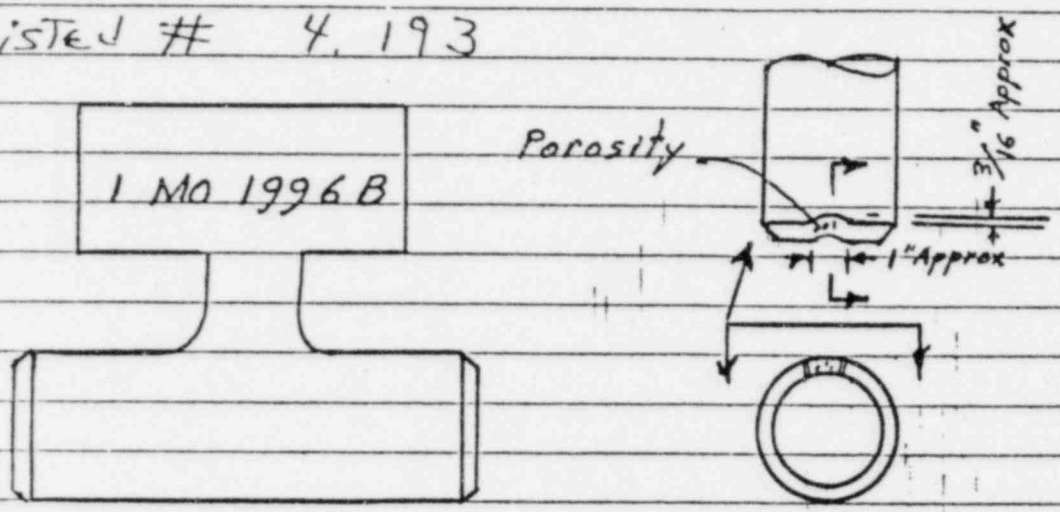
AUTHORIZED INSPECTOR — DATE

BLOCK 16 (Continued)

Contrary to the above, a gouge exists in one end of the valve, and porosity is visible in the bottom of the gouged area as shown below:

"Q" LISTED # 4.193

1 HOLD TAG APPLIED



BECHTEL Ref Fira Simanovsky

NONCONFORMANCE REPORT START UP CODES: 1GLC, 2GLC, 0GLC

1. PROJECT NAME: MIDLAND	JOB NO.: 07220			19. NO. 3214	20. PAGE 1 OF 2
2. UNIT(S): 1, 2 and Comm	3. ~~DRAWING~~/PART NO.: A 19 BAC-6	REV: NA	4. ITEM DESCRIPTION: Item # 3A 34pc Thermostat		5. ITEM LOCATION: QC HOLD AREA WAREHOUSE I
6. P.O. OR SPEC NO.: M-349-A rev 4	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV ____ SER NO. ____	9. SOURCE: Supplier	10. ~~CONTRACTOR~~/SUPPLIER: Johnson Controls	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER	IR NO: R-1.00-13832 NO: M-349 rev 3	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION:

① Technical specification M-349 rev. 3 requires Quality Verification documentation in accordance with form G-321-D. However form G-321-D and referenced specification paragraphs do not differentiate between Quality Verification documentation and engineering procedures and Qualification reports, leaving Quality Verification documentation requirements indeterminate. Vendor has submitted engineering procedures and Qualification reports but no Quality Verification documentation (contd p2

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
John Kramer	11-19-80	E. Smith	11/19/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER ____ DATE ____

PROJECT ENGINEER ____ DATE ____

PROJ CONSTR QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER ____ DATE ____

AUTHORIZED INSPECTOR ____ DATE ____

Block #16 cont'd) has been received. ② Vendors attachment X To form G-321-D Lists tag numbers 2TX-5410B should be 1TX 5410B and 2TX-5409 A+B should be 2TX-5409 A_2+B_2 Per Material Requisition M-349 rev. 6.

③ Attachment "E" to Material Requisition M-349 rev 6 (Instructions for Instrument tagging - 7220-5599 rev. 0) requires each instrument to be tagged with a Noncorroding Metal Tag securley affixed to the instrument by pins, screws or Stainless steel wire. Contrary to this, Tags are paper adhesive backed Labels, affixed to the instruments with purchase Order, item, and tag numbers Typed on them with the 3 tag number ERRORS as noted in part ⑤ of this report.

"Q" number is indeterminate ⊥ hold Tag applied. ⊥ hold Pending final disposition.

NONCONFORMANCE REPORT

S/U # OGLH

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3215	20. PAGE 1 OF 3
2. UNIT(S): 1&2	3. DRAWING/~~PART NO.~~: M-166(Q)	REV: 6/12	4. ITEM DESCRIPTION: 4"-ODBC-1 FLANGES ON YARD PIPING	5. ITEM LOCATION: YARD - E. of AUX RAIL BAY	
6. ~~P.O.~~ OR SPEC NO.: M481 Rev18	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV ____ SER NO. ____ N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: VENDOR SUPPLIED	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER — IR NO./NO. PI-20-166-1 M481, Rev18	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client (X)Eng ( )FLD	

16. NONCONFORMING CONDITION:

REQUIREMENT: PIPING CLASS SHEET M-481(Q) Rev18, CLASS ODBC STATES. "PIPE FOR ODBC-001 & ODBC-002 TO BE SCHEDULE 120".

CONDITION: TWO(2) 900# WELD NECK R.F. FLANGES, SCH 80 WERE INSTALLED ON PLANT SIDE OF TANKS OVT-28A & B.

"Q" LIST No 4,65 TWO(2) HOLD TAGS APPLIED TO FLANGES

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
K. Deitz	11/17/00	E Smith	11/24/00

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

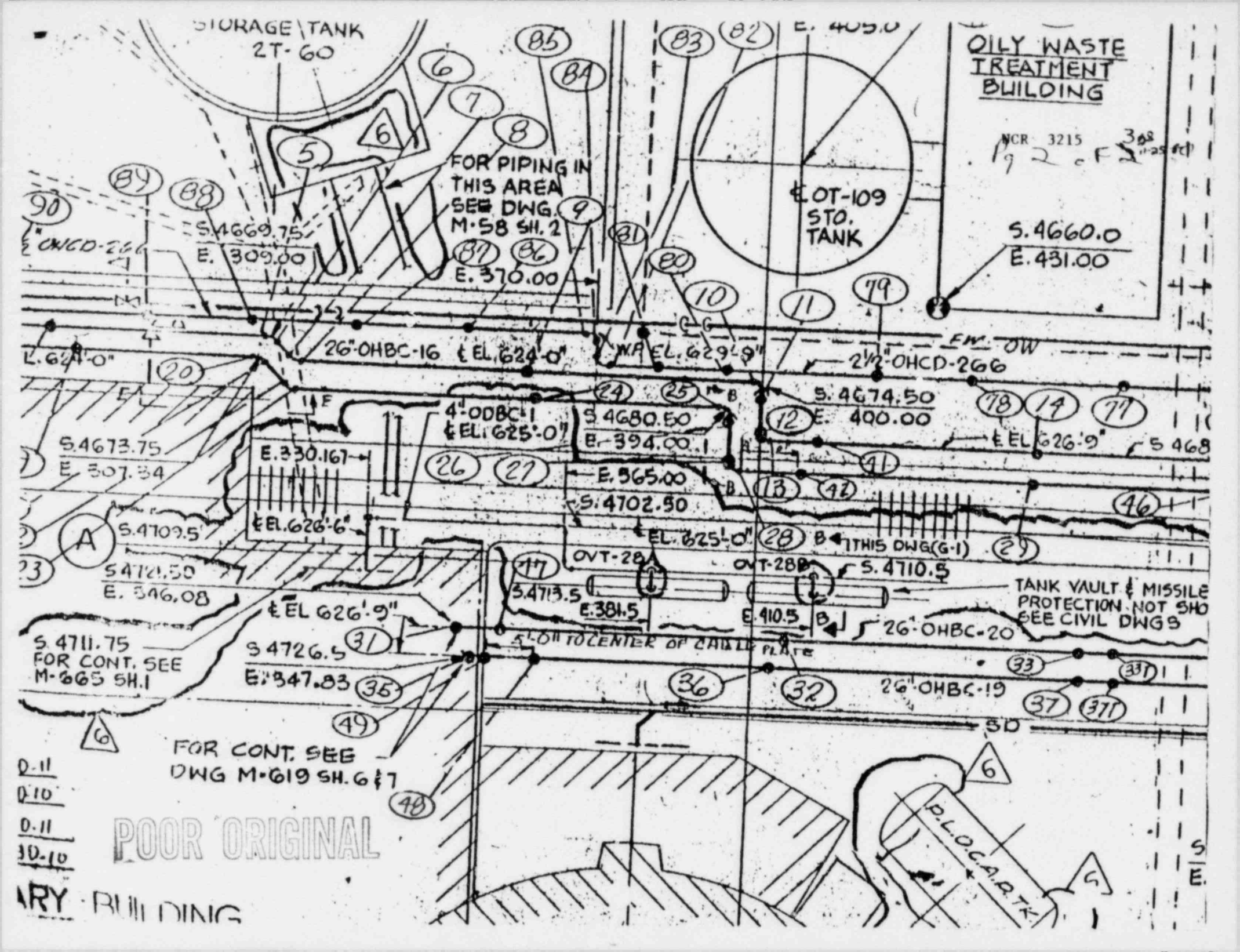
AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE


STORAGE TANK 2T-60
OILY WASTE TREATMENT BUILDING
NCR 3215
℄ OT-109 STO. TANK
S.4660.0
E.431.00
FOR PIPING IN THIS AREA SEE DWG. M-58 SH. 2
S.4669.75
E. 309.00
E. 370.00
26"-OHBC-16 ℄ EL. 624'-0"
EL. 629'-9"
2½"-OHCD-266
S.4674.50
E. 400.00
℄ EL 626'-9"
4"-OOBC-1
℄ EL. 625'-0"
S.4680.50
E. 394.00
S.4673.75
E. 307.34
E. 330.167
℄ EL. 626'-6"
E. 365.00
S. 4702.50
S.4709.5
S.4721.50
E. 346.08
EL. 625'-0"
THIS DWG (G-1)
OVT-28
OVT-28B
S.4710.5
S.4713.5
E. 381.5
E. 410.5
TANK VAULT & MISSILE PROTECTION NOT SHO SEE CIVIL DWGS
26"-OHBC-20
5'-0" TO CENTER OF CABLE PLATE
S.4711.75
FOR CONT. SEE M-665 SH.1
S.4726.5
E. 347.83
℄ EL 626'-9"
26"-OHBC-19
FOR CONT. SEE DWG M-619 SH. 6 & 7
P.L.O.C.A.R.T.
POOR ORIGINAL
D-11
D-10
D-11
30-10
ARY BUILDING

S/U : 2EAC

NONCONFORMANCE REPORT

1. PROJECT NAME: Midland	JOB NO.: 07220				19. NO. 3216	20. PAGE 1 OF 2
2. UNIT(S): 2	3. DRAWING/PART NO.: M619 SH 3	REV: 7/F2	4. ITEM DESCRIPTION: Arc Gouge in Pipe		5. ITEM LOCATION: R/B #2, El 638, K6 to L1 +50' North of L
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: Construction	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. N/A NO. M204	12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD		

16. NONCONFORMING CONDITION:

Requirement: Spec M204, 5.2.1, states, "Care shall be taken in handling and installation of piping to prevent surface damage."

Condition: Pipe spool 2HBC-102-S-619-3-4 has an arc gouge that is 3/4" x 1 7/8" x 1/4" deep (approx.) (See attached sketch)

Hold for Engineering Disposition / 1 (one) Hold Tag Applied / Qlist 4.185

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Robert Orrs	11/17/80	R. E. Smith	11/26/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

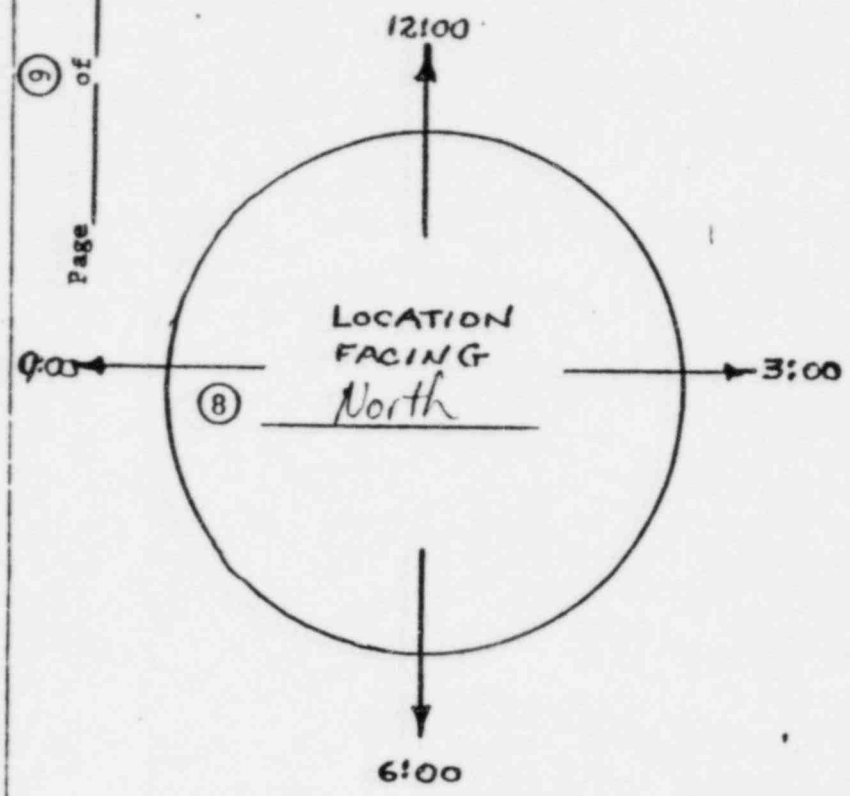
RECORD OF LOCATION FOR TEMPORARY ATTACHMENTS AND BASE METAL REPAIR

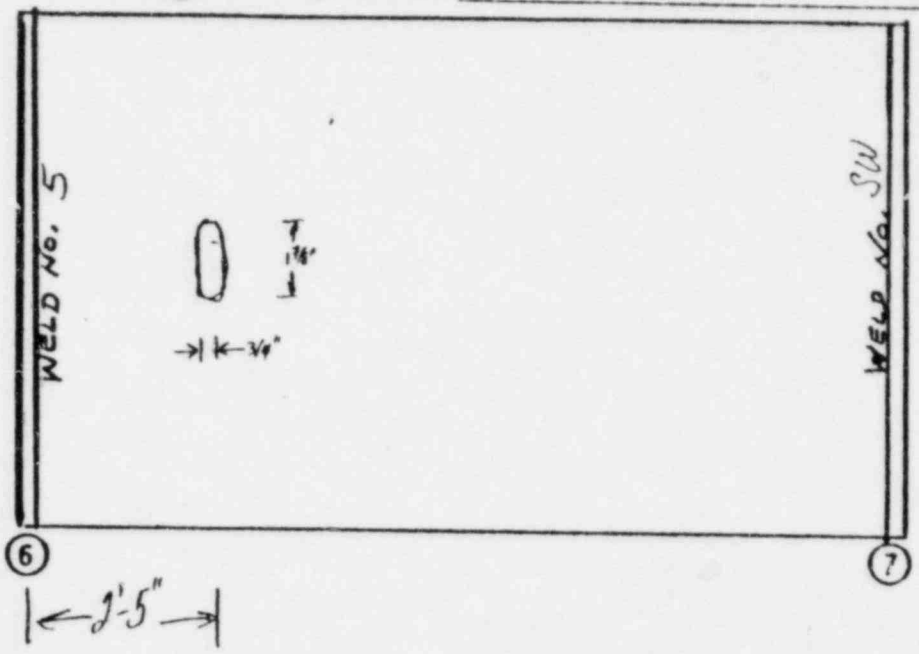
(1) QCIR # N/A (2) Log # N/A

(3) Weld Procedure N/A (4) Repair Procedure N/A

(5) NDE Requirements N/A

(9) Page ___ of ___





Looking West.

Pg 2 of 2

NCR 3216

REMARKS: Pipe spool 2HBC-107-S-619-3-3 Arc gouge

QCF-41 Rev. 0 10/2/79

QCE: [signature] DATE: 11/17/80

NONCONFORMANCE REPORT

S/4 # 2BGE

1. PROJECT NAME: Midland	JOB NO.: 7220					19. NO. 3217	20. PAGE 1 OF 2
2. UNIT(S): 2	3. DRAWING/PART NO.: M 604-9	REV: 7/F2	4. ITEM DESCRIPTION: Valve (404-2-161) S/N 10			5. ITEM LOCATION: EL 609' AUX Bldg.	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: S/N 10	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A		9. SOURCE: Const.	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. PL 30604-9-4 NO PGCI PL 30		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD		

16. NONCONFORMING CONDITION:

Requirement: When handling or supporting valves, care shall be taken to prevent damage to the valves or its appurtenances. This statement in part is from M 204 5-2-3.

Condition: Valve (404-2-161) S/N 10 was installed with several gouges on the out-side surface, some-

Continued on Page #2

17. REPORTED BY: Gary Fehmer DATE: 11/20/80

18. VALIDATED BY: R Emmett DATE: 11/26/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 3217

Continued from page #1

Block 16 Condition: as deep as 3/16" to 1/4", there by leaving the integrity of this valve indeterminate.
This valve is located in the Aux Bldg. El. 609' Dwg. M-604 sh. 9 between field weld's NO. # 5801 & 57.

"B" list # 4.0410
1 1/2 hold tags applied B. Fahrer 11/20/81

CVIL - S. HARVEY.

X

C

NONCONFORMANCE REPORT

S/U code: Indeterminate

1. PROJECT NAME: midland	JOB NO.: 7220				19. NO. 3218	20. PAGE 1 OF 2
2. UNIT(S): 1&2	3. DRAWING/PART NO.: C-495 & C-496	REV: 9/3	4. ITEM DESCRIPTION: 148 Pcs - Stainless Steel Footwalk		5. ITEM LOCATION: Paxey ville	
6. P.O. ~~OR SPEC NO.~~: F-95573 REV. 3	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV ____ SER NO. N/A	9. SOURCE: Supplier	10. CONTRACTOR/SUPPLIER: INRYCO		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO 2400-13717 NO C-233 REV 17	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD		

16. NONCONFORMING CONDITION:

(1) Specification C-233 Rev 17 Appendix A Para 3.0 states in Part: The seller/sub contractor shall furnish documentation in accordance with the specification as summarized and directed by Form G-321-D. Contrary to the above NO G-321-D has been received.

(2) QCIR-R-1.00 Rev. 10 para 2.3 a states in part: Review supplier's quality verification documentation required by the procurement documents for availability, legibility, traceability (Cont Page 2)

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
C.V. Harvey	11/21/80	R. E. Smith	11/26/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 3218

(BLOCK 16 CONTINUED)

and compliance with the procurement document requirements. Contrary to the above Both CMTR's received are not legible. Therefore making the material indeterminate. P number is indeterminate. Hold for Engineering disposition. 5 Hold tags applied to the nonconforming Items.

MECH: A. KILISZEK

BECHTEL

NONCONFORMANCE REPORT

S/O CODE: 1 PEP - 1-PEB

1. PROJECT NAME: MIDLAND	JOB NO.: 7220				19. NO. 3219	20. PAGE 1 OF 1
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: SEE Block 16	REV	4. ITEM DESCRIPTION: Emergency Diesel Generator Valve.		5. ITEM LOCATION: Warehouse #1	
6. P.O. ~~OR SPEC NO.~~: M-18-MC Rev 13	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N ____ REV ____ SER NO. N/A	9. SOURCE: Supplier	10. CONTRACTOR/SUPPLIER: TransAmerica DeLaval, Inc		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER — IR NO. R-100-13913 NO. M-18 Rev 6	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD		

16. NONCONFORMING CONDITION:

Specification 7220-M-18 Rev. 6 Appendix A para. 6.0 states in Part: ALL pressure boundary material shall meet the requirements of Subarticle ND-2000 of the code. Contrary to the above NO certificate of compliance or CMTR were received for the stud and nut listed on the code Data Report for VALVE # 77001-137 Serial # N61848-00-0008. P number is #.521. Hold for Engineering disposition. 1 Hold tag applied to the non-conforming ITEM.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
[signature]	11/21/80	[signature] R. Smith	11/26/80

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

X C

F.E. Arnold Lederer

NONCONFORMANCE REPORT

S/4 NON-TesTable

1. PROJECT NAME: TO Midland 2220 MIDLAND	JOB NO. 7220				19. NO. 3220	20. PAGE 1 OF 2
2. UNIT(S): CONT #1	3. DRAWING/PART NO.: N/A	REV	4. ITEM DESCRIPTION: Concrete Drilling, Cut Rebar		5. ITEM LOCATION: CONT #1, Sec. Shield WALL	
6. P.O. OR SPEC NO.: C-306 6	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. N/A NO. C-306 6	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By N/A ( ) Eng ( ) FLD		

16. NONCONFORMING CONDITION: Section 2.2 of Spec. 306 Rev 6 states "No Grouted Anchor Bolts shall be installed in the Secondary Shield Wall unless the drilling is done in accordance with a procedure approved by Project Engineering". REM C-2543 R.B. #1 & #2 Secondary Shield Walls. Approved Procedure for Installation of Grouted A/B states in part, "All drilling will be done with Jackhammer drills." Contrary to the above (A) a core drill was used for the drilling of 4 Anchor Bolt Holes. (see continuation sheet)

17. REPORTED BY: Jim Helrett DATE: 11/20/80

18. VALIDATED BY: R. Bennett DATE: 11/26/80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Block #16, CONTINued,

- ON hanger FSK-M-ICCA-42-1-H7 AND ONE ANchor BoLT hole on hanger FSK-M-ICCA-42-1-AH6. (Drill Permits #8245, 8246)

(B.) Rem C-2543 ALSO STOTES, "Q.C. IS To Perform FINAL INSPECTION TO ASSURE NO rebAr hAS been compromised." CONTRARY To THIS, ONe #11 rebAr WAS CUT ON hANger FSK-M-ICCA-42-1-AH7.

Hold For ENGINEECING DISPOSITION.
Q LIST # 1.103 1 Hold TAG AppLiod

C

Non-Testable Unit

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO. 7220				19. NO. 3221	20. PAGE 1 OF 2
2. UNIT(S): COMMON	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: CUT REBAR		5. ITEM LOCATION: AUX. BLDG. WALL @ 8.6, EAST FACE, EL. 588', 3' NORTH OF E	
6. ~~P.O. OR~~ SPEC NO.: C-306QRev.6	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA: ( ) DWG (X) SPEC ( ) OTHER IR NO. NO. C-306(Q) Rev. 6	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD		

16. NONCONFORMING CONDITION: SPEC. C-306(Q), APPENDIX D, SECTION 2.2 STATES IN PART; "... TWO BARS MAY BE CUT EACH WAY, EACH FACE PROVIDED THE MINIMUM RADIAL DISTANCE TO THE NEXT CUT BAR ON THE SAME FACE, IN THE SAME DIRECTION IS AT LEAST TEN FEET." CONTRARY TO THIS, A #8 VERTICAL BAR WAS CUT 7'-9" FROM TWO OTHER CUT VERTICAL BARS ON THE SAME FACE. Q LIST #1,203. HOLD FOR ENGINEERING DISPOSITION. SEE SKETCH ON PAGE TWO. One hold tag applied

17. REPORTED BY: Steve Page DATE: 11-24-80

18. VALIDATED BY: G. Smith DATE: 11/26/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

PROJECT ENGINEERING TO EVALUATE.

Paul Dayton
11/24/80

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

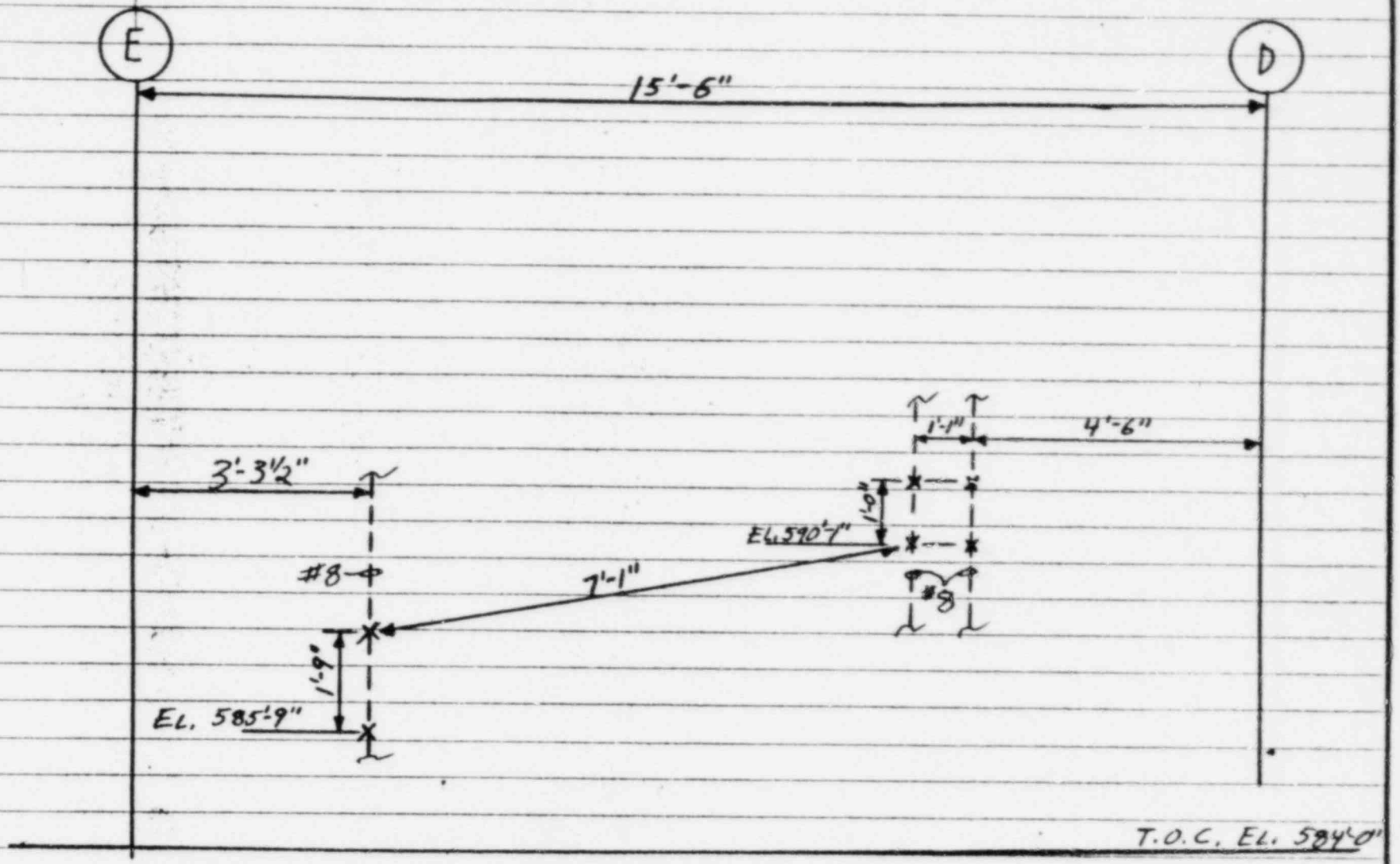
AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE



x Cut Rebar

WALL @ 5.6 LINE
EAST FACE - LOOKING WEST

X CONTACTED: J. KELLEHER (F.E.)

S/U : NON TESTABLE

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO.: 7220					19. NO. 3222	20. PAGE 1 OF 2
2. UNIT(S): I & II	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: INITIAL CURE OF CONCRETE SPECIMENS			5. ITEM LOCATION: FIELD	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A		9. SOURCE: FIELD ENGINEERING	10. CONTRACTOR/SUPPLIER: BECHTEL		
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. 3C 1.05-206 NO. ASTM C31-69		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g ( )Const (X)Test	15. Equip Furnished By ( )Client ( )Eng (X)FLD		

16. NONCONFORMING CONDITION: ASTM C31-69 STATES IN PART THAT THE INITIAL CURE TEMPERATURE OF CONCRETE SPECIMENS SHALL BE MAINTAINED AT A TEMP. OF 60° TO 80° F, DURING THE FIRST 24 HOURS AFTER MOLDING. CONTRARY TO THE ABOVE, SPECIMENS CAST ON 11-25-80 WERE MEASURED AT 83° F. TEST DATA IS ATTACHED. "Q" LIST # 4.18 . NO HOLD TAGS APPLIED

17. REPORTED BY: B. Desmond DATE: 11-26-80

18. VALIDATED BY: E Dennett DATE: 11/26/80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NCR - 3222

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE | DATE
CONTROL NUMBER | FILE NUMBER

Y(631.0)J — DATE PLACED 11-25-80

PLACE OF LOCATION: N of Serv. Water Bldg.

PLANT U.T. | Allied Concrete Products | CEMENT MAKE AND TYPE: Aetna Type I

C-1 | CLASS I | AIR ENT. ☒ YES ☐ NO | SPECIFIED STRENGTH 4600 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT — Yield: 27.80

41889 | TRUCK NO. 17 | TIME OF DISCHARGE 1222 HOURS AT 9 YARDS | INITIALS RH

SLUMP 6 1/2 INCHES | AIR CONTENT 6.3 | UNIT WEIGHT 144.60 LBS/FT³ | TEMP. CONCRETE 60 °F | TEMP. AIR 32 °F

WATER ADDED AT JOBSITE: 2.1 - 0.2 | STRING # NA | WATER/CEMENT + POZZOLAN RATIO .41 MAX. .47 ACT.

NA | NIA | STEAMED MIX START NIA AT NIA HRS. | INITIALS NIA

TEST DATA AT PLACEMENT

41889 | TRUCK NO. 17 | TIME OF TESTING 1326 HOURS AT 9 YARDS | TIME OF DELIVERY 1330 HRS.

SLUMP 3 3/4" INCHES | AIR CONTENT 5.2% | TEMP. CONCRETE 60° | TEMP. AIR 56° | INITIALS RB, NW

#4 | #83 | STEAMED MIX START 11-26-80 AT 0930 HRS. | INITIALS TAB

COMPRESSIVE STRENGTH DATA — ASTM - C - 39 - 71

SPECIMEN IDENTIFICATION	DATE MOLDED	DATE TESTED	AGE	TOTAL LOAD IN POUNDS	ACTUAL CYL DIAM.	ACTUAL CYL AREA	TYPE OF BREAK	% CURE FIELD	% CURE LAB	STRENGTH PSI
41889F 1111	11-25-80	12-2-80	7							
1112		"	7							
1113		12-23-80	28							
1114		"	28							
1115		2-23-81	90							
41889F 1116	11-25-80	"	90							

☐ CUBE ☐ CORE ☐ OTHER

INITIAL CURE OF SPECIMENS OUT OF TOLERANCE

TESTED BY | CHECKED BY | CHECKED BY QC REP

J. KELLEHER (F.E.) REFER TO NCR #:

LABORATORY SUPERVISION | DATE

TYPE OF BREAKS: A = CONE, MORTAR FAILURE B = CONE, AGGREGATE FAILURE C = SHEAR, MORTAR FAILURE
D = SHEAR, AGGREGATE FAILURE E = OTHER

Discussed with Butch Boone

NONCONFORMANCE REPORT

Start Up #2BGC

1. PROJECT NAME: Midland	JOB NO.: 7220			19. NO. 3223	20. PAGE 1 OF 1
2. UNIT(S): 2	3. DRAWING/PART NO.: M-604, Sh. 8	REV: 9/F1	4. ITEM DESCRIPTION: FW#41 on spool #2FCB-15-604-8-7		5. ITEM LOCATION: Aux. Bldg. El. 599'
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: Construction	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC ( ) OTHER IR NO. P-1.10-6 NO. FPW 4.000, Rev. 1		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO 11-26-80	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )Eng (X)FLD

16. NONCONFORMING CONDITION: REQUIREMENT: FPW-4.000, Rev. 1, states in part, "Copy #4 of the QCIR-W-1.00A form must be at the weld joint prior to the FWE accepting the fit-up & releasing the joint for welding. CONDITION: FW#41 was welded completely, prior to the attachment of copy #4 of the QCIR/W-1.00A, or fit up acceptance by the FWE, leaving the integrity of this weld joint indeterminite.

1 HOLD tag applied (Q# 4.047)

17. REPORTED BY: Joe Cabral DATE: 11/17/80

18. VALIDATED BY: R Brunch DATE: 11/26/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Alab

NONCONFORMANCE REPORT

1. PROJECT NAME	JOB NO.	19. NO.	20. PAGE
Midland	07220	1782	1 OF 3

2. UNIT(S)	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
1&2	N/A	N/A	2½" & Larger S. S. Valves, 600# & Higher	N/A

6. P.O. OR SPEC NO.	7. SERIAL NO.	8. REPLACEMENT PART	9. SOURCE	10. CONTRACTOR/SUPPLIER
M-123 - CC	N/A	P/N N/A REV N/A SER NO. N/A	Supplier	Anchor Darling

11. INSPECTION CRITERIA	12. ASME AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
( ) DWG ( ) SPEC (X) OTHER IR NO. N/A NO. BEBC 2620	( ) YES (X) NO	( ) YES (X) NO	( ) Rec'g (X) Const ( ) Test	( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION:

Q Material on this PO has been identified by Project/ Quality Engineering to be indeterminate in regards to satisfactorily completion qualification test requirements per spec. M-123C.

Q ℓ 4.0310, 4.106.

No hold tags applied.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Robert N Moxey	1-9-79	D Barclay	1-9-79

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Project Engineering to evaluate.

D. Short 1-12-79

23. PROJECT ENGINEERING DISPOSITION

Use as is, QTR questions resolved as follows:

Q-1) Vendor Print 7220-M-123C-44-1 covers only 6" gates. Do we need seperate calc's for 10" & 12" gate and stop check valves. See MR Items 21.4, 23.1, 24.1, 24.2, 24.3, 24.4?

A-1) Calculations are required for 10" and 12" gate and stop check valves and are provided via Vendor Prints 7220-M123C-58, and 7220-M123C-63 which are approved Level 1.

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER — DATE 11/6/80

PROJECT ENGINEER — DATE 10/20/80

PROJ CONSTR QC ENGINEER — DATE 11/10/80

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

Q.C. Concurs with P.E. disposition of "USE AS IS".

11/12/80

26. QC ACCEPTANCE 11/12/80

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Block 16 Continued.

A conditional release is granted to install the Q Material on this NCR. Corrections or removal can be accomplished without causing damage or contamination to the associated plant equipment or structure.

W. Miller RJB 1-12-79
PFE Date

E Barclay 1-13-79
PFQCE Date

E. Smith 1-12-79
LQAS Date

Block 23 Continued

Q-2) Spec M-123C Appendix 1 ¶A.1.1 indicates $3x10^7$ rad for 40 yr dose. Should LOCA dose be included? Should rad level be $2.0x10^8$ for Class 1E equipment?

A-2) All motor-operated valves on this order are located outside containment. Therefore, $3.0x10^7$ rad as specified is acceptable (refer to MR 7220-M-123C).

Q-3) Is Midland spray chemistry defined in MR? Should it be?

A-3) All motor-operated valves on this order are located outside containment. Therefore, spray chemistry is not applicable.

Q-4) Specification G-9 ¶5.1 requires flame test per 5-19-81. Has this been accomplished? Is certification on file?

A-4) Flame test certification has been provided on Vendor Print 7220-M123C-71.

Q-5) VP M-123C-37-1 pg 3-6 indicates that valve operator PRV malfunctioned. Is this acceptable?

Q-6) VP M-123C-37-1 pg 3-6 indicates test was halted after 5 days to "dry out" the 2 test valves. Is this acceptable? IEEE 382 ¶4.1 indicates no maintenance is to be performed. Does the VP violate this premis? (sic)

Q-7) VP M123C-37-1 pgs 3-6 & 3-9 - Is the description of the start button anomaly adequate? Does problem need further correction, i.e. design deficiency?

Block 23 Continued

Q-8) VP M-123C-37-1 pg 3-9, ¶3.3.4 what corrective action was taken to preclude low insulation resistance readings? Why were there chemical deposits on switch? What were chemicals? How did they get there? What precludes this from happening again?

Q-9) VP M-123 C-37-1 appendix D, no evidence that operators were exercised during vibration. Should test have been run during vib? How have we assured ourselves the operators will remain functional?

A-5 to 9) Vendor Print 7220-M123C-37-1 (i.e., Limitorque Report 600376) is not applicable to the motorized valves in question for the following reasons:

1) Vendor Print 7220-M123C-37-1 covers valves for use inside containment. As noted in A-2 above, these motorized valves are located outside containment.

2) Vendor Print 7220-M123C-37-1 covers valves for use in a boiling water reactor rather than a pressurized water reactor.

Vendor Print 7220-M123C-37-1 is being superseded by Vendor Print 7220-M123C-69-1 which certifies that Limitorque Generic Report B-0003 (i.e., Vendor Print 7220-M168-46) is applicable. Refer to attached Limitorque nuclear qualification data for safety-related service dated July 23, 1976.

Resp Engr — 10/29/80 Date

GS — R. Nicolaus for D. Andersen 10/29/80 Date

PQE — G. Maule for V. J. Manta 10-30-80 Date

V-342

NONCONFORMANCE REPORT

O-HEA

1. PROJECT NAME	JOB NO.	19. NO. 2095	20. PAGE 1 OF 1
GM. DLAND	7220		

2. UNIT(S)	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
2	M-178 M-60B Sht 1	4/5 B	4"2HCB-11 (M-60B Sht 1 FW 21)	A-x B/C East Wing Wall Sht

6. P.O. OR SPEC NO.	7. SERIAL NO.	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE	10. CONTRACTOR/SUPPLIER
N/A	N/A		Const	N/A

11. INSPECTION CRITERIA	12. ASME AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
(X) DWG (X) SPEC ( ) OTHER IR NO. N/A NO. M-204 Rev 10	(X) YES ( ) NO	( ) YES (X) NO	( ) Rec'g (X) Const ( ) Test	( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION: Spec. M-204-Rev 10-PARA 5.2.1, states in part; "CARE shall be taken in handling and installation of piping to prevent surface damage." Contrary to the above a pitted area was found on spool 4"2HCB-11, approx. ½" East of FW #21 (on M-60B-Sht-1) The defective area measures ¾"x⅝" x 1/16". The area of interest is located in the 6 o'clock position facing East.

Q# 4082 One Q.C. Hold tag Applies

17. REPORTED BY: L.W. Mansfield DATE: 4-23-79

18. VALIDATED BY: W Barclay DATE: 4-24-79

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Rework in accordance with spec. G-270 procedure ~~IRP-1~~ ED-1 Rev. 0 10-3-80

Inspection and repair of surface defects.

D. Williams 4/26/79

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
		STD	

PROJECT FIELD ENGINEER — DATE 4/30/79

PROJECT ENGINEER — DATE 5-3-79

PROJ. CONSTR QC ENGINEER — DATE

H.W. Kelton Jr. AUTHORIZED INSPECTOR — DATE 5/2/79

25. DISPOSITION RESULTS

Repaired in accordance with ED-1. Ref: NOE report # 12358, 12371 & 1914.

D. Smith 11/14/80

26. QC ACCEPTANCE

QC ENGINEER — DATE 11-17-80

AUTHORIZED INSPECTOR — DATE 11/17/80

NONCONFORMANCE REPORT (CONT'D) PAGE 2 OF 2 NCR NO 2095

(BLOCK 16 CONT)

CONDITIONAL RELEASE PIPING TO ALLOW WELDING OF FW #21 PRIOR TO REPAIR OF DEFECT TO AVOID WARPING END OF PIPE

CORRECTIONS OR REMOVAL CAN BE ACCOMPLISHED WITHOUT CAUSING DAMAGE OR CONTAMINATION TO ASSOCIATED PLANT EQUIPMENT OR STRUCTURE

10/8/80
10/9/80
10/9/80

FEC J. D. Martin 10/8/80 DATE

FE QCE [illegible] DATE

M. D. Dietrich FOR 10-8-80
PQAE DATE

AI [illegible] 10-9-80 DATE

S/U No Assigned Number

NONCONFORMANCE REPORT

1. PROJECT NAME: Midland	JOB NO.: 7220					19. NO. 2176	20. PAGE 1 OF 1
2. UNIT(S): 1	3. DRAWING/PART NO.: E540	REV: 11	4. ITEM DESCRIPTION: Control Panel IC14			5. ITEM LOCATION: Aux Bldg. El. 659	
6. P.O. OR SPEC NO.: 7220 J 201 Rev 6	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV NA SER NO. NA		9. SOURCE: Vendor	10. CONTRACTOR/SUPPLIER: Magnetics		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. E6.0-82 NO. J201 Rev 6		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD		

16. NONCONFORMING CONDITION: "Status Display Panel, (37 Position).
Upon Inspection (5) wire terminations have been noted loose from their soldered connection to the individual switch & (1) Wire is touching the moving member which activates the switch.

"Q" List * 5.031
(1) Hold Tag Applied. Hold for Engineering Disposition.

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
A. M. Lebovich	5/11/79	D. W. Barclay	5-11-79

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering
FNC 25511 5/14/79
Remove all status display modules; send to Magnetics for inspection, test, and recertification.

23. PROJECT ENGINEERING DISPOSITION
1) Magnetics ~~to do~~ has submitted a comprehensive, detailed inspection and soldering procedure. 2) Based on the Bechtel-approved inspection and soldering procedure, Magnetics is to conduct 100% inspection on all soldering connections and perform repair and retest as required. 3) Field QC shall see to it that the repair work and retest done by Magnetics in the field is in accordance with the requirements of the approved procedures and Specification 7220-J-201. 4.) ~~Area SQR shall see to it that the repair work and retest done by Magnetics in their shop is in accordance with the requirements of the approved~~ procedures and Specification 7220-J-201.
DPS 5/16/79
J. M. Cinderman 5/16/79

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

M. Mullikin - AMB 8-23-79
PROJECT FIELD ENGINEER DATE
J. Gilbertswell for PE 8-17-79
PROJECT ENGINEER DATE
D. W. Barclay 8-30-79
PROJ CONSTR QC ENGINEER DATE
AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS
Detailed inspection Conducted by Magnetics 9/7/79 Thru 9/14/79 Note: Acompanying list attached 9/25/79
Soldering procedure Training Conducted 9/13/79
Magnetics corrections were made by Bechtel and QC Le monitored W/E 9/21/79
Random sample from Magnetics optional rework and testing
A. M. Lebovich 9-22-79
Soldering rework Completed by Bechtel for Magnetics Rechecked 11/23/79

26. QC ACCEPTANCE
A. M. Lebovich 9/25/80
QC ENGINEER DATE
AUTHORIZED INSPECTOR DATE

HKM
FILE

MAGNETICS
A Division of Spang Industries Inc.

INDUSTRIAL CONTROL DIVISION
Sandy Lake, Pennsylvania · 16145
Telephone 412-376-7515

July 25, 1979

Bechtel Power Corporation
P.O. Box 1000
Ann Arbor, MI 48106

Attention: R.L. Castleberry

Subject: P.O. 7220-J-201-AC
Main Control Boards
Midland Units 1 and 2
Soldering Inspection

Gentlemen:

Please find attached discrepancy list of solder connections as a result of July 9, 1979 to July 11, 1979 inspection at jobsite.

Very truly yours,

MAGNETICS
INDUSTRIAL CONTROL DIVISION

R. Augustine

R.L. Augustine
Quality Assurance Manager

RLA/dd

Attachments

JOB 7220

	ACT.	INFO.	COPY	INIT.
PROJ. ENGR.				
ASST. P. E. T				
ASST. P. E. T		1		
ASST. P. E. P				
ASST. P. E. F				
MECH.				
ELECT.				
CS		3		
CIVIL				
P.D.				
ARCH.				
Q.E.		2		
C.TR./ENG. L PL.				
PROJ. [illegible]				
PROC. [illegible]				
FIELD				
CONST. [illegible]				
FSAR				
ADMIN.				
FILE NO.	J-201-B			

SOLDERING INSPECTION DISCREPANCY LIST

DIGITAL INDICATORS

Panel #	Device #	Wire #	Reason
OC10	OTI-5452B1	H	Broken Connection — ?
OC10	OFI-6037A J 726-101	1X1 Replaced	Cold Solder Joint — Broken Eyelet (R)
OC10	OTI-6146 J 726-51	1X1	Excess Wire Thru Terminal — OK.
OC10	OTI-1860	H	Visible Conductor in Joint — OK - Sr.
OC10	OTI-1870 OPI-6604 — Broken Wire + Terminal — (R)	2U	Excessive Solder — Replace Purchase new —
OC20	2TI-4931	2U	Broken Terminal
OC20	1LI-4930B	K	Cold Solder Joint
OC20	OFI-4904	H	Clearance to Adjacent Terminal
OC20	OLI-1400A	K	Wire Stripped too Long
OC20	1FI-4935	K	Wire Stripped too Long
OC20	OTI-6536B2	H	Cold Solder Joint
OC20	OTI-6528A2	1X1	Excess Wire thru Terminal
OC20	OTI-6528A2	2U	Excess Wire thru Terminal
1C14	1LI-1212	2U	Cold Solder Joints OK (R)
1C24	1FI-1990A	2U	Loose Solder Connection OK. (R)
1C24	1TI-1979A	POS.	Visible Conductor in Joint — (R) — OK
1C24	1TI-1905	1X1	Excessive Solder — OK (R)
1C24	1TI-1905	2U	Excessive Solder — OK (R)
1C24	1FI-1902	POS	Wire Not Completely Soldered OK (R)
1C24	1TI-1901	POS	Insufficient Solder OK (R)
1C21	1TI-3649B	—	The Wire Bundle That Goes To These Meters Have Been Cut Before Meter Connection
1C21	1TI-3649A		
1C21	1PI-3801		
1C21	1PI-3843A	ALL	Terminal Board On this Meter - Broken
2C11	2II-9019	1X1	Excessive Solder
2C11	2EI-9018	1M2	Cold Solder Joint
2C11	2PI-3929A	K	Excess Bare Conductor
2C11	2PI-3969A1	2U	Excess Bare Conductor
2C11	2PI-3969B1	1T2	Excess Bare Conductor
2C11	2PI-3969B1	2T2	Excess Bare Conductor
2C11	2PDI-4234	H	Excess Bare Conductor
2C11	2PDI-4234	K	Excess Bare Conductor
2C11	2PI-3943B	K	Charred Insulation
2C11	2TI-3918A	1X1	Terminal Bent
2C11	2PI-3967B1	1T2	Loose Connection
2C11	2EI-9039	1X1	Wire Broken Off Terminal
2C11	2EI-9023	2U	Wire Broken Off Terminal
2C11	2JI-9022	2U	Cold Solder Joint
2C11	2EI-9021	2U	Cold Solder Joint
2C11	2EI-9021	2VARA	Broken Off Terminal

SOLDERING INSPECTION DISCREPANCY LIST

DIGITAL INDICATORS

Panel #	Device #	Wire #	Reason
1C11	1TI-9025B	2AA	Excess Bare Conductor
1C11	1EI-9038	K	Excess Bare Conductor
1C11	1EI-9039	14	Loose Connection
1C11	1PI-3867B1	1X1	Broken Terminal and Terminal Board Broke off of Plug-In
2C21	2LI-4641B	ALL	Broken Terminal Board
2C21	2LI-4641A	K	Rough joint and Clearance Problem.
2C21	2TI-3749A	1X1	Excessive solder
2C21	2TI-3749A	2U	Excessive Solder
2C14	2PI-1121A	1X1	Excess Bare Conductor
2C14	2LI-1312	ALL	Terminal Board - Broke
2C24	2TI-1701B	2U	Cold Solder Joint
2C24	2PI-1708B	ALL	Broken Terminal Board
2C24	2LI-1727B	ALL	Broken Terminal Board
2C24	2PI-1708A	ALL	Broken Terminal Board
2C24	2LI-5228A	1X1	Excess Bare Conductor
2C24	2TI-1931	1X1	Broken Connection
2C24	2TI-1709A	2U	Insufficient Solder

SOLDERING INSPECTION DISCREPANCY LIST

Panel # 2C14 Resistor Bank - Red Channel

Row #	Resistor Group #	Reason
15	14	Insufficient Solder
24	12	Insufficient Solder
25	1	Insufficient Solder

Panel # 1C14 Resistor Bank - Red Channel

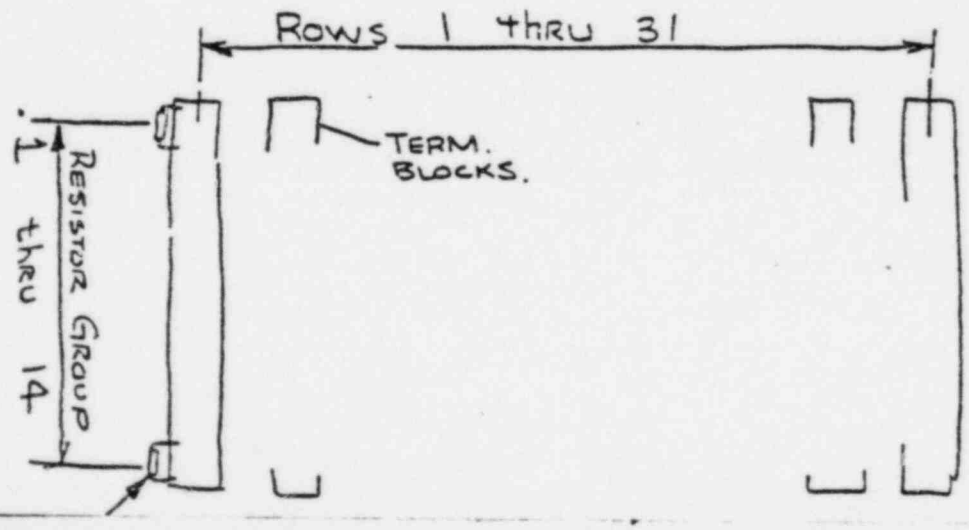
Row #	Resistor Group #	Reason
16	3	Insufficient Solder
16	12	Insufficient Solder
18	5	Insufficient Solder
20	11	Insufficient Solder

Panel # 2C14 Resistor Bank - Green Channel

Row #	Resistor Group #	Reason
6	6	Insufficient Solder
7	1	Insufficient Solder
14	7	Insufficient Solder
20	2	Insufficient Solder
20	7	Insufficient Solder

Panel # 1C14 Resistor Bank - Green Channel

Row #	Resistor Group #	Reason
27	7	Solder Connection Okay But Loose on Terminal Block
24	13	Solder Connection Okay But Loose on Terminal Block



SOLDERING INSPECTION DISCREPANCY LIST

PLUG - IN CONNECTORS

Panel # 1C14 Red From Resistor Bank

Plug #		Term #	Reason
RBIS-II	PL-5	N	Cold Solder Joint
RBCAS	PL-2	D	Pitted Solder Joint
RBIS-II	PL-3	D	Loose Connection
RBIS-II	PL-3	V	Loose Connection

Panel # 1C14 Green From Resistor Bank

Plug #		Term #	Reason
ECCAS	PL-3	ALL	Insufficient Solder
RBCAS	PL-2	D	Pitted Solder Joint
RBIS-II	PL-5	N	Cold Solder Joint

Panel # 2C14 Red From Resistor Bank

Plug #		Term #	Reason
AFWAS	PL-1	E K D K	Remains of wire and solder in cup from rework
RBIS-II	PL-3	ALL	Excessive Bare Conductor

Panel # 2C14 Green From Resistor Bank

Plug #		Term #	Reason
RBIS-II	PL-5	B C D	Pits in Solder Joint
LOP	PL-4	R S N	Excessive Bare Conductor

SOLDERING INSPECTION DISCREPANCY LIST

PLUG - IN CONNECTORS

Plugs mounted on pan at top of panel.

Panel 1C14 Red Channel

Inside Plug Plug #	Term #	Reason
1CA6	H	Nicked Wire
1CA8	P	Excessive Solder Joint
1CA10	Y	Excessive Solder Joint

Panel 1C14 Green Channel

Inside Plug Plug #	Term #	Reason
1CB12	O	Loose Connection
1CB12	P	Loose Connection
1CB12	Q	Loose Connection
1CB12	R	Loose Connection
1CB12	S	Loose Connection
1CB12	T	Loose Connection
1CB12	U	Loose Connection

Green plugs on outside of mounting pan.

1CB7	Y	Excessive Bare Conductor
1CB9	U	Insufficient Solder

Red plugs mounted on pan at top of panel

Panel 1C14 Red Channel

Inside Plug Plug #	Term. #	Reason
2CA1	All	Excessive Bare Conductor
2CA2	All	Excessive Bare Conductor
2CA3	F	Excessive Bare Conductor
2CA3	H	Excessive Bare Conductor
2CA4	D	Insufficient Solder Conductor
2CA4	S	Excessive Bare Conductor

SOLDERING INSPECTION DISCREPANCY LIST

Panel # OC1O Green Channel	Status Lights FPVASS One (l) Unit Wide	
Lite # Dl	Term # B	Excessive Bare Conductor
Panel # OC1O Green Channel	Status Lights CRlS Four (4) Units Wide	
Lite # Cl	Term # G	Excessive Solder
Lite # E2	Term # G	Insulation in Solder Joint
Panel # OC1O Red Channel	Status Lights FPVAS One (l) Unit Wide	
Lite # Dl	Term # C	Excessive Bare Conductor
Lite # Dl	Term # H	Excessive Bare Conductor

SEE ATTACHED ID SHEET.

JOB NO. _____ STATUS MODULE INSPECTION

CUSTOMER ORDER NO. _____

MODULE I.D. _____ UNIT WIDTH _____

INSPECTOR _____ DATE _____

AA

	1	2	3	4	5	6	7	8
A	A1	A2	A3	A4	A5	A6	A7	A8
B	B1	B2	B3	B4	B5	B6	B7	B8
C	C1	C2	C3	C4	C5	C6	C7	C8
D	D1	D2	D3	D4	D5	D6	D7	D8
E	E1	E2	E3	E4	E5	E6	E7	E8
F	F1	F2	F3	F4	F5	F6	F7	F8

REAR VIEW

SHEET 1 OF ____

MEMORANDUM

TO: Jim

LOCATION:

FROM: George P. Pfaltz

DATE: April 9 19 80

SUBJECT:

JOB NO.

FILE

Soldering Class - 9-13-79 0900 Control Room 2 hours.

(1) ☒ Hand Soldering Procedure

N-005

7220-3201-430-2

(2) Lecture

(3) Demonstration

(4) Question & Answer Session

Seminar Drawing Interpertation March 31, 1980 2 hours.
Classrooms A & B

(1) Lecture (In-depth analysis in the interpertation of electrical vendor drawings received under purchase order 3201.

(2) Demonstration w/ Xerox vendor drawings as well as full sized drawings.

(3) Question & Answer Session

(4) In-depth review of the alleged discrepancies found on panel 1C14 Rev 13 & 2B modifications.

SOLDERING CLASS 9-13-79 0900 CALLED ROOM

Dick Parsons
Angel Bradshaw
Tom Murray
Doug Bowlby
Prakash Mehra
W.L. Bowland
K.M. West
R.M. Jones
B. Compeau
Ken Drew
Neil Gainwood
Harold L. Banks
James A. Henderson
Ken Natalie
Gil Hoffman
R.D. Pendergast
G.M. Lefevre
D.L. Clayton
Gene Doyle
George Young
Robert Harper
Robert L. Johns
Leroy Brandebourg
John Ormejas
Gary Pinela
Sam Lam
Dick Harris

FIELD INSPECTION REPORT

3. RECORD CONTROL
CONTROL NO. _____
FILE NO. _____

1. PROJECT NO. 7220 2. DATE 7-11-79 PAGE 1 OF 1

4. ITEM INSPECTED 2 men representing Magnetics Inc. checking All soldered connections in main control Panels.
2 men were Doing a 100% ~~insp~~ visual inspection of all soldered connections. Also mechanical check where necessary.
J. Hiwest and B. Augustine (2) Magnetics Representatives

5. LOCATION 639' Aux Bldg. Control Room

6. TYPE OF INSPECTION Visual Surveillance

STANDARD / CODE / PROCEDURE / DRAWING / SPECIFICATION J-201-429-2

8. INSPECTION EQUIPMENT USED Flashlight
Magnifying glass

9. RESULTS OF INSPECTION: SATISFACTORY ☒ UNSATISFACTORY ☐

10. ACTION TAKEN IF UNSATISFACTORY

Distribution:
White – QC Files
Canary – Originator

11. ENGINEER George Young

2814 (7-73) SBS FORM 12959-1 QC-G1-1

BECHTEL

FIELD INSPECTION REPORT

3. RECORD CONTROL
CONTROL NO. _____
FILE NO. _____

1. PROJECT NO. 7220 2. DATE 9/18/79 PAGE 1 OF 1

4. ITEM INSPECTED
Repair of Soldered connections in Panel 0C10 For Digital Display instruments as supplied By Magnetics.

Magnetics was represented By MR. Herman Small work Being Done was as per Discrepency Report compiled By Magnetics Representatives.

5. LOCATION
659 Aux Bldg

6. TYPE OF INSPECTION
VISUAL inspection

7. STANDARD / CODE / PROCEDURE / DRAWING / SPECIFICATION
Hand Soldering Procedure

8. INSPECTION EQUIPMENT USED
Magnifying glass, Flashlight, Mirror

9. RESULTS OF INSPECTION: SATISFACTORY ☑ UNSATISFACTORY ☐

10. ACTION TAKEN IF UNSATISFACTORY

Distribution:
White – QC Files
Canary – Originator

11. ENGINEER George Young

2814 (7-73) BBS FORM 12999-1 QC-G1-1

BECHTEL

FIELD INSPECTION REPORT

3. RECORD CONTROL
CONTROL NO. _____
FILE NO. _____

1. PROJECT NO. 7220 2. DATE 9-19-79 PAGE 1 OF 1

4. ITEM INSPECTED
Repair of Soldered connections on Digital Display Modules on Magnetics Control Panels in the Control Room. Repairing Deficiencies as per Magnetics representatives inspection.

5. LOCATION
659' Aux Bldg. Control Room

6. TYPE OF INSPECTION
VISUAL INSPECTION

7. STANDARD / CODE / PROCEDURE / DRAWING / SPECIFICATION
J201 - 430-2

8. INSPECTION EQUIPMENT USED
Flashlight, Magnifying glass

9. RESULTS OF INSPECTION: SATISFACTORY ☑ UNSATISFACTORY ☐

10. ACTION TAKEN IF UNSATISFACTORY

Distribution:
White – QC Files
Canary – Originator

11. ENGINEER George Young

2514 (7-73) BBS FORM 12999-1 QC-G1-1

FIELD INSPECTION REPORT

3. RECORD CONTROL
CONTROL NO. _____
FILE NO. _____

1. PROJECT NO. 7220 2. DATE 9-21-79 PAGE 1 OF _____

4. ITEM INSPECTED Repair of soldered Joints on Magnetics Control Panels as per Magnetics list of faulty connections.

Human Small Factory Rep. Exited the Job at 9:30 A.M. Job is still incomplete, The Correction List is working with to wire, Soldering Complete

5. LOCATION 659' AUX BLDG.

6. TYPE OF INSPECTION visual inspection

7. STANDARD / CODE / PROCEDURE / DRAWING / SPECIFICATION 7220-5201-430-2

8. INSPECTION EQUIPMENT USED magnifying glass, flashlight

9. RESULTS OF INSPECTION: SATISFACTORY ☑ UNSATISFACTORY ☐

10. ACTION TAKEN IF UNSATISFACTORY

Distribution:
White – QC Files
Canary – Originator

11. ENGINEER George Young

2814 (7-73) BBS FORM 12999-1 QC-G1-1

NONCONFORMANCE REPORT S/U Non-testable Item

1. PROJECT NAME: Midland | JOB NO.: 07220 | 19. NO. 2465 ~~2460~~ | 20. PAGE 1 OF 2

2. UNIT(S): 2 | 3. DRAWING/PART NO.: E-650 SH 1 | REV: 15 | 4. ITEM DESCRIPTION: Anchor Installation | 5. ITEM LOCATION: R/B #2 see block #16

6. P.O. OR SPEC NO.: N/A | 7. SERIAL NO.: N/A | 8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A | 9. SOURCE: Construction | 10. CONTRACTOR/SUPPLIER: N/A

11. INSPECTION CRITERIA: ( ) DWG (X) SPEC ( ) OTHER — IR NO. see block #16 NO. C-305 rev 8 | 12. ASME AUTHORIZED INSPECTION REQ'D: ( ) YES (X) NO | 13. SKETCH ATTACHED: ( ) YES (X) NO | 14. Discovered During: ( ) Rec'g (X) Const ( ) Test | 15. Equip Furnished By: ( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION: Specification C-305, rev. 8, table 3.2 specifies minimum embedment of 1 5/8" for 3/8" Hilti drop-in (HDI) anchors. It also specifies the test load as 2.0 kips for 3/8" HDI anchors. Contrary to the above, as part of a random sampling of HDI anchors used on site, the following conditions were found to exist:

(E)

(continued page 2)

17. REPORTED BY: Raleigh Amos | DATE: 8/20/79 | 18. VALIDATED BY: T. F. Russell | DATE: 8/22/79

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Field engineering recommends disposition by project.

W. B. Hayes 9/10/79

23. PROJECT ENGINEERING DISPOSITION: Project Engineering has evaluated the nonconforming conditions and finds them unacceptable. Conditions A, B, and C shall be reworked to comply with Project Engineering approved drawings and specifications.

J. Alexander 9-11-79

R. Masterson 9/12/79

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

T. Miller RE 9/13/79
PROJECT FIELD ENGINEER DATE

S R Barnhart LHC 9-12-79
PROJECT ENGINEER DATE

[signature] 9/20/79
PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS: Anchors listed in block 16 as non-conforming are now controlled through the use of open inspection records as follows: Support #EC2-33-27, QCIR C1.51-C1.50-EH-88-1. Box #2HJ569, QCIR C1.51-C1.50-EH-96. Box #2BJ787, changed to Box #2BJ1321, QCIR C1.51-C1.50-EH-88-2. Ref. program to answer MCAR # 34. Dale S. Preslan 11-14-80

26. QC ACCEPTANCE Dale S. Preslan 11-14-80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Block # 16 continued

A.) A type 1 conduit support, EC2-33-27, for 2B6045, El. 606', 125° on the outside of the Secondary Shield Wall has the south anchor protruding approx. 1/16" beyond the concrete surface, while the north anchor is flush. As the length of 3/8" HDI anchors is 1 9/16", both anchors fail to meet the minimum embedment. (IR# C1.50-EH88)

B.) A type 9B box support for 2BJ787, El. 601', 125° on the outside of the Secondary Shield Wall has the middle HDI anchor in the lower strut protruding approx 1/16" beyond the concrete surface, thus this HDI anchor does not have the minimum embedment. (IR# C1.50-EH88)

C.) A type 9B box support for 2AJ569, El. 603', 335° on the outside of the Secondary Shield Wall has two HDI anchors, in the upper unistrut, which both protrude approx. 1/16" beyond the concrete surface, thus both of these HDI anchors fail to meet minimum embedment. (IR# C1.50-EH96)

HOLD FOR ENGINEERING DISPOSITION
Three (3) Hold Tags Applied
Qlist 1.102 & 3.006.

WELD

NONCONFORMANCE REPORT S/U # 2GJA

3 9 3 4-3-80

1. PROJECT NAME	JOB NO.			19. NO. 2645	20. PAGE 1 OF 2
MIDLAND	7220				
2. UNIT(S) 2	3. DRAWING/PART NO. FSK-M-2HBC-257-1	REV 0	4. ITEM DESCRIPTION SOCKET WELD NO # 3C1	5. ITEM LOCATION AUX. BLDG ELEV 13'-6" CF 7.4 648'-10" / 3/4" N. OF D	
6. P.O. OR SPEC NO. N/A	7. SERIAL NO. N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE CONST.	10. CONTRACTOR/SUPPLIER N/A	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO FSK-M-2HBC 257-1-(4) NO. ASME III	12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )Eng (X)FLD	

16. NONCONFORMING CONDITION: ASME CODE SUBSECTION NA-4520 STATES THAT MANDATORY hold POINTS, AT which WITNESSING OR EXAMINATION IS REQUIRED by THE MANUFACTURER'S OR INSTALLER'S INSPECTOR, AND beyond which work SHALL NOT PROCEED WITHOUT CONSENT OF THE INSPECTOR. CONTRARY TO THE ABOVE, THE hold POINT OF 2.1C ON THE ABOVE WELDING QCIR WAS (SEE PAGE 2)

17. REPORTED BY Chuck Grout DATE 10-17-79

18. VALIDATED BY R.D. Barclay DATE 10-23-79

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

~~FIELD ENGINEERING RECOMMENDS THAT THE ABOVE SOCKET WELD be RADIOGRAPHED FOR FIT-UP WITHDRAWAL REQUIREMENTS. IF WITHDRAWAL IS ACCEPTABLE TO PROJECT SPECIFICATIONS BASED ON RADIOGRAPHIC RESULTS, THE AUTHORIZED INSPECTOR HAS AGREED TO A FINAL INSPECTION ACCEPTANCE~~ RDS 4/4/80 P.S. Brooks 11-28-79

23. PROJECT ENGINEERING DISPOSITION

INSPECTION OF THE RADIOGRAPH BY PROJECT ENGINEERING SHOWS THAT THE ~~SOCKET~~ SOCKET WELD # 3C1 MEETS THE FIT-UP WITHDRAWAL REQUIREMENTS AND IS DEEMED ACCEPTABLE. ACCEPTANCE HAS ALSO BEEN GIVEN BY THE AUTHORIZED INSPECTOR. PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING TO "USE AS IS". R.S. Stafford 10-22-80

See REM-845. QE L. Snyder 10-22-80

) NO DRAWING CHANGE.

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER 11/4/79 DATE

PROJECT ENGINEER DATE

PROJECT CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR 12-3-79 DATE 9-4-80

25. DISPOSITION RESULTS

Subject weld 3C1 was X-Ray and found to be acceptable see report # 1890 NDE

This Complys to the project Engineerings disposition of this NCR

26. QC ACCEPTANCE

QC ENGINEER 11/3/80 DATE

AUTHORIZED INSPECTOR 11/4/80 DATE

M 10-13-80

See pg 3 for concurrence

BECHTEL

NONCONFORMANCE REPORT (CONT'D) 1. PAGE 2 OF 3 4-3-80 14. NCR NO. 2645

BLOCK NO. 16 CONT:

BYPASSED PRIOR TO THE AUTHORIZED INSPECTOR'S INSPECTION. THE SUBJECT WELD WAS COMPLETED. 9-10-79

Q-LIST NO. 4.572 HOLD FOR ENG. DISPOSITION. 1 HOLD TAG APPLIED TO WELD.

BLOCK 22 CONTINUED:

~~FIELD ENGINEERING RECOMMENDS THAT SOCKET WELD 3C1 BE CUT-OUT AND REWELDED IN ACCORDANCE WITH PROJECT PROCEDURES AND SPECIFICATIONS~~

~~P. S. Brooks 4/3/80~~

BLOCK 22 REVISED:

FIELD ENGINEERING WITH THE CONCURRENCE OF THE AUTHORIZED INSPECTOR RECOMMENDS TO "USE AS IS".

THE SOCKET WELD # 3C1 HAS BEEN X-RAYED AND IS ACCEPTABLE FOR FIT-UP WITHDRAWAL REQUIREMENT.

NDE REPORT # 1890 Jean S Soucie 10-9-80

REVIEWED RT OF FW3C1 FSK-M-2571 - 10-8-80 WWM 10-22-80

10055-2

White Copy – Originator
Canary Copy – Field Engineer
Pink Copy – PQAE
Goldenrod Copy – QC

QC-63-3

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 — 19. NCR NO. 2645

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			X

PROJECT FIELD ENGINEER — DATE 4/4/80
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE 4-10-80
AUTHORIZED INSPECTOR — DATE 5-6-80

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			X

PROJECT FIELD ENGINEER — DATE 10/29/80
PROJECT ENGINEER — DATE 10/23/80
PROJECT CONSTR QC ENGINEER — DATE 10/29/80
AUTHORIZED INSPECTOR — DATE 10-30-80

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

X WELDING

S/U 2-GTA

DISCUSSED WITH K BISHOP 11-1-79

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 2896	20. PAGE 1 OF 2
2. UNIT(S): TWO	3. DRAWING/PART NO.: FSK-2HBC-198-2	REV: 0	4. ITEM DESCRIPTION: SOCKET WELDS	5. ITEM LOCATION: AUX BLDG.	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA (X) DWG (X) SPEC ( ) OTHER IR NO. N/A NO. G-27		12. ASME AUTHORIZED INSPECTION REQ'D (X) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION: SPEC G-27, REV 11, DWG-GWS-FM-7 STATES THAT THE MINIMUM SIZE OF A SOCKET WELD SHALL BE 1.09 TIMES THE PIPE WALL THICKNESS

CONTRARY TO THE ABOVE, THE SOCKET WELDS LISTED ON PAGE TWO WERE FOUND TO BE UNDER THE REQUIRED SIZE

ONE Q.C. HOLD TAG APPLIED, Q# 4572 (SEE PAGE TWO)

17. REPORTED BY: M. Hollenbeck DATE: 2-13-80

18. VALIDATED BY: W Barclay DATE: 2-13-80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Field Engineering recommends the reissuence of the necessary QCIR's and reweld socket weld 1 through 13 and 15 through 18 as shown on the attached sheet. Rewelding shall be in accordance with specification G-27, Dwg. GWS-FM-7. For those welds requiring welder identification, review

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE 2/5/80

PROJECT ENGINEER — DATE 2-24-80

PROJ CONSTR QA ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE 5/12/80

25. DISPOSITION RESULTS

SOCKET WELDS DISPOSITIONED PER FSK-2HBC-198-2 A

D. Gaietta 4/14/80

28. QC ACCEPTANCE

QC ENGINEER — DATE 11-12-80

AUTHORIZED INSPECTOR — DATE 11/17/80

SU 2-GIA

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 2896

BLOCK 16 CONTINUED

SOCKET WELDS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18

ALSO SOCKET WELDS 4, 5, 10, 11, 15, 16 HAVE NO WELD I.D OR WELDER I.D

Blk. 22 cont.)
the original documentation to obtain welder I.D. and have it applied to socket welds 4, 5, 10, 11, 15, & 16. before rewelding.

P.S. Bryan 2/14/80

2-15-80

Discussed with: Bruce McKenzie

Piping

NONCONFORMANCE REPORT

5/4 # 1BNA

3 Rej 3-20-80

1. Project Name: Midland	Job No.: 7220			19. No. 2924	20. Page 1 of 1
2. Unit(s): 1	3. Drawing/Part No.: M 177	Rev: 8	4. Item Description: 24" IHCB 1 & 2		5. Item Location: Cont 1 (Sump)
6. P.O. Or Spec No.: NA	7. Serial No.: NA	8. Replacement Part P/N NA REV NA SER NO. NA	9. Source: Const.	10. Contractor/Supplier: NA	

11. Inspection Criteria: ☐ DWG ☒ SPEC ☐ OTHER — IR NO. P-1.10-41122-1 NO. M481 Rev 16

12. ASME AUTHORIZED INSPECTION REQ'D: ☒ YES ☐ NO

13. SKETCH ATTACHED: ☐ YES ☒ NO

14. Discovered During: ☐ REC'G ☒ CONST ☐ TEST

15. Equip Furnished By: ☐ CLIENT ☒ ENG ☐ FLD

16. Nonconforming Condition:

Requirement: Spec. M481 For HCB class pipe 10" thru 24" shall be standard wall thickness, which is .375.

Condition; Contrary to the above pipes 24" IHCB 1 & 2 have a wall thickness of .250".

Q List # 4,124

2 Hold tags applied

17. Reported By: Wallace Smith — Date: 3-3-80

18. Validated By: [signature] Barclay — Date: 3-5-80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☐ Field Engineering Disposition ☒ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

Because of the low pressure design (50 PSIG norm, 150 PSIG max) and the inability to replace the pipe (it is inside a sleeve) the field would recommend using as is. It should be noted that "pup" pieces have to be added on these lines, the field will add standard wall "pups" at the end with the angle valves attached. At the point where the sch 10 pipe will be welded

23. Project Engineering Disposition

~~PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING TO "USE AS IS", SEE REM-724 — Richard C Arthur 3-20-80~~

See PAGE 2. Rej 3-20-80

No DRAWING CHANGE

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
			X

[signature] 3/17/80
PROJECT FIELD ENGINEER — DATE

[signature] 3/13/80
PROJECT ENGINEER — DATE

[signature] 3-18-80
PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

See PAGE 3. Rej 3-20-80

25. Disposition Results

FW 9 ON M177 IS SATISFACTORY AND HAS BEEN GROUND TO A 3 TO 1 TAPER. CRJ 10-10-80

FW14 on M177 has had I.D. ground to proper thickness and at 3 to 1 taper [signature] Rej 9/22/80

Q.C. CONCURS WITH THE USE-AS-IS DISPOSITION, [signature] 11-10-80

26. QC Acceptance

[signature] 11-10-80
QC ENGINEER — DATE

[signature] 11/10/80
AUTHORIZED INSPECTOR — DATE

REQ TO DISPOSITION

Sheet 3 of 3 for Concurrence

Blk. 22 cont.)
to the standard wall, the standard wall will have the I.D. ground at a 3TO1 taper to match the sch. 10. (B.M.) D. Slot 3/10/80

Block 23 (continued)
Pipe wall thickness calculation F-M-5003-22(Q), Rev. 3 shows that the required wall thickness to meet the service conditions is 0.126". Therefore, the use of 24" schedule 10 wall thickness of 0.250" in lieu of the standard wall thickness of 0.375" for 24" 1HCB-1&2 pipe is acceptable. No ASME Code requirements have been violated. Project Engineering concurs with Field Engineering to "use-as-is". See RE-M-725.

Richard E Shepard 3.20.80

BECHTEL

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 Rev. 3 2 80 19. NCR NO 2924

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			X

PROJECT FIELD ENGINEER — DATE 3/21/80

PROJECT ENGINEER — DATE 3/20/80

PROJECT CONSTR QC ENGINEER — DATE 3-24-80

AUTHORIZED INSPECTOR — DATE 4-1-80

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Civil

Corrected Copy

POOR ORIGINAL

NONCONFORMANCE REPORT

S/U CODE: INDETERMINATE. 6 8/20/80

1. Project Name: MIDLAND	Job No.: 7220			19. No. 2971	20. Page 1 of 2
2. Unit(s): 1	3. Drawing/Part No.: N/A	Rev: –	4. Item Description: 2 EA - REPLACEMENT OUTER DOOR SEAL # PR 4320-6-4322-344	5. Item Location: WASE #1	
6. P.O. ~~Or Spec No.~~: C-50B-AC Rev 12	7. Serial No.: N/A	8. Replacement Part P/N ___ REV ___ SER NO. N/A	9. Source: SUPPLIER	10. Contractor/Supplier: W. J. WOOLLEY CO.	
11. Inspection Criteria ☐ DWG ☐ SPEC ☒ OTHER IR NO. 2403-12730 NO. P.O. C503-AC Rev. 12	12. ASME AUTHORIZED INSPECTION REQ'D ☐ YES ☒ NO	13. SKETCH ATTACHED ☐ YES ☒ NO	14. Discovered During ☒ REC'G ☐ CONST ☐ TEST	15. Equip Furnished By ☐ CLIENT ☒ ENG ☐ FLD	

16. Nonconforming Condition: P.O. 7220-C-50B-AC Rev. 12 requires shop inspection. Contrary to the above; NO shop Inspection release or signature on the G-321-D were received, therefore, making the documentation received for the subject door seals indeterminate. P number is 1.1013. Hold pending Engineering disposition. 1 Hold tag applied to the nonconforming items.

17. Reported By: [signature] Date: 4/3/80

18. Validated By: [signature] Date: 4-9-80

21. Routing: 4-8-80 ☒ TO FIELD ENGINEERING 4-8-2980 ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☒ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

IN LIEU OF SHOP INSPECTION THE FOLLOWING CAN BE PERFORMED; ① THE SEALS SHALL BE INSPECTED FOR DIMENSIONAL REQUIREMENTS AS SHOWN ON THE VENDOR DRAWINGS BY PROJECT ENGINEERING OR THEIR REPRESENTATIVE. ② THE DOCUMENTATION PACKAGE SHALL BE REVIEWED BY THE SUPPLIER QUALITY REPRESENTATIVE AT THE JOBSITE

23. Project Engineering Disposition

IN ADDITION TO ITEMS 1 AND 2 REQUIRED BY FIELD DISPOSITION, SEALS SHALL BE INSPECTED FOR DEFLECTS, DAMAGE AND FOREIGN FLUID OR DEBRIS ON THE SEALS. ENGINEERING RECOMMENDS DISPOSITION OF "USE AS IS" IF INSPECTION OF SEALS PROVES ACCEPTABLE & DOCUMENTATION IS ACCEPTABLE.

[signature] 5/2/80 W Hagedorn 5/1/80 [signature] 5/1/80

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
			X

[signature] PROJECT FIELD ENGINEER DATE 5-12-80

[signature] PROJECT ENGINEER DATE 5/16/80

[signature] PROJECT CONSTR QC ENGINEER DATE 5/16/80

NACAD 4/10/81 AUTHORIZED INSPECTOR DATE

25. Disposition Results

MATERIAL returned to vendor on shipping notice 12935

[signature] 11/12/80

26. QC Acceptance [signature] 11/12/80 QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

See pg 6 for concurrence of revised disp.

U 4-22-80

Add to disposition

Corrected Copy

NONCONFORMANCE REPORT (CONT'D) 20 PAGE 2 OF 2 6 8/20/80 19 NCR NO 2971

BLOCK 22 CONTINUED . . .

FOR COMPLETENESS.

L E Morris 4/21/80
J P Batte 4/21/80

BLOCK 16 CONTINUED.

upon re-inspection by Field SQR + Q.C. Receiving damage was found. (See attached memo from Wayne Lemke to Pat Gray) making the disposition of the Gaskets indeterminate.

G. F. [illegible] J P Batte 8/21/80

BLOCK 22 REVISED . . . ☒ FIELD ENGINEERING DISPOSITION

THE INFLATABLE DOOR SEALS FOR THE EMERGENCY PERSONNEL LOCK SHALL BE RETURNED TO THE VENDOR, W. J. WOOLLEY Co., ~~BECHTEL SHALL EITHER; A), INSPECT THE SEALS IN THE PRESENCE OF A BECHTEL SHOP INSPECTOR, DEMONSTRATING TO HIM THAT THE SEALS ARE OF AN ACCEPTABLE QUALITY AND, OBTAIN THE CORRECT DOCUMENTATION AND SIGNATURES AS PER THE C-50-B SPECIFICATION TO ACCOMPANY THE RETURN SHIPMENT OF THE MATERIAL TO THE JOBSITE, OR,~~

~~B), REJECT THE SEALS IDENTIFIED IN BLOCK 4 OF THIS NCR AND DELIVER NEW SEALS OF ACCEPTABLE QUALITY TO THE JOBSITE WITH THE CORRECT DOCUMENTATION AS REQUIRED BY SPEC C-50-B, AND, INSPECTION BY THE BECHTEL SHOP INSPECTOR.~~

Paul Doguen 11/5/80

X-OUT L.E.M. 11/5/80

L. E. Morris 8/27/80
J P Batte 8/28/80

BECHTEL

MEMORANDUM

Pat Gray
Wayne Lemke

LOCATION 7220 Site
DATE May 28, 19 80

Disposition of NCR # 2971

JOB NO. C-SOB-AC

FILE

The attached 12 pages constitute the documentation package, as received, from the Supplier, W.J. Woolley Co.

The two (2) seals (per the G-321-D form P/N 31587-41-5) are located in the Q.C. Hold Area of the jobsite warehouse.

The following references were reviewed:

1. Control # 7220-CSOB-166-S* (given Act. # 2 on 3-12-80) - Supplier Bill of Material .... In part: "Heavy duty canvas reinforced inflatable seals .... New H-Robbins design...." -4 measures 8'-3 3/4" ± 1/2" and -5 measures 8'-11 5/8" ± 1/2"

2. Control # 7220-CSOB-231-1, Book 1 and 2 of 2 (given Act. # 3 on 3-24-80) - Supplier Oper./Maint. Manual from Sect. VIII, Recommend Spare Parts, pg. 16 (13 of 20) and pg. 17 (14 of 20).... In part: "Check for cuts, scratches, and any unusual wear. If wear is found replace the seals."

Corrected Copy

* ALSO CONTAINED IN CSOB-231-1 on page 27.

MEMORANDUM

Corrected Copy

DATE

JOB NO. C-50B-AC

FILE

3. Control # 7220-C50B-219-1 (given Act. #1 on 11-22-76) - Prefab Handling, Stg., Shipping, & Preservation Procedure No. 460 .... In part: "handled in a manner .... prevent damaging .... surface of the product...." "stored to preclude damage...." "shipment.... which will prevent damage...."

4. Control # 7220-C50B-221-1 and 222-1 (both given Act. #1 on 3-11-77 Supplier Storage Procedure NO. SP-1 and SP-2 .... In part: "Spec. Prep. remove the inflatable seals, ... wrap each part with polyethylene plastic and store in a well-marked wooden box. Before closing ...., place a few desiccant packets in it to absorb moisture.

5. Tech. Spec. C-50 (Rev. 15) par. 7.5, MIR C-50B (Rev. 8), and P.O. C-50B (Rev. 12) give no definite inspection instructions for looking at inflatable seals only.

The physical check of the two (2) seals disclosed the following

- Seal P/N PR-4320-6-4322-3 (longer of the two seals) has a hole ≅ 1/16" dia (depth indeterminate) on the outside surface of the inflatable surface approx. 2ft. from the valve stem.

MEMORANDUM

Corrected Copy

C-50B-AC

- Seal P/N PR-4320-6-4322-4 (shorter of the two seals) has a small cut on the inside inflatable surface ≅ 8" from the stem, rub marks - - - - - - - - - - in the opposite direction, and a small hole on the outside surface at the inflatable radius ≅ 180° from the stem.

- Both seals were "U-shape" folded in a cardboard box (the same box) one stacked on top of the other & neither was wrapped in any protective covering

In my opinion, the hardware is not acceptable. Therefore, I have not yet reviewed the documentation package. Please advise.

Corrected Copy

NONCONFORMANCE REPORT (CONT'D) 20. PAGE 6 OF 6 19. NCR NO 2971

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
	X		

R. Foss — PROJECT FIELD ENGINEER — DATE 8-29-80

PROJECT ENGINEER — DATE

[illegible] — PROJECT CONSTR QC ENGINEER — DATE 9/5/80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
	X		

[illegible] — PROJECT FIELD ENGINEER — DATE 11/5/80

PROJECT ENGINEER — DATE

[illegible] — PROJECT CONSTR QC ENGINEER — DATE 11/10/80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Rel. DOT Tanner

NONCONFORMANCE REPORT START UP CODE INDETERMINATE

1. Project Name	Job No.			19. No. 3008	20. Page 1 of 3
Midland	7220				
2. Unit(s)	3. Drawing/Part No.	Rev	4. Item Description	5. Item Location	
IND	NA	NA	Packing Gland Nuts and Lockwashers	QC HOLD AREA WAREHOUSE 1	
6. P.O. ~~Spec~~ No.	7. Serial No.	8. Replacement Part	9. Source	10. Contractor/Supplier	
7220-F-45796Q	NA	P/N NA REV ___ SER NO. ___	Supplier	Target Rock	

11. Inspection Criteria	12. ASME AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
☐ DWG ☒ SPEC ☐ OTHER IR NO R-100-12718 NO. M-123-B rev 6	☐ YES ☒ NO	☐ YES ☒ NO	☒ REC'G ☐ CONST ☐ TEST	☐ CLIENT ☐ ENG ☒ FLD

16. Nonconforming Condition: Purchase Order number 7220-F-45796Q requires Material to be furnished in accordance with original Valve Purchase order M-123-B. Purchase order and technical specification M-123-B require quality verification documentation in accordance with form G-321-D. However purchase order and Specification M-123-B do not identify spare Parts, Leaving documentation requirements indeterminate at this Time. Supplier has submitted a certificate of Compliance, but no form

17. Reported By: John Kramer Date: 5/22/80

18. Validated By: [signature] Date: 5/27/80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

~~Material Supervisor to obtain correct documentation per rev 1 to this P.O. D. Shot 5/30/80~~ 5-30-80 P.O. F45796Q revised to require certificate of compliance only. These parts are not pressure retaining, and do not require certified material test reports. (material and certificate of compliance received). (D.T.) 6-27-80

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
☒			

[signature] PROJECT FIELD ENGINEER DATE 5/30/80

PROJECT ENGINEER DATE

[signature] PROJECT CONSTR QC ENGINEER DATE 6/6/80

AUTHORIZED INSPECTOR DATE 6-27-80

25. Disposition Results

QC concurs with Engineering disposition as Certificate of Compliance is received as noted on Block number 16

John Kramer 11/5/80

26. QC Acceptance

John Kramer QC ENGINEER 11-5-80 DATE

AUTHORIZED INSPECTOR DATE

See pg. 3 for concurrence

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 3 10-29-80 19NCR NO 3008

G-321-D has been received. "Q" number is indeterminate 1 Hold tag applied.
Hold pending final disposition

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 10-29-80 19. NCR NO 3008

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE 10/30/80

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE 11-3-80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK | REJECT | REPAIR | USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Ref.
Dot Tanner

NONCONFORMANCE REPORT

START UP CODE : INDETERMINATE

1. Project Name: Midland	Job No.: 07220			19. No. 3010	20. Page 1 of 3
2. Unit(s): IND.	3. Drawing/Part No.: NA	Rev	4. Item Description: Lockwashers and Hex Nuts	5. Item Location: QC Hold Area WAREHOUSE I	
6. P.O. Or ~~Spec~~ No.: F45567	7. Serial No.: NA	8. Replacement Part: P/N NA REV ___ SER NO. ___	9. Source: Supplier	10. ~~Contractor~~/Supplier: Target Rock	
11. Inspection Criteria: ☐ DWG ☒ SPEC ☐ OTHER — IR NO. R-1.00-12719, NO. M-125-B rev 3	12. ASME AUTHORIZED INSPECTION REQ'D: ☐ YES ☒ NO	13. SKETCH ATTACHED: ☐ YES ☒ NO	14. Discovered During: ☒ REC'G ☐ CONST ☐ TEST	15. Equip Furnished By: ☐ CLIENT ☐ ENG ☒ FLD	

16. Nonconforming Condition: Purchase Order number 7220-F-45567 Q requires material to be furnished in accordance with original Valve Purchase Order M-125-B. Purchase order and Technical Specification M-125-B require Bechtel shop inspection and Quality Verification Documentation in accordance with form G-321-D. However Purchase Order and Specification M-125-B do not identify spare parts, leaving Documentation requirements indeterminate at this time. Supplier has submitted a Certificate of Compliance, but no form G-321-D or Shop Inspector's release

17. Reported By: John Kramer Date: 5/22/80

18. Validated By: [signature] Date: 5/27/80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

~~Material Supervisor to obtain correct documentation per rev 1 to this P.O. D. Shot 5/30/80~~ P.O. F45567 Q revised to require certificate of compliance only. These parts are not pressure retaining, and do not require certified material test reports. (material and certificate of compliance received). (D.T.) ~~Con Readue to~~ 10-29-80

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
Rec			

[signature] 5/30/80
CONST FIELD ENGINEER DATE

PROJECT ENGINEER DATE

[signature] 6/4/80
PROJECT CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE 10-29-80

25. Disposition Results: QC concurs with Engineering disposition as Certificate of Compliance is received as noted in block number 16. John Kramer 11-5-80

26. QC Acceptance: John Kramer 11-5-80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

see pg. 3 for concurrence

Block #16 contd.

NONCONFORMANCE REPORT (CONT'D)

20PAGE 2 OF 3 | 10-29-80 | 19NCR NO 3010

has been received. "Q" number is indeterminate I hold Tag applied Hold Pending final disposition

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 10-29-80 19. NCR NO 3010

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
DOC			

PROJECT FIELD ENGINEER — 10/30/80 DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — 11-3-80 DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Rel.
Dot
Tanner

BECHTEL

NONCONFORMANCE REPORT

START UP CODE; INDETERMINATE

1. Project Name: Midland	Job No.: 7220			19. No. 3011	20. Page 1 of 2
2. Unit(s): IND.	3. Drawing/Part No.: NA	Rev: NA	4. Item Description: Lockwashers and Hex Nuts		5. Item Location: QC Hold Area WAREHOUSE I
6. P.O. ~~Spec~~ No.: F45566	7. Serial No.: NA	8. Replacement Part P/N ___ REV ___ SER NO. ___	9. Source: Supplier	10. ~~Contractor~~/Supplier: Target Rock	
11. Inspection Criteria ☐DWG ☒SPEC ☐OTHER IR NO. R-1.00-12720 NO. M-123-B rev 6			12. ASME AUTHORIZED INSPECTION REQ'D ☐YES ☒NO	13. SKETCH ATTACHED ☐YES ☒NO	14. Discovered During ☒REC'G ☐CONST ☐TEST	15. Equip Furnished By ☐CLIENT ☐ENG ☒FLD

16. Nonconforming Condition: Purchase Order number T220-F45566Q requires material to be furnished in accordance with original Valve Purchase Order M-123-B. Purchase Order and Technical Specification M-123-B require Bechtel Shop inspection and Quality Verification documentation in accordance with form G-321-D. However Purchase Order and Specification M-123-B do not identify Spare Parts, Leaving documentation requirements indeterminate at this time. Supplier has submitted a Certificate of Compliance, but no form G-321-D or Shop inspectors release has

17. Reported By: John Kramer Date: 5/22/80

18. Validated By: [illegible] Date: 5/27/80

21. Routing: ☒TO FIELD ENGINEERING ☐TO OTHERS (SPECIFY)

22. ☒Field Engineering Disposition ☐FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

~~Material Supervisor to obtain correct documentation per rev. 1 to this P.O. D. Shot 5/30/80~~ P.O. 9-2-80 P.O. F45566Q revised to require certificate of compliance only. These parts are not pressure retaining, and do not require certified material test reports. (material and certificate of compliance received). (D.T.) Tom Hendricks 10-29-80

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
~~DOC~~			

PROJECT FIELD ENGINEER [illegible] DATE 5/30/80

PROJECT ENGINEER [illegible] DATE 6/6/80

PROJECT CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE 10-29-80

25. Disposition Results: QC concurs with Engineering disposition as Certificate of compliance is received as noted in block number 16a.

John Kramer 11-5-80

26. QC Acceptance: John Kramer (QC ENGINEER) 11-5-80 DATE

AUTHORIZED INSPECTOR DATE

see pg. 3 for concurrence

Block #16 Contd.

NONCONFORMANCE REPORT (CONT'D)

20PAGE 2 OF 3

30 10-29-80

19NCR NO 3011

been received "Q" number is indeterminate Hold tag applied Hold Pending final disposition

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 (R8 10-29-80) 19. NCR NO. 3011

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			X

PROJECT FIELD ENGINEER — DATE 12/30/80

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE 11-3-80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Corrected Copy

NONCONFORMANCE REPORT S/U Non Testable

1. PROJECT NAME: MIDLAND PROJECT	JOB NO. 7220			19. NO. 3016	20. PAGE 1 OF 3
2. UNIT(S): 1&2	3. DRAWING/PART NO.: N/A	REV N/A	4. ITEM DESCRIPTION: POTENTIAL REACTIVITY OF AGGREGATE		5. ITEM LOCATION: TESTING LAB
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: SUBCONTRACT	10. CONTRACTOR/SUPPLIER: U.S. TESTING CO.	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. SC-1.05-179 NO. C-208		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g ( )Const (X)Test	15. Equip Furnished By ( )Client (X)Eng ( )FLD

16. NONCONFORMING CONDITION: SPECIFICATION C-208, REV. 19, TABLE 1 STATES AGGREGATE SHALL BE TESTED FOR POTENTIAL REACTIVITY (A.S.T.M. C-289-71) EVERY SIX (6) MONTHS AND IS REQUIRED BY P.O. # 7220 F 46526 Q. ASTM C-289-71 STATES IN PART, AGGREGATE CONSIDERED TO BE INNOCUOUS ON THE BASIS OF REDUCTION IN ALKALINITY, HAVE NO ADVERSE REACTIONS. CONTRARY TO

17. REPORTED BY: Bill DeDiamond DATE: 6-3-80

18. VALIDATED BY: [illegible] Concurred 6/3/80 DATE: [illegible] Concurred 6/3/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Refer to project engineering for disposition. Additional testing of the potentially deleterious material per ASTM C-227 and ASTM C-295 has been requested from U.S. Testing, Inc. and will be forwarded upon completion. R.D. Walsh 6/19/80 [illegible] 6/19/80

(SEE PAGE 2 FOR REVISED FIELD ENGR. DISPOSITION)

23. PROJECT ENGINEERING DISPOSITION

Project Engineering recommends that the aggregate shall not be used till the results of further tests are received and found satisfactory.

for B. Shaw 7/9/80

7.1-80 P. Shaw 7/9/80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
	X		

10-30-80

PROJECT FIELD ENGINEER DATE

M.S. Ghaly for H. Curtis 7/11/80

PROJECT ENGINEER DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

NO "Q" CONCRETE WAS PLACED.

BP 11-7-80

26. QC ACCEPTANCE B. DeDiamond 11-7-80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Shaw

C-B 10-8-80 BP

C 6/20/80 CW

Shaw 2 See 9 for concurrence to reject disp. on pg. 2

Corrected Copy

NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 14 19NCR NO 3016

16. CONTINUED: THE ABOVE, T.P. BURROUGHS 6-4-80 SEMI ANNUAL USERS TEST SAMPLED ON 5-8-80 FOR ~~HUEDSHER~~ 3/8" CONCRETE AGGREGATE HAS A RECORDED RESULT S_c = 176 AND R_c = 100 WHICH RENDERS THE MATERIAL " CONSIDERED TO BE DELETERIOUS." Q-LIST #6.101. 2 HOLD TAGS APPLIED.

Blk. 16 cont.)

A conditional release is granted for Q and non-Q applications subject to further testing per ASTM c-227 "test for potential alkali reactivity motar bar method" and ASTMC-295, "petrographic examination". Corrections or removal can be accomplished without causing damage or contamination to associated plant equipment or structure.

PFE 6-20-80 Date

BD 6-20-80 PFQCE 6/20/80 Date

R.C. Hellar LQAE 6-20-80 Date

BLOCK 22 (con't) 10/6/80

MATERIAL IN QUESTION WAS REJECTED AND REMOVED FROM THE BIN. A NEW SOURCE HAS BEEN QUALIFIED AND THE MATERIAL FROM THIS NEW SOURCE IS IN USE AT THE PRESENT TIME.

Paul Bogren
10/9/80

ESTABLISHED 1880

United States Testing Company, Inc.

HOBOKEN, N. J. 07030
201-792-2400

REPORT

NUMBER
58796
(Refer to this number)

Report No. 330
May 30, 1980

Client: Bechtel Power Corporation
Post Office Box 2167
Midland, Michigan 48640

Subject: Special Semi-Annual and May Users Test, 1980

Project: Midland Project
Units 1 and 2
Subcontract 7220-C-208

Sampling Data

Sample Identity: Site Req. # 49243, UST Log # 5490, Ticket # 70057, Truck # 58
3/8" Pea Gravel - ~~Hubcher & Sons - Mt. Pleasant, Michigan~~
J.P. Burroughs & Sons, Harvey Pit, Harvey, Michigan

Date Sampled: May 8, 1980 at 1330

Source: Stockpile

Sampled By: United States Testing Company Personnel

Dates Tested: May 12, 1980 thru May 30, 1980
at the Hoboken, New Jersey Laboratories

United States Testing Incoming Shipment No. 264

BB 6-6-80
*BD 6-6-80

* AMENDED COPY Will BE FORWARDED.

ROUTE	QC 07220	INIT.
	BARCLAY	
1	NEWMAN	BD
1	RUSSELL	BD
	THOMPSON	
	CIVIL	
	ELECT.	
	PIPING	
	MECH.	
	WELDING	
4	DOC.	
	RECEIVING	
	ADM ASST	
3	~~MECH.~~ Test Lab Super.	
	T/O	
	OPEN LOOP ☐ YES ☐ NO DATE ____	

RECEIVED
JUN 04 1980
QUALITY CONTROL
BECHTEL JOB 7220
SIGNATURE

BD 6-6-80
NOTE COMMENT REFERENCE NCR # 3016

NCR 3016 page 3 of 5 BB 10-31-80

Page 1 of 2

United States Testing Company, Inc.

By: M. Anselmo
Project Engineer

rv

UNITED STATES TESTING COMPANY, INC.

CLIENT: Bechtel Power Corporation
Midland, Michigan 48640

Number
58796
Report No. 330
May 30, 1980

Physical Testing

1. Lightweight Pieces
ASTM-C123-69

	Percent Lite by Weight	Specification Requirements
3/8" Aggregate	0	5 % Max.

2. Clay Lumps and Friable Particles
ASTM-C142-71

	Percent Clay Lumps & Friable Particles	Specification Requirements
3/8" Aggregate	0	5 % Max.

	Percent Loss	
3. L.A. Abrasion ASTM C 131-69	24.1 %	50 % Max.

4. Soundness
ASTM C-88

3/8" Pea Gravel

Sieve Size	Grading % Retained	Weight Before Test (gms)	Percent Loss	Weight % Loss	Specification Requirements
3/8 to 4	73	300.7	1.2	.87	12.0 %

5. Potential Reactivity
ASTM C-289-71

Specimen Results

3/8" Pea Gravel

*Rc = 100 Millimoles/Liter Considered Deleterious
*Sc = 176 Millimoles/Liter Considered Deleterious

*Sample tested failed ASTM and Project Specifications.

Remarks: M. J. Speltz, U. S. Testing Site Supervisor and Mr. Bill DeArmod, Bechtel Q.C. was notified via telephone by Mr. M. Anselmo on June 2, 1980 @10A.M. Telex sent same date.

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 5 OF 5 — 19. NCR NO 3016

10/31-80

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS
	X		

PROJECT FIELD ENGINEER — DATE 10/31/80

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE 11-5-80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

MECH

Ref. Bruce McKenzie

BECHTEL

NONCONFORMANCE REPORT Start up code: Indeterminate

1. Project Name	Job No.			19. No. 3020	20. Page 1 of X
Midland	07220				
2. Unit(s)	3. Drawing/Part No.	Rev	4. Item Description	5. Item Location	
IND.	NA	NA	1 Piece 10" sch 160 stainless steel Pipe	Poseyville laydown area	
6. P.O. ~~Or Spec No.~~	7. Serial No.	8. Replacement Part	9. Source	10. Contractor/Supplier	
M-104-A-AC FR 17	NA	P/N NA REV ___ SER NO. ___	Supplier	I.T.T. Grinnell	

11. Inspection Criteria ☐ DWG ☒ SPEC ☐ OTHER IR NO R-100-13028 NO. M-201 rev 8

12. ASME AUTHORIZED INSPECTION REQ'D ☐ YES ☒ NO

13. SKETCH ATTACHED ☐ YES ☒ NO

14. Discovered During ☒ REC'G ☐ CONST ☐ TEST

15. Equip Furnished By ☐ CLIENT ☐ ENG ☒ VLD

16. Nonconforming Condition:

Quality verification documentation received for material listed on QCIR-100-13028 identifies 1 piece of 10" sch 160 pipe ASME SA312 TP316 22 feet 5 inches long with heat number 2633-15-1. Contrary to the above, upon inspection the pipe was found to be 21 feet 8 3/4" long with heat number 2633-9-1. Also found were overall rust, flat spots, dents, scratches and gauges on inside and outside and foreign material on inside. "Q" number is indeterminate. 1 hold tag applied. Hold Pending final disposition

17. Reported By John Kramer Date 6/4/80

18. Validated By [illegible] Date 6/6/80

21. Routing ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

~~Reject: This material was ordered for stock material and there is no urgent need for it at this time; Engineering recommends returning it to the vendor for replacement.~~
~~(B.M.) D. Shaw 6/16/80~~ RJS 8-13-80

see pg. 2 for revised disposition

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
	✓		

PROJECT FIELD ENGINEER [illegible] 6/16/80 DATE

PROJECT ENGINEER [illegible] DATE

PROJECT CONSTR QC ENGINEER [illegible] 6/20/80 DATE 8-13-80

AUTHORIZED INSPECTOR DATE

25. Disposition Results

Proper documentation for subject Pipe received and accepted. QC concurs with Engineering disposition of physical discrepency as pipe can be cleaned prior to installation John Kramer 9/9/80
QC verifies that damaged ends were removed from pipe and heat number was transferred.
John Kramer 11-18-80

~~John Kramer 11-18-80~~ ~~Rejected~~
John Kramer 9/18/80 10/24/80

26. QC Acceptance ~~[illegible] 9/12/80~~ [illegible] 9/9/80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

See pg. 3 for Concurrence

Blk. 22 cont. revised disposition

Documentation discrepancies resolved as follows:
A) Correct material documentation received from supplier for 13/16 HT# 2633-9-L
B) Length of spool not quality related,

Physical discrepancies concerning rust, dents, scratches, gouges, and foreign material are not non-conforming because:
A) No identification of document (s) with which these are non-conforming
~~B) Field investigation revealed no discernable dents or flat spots. Pit gauge did not reveal minimum wall violation. Rust on stainless steel is not a non-conforming condition (D.T.)~~
~~D. Stark 9/5/80~~

B) Field investigation revealed no discernable dents. Pit gauge did not reveal minimum wall violation by scratches or gouges. Rust on stainless steel is not a non-conforming condition.

Recommend that flat spots be removed from end of pipe by trimming 5" from end of spool. 5" section shall be scrapped. Heat number on end of spool should be transferred to outside diameter of pipe, before trimming.

Lon Kendricks 11-4-80

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 — 8-13-80 — 19. NCR NO. 3020

24. Disposition Concurrence Item — N/A For all except doc.

REWORK	REJECT	REPAIR	USE AS IS
X (doc)			

PROJECT FIELD ENGINEER — 8-13-80 — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — 9/11/80 — DATE

AUTHORIZED INSPECTOR — DATE

---

24. Disposition Concurrence Item — 5" PIECE IN ITEM B.

REWORK	REJECT	REPAIR	USE AS IS
X	X		

PROJECT FIELD ENGINEER — 11/5/80 — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — 11/6/80 — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

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24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

BECHTEL

CONTACT: George Cully F.E.

NONCONFORMANCE REPORT

Non-Testable Unit 3 QB 9-24-80

1. Project Name: MIDLAND	Job No.: 7220			19. No. 3059	20. Page 1 of 1
2. Unit(s): UNIT # 2	3. Drawing/Part No.: (FSK-M-2EC8-9-1-AH2)	Rev: 0	4. Item Description: Drilling in Secondary Shield WALL without Permit	5. Item Location: CONT # 2	
6. P.O. Or Spec No.: N/A	7. Serial No.: N/A	8. Replacement Part P/N N/A REV N/A SER NO. N/A	9. Source: CONSTRUCTION	10. Contractor/Supplier: N/A	
11. Inspection Criteria ☐ DWG ☒ SPEC ☐ OTHER IR NO. CJ.60-282 NO. C-306		12. ASME AUTHORIZED INSPECTION REQ'D ☐ YES ☒ NO	13. SKETCH ATTACHED ☐ YES ☒ NO	14. Discovered During ☐ REC'G ☒ CONST ☐ TEST	15. Equip Furnished By ☐ CLIENT ☒ ENG ☐ FLD

AD 9-29 → A² 9-30

16. Nonconforming Condition:

Spec. C-306/6 Section 2.2 states, "No grouted Anchor bolts shall be installed in the secondary shield wall unless the drilling is done in accordance with a procedure approved by project Engineering." Rem C-2543 states the approved procedures," Generate concrete drilling permits with attachments showing specific locations of holes, QC will provide 100 percent inspection of drilling for grouted Anchor bolts, and that all drilling will be done with jackhammer drills."

17. Reported By: Jim Zebrell — Date: 7/21/80

18. Validated By: T. Russell/Jean — Date: 7/21/80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☐ Field Engineering Disposition ☒ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

Use as is. Drill permit# 7540 written (attached) on 8-21-80. Existing 3 holes will be roughed up and last hole will be drilled with jackhammer drill.

QB 9-24-80

23. Project Engineering Disposition

Project engineering concues with the field disposition. Since rebar was not cut the structural integrity of the wall will not be affected. The embed is located on the notth sump wall and not the secondary shield wall and should be adjusted so that rbar is not encountered. NO DWG CHANGE REQ'd.

P. Presley QE-10-13-80

WITH R.C. Lightcap 10-10-80

QB 10/21/80

Dfjones 11/10/80

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
			X

QB 11/5/80 PROJECT FIELD ENGINEER DATE

M.E. Phillips 10/23/80 PROJECT QC ENGINEER DATE

S.C. Arnold 11-7-80 PROJECT CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. Disposition Results

26. QC Acceptance: Jim Zebrell — 11/10/80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Block #16 continued –

Contrary to the above, 3 grouted anchor bolt holes, for hanger on sketch FSK-M-2ECB-9-1-AH2, were drilled in the secondary shield wall without a concrete drilling permit, without notification to Q.C., for inspection of drilling, and a core hole drill was used. Rebar was encountered but not cut.

Hold for Engineering disposition. Q-List 1.105 I Hold tag applied.

PERMIT NO. 7540

Rev. 2
Exhibit 1

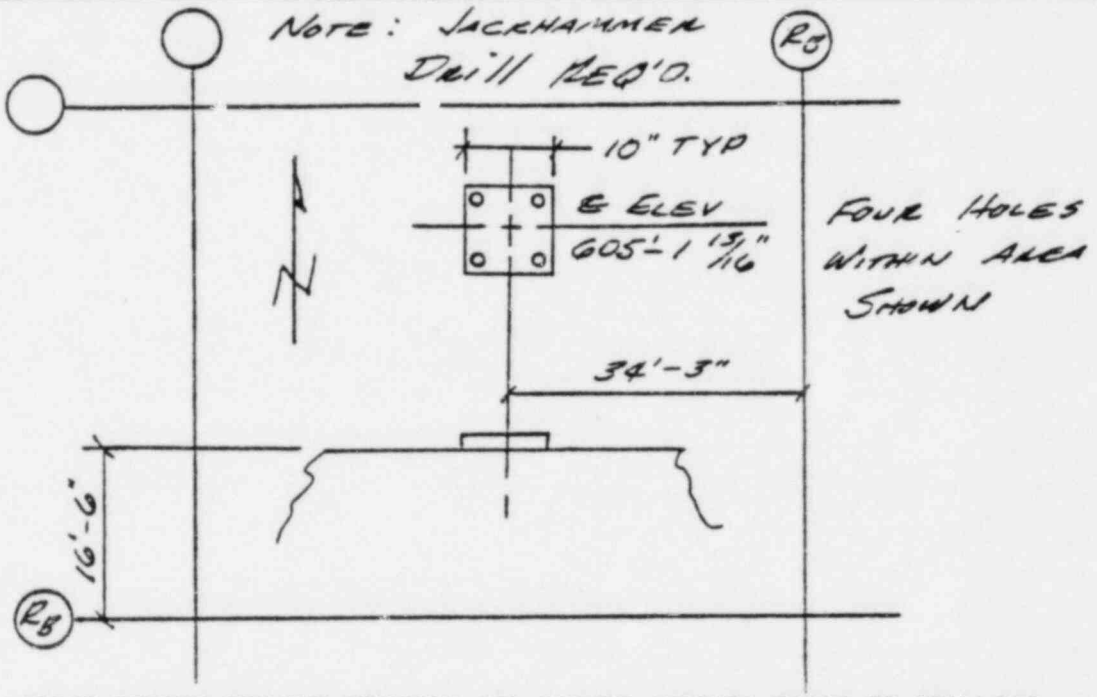
CONCRETE DRILLING PERMIT

Project 7220 Page 1 of 1

Prepared By: Joe Swan Discipline: Small Bore/Mech Date 8-21-80

Unit 2 Bldg. Cont Area 9 Elev. 605'-1 13/16"

Location of Q-Listed blockwall or poured wall substituted for Q-Listed blockwall	Resident Engineer approval for attachment to Q-Listed blockwall or poured wall substituted for a Q-Listed blockwall. Appv'd ____ Not Appv'd ____ Date ____ By: ____



Notes: (1) SEE LATEST DESIGN DRAWING REVISION AND CHANGE ADDENDA PRIOR TO DRILLING.
(2) DO NOT CUT REBAR WITHOUT FIELD ENGINEERS APPROVAL. NO REBAR CUTTING IS ALLOWED IN Q-LISTED CONCRETE BLOCKWALLS OR POURED WALLS SUBSTITUTED FOR Q-LISTED CONCRETE BLOCKWALLS.

Specific Instruciton and Location Tolerance: Drill Four Holes for 5/8" ϕ

Note: If rebar encountered, notify ____.
If ground cable encountered, notify ____.
Before moving hanger, notify Joe Small Elect.

Grouted Anchor Bolts
Min Emb = 4"
Loads per drawing C-2050: (list only for attachments to Q-Listed blockwalls or poured walls substituted for Q-Listed blockwalls)

Reference Drawings: FSK-M-2E 3-9-1 AHZ (Q)

Approved By: (Not required for attachments to Q-listed blockwall or poured walls substituted for Q-listed block walls.)

Civil D Williams Date 8/29/80 Piping B McHargue Date 8/22/80
Elect Field Engineer Date 8-27-80 Instru P.W. Sorensen Date 8-22-80
Mech B McHargue Date 8/22/80

NCR 3059 pg 3 of 3

CONTACTED: J. KELLEHER - F.E.

NONCONFORMANCE REPORT

S/U Non Testable

1. Project Name: MIDLAND	Job No.: 7220			19. No.: 3064	20. Page: 1 of 3
2. Unit(s): 1&2	3. Drawing/Part No.: N/A	Rev: N/A	4. Item Description: INITIAL CURE OF CONCRETE SPECIMENS	5. Item Location: FIELD	
6. P.O. Or Spec No.: N/A	7. Serial No.: N/A	8. Replacement Part P/N: N/A REV: N/A SER NO.: N/A	9. Source: ENGINEERING	10. Contractor/Supplier: BECHTEL	
11. Inspection Criteria: ☐ DWG ☐ SPEC ☒ OTHER IR NO. / NO.: SC 1.05-188 / ASTM C 31-69	12. ASME AUTHORIZED INSPECTION REQ'D: ☐ YES ☒ NO	13. SKETCH ATTACHED: ☐ YES ☒ NO	14. Discovered During: ☐ REC'G ☐ CONST ☒ TEST	15. Equip Furnished By: ☐ CLIENT ☐ ENG ☒ FLD	

16. Nonconforming Condition:

ASTM C-31-69 STATES IN PART THAT THE INITIAL CURING TEMPERATURE OF CONCRETE SPECIMENS BE MAINTAINED AT A TEMP. OF 60 TO 80° F DURING THE FIRST 24 h AFTER MOLDING. CONTRARY TO THE ABOVE, SPECIMENS CASTED ON 7-23,24,-80 WERE MEASURED AT 110° & 91° F RESPECTIVELY. TEST RESULTS ARE ATTACHED. "Q" LIST # 1.405. NO HOLD TAGS APPLIED.

17. Reported By: B. Dalmond — Date: 7-25-80

18. Validated By: [signature] — Date: 7/25/80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☐ Field Engineering Disposition ☒ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

Field Engineering recommends to "use as is." The temperatures as given in block 16 are not a true indicator of the ambient air temperature surrounding the cylinders. On 7/23 the cylinders were placed in an air conditioned trailer in a curing box, the lid to the curing box was closed not permitting proper air

23. Project Engineering Disposition

The concrete was used for mud mat for service water meter pits and duct banks in diesel generator building where the strength requirement is 3000 psi @ 90 days. The cylinders, in spite of non conformance, have developed the 90 day strength in 7 days. Any adverse effect due to early high temperature cure will not drop the 90 days —

[CONT'D ON P2]

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
			X

M Eslami FOR LH GARETS — PROJECT ENGINEER — DATE 10/23/80

[signature] — PROJECT MANAGER — DATE 10/31/80

[signature] FIELD — PROJECT CONSTR QC ENGINEER — DATE 11-5-80.

AUTHORIZED INSPECTOR — DATE

25. Disposition Results

26. QC Acceptance: B. Dalmond — QC ENGINEER — DATE 11-7-80

AUTHORIZED INSPECTOR — DATE

Blk. 22 cont.
circulation. On 7/24 the cylinders were placed in the same trailer with the curing box lid left open. Upon inspection of the conditions it was discovered that the thermometer was in between the cylinders. The thermometer was probably in the same location on 7/23.

Note: The pour on 7/23 was for duct tank in Bay 1+2 of the Diesel Generator Bldg. which requires 3000 psi strength in 90 days. The 7 day strengths were 3020 psi. The pour on 7/24 was for mud mat in Bay # 2 of the ~~Diesel Generator Bldg~~ Service water meter pit. The 7 day strengthswere 3230 psi.

8/1/80

Blk. 22 cont.)

Note: Design requirements call out for 3,000 PSI concrete to be used in duct banks. The concrete used was 4,000 PSI concrete.

9/15/80

BLOCK 23 [CONTD]
strength below 3000 p.s.i., which is the criteria for acceptance of concrete, Based on this reasoning the disposition shall be "USE AS IS"

10/9/80 10/11/80 10/21/80 QE - 10/22/80

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE | DATE
CONTROL NUMBER | FILE NUMBER

1. IDENTIFICATION: DG(635.0)F | DATE PLACED: 7-23-80
2. PLACEMENT LOCATION: D/G Bldg.

PLANT DATA | SOURCE: Allied Concrete Products | CEMENT BRAND AND TYPE: Aetna Type I

MIX: C-1 | CLASS: I | AIR ENT: ☒ YES ☐ NO | REQUIRED STRENGTH: 4000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT | Yield: 27.65

4. TICKET NO. 39048	5. TRUCK NO. 15	6. TIME OF MIXING 1114 HOURS AT 6 YARDS			7. INITIALS RB
8. SLUMP 3" INCHES	9. AIR CONTENT 8.5 %	10. UNIT WEIGHT 144.18 LBS/CU FT	11. TEMP CONCRETE 74 °F	12. TEMP AIR 70° °F	
13. WATER/CEMENT RATIO 3.2 %	14. ADMIXTURES .5 %	15. STORAGE # N/A %	16. WATER/CEMENT + POZZOLAN RATIO .47 MAX. .45 ACT.		
17. SLUMP CONTROL N/A °F TO N/A °F		18. STRENGTH AT 7 DAYS N/A AT N/A HRS.			19. INITIALS N/A

TEST DATA AT PLACEMENT

23. TICKET NO. 39048	24. TRUCK NO. 15	25. TIME OF TESTING 1205 HOURS AT 6 YARDS			26. TIME OF MIXING 1205 HRS.
27. SLUMP 2½" INCHES	28. AIR CONTENT 4.6 %	29. TEMP CONCRETE 78° °F	30. TEMP AIR 75° °F		31. INITIALS GW
32. SLUMP CONTROL 40 °F TO 110 °F		33. STRENGTH AT 7 DAYS 7-24-80 AT 0933 HRS.			34. INITIALS SAT

COMPRESSIVE STRENGTH DATA — ASTM – C – 39 – 71

35. SPECIMEN IDENTIFICATION	36. DATE MOLDED	37. DATE TESTED	38. AGE	39. TOTAL LOAD IN POUNDS	40. ACTUAL CYL DIAM.	41. ACTUAL CYL AREA	42. TYPE OF BREAK	43. CURE FIELD	43. CURE LAB	44. STRENGTH PSI
4652F-8979	7-23-80	7-30-80	7							
8980		"	7							
8981		8-20-80	28							
8982		"	28							
8983		10-21-80	90							
4652F-8984	7-23-80	"	90							

NCR # 3064 Page 3 of 7

45. STANDARD CYLINDER: ☒ 6" x 12" ☐ CUBE ☐ CORE ☐ OTHER | 46. REMARKS

47. CYLINDERS (DATE)	MOLDED BY	CHECKED BY	48. RECEIVED BY QC REP

49. LABORATORY SUPERVISOR | DATE 50.

6 128 8-15-80
8-1-80

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QE ACCEPTANCE	DATE
CONTROL NUMBER	FILE NUMBER

1. IDENTIFICATION: DG (633.08) A & SW (618.75) A — DATE PLACED: 7-24-80

2. PLACEMENT LOCATION: DIESEL GEN. BAY #2, SERV. WATER METER PITS

PLANT DATA — SOURCE: Allied Concrete Products — CEMENT BRAND AND TYPE: Aetna Type I

3. MIX: C-1 — CLASS: I — "P" LIST: ☒ YES ☐ NO — REQUIRED STRENGTH: 4,000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT — 4. Yield: 27.74

5. TICKET NO.: N/A — TRUCK NO.: N/A — TIME OF HOLDING: N/A HOURS AT N/A YARDS — 6. INITIALS: N/A

7. SLUMP: N/A INCHES — AIR CONTENT: N/A % — UNIT WEIGHT: N/A LBS/FT³ — TEMP CONCRETE: N/A °F — TEMP AIR: N/A °F

8. WEIGHTS PER BATCH: N/A — STONE 1: N/A — STONE 2: N/A — WATER/CEMENT + POZZOLAN RATIO: N/A MAX. N/A ACT.

9. INITIAL CURING: N/A °F TO N/A °F — STRIPPED: N/A AT N/A HRS. — 10. INITIALS: N/A

TEST DATA AT PLACEMENT

11. TICKET NO.: 39071 — TRUCK NO.: 18 — TIME OF TESTING: 1240 HOURS AT 7-24-80 ☒ 36 YARDS — 12. TIME OF HOLDING: HRS.

13. SLUMP: 2" INCHES — AIR CONTENT: 4.0% — TEMP CONCRETE: 80° F — TEMP AIR: 71° F — 14. INITIALS: TAB

15. INITIAL CURING: 80 °F TO 91 °F — STRIPPED: AT HRS. — 16. INITIALS:

COMPRESSIVE STRENGTH DATA — ASTM – C – 39 – 71

17. SPECIMEN IDENTIFICATION	18. DATE MOLDED	19. DATE TESTED	20. AGE	21. TOTAL LOAD IN POUNDS	22. ACTUAL CYL DIAM.	23. ACTUAL CYL AREA	24. TYPE OF BREAK	25. CURE FIELD	25. CURE LAB	26. STRENGTH PSI
4654F-8991	7-24-80	7-31-80	7							
8992	"	7-31-80	7							
8993	"	8-21-80	28							
8994	"	8-21-80	28							
8995	"	10-22-80	90							
4654F-8996	7-24-80	10-22-80	90							

27. STANDARD CYLINDER: ☒ 6" X 12" ☐ CUBE ☐ CORE ☐ OTHER — 28. REMARKS

29. LOAD DATE	WITNESSED BY	CHECKED BY	CHECKED BY QE REP

31. LABORATORY SUPERVISOR — 32. DATE

NCR-3064 Page 4 of 4 6 88 175 880 08-1-80

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE | DATE
CONTROL NUMBER | FILE NUMBER

1. CONCRETE IDENTIFICATION: DG(635.0)F
DATE PLACED: 7-23-80

2. PLACEMENT LOCATION: D/G Bldg.

PLANT DATA
SOURCE: Allied Concrete Products
CEMENT BRAND AND TYPE: Aetna Type I

MIX: C-1
CLASS: I
"F" USE: ☒ YES ☐ NO
REQUIRED STRENGTH: 4000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT

6. Yield: 27.65

TICKET NO.: 39048
TRUCK NO.: 15
TIME OF MIXING: 1114 HOURS AT 6 YARDS
8. INITIALS: BB

SLUMP ASTM-C-143-77: 3" INCHES
AIR CONTENT ASTM-C-231-75: 8.5 %
UNIT WEIGHT ASTM-C-138-77: 144.18 LBS/CU FT
TEMP CONCRETE: 74 °F
TEMP AIR: 70° °F

MOISTURED SAND ASTM-C-566-67 DIVISION 1: 3.2 %, .5 %
STONE 1: N/A %
WATER/CEMENT + POZZOLAN RATIO: .47 MAX, .45 ACT.

INITIAL CURING ASTM-C-31-69: N/A °F TO N/A °F
STRIPPED ASTM-C-31-69: N/A AT N/A HRS
22. INITIALS: N/A

TEST DATA AT PLACEMENT

23. TICKET NO.: 39048
TRUCK NO.: 15
TIME OF TESTING: 1205 HOURS AT 6 YARDS
24. TIME OF MIXING: 1205 HRS.

SLUMP ASTM-C-143-77: 2½" INCHES
AIR CONTENT ASTM-C-231-75: 4.6 %
TEMP CONCRETE: 78° °F
TEMP AIR: 75° °F
INITIALS: GW

INITIAL CURING ASTM-C-31-69: 90 °F TO 110 °F
STRIPPED ASTM-C-31-69: 7-24-80 AT 0833 HRS
INITIALS: SAT

COMPRESSIVE STRENGTH DATA ASTM – C – 39 – 72

33. SPECIMEN IDENTIFICATION	34. DATE MOLDED	35. DATE TESTED	36. AGE	37. TOTAL LOAD IN POUNDS	38. ACTUAL CYL DIAM.	39. ACTUAL CYL AREA	40. TYPE OF BREAK	41. CURE HRS	41. CURE MIN	42. STRENGTH PSI
4652F-8979	7-23-80	7-30-80	7	85,500	6.03	28.56	A	1	6	2990
8980		"	7	87,000	6.03	28.56	A	1	6	3050
8981		8-20-80	28							
8982		"	28							
8983		10-21-80	90							
4652F-8984	7-23-80	"	90							

43. STANDARD CYLINDER: ☒ 6" x 12" ☐ CUBE ☐ CORE ☐ OTHER
44. REMARKS

45. AGE (DAYS)	46. TESTED BY	47. CHECKED BY	48. CHECKED BY QC REP
7	RM	BR	RM 7-30-80

49. LABORATORY SUPERVISOR | 50. DATE

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

NCR 3064 Pg 5 of 6

WSTS 1-12 e 7

16362 5-19-79

SECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE	DATE
CONTROL NUMBER	FILE NUMBER

1. PLACEMENT IDENTIFICATION: DG (633.08) A & SW (618.75) A — DATE PLACED: 7-24-80

2. PLACEMENT LOCATION: DIESEL GEN. BAY #2, SERV. WATER METER PITS

PLANT DATA — SOURCE: Allied Concrete Products — CEMENT BRAND AND TYPE: Aetna Type I

3. MIX: C-1 — CLASS: I — 4. AIR ENT: [X] YES [ ] NO — 5. REQUIRED STRENGTH: 4,000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT — 6. Yield: 27.74

7. TICKET NO.: N/A — 8. TRUCK NO.: N/A — 9. TIME OF HOLDING: N/A HOURS AT N/A YARDS — 10. INITIALS: N/A

11. SLUMP ASTM C-143-77: N/A INCHES — 12. AIR CONTENT ASTM C-231-75: N/A % — 13. UNIT WEIGHT ASTM C-138-77: N/A LBS/FT³ — 14. TEMP CONCRETE: N/A °F — 15. TEMP AIR: N/A °F

16. MOISTURED SAND ASTM C-566-67 (OVENDRIED): N/A % — 17. STONE 2: N/A % — 18. WATER/CEMENT + POZZOLAN RATIO: N/A MAX. — N/A ACT.

19. INITIAL CURING ASTM C-31-69: N/A °F TO N/A °F — 21. STRIPPED ASTM C-31-69: N/A AT N/A HRS. — 22. INITIALS: N/A

TEST DATA AT PLACEMENT

23. TICKET NO.: 39071 — 24. TRUCK NO.: 18 — 25. TIME OF TESTING: 1240 HOURS AT BD 7-24-80 X 36 YARDS — 26. TIME OF HOLDING: 1240 HRS.

27. SLUMP ASTM C-143-77: 2" INCHES — 28. AIR CONTENT ASTM C-231-75: 4.0% — 29. TEMP CONCRETE: 80° °F — 30. TEMP AIR: 71° °F — 31. INITIALS: TAB

32. INITIAL CURING ASTM C-31-69: 80 °F TO 91 °F — 33. STRIPPED ASTM C-31-69: 7-25-80 AT 0945 HRS. — 34. INITIALS: RB

COMPRESSIVE STRENGTH DATA — ASTM – C – 39 – 77

35. SPECIMEN IDENTIFICATION	36. DATE MOLDED	37. DATE TESTED	38. AGE	39. TOTAL LOAD IN POUNDS	40. ACTUAL CYL. DIAM.	41. ACTUAL CYL. AREA	42. TYPE OF BREAK	43. CURE FIELD	43. CURE LAB	44. STRENGTH PSI
4654F-8991	7-24-80	7-31-80	7	90,000	5.99	28.18	A	1	6	3190
8992		7-31-80	7	92,500	6.00	28.27	A	1	6	3270
8993		8-21-80	28							
8994		8-21-80	28							
8995		10-22-80	90							
4654F-8996	7-24-80	10-22-80	90							

45. STANDARD CYLINDER: [X] 6" x 12" [ ] CUBE [ ] CORE [ ] OTHER — 46. REMARKS: INITIAL CURE ABOVE 80°F

47. AGE (DAYS)	48. TESTED BY	49. CHECKED BY	50. CHECKED BY QC REP
7	SAT	BR	BD 8-1-80

REFERENCE NCR # 3064

51. LABORATORY SUPERVISOR — 52. DATE

NCR 3064 Pg 1 of 6 8/29/80

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

WT Am-7e7
10342 5-14-79

CALCULATION SHEET

ORIGINATOR V. Patankar DATE 10/9/80 CALC. NO. 90C REV. NO. -

PROJECT Midland 1&2 CHECKED P.G. DATE 10/11/80

SUBJECT NCR 3064 JOB NO. 7220

SHEET NO.

The test specimens for the concrete were cured at higher temperature than 80° for 1st 24 hours. The concrete was used for mud mat for S.W. meter pits and for duct bank in D.G. building where the strength requirement is 3000 p.s.i @ 90 days. The cylinders, in spite of the non conformance, have developed the 90 day strength in 7 days. Any adverse effect due to early high temperature cure will not drop the 90 day strength below 3000 p.s.i. The criteria for acceptance of concrete is based on specimen strength of 3000 p.s.i @ 90 days. This is satisfied. Hence the disposition shall be "use as is"

For Law req'd. f'_c concrete, high curing temperature effect is O.K.

sil

Discussed with J. Savoie 8-1-80

S/U 1 BHA

NONCONFORMANCE REPORT

1. Project Name: MIDLAND — Job No.: 7220
19. No. 3069 — 20. Page 1 of 3 X2
2. Unit(s): 1
3. Drawing/Part No.: IEBC-5-5638-13-1A — Rev: N/A
4. Item Description: Radiograph for Shop Weld A
5. Item Location: Valve Isolation Pit
6. P.O. Or Spec No.: M-104-A
7. Serial No.: N/A
8. Replacement Part: P/N ____ REV N/A SER NO. ____
9. Source: VENDOR
10. Contractor/Supplier: ITT GRINNELL
11. Inspection Criteria: ☐ DWG ☑ SPEC ☐ OTHER — IR NO. ____ NO. RT-ASME A
12. ASME AUTHORIZED INSPECTION REQ'D: ☑ YES ☐ NO
13. SKETCH ATTACHED: ☐ YES ☑ NO
14. Discovered During: ☐ REC'G ☑ CONST ☐ TEST
15. Equip Furnished By: ☑ CLIENT ☐ ENG ☐ FLD

16. Nonconforming Condition:

During Review of Radiographs for Concavity on ISI welds, a Linear Indication was found on Radiographs for Shop Weld A on Dwg. IEBC-5-5638-13-1A this Indication is Rejectable by RT. ASME A & ASME Sect. III.
Hold for Engineering Disposition.
Q No. 4,383 | Hold Tag

8-14-80 JGS

17. Reported By: E.R. Stanbrough — Date: 8-1-80
18. Validated By: [signature] — Date: 8/1/80
21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☐ Field Engineering Disposition ☒ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

~~Field Engineering recommends repair in accordance with spec. G-27 welding standard ED-1. Inspection and repair of surface defects. Request Project Engineering input.~~
~~J. Savoie 8-14-80~~

See Page 2 for CONT. of BLOCK 22

23. Project Engineering Disposition
PER R. NICOLAUS OF A², PROJECT ENGINEERING CONCURS WITH REPAIR OF SHOP WELD USING EXISTING WELD REPAIR PROCEDURES. POST REPAIR INSPECTION WILL DETERMINE ACCEPTABILITY OF REPAIR WORK.
F. Kramm 8/15/80
QE [signature] 8/18/80

SEE Pg. 2 for CONT of BLOCK 23

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
		STD ✓	

[signature] 8-19-80
PROJECT FIELD ENGINEER DATE
[signature] for H Conte 8/18/80
PROJECT ENGINEER DATE
PROJECT CONSTR QC ENGINEER DATE
AUTHORIZED INSPECTOR DATE

25. Disposition Results

Repaired in accordance with GWS-FW see W1.00-1638-13-9821
[signature] 11/20/80

26. QC Acceptance
[signature] 11/20/80
QC ENGINEER DATE
[signature] 11/20/80
AUTHORIZED INSPECTOR DATE

See pg. 3 for Concurrence

Rev 9/11/80

Blk. 16 cont.
A conditional release is granted to release the weld to be cleaned for radiography. Corrections or removal can be accomplished without causing damage or contamination to associated plant equipment or structure.

PFE 8-5-80 Date

PFQCE 8/6/80 Date

LQAE 8-6-80 Date

A.I. 8-6-80 Date

Block 22 Cont.

FIELD ENGINEERING RECOMMENDS REPAIR IN ACCORDANCE WITH SPEC. G-27 GENERAL WELDING STANDARD GWS-FM. REQUEST PROJECT ENG. APPROVAL.

Jean G. Lovais 8-20-80

BLOCK 23 CON'T,

PROJECT ENGR DISPOSITION - REPAIR -
PROJECT ENGR. CONCURS WITH FIELD ENGR RECOMMENDATION TO REPAIR IN ACCORDANCE WITH SPEC G-27 GENERAL WELDING STD GWS-FM

Rev'd 9/11/80. P. Presley-QE - 9/18/80

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 3 OF 3 Rev 4 9-17-80

19. NCR NO 3067

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
		✓	

PROJECT FIELD ENGINEER — DATE 9/25/80

PROJECT ENGINEER — DATE 9/19/80

PROJECT CONSTR QC ENGINEER — DATE 9/30/80

AUTHORIZED INSPECTOR — DATE 10-3-80

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

NONCONFORMANCE REPORT

Non-Testable Unit

1. PROJECT NAME: Midland	JOB NO.: 7220			19. NO. 3071	20. PAGE 1 OF 2
2. UNIT(S): 1&2	3. DRAWING/PART NO.: N/A	REV	4. ITEM DESCRIPTION: N/A Initial Cure of Concrete Specimens	5. ITEM LOCATION: Field	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: Construction	10. CONTRACTOR/SUPPLIER: Bechtel	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER	IR NO SC1.05-190 NO ASTM C-31-69	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g ( ) Const (X) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION:

ASTM C-31-69 states in part that the initial curing temperature of concrete specimens be maintained at a temperature of 60° to 80°F during the first 24 hrs after molding. Contrary to the above, specimens casted on 8-1-80 were recorded at 72° and 85° respectively. Test results are attached. Q-List 1.405. No hold tags applied

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
R Mendez	8-2-80	[illegible]	8/4/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Field Engineering recommends to "use as is". The 7 day strength for the record cylinders was 3,170 psi with an initial cure temperature between 72°-85° F. An information set of cylinders were cast at the batch plant, maintained between 70°-77°, and had an average strength of 3155 psi. The high temperature

23. PROJECT ENGINEERING DISPOSITION

As per telecon with J. Kelleher on 10/8/80 the concrete was used for mud mat and not for duct bank as stated in the note of block 22

High curing temperature, at early age, will develop early strength in cylinders. The cylinders under non conformance developed early strength of more than 3000 psi @ 7 days

(CONT'D on Page 2)

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
	•		X

[illegible] FIELD ENGINEER 10/31/80

[illegible] PROJECT ENGINEER-FIELD 11-5-80

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE B. Tillmon 11-7-80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Blk. 22 cont.)
resulted when the air conditioner in the room was turned off for some reason. Steps have been taken to see that this situation does not reoccur.
The concrete was placed in a wear slab (mudmat) for the Service Water Meter Pits which requires a minimum strength of 3,000 psi in 90 days.

Paul Dognen
8/11/80

Blk. 22 cont.)
Note: Design requirements call out for 3,000 PSI concrete to be used in duct banks. The concrete used was 4,000 PSI concrete.

9/15/80

BLOCK 23 [CONT D]

Any adverse effect, due to high temparature early cure, will not drop the 90 days strength below 3000 p.s.i. The 90 day strength of the cylinders will be more than 3000 p.s.i which is the required strength. Based on this the disposition shall be "use as is"

10/14/80 10/21/80 P. Presley QE 10/22/80

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE | DATE
CONTROL NUMBER | FILE NUMBER

1. CEMENT IDENTIFICATION: SWI(619.03)A — DATE PLACED: 8-1-80

2. PLACEMENT LOCATION: Serv. Water Meter P.Ts

PLANT DATA — SOURCE: Allied Concrete Products — CEMENT BRAND AND TYPE: Aetna Type I

MIX: C-1 — CLASS: I — AIR ENT: ☒ YES ☐ NO — SPECIFIED STRENGTH: 4000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT — Yield: 28.83

3. TICKET NO. 39263	TRUCK NO. 18	TIME OF BATCHING 857 HOURS AT 9 YARDS		5. INITIALS GW MA
6. SLUMP 5 INCHES	AIR CONTENT 6.2 %	UNIT WEIGHT 139.26 LBS/CU FT	TEMP CONCRETE 79 °F	TEMP AIR 70 °F
8. MOISTURE 2.6 %	STONE 1 .8 %	STONE 2 N/A %	WATER/CEMENT + POZZOLAN RATIO .47 MAX. .47 ACT.	
9. INITIAL SLUMP N/A	°F TO N/A °F	STRIPPED N/A AT N/A HRS.		12. INITIALS N/A

TEST DATA AT PLACEMENT

13. TICKET NO. 39263	TRUCK NO. 18	TIME OF TESTING 944 HOURS AT 9 YARDS		TIME OF MOLDING 949 HRS.
SLUMP 2 1/2 INCHES	AIR CONTENT 4.6 %	TEMP CONCRETE 83 °F	TEMP 81 °F	INITIALS RB JB
23. INITIAL CURING 72 °F	TO 85° °F	STRIPPED 8-2-80 AT 0745 HRS.		INITIALS RB

COMPRESSIVE STRENGTH DATA — ASTM - C - 39 - 71

33. SPECIMEN IDENTIFICATION	34. DATE MOLDED	35. DATE TESTED	36. AGE	TOTAL LOAD IN POUNDS	ACTUAL CYL DIAM.	ACTUAL CYL AREA	TYPE*	CURE FIELD	CURE LAB	STRENGTH PSI
4664F-9051	8-1-80	8-8-80	7							
9052		11	7							
9053		8-29-80	28							
9054		11	28							
9055		10-30-80	90							
4664F-9056	8-1-80	11	90							

37. STANDARD CYLINDER 8" x 16" ☐ CUBE ☐ CORE ☐ OTHER — 38. REMARKS

CLASS	DATE	TESTED BY	CHECKED BY	CHECKED BY QC REP

LABORATORY SUPERVISOR — DATE

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

NCR 3417

QC 8-11-80 8-15-80

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

QC ACCEPTANCE	DATE
CONTROL NUMBER	FILE NUMBER

1. CEMENT IDENTIFICATION: SWI(619.03)A — DATE PLACED: 8-1-80
2. PLACEMENT LOCATION: Serv. water Meter P.Ts

PLANT DATA — SOURCE: Allied Concrete Products — CEMENT BRAND AND TYPE: Aetna Type I

3. MIX	CLASS	4. AIR ENT.	5. REQUIRED STRENGTH
C-1	I	☒ YES ☐ NO	4000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT — 6. Yield: 28.83

7. TICKET NO.	8. TRUCK NO.	9. TIME OF HOLDING		10. INITIALS
39263	18	857 HOURS AT	9 YARDS	GW MA

11. SLUMP ASTM C-143	12. AIR CONTENT ASTM C-231-75	13. UNIT WEIGHT ASTM C-138	14. TEMP CONCRETE	15. TEMP AIR
5 INCHES	6.2 %	139.26 LBS/FT³	79 °F	70 °F

16. MOISTURED SAND ASTM C-566	STONE 1	STONE 2	17. WATER/CEMENT + POZZOLAN RATIO	
2.6 %	.8 %	N/A %	.47 MAX.	.47 ACT.

18. INITIAL CURING ASTM C-31-69		19. STRIPPED ASTM C-31-69		22.
N/A °F TO	N/A °F	N/A AT	N/A HRS.	INITIALS N/A

TEST DATA AT PLACEMENT

23. TICKET NO.	24. TRUCK NO.	25. TIME OF TESTING		26. TIME OF HOLDING
39263	18	944 HOURS AT	9 YARDS	949 HRS.

27. SLUMP ASTM C-143	28. AIR CONTENT ASTM C-231-75	29. TEMP CONCRETE	30. TEMP AIR	31.
2 1/2 INCHES	4.6 %	83 °F	81 °F	INITIALS RB JB

32. INITIAL CURING ASTM C-31-69		33. STRIPPED ASTM C-31-69		34.
72 °F TO	85° °F	8-3-80 AT	0745 HRS.	INITIALS RB

COMPRESSIVE STRENGTH DATA — ASTM – C – 39 – 71

35. SPECIMEN IDENTIFICATION	36. DATE MOLDED	37. DATE TESTED	38. AGE	39. TOTAL LOAD IN POUNDS	40. ACTUAL CYL DIAM.	41. ACTUAL CYL AREA	42. TYPE OF BREAK	43. CURE FIELD	43. CURE LAB	44. STRENGTH PSI
4664F-9051	8-1-80	8-8-80	7	90,000	6.01	28.37	A	1	6	3170
9052		11	7	90,000	6.01	28.37	A	1	6	3170
9053		8-29-80	28							
9054		11	28							
9055		10-30-80	90							
4664F-9056	8-1-80	11	90							

45. STANDARD CYLINDER: ☒ 6" X 12" ☐ CUBE ☐ CORE ☐ OTHER — 46. REMARKS

47. AGE (DAYS)	48. TESTED BY	49. CHECKED BY	50. CHECKED BY QC REP
7	RH	BR	Rm 8-11-80

51. LABORATORY SUPERVISOR — 52. DATE

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

NCR 3071 Pg 4 of 4 9-15-80

UST Pa-40@7

CALCULATION SHEET

BECHTEL

CALC. NO. 90C REV. NO.

ORIGINATOR V. Patankar DATE 10/8/80 CHECKED P.S. DATE 10/11/80

PROJECT Midland 1&2 JOB NO. 7220

SUBJECT NCR 3071 SHEET NO.

As per telecon with J. Kelleher on 10-8-80 the concrete was used for mud mat and not for duct bank as stated in the note of block 22 The strength requirement for mud mat is 3000 p.s.i @ 90 days. The concrete used was type C1 which has 90 days strength of 4000 psi.

High curing temperature, at early age, will develop early strength in the cylinders. The cylinders under non conformance developed early strength of more than 3000 p.s.i. @ 7 days. Any adverse effect, due to high temperature cure, will not drop the 90 day strength below 3000 psi. In fact the concrete placed is of better quality and the disposition shall be "use as is". Since the strength of concrete is more than adequate we have complied with spec & FSAR

FOR LOW REQ'D f'_c CONCRETE, HIGH CURING TEMPERATURE EFFECT IS O.K.

bl

7

discussed w/ Cherry Barton

NONCONFORMANCE REPORT

S/U 2 E C A

1. PROJECT NAME	JOB NO.	19. NO. 3072	20. PAGE 1 OF 2
Midland	7220		

2. UNIT(S)	3. DRAWING/~~PART NO.~~	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
2	M 619 - Sh 2	7/F4	Field Welds 72 and 73	Cont. 2

6. P.O. OR SPEC NO.	7. SERIAL NO.	8. REPLACEMENT PART	9. SOURCE	10. CONTRACTOR/SUPPLIER
NA	NA	P/N NA REV NA SER NO. NA	Const.	NA

11. INSPECTION CRITERIA	12. ~~NONE~~ AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
(X) DWG (X) SPEC ( ) OTHER IR NO. NA NO. NA	( ) NO (X) YES ( ) NO	( ) YES (X) NO	( ) Rec'g (X) Const ( ) Test	( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION:

Asme section III NB 4231.1 states in part, "When tack welds are to become part of the finished weld, they shall be visually examined and defective tack welds removed. Condition: When welds 72 and 73 were made there were no W100 Q.C.I.R.s opened, therefore there was no inspection of the TACK welds.

Q No is 4.192

2 Hold Tags Applied

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
William R. Smith	8-4-80	~~NA~~ W. Norman	8/4/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Field Engineering recommends "use as is" based on the fact that FW 72 & 73 were inspected and recorded by error on QCIR M-619-2-FW61 & 62 and the field engineer report stating the date of fit-up and final visual. Cont. on page 2

23. PROJECT ENGINEERING DISPOSITION

USE AS IS: PROJECT ENGR CONCURS WITH FIELD ENGR RECOMMENDED DISPOSITION SPECIFIED IN BLOCK 22.

P. Presley: QE - 9/11/80

9/11/80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			✓

A. Betts / H.G. 9/25/80
PROJECT FIELD ENGINEER DATE

[illegible] for M.H. Chitty 9/26/80
PROJECT ENGINEER DATE

[illegible] 10/7/80.
PROJ CONSTR QC ENGINEER DATE

W. M. Dawkins 10-7-80
AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

QCIR'S # W100-A-M619-2-32-72 & W100-A-M619-2-32-73 Have been opened, welds inspected per G-27 and Accepted. [illegible] 11/10/80

26. QC ACCEPTANCE

W. Smith 11-1-80
QC ENGINEER DATE

J.O. Griffin 11/10/80
AUTHORIZED INSPECTOR DATE

M 8/11/80 CR

BLOCK 22 CONT.

A QCIR SHOULD BE OPENED FOR PROPER DOCUMENTATION AND A VISUAL TESTING PERFORMED PER SPEC. G-27, FOR FW 72 & 73.

Jean L Sowell 8-18-80

Discussed w/ F. Manley

SU 2 JEA

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND UNIT 1 & 2 — JOB NO.: 7220 — 19. NO. 3073 — 20. PAGE 1 OF X — 2 AVD 10/20/80

2. UNIT(S): 2 — 3. DRAWING/PART NO.: FSK-M-2HBC-11-2-H5 — REV: 0 — 4. ITEM DESCRIPTION: SMALL BOIRE HANGER — 5. ITEM LOCATION: 50' 3" W EAST WALL 20'-0" N/SOUTH WALL ELEV. 660'-8⅝" O.G. Elec.

6. P.O. OR SPEC NO.: M-343 — 7. SERIAL NO.: NA — 8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A — 9. SOURCE: CONST. — 10. CONTRACTOR/SUPPLIER: N/A

11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER — IR NO. 50-100-FSK-M-2HBC-11-2-H5 NO. M 343 — 12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO — 13. SKETCH ATTACHED (X) YES ( ) NO — 14. Discovered During ( ) Rec'g (X) Const ( ) Test — 15. Equip Furnished By ( ) Client (X) Eng ( ) FLD

16. NONCONFORMING CONDITION: SPEC. 7220-M-343 (Q) Rev. 5, ACT. 6.7.6 STATES: NO WELDING ACROSS THE FLANGE OR COVER PLATE OF AN EXISTING BUILDING FRAMING STRUCTURAL BEAM SHALL BE DONE WITHOUT PRIOR APPROVAL. HANGER FSK-M-2HBC-11-2-H5 IS WELDED ACROSS THE FLANGE OF A STRUCTURAL BEAM. IN VIOLATION OF SPEC. M-343 (Q) REV. 5. AND DRAWING FSK-M-2HBC-11-2-H5, REV. D "Q" List 4,523 ONE TAG APP. SU. 2 JEA

M.B. 10-6 — AD 10-14

17. REPORTED BY: [signature] DATE: 8/5/80 — 18. VALIDATED BY: [signature] DATE: 8/6/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

~~Revise drawing to use as installed.~~ THE SUBJECT HANGER HAS BEEN REMOVED. THE WELD IS STILL INTACT AND SHOULD REMAIN.

[signature] 9-29-80

23. PROJECT ENGINEERING DISPOSITION

SINCE THE SPEC 7220-M-343 (Q) IS WRITTEN WITH THE INTENT OF PREVENTING THE ACT OF WELDING ACROSS A BEAM FLANGE, THE WELD MAY REMAIN IN PLACE, SINCE THE HANGER HAS BEEN REMOVED. NO DWG REVISION REQ'D. ~~PROJECT ENGINEERING~~ RECOMMENDS USE AS IS.

[signature] 10-9-80

QE L. Snyder 10-9-80

(CONTINUED ON PAGE 2 AVD 10/20/80)

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

[signature] PROJECT FIELD ENGINEER DATE 10/9/80

[signature] PROJECT ENGINEER DATE 10/9/80

[signature] PROJ CONSTR QC ENGINEER DATE 10/9/80

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

The weld has been ground flush and QC concurs with use as is disposition W Smith 11-4-80

N. Smith 11-4-80

26. QC ACCEPTANCE N. Smith 11-4-80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

BLOCK 23 (CONTINUED)

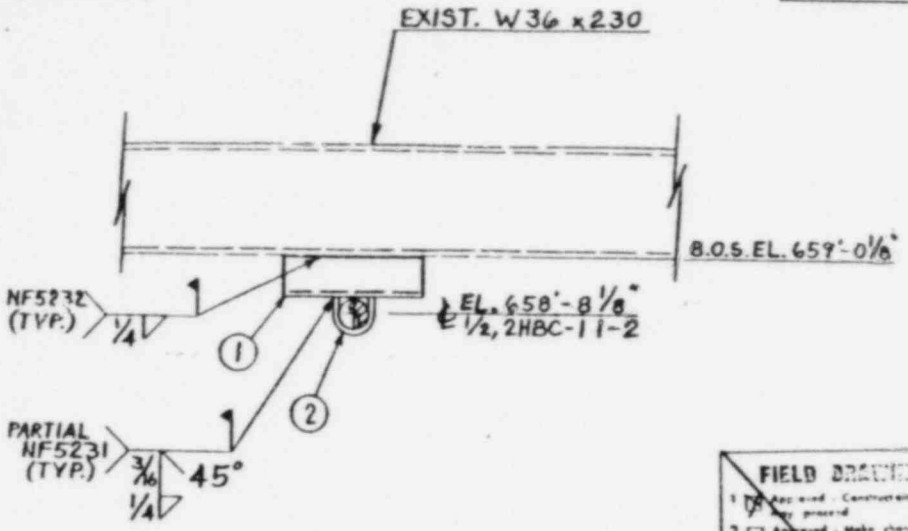
PROJECT ENGINEERING HAS EVALUATED THE REFERENCED CROSS-FLANGE WELD AND HAS FOUND IT ACCEPTABLE, SINCE THE EXISTING STRESSES IN THE BEAM ARE LESS THAN 70% OF THE ALLOWABLE STRESS AS REQUIRED PER CIVIL DESIGN STANDARD C-501 REV. 11. PROJECT ENGINEERING RECOMMENDS TO "USE-AS-IS". AFTER HANGER IS REMOVED, WELD MAY BE GROUND SMOOTH TO ALLOW REINSTALLATION OF HANGER.

NO DRWG/SPEC CHANGE REQUIRED — Alan V. Dawson JWD 10/23/80
NO COORDINATION REQUIRED — REM C-2843
JLH 10-30-80
QE. L. Snyder 10-30-80

START-UP NO. 2JEA

SEQ. # 4120

CALC. NO. 400-1928



ELEV. LKG. NORTH

ITEM NO.	MATERIALS & OPERATIONS	QUAN.	SHIP.		P&S	L	CSB	PRIM.	SEC.	AIBC.
1	TS 4 x 4 x 1/4 x 4" LG. ASTM A500 Gr B (FIELD CUT TO SUIT)	1				✓		✓		
2	1/2" PIPE STRAP FSK-M-PGS-113 (Q)	1					✓	✓		

NOT TO BE USED FOR CONSTRUCTION

FIELD DRAWING REVIEW

1 ☒ Approved - Construction or fabrication may proceed

2 ☐ Approved - Make changes as noted. Construction or fabrication may proceed. Resubmittal not required

3 ☐ Approved except as noted. Resubmit for further review. Construction or fabrication may proceed except as noted

4 ☐ Disapproved. Resubmit. Construction or fabrication may NOT proceed

5 ☐ Approval not required. Construction or fabrication may proceed

Reviewed By _____ Date _____

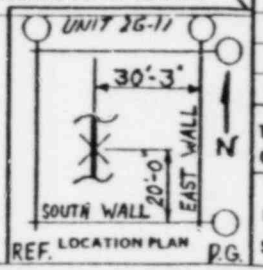
JOB NO. 7220

MIDLAND PLANT UNITS 1 & 2
CONSUMERS POWER COMPANY

ITEM NO.		QUAN.	SHIP.		P&S	L	CSB	PRIM.	SEC.	AIBC.

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
NORMAL & UPSET	–	± 250	± 78			
EMERGENCY						
FAULTED	–	± 278	± 106			



THIRD PARTY INSPECTION YES ☐ NO ☒

CODE CLASS ASME III CLASS 3

REF. DRAWING NUMBERS

PIPE: 2HBC-11-2, R2 ELECT: –

STEEL: C-1009(Q) H.V.A.C.: –

JOB NO. 7220

BECHTEL ANN ARBOR

POOR ORIGINAL

NOTES

1. FAB IN ACCORDANCE WITH SPEC. 7220-M-343
2. EFFECTIVE WEIGHT W ≤ 300 LBS.

REV.	DATE	REVISIONS	BY	CHKD.	DES SPVR.	ENGR	PROJ ENGR	APPR
0	1/18	ISSUED FOR CONST.	KLS	OZ	PMP	AL	[illegible]	

CUSTOMER CONSUMERS POWER CO.

ORDER OR CONT. NO. 7220

JOB NAME MIDLAND PLANT, UNITS 1-2

MARK NO.

SKETCH NO. FSK-M-2HBC-11-2, H5 (Q)

SHEET 1 OF 1 REV. 0

R.C
Dot
Tanner

NONCONFORMANCE REPORT Start up Cork: Indeterminate

1. Project Name: Midland	Job No.: 07220			19. No. 3097	20. Page 1 of 2
2. Unit(s): IND	3. Drawing/Part No.: NA	Rev: NA	4. Item Description: Gland Bolts, Nuts and Screws		5. Item Location: WHSE I QC. Hold AREA
6. P.O. ~~Or Spec~~ No.: F45751	7. Serial No.: NA	8. Replacement Part P/N NA REV ___ SER NO. ___	9. Source: Supplier	10. ~~Contractor~~/Supplier: Anchor Darling	
11. Inspection Criteria: ☐ DWG ☒ SPEC ☐ OTHER IR NO. R-1100-13378 NO. M-305 rev 5	12. ASME AUTHORIZED INSPECTION REQ'D: ☐ YES ☒ NO	13. SKETCH ATTACHED: ☐ YES ☒ NO	14. Discovered During: ☒ REC'G ☐ CONST ☐ TEST	15. Equip Furnished By: ☐ CLIENT ☐ ENG ☒ FLD	

16. Nonconforming Condition:
Technical Specification M-305 rev 5 requires Quality verification documentation in accordance with form G-321-D. Contrary to this NO form G-321-D has been received. "Q" number is indeterminate I hold tag applied. Hold Pending final disposition.

17. Reported By: John Framer Date: 8/21/80

18. Validated By: [illegible] E. Smith Date: 8/22/80.

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

Revision to P.O. written to require documentation per M-305. Procurement to obtain documentation from vendor. (D.T.) D. Shot 8/27/80

Rev. 2 to P.O. requires material certificate of compliance. (Material certificate of compliance received). D.T. [illegible] 10-27-80

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
DPS			

[illegible] FIELD ENGINEER DATE 8/26/80

[illegible] PROJECT CONSTR QC ENGINEER DATE 9/2/80.

AUTHORIZED INSPECTOR DATE 10-24-80

25. Disposition Results
form G-321-D NO Longer required per rev. 2 to Purchase Order and Certificate of Compliance is received, reviewed and accepted.
John Framer 11-5-80

26. QC Acceptance
John Framer 11-5-80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

10-27-80

See pg. 2 for concurrence

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 2 OF 2 — 19. NCR NO. 3097

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS
DOC			

PROJECT FIELD ENGINEER — DATE 10/27/80

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE 11-3-80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item			
REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Ref. Steve Harvey

NONCONFORMANCE REPORT

Start up code: Indeterminate

1. Project Name: midland | Job No.: 07220 | 19. No. 3098 | 20. Page 1 of 2 (2 pgs) 11-13-80

2. Unit(s)	3. Drawing/Part No.	Rev	4. Item Description	5. Item Location
IND.	NA	NA	6 each 2½" ø x 7" long Hex Coupling Nut	QC Hold Area Warehouse I

6. P.O. ~~Ch Spec~~ No.	7. Serial No.	8. Replacement Part	9. Source	10. Contractor/Supplier
F46336	NA	P/N NA REV ___ SER NO. ___	Supplier	Talley Fasteners

11. Inspection Criteria	12. ASME Authorized Inspection Req'd	13. Sketch Attached	14. Discovered During	15. Equip Furnished By
☐ DWG ☒ SPEC ☐ OTHER IR NO. P-100-13435 NO. G-33 rev 11	☐ YES ☒ NO	☐ YES ☒ NO	☒ REC'G ☐ CONST ☐ TEST	☐ CLIENT ☐ ENG ☒ FLD

16. Nonconforming Condition: Technical Specification G-33 rev 11, Note 2, Paragraph C requires a minimum Charpy V-Notch test value of 25 mills of Lateral expansion. Contrary to this, Charpy V-Notch test values submitted are 15, 19, and 16 mills of Lateral expansion which are below acceptable limits. 'Q' number is indeterminate. 1 Hold Tag applied. Hold Pending final disposition.

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
	✓		

J. J. Kleinsorge/AWB 9/4/80
PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

R. E. Smith 9/18/80
PROJECT CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

17. Reported By: John Kramer Date: 8/21/80

18. Validated By: R. E. Smith Date: 8/22/80.

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

Reject and return to vendor.

J. J. Kleinsorge 8/4/80

25. Disposition Results

Material Returned to Vendor on Bechtel shipping notice number 7220-12922 attached.

John Kramer 11-13-80

23. Project Engineering Disposition

26. QC Acceptance

John Kramer 11-13-80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Bechtel

SHIPPING NOTICE

JOB NO. 7220 SN NO. 7220-12922

DATE 11/7/ 1980

CONSIGNED TO Talley Fasteners, Inc.

ADDRESS 1616 Construction Drive, Kalamazoo, MI 49001

ROUTING UPS - Collect

SHIP VIA	COLLECT	PREPAID
AIR EXPRESS		
EXPRESS		
RAIL FREIGHT		
MOTOR FREIGHT		
PARCEL POST UPS	xxx	
BEARER		

PURCHASE ORDER NO.	O S & D NO.	ORIGINAL MRR NO.
N/A	N/A	ABO-13435
MATERIAL ORIGINALLY PURCHASED ON P.O. NO.	VENDOR	
7220-F-463360	Talley Fasteners, Inc.	

REASON FOR SHIPMENT: Incorrect Material - Replace

SHIPMENT AUTHORIZED FOR BECHTEL BY: D.H. Griffin

Deb Hickerson/John Kramer (Q-List)

BILL OF LADING ATTACHED: N/A

ITEM NO.	QUANTITY	UNIT	COMPLETE DESCRIPTION
1	6	Ea.	Sleeve Nuts 2 1/2 in Ø x 7 in.

NCR - 3098

NCR-3098 Pg. 2 of 2

RETURN AUTHORIZED BY: Dean Talley

COMPANY Talley Fasteners, Inc.

AUTHORIZATION NUMBER:

CREDIT TERMS:

SHIPPER

Bechtel

ADDRESS 3500 E. Miller Road

Midland, MI 48640

PER Wm Bielaski Jr

E.E. Lawrence/lcp

ACCEPTED FOR SHIPMENT

DATE 11/11 1980

CARRIER UPS

PER

2

SN NO. 7220-12922

FE. R. MILLER 9.2.80

NONCONFORMANCE REPORT

S/U NONTESTABLE UNIT

1. PROJECT NAME: MIDLAND	JOB NO.: 07220			19. NO. 3104	20. PAGE 1 OF 2
2. UNIT(S): CONT #1	3. DRAWING/PART NO.: E655 SH 1	REV: 12	4. ITEM DESCRIPTION: WELDING OF CONDUIT SUPT.	5. ITEM LOCATION: CONT #1 609' 2' W. COL #2	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV ____ SER NO. ____	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA: (X) DWG ( ) SPEC ( ) OTHER — IR NO. C304-8434 NO. E42 REV 46	12. ASME AUTHORIZED INSPECTION REQ'D: ( ) YES (X) NO	13. SKETCH ATTACHED: ( ) YES (X) NO	14. Discovered During: ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By: ( ) Client ( ) Eng (X) FLD	

16. NONCONFORMING CONDITION:

REQUIREMENT: E-42 REV 46, SH 306A INSTALLATION RULE K STATES: "SUPPORT TYPES 14 AND 16 SPECIFY 1/8", 2@3 CROSS-FLANGE STITCH WELDS FOR ATTACHING UNISTRUT TO STRUCTURAL STEEL. THE SIZE AND LENGTH SPECIFIED MAY VARY PROVIDED THE FOLLOWING REQUIREMENTS ARE MET:

1) SIZE OF WELD: 1/8" MINIMUM, 1/4" MAXIMUM.....

E.

17. REPORTED BY: J. W. Miller — DATE: 9-2-80

18. VALIDATED BY: G. G. Smith — DATE: 9-3-80

19. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

(1/2/81)

Field Engineering recommends for this case only, "use as is."

John Armando
9-8-80

23. PROJECT ENGINEERING DISPOSITION: Based on evaluation of the relative size of weld to member thickness, location of weld, and state of stress on the member, Project Engineering has determined the non-conforming condition to be acceptable and recommends to "Use As Is." No Dwg. change required. DRVC generated by Resident Engineering.

Ref: REM - 2815 — JC Bell 9/24/80

CALC - 29C — RS 9-24-80

JLH 9-25-80 — [illegible] 9-4-80

QE L. Smyth 9-29-80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

J. H. Bell / JLG — PROJECT FIELD ENGINEER — DATE 9/30/80

J. Corrigan for J. Cook — PROJECT ENGINEER — DATE 9/29/80

G. G. Smith — PROJ CONSTR QC ENGINEER — DATE 10/7/80

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS: ONE QC HOLD TAG REMOVED J. W. Miller 11-6-80

26. CONCURRENCE J. W. Miller — QC ENGINEER — DATE 11-6-80

AUTHORIZED INSPECTOR — DATE

CIVIL

BLOCK 16 CONTINUED.

CONDITION. CONTRARY TO THE ABOVE, A TYPE 16 CONDUIT SUPPORT, 2' WEST OF COLUMN #2, 609' ELEV. CONTAINMENT #1, HAS 5/16" AND 3/8" FILLET WELDS THAT ATTACH IT TO THE STRUCTURAL STEEL. CONDUIT 1CVA018.

ONE QC HOLD TAG APPLIED
HOLD FOR ENGINEERING DISPOSITION
Q LIST # 3.006

NONCONFORMANCE REPORT

SW # 1 PEA

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3113	20. PAGE 1 OF 2
2. UNIT(S): 1	3. ~~DRAWING~~/PART NO.: 00-550-02-AE	REV: N/A	4. ITEM DESCRIPTION: 2" DIA. BY 5'-05" LONG ENGINE BOLT FOR DIESEL ENG. 1G-11	5. ITEM LOCATION: DIESEL GEN. BLDG, BAY # 2, EL. 634'	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. M-2.00- NO. 1G-11		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client (X)Eng ( )FLD

16. NONCONFORMING CONDITION: 2" DIAMETER ENGINE BOLT FOR DIESEL ENGINE NO. 1G-11 HAS NUMEROUS GOUGES AROUND THE CIRCUMFERENCE IN AN AREA O'-8" LONG, STARTING O'-11" IN FROM ONE END LEAVING THE QUALITY SERVICE OF THE BOLT INDETERMINATE. DEPTH OF GOUGES IS IMMEASURABLE DUE TO EXISTING SURFACE CONDITION. (CONTINUED ON PAGE 2)

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Frank Mahaffey	9-10-80	L. Smith	9-11-80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Gouges are the result of pipe wrench. In the case of first anchor bolt ~95% of the gouges are located in the 2" diameter portion of the bolt and their depth does not exceed the depth of threads. (See dwg. 7220-M18-102-1). The remaining 5%, approximately 10 gouges, are located in the 1¾" diameter portion

23. PROJECT ENGINEERING DISPOSITION:

PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING TO "USE AS IS" PROVIDED THAT THE MARKS ARE ~~GRIND OFF~~ GROUND OUT LEAVING THE SURFACE OF THE BOLTS IN A SMOOTH CONDITION. See RE-M-827

Richard E Shiffland 10/14/80

(CONT. ON PAGE 2) 10/17/80

NO DRAWING CHANGE

QE L. Smith 10-15-80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER — DATE 10/20/80

PROJECT ENGINEER — DATE 10/24/80

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

MARKS HAVE BEEN GROUND OUT SMOOTH AND THE GRINDING IN EACH PORTION OF THE BOLT DID NOT EXCEED THE DEPTH OF THE DEEPEST GOUGE WITHIN THAT PORTION OF THE BOLT. USE-AS-IS PER BLOCK # 23 DISPOSITION.

F Mahaffey 11/25/80

26. QC ACCEPTANCE

QC ENGINEER L. Smith — DATE 11/25/80

AUTHORIZED INSPECTOR — DATE

BLOCK 16 CONTINUATION:
A SECOND ENGINE BOLT IS ALSO GOUGED AROUND THE CIRCUMFERENCE IN AN AREA OF 3" LONG, APPROXIMATELY 0'-10". IN FROM ONE END.

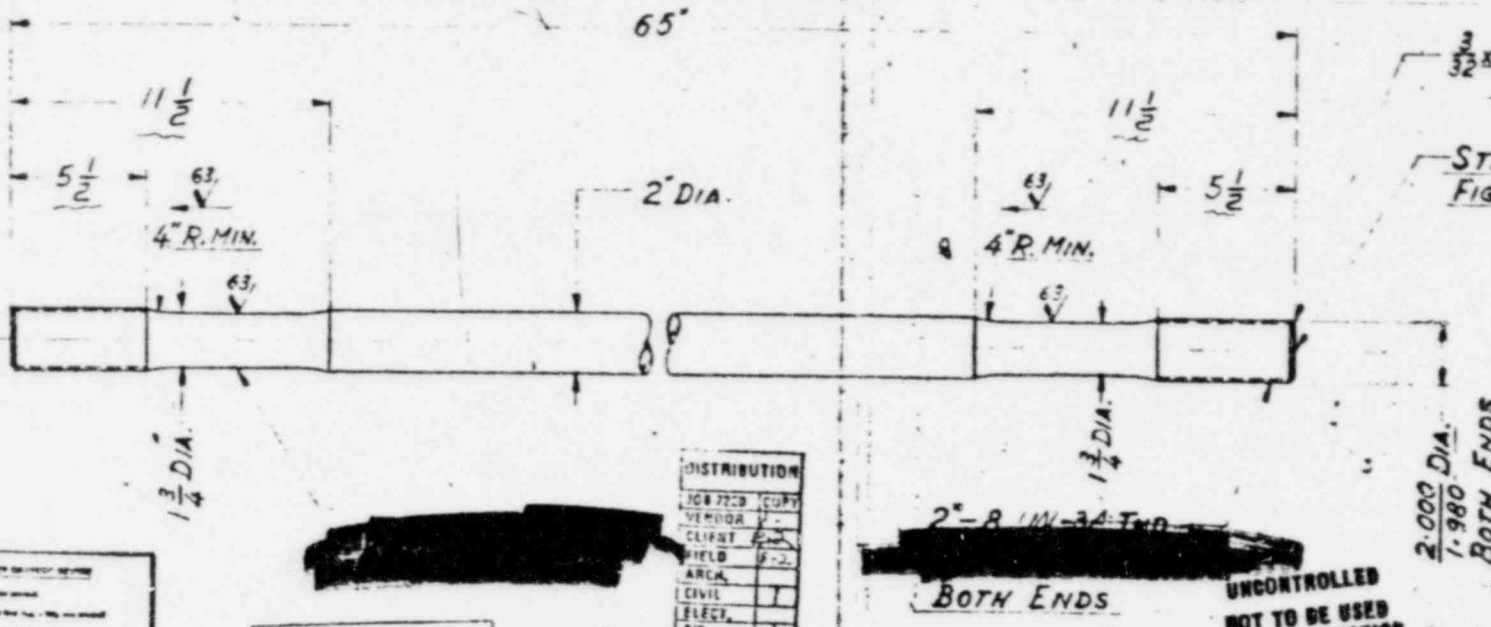
Q-LIST NO 4.521 TWO (2) HOLD TAGS APPLIED TO BOLTS

Blk. 22 cont.
of the bolt. Deepest gouge is .018" deep and .450" long. Second anchor bolt has ~14 gouges in the 2" diameter portion of the bolt not exceeding the depth of threads, and 4 in the 1¾" diameter area. Gauges are <.018 deep and ¼" to ⅞" long. Field engineering recommends use as is. (A.K.)
D. Shot 9/17/80

BLOCK 23 CONT.

THE GRINDING IN EACH PORTION OF THE BOLT SHALL NOT EXCEED THE DEPTH OF THE DEEPEST GOUGE WITHIN THAT PORTION OF THE BOLT. RE Shifflett 10.17.80
Kidnie QE L. Snyder 10-20-80

NCR 3113 Pg 4 of 4



[redacted]

[redacted]

DISTRIBUTION	
JOB 7220	COPY
VENDOR	
CLIENT	
FIELD	
ARCH.	
CIVIL	
ELECT.	
P/D	
MECH.	
E. SYS.	
INSP.	
START-UP	
RECORD	
BECHTEL	

PLEASE RESUBMIT CORRECTIONS WITHIN ___ WEEKS

AUG 30 1977

RECEIVED
OCT 07 1977
BECHTEL POWER CORP.
JOB 7220
PER

UNCONTROLLED
NOT TO BE USED FOR CONSTRUCTION

7220-M18-102-1

CONSUMERS POWER
P.O. NO. 7220.11.18(Q)-AC
MIDLAND NUCLEAR POWER PLANT
UNITS 1 & 2
EMERGENCY DIESEL GENERATORS

8. SAFETY RELATED.
7. MATERIAL TRACEABILITY REQUIRED

6. FACE ___ TO BE PARALLEL TO FACE ___ WITHIN ___ T.I.R. AND AT RIGHT ANGLES TO FACE ___ WITHIN ___ T.I.R. IN ___ INCH LENGTH.
5. ___ DIAMETERS MARKED ★ ARE TO BE CONCENTRIC TO EACH OTHER WITHIN ___ T.I.R. AND AT RIGHT ANGLES TO FACES MARKED ★ WITHIN ___ T.I.R.
4. √ SURFACE FINISH SYMBOL WITH NUMBER INDICATING RMS ___
3. ALL MACHINING DIMENSIONS ± .010 UNLESS OTHERWISE STATED.
2. [redacted]
1. DO NOT SCALE DRAWING.

NOTES

THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND IS SUBMITTED SUBJECT TO RETURN UPON REQUEST AND UPON THE EXPRESS CONDITION THAT THE INFORMATION CONTAINED HEREIN WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF T[redacted] CORPORATION.

CHG	DATE	CHG	DATE

CHANGES

CHG	DATE
B	11-19-76
A	11-19-75

CHANGES

MATERIAL AND HARDNESS
41-4140 HEAT-TREATED COLD DRAWN STEEL.

PATTERN NO.
MODEL PV
PARTS LIST 02-550

ENTERPRISE DIVISION
OAKLAND, CALIFORNIA

BOLT, ENGINE FOUNDATION

DRAWN
CHECKED
APPROVED RGB

00-550-02-AF

PART & DWG. NO.

13-4

Ref. Bill Bourland

NONCONFORMANCE REPORT Startup Code: 2NHZ

1. Project Name: Midland — Job No.: 07220 — 19. No. 3115 — 20. Page 1 of 1

2. Unit(s): IND. — 3. Drawing/Part No.: NA — Rev: NA — 4. Item Description: 125 Volt DC. Relay — 5. Item Location: QC HOLD AREA WAREHOUSE I

6. P.O. ~~On-Site~~ No.: E-7-AC rev 10 — 7. Serial No.: NA — 8. Replacement Part P/N NA REV ____ SER NO. ____ — 9. Source: Supplier — 10. Contractor/Supplier: Gould

11. Inspection Criteria ☐ DWG ☒ SPEC ☐ OTHER IR NO. R-1.00-13574 NO. E-7 rev 6 — 12. ASME AUTHORIZED INSPECTION REQ'D ☐ YES ☒ NO — 13. SKETCH ATTACHED ☐ YES ☒ NO — 14. Discovered During ☒ REC'G ☐ CONST ☐ TEST — 15. Equip Furnished By ☐ CLIENT ☒ ENG ☐ FLD

16. Nonconforming Condition: Q.C.I. 7220/R-1.00 activity 3.2 requires inspection for physical damage. Upon inspection of item number 84, 1 piece, 125 volt D.C. Relay, a noise was heard when the subject relay was tilted or inverted indicating loose parts or material inside the relay. One corner of the shipping Container has been crumpled. Physical damage is suspect. "Q" number is 3,304 / Hold Tag applied hold pending final disposition.

17. Reported By: John Kramer — Date: 9/8/80

18. Validated By: D. E. Smith — Date: 9/10/80

21. Routing: ☒ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☒ Field Engineering Disposition ☐ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

REJECT. RETURN TO THE VENDOR. W.R. Bourland 9-18-80

23. Project Engineering Disposition

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
	X		

PROJECT FIELD ENGINEER — DATE 9-19-80

PROJECT ENGINEER — DATE 9/22/80

PROJECT CONST. QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. Disposition Results: Subject relay returned to Vendor on Bechtel shipping Notice number 7220-12057 attached. John Kramer 11/3/80

26. QC Acceptance

QC ENGINEER — DATE 11/3/80

AUTHORIZED INSPECTOR — DATE

X Discussed with Jay Buff

NONCONFORMANCE REPORT

Sht 1 of 1 BCA

1. PROJECT NAME: Midland	JOB NO.: 7220				19. NO 3119	20. PAGE 1 OF 2
2. UNIT(S): 1	3. DRAWING/PART NO.: FSK M-610/3/4	REV: 0	4. ITEM DESCRIPTION: Piping Drain Connection		5. ITEM LOCATION: Aux Bldg El 568 (G-4) & (F)	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: Quality Control	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (4) SPEC ( ) OTHER NO. M-204 Rev 13	IR NO.: Plus FSK Dwg M-610 Sh 3 Rev 4	12. ASME AUTHORIZED INSPECTION REQ'D (4) YES ( ) NO	13. SKETCH ATTACHED ( ) YES (4) NO	14. Discovered During ( ) Rec'g (4) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (4) FLD	

16. NONCONFORMING CONDITION: Specification M-204, Rev 13 Para. 6.4 states in part: "Prior to installation all piping shall be visually checked for cleanliness."

Contrary to the above, there is no documented evidence that Drain Connection #4 as shown on FSK M-610-3 Rev 4 & FSK M-610/3/4 Rev. 0 was inspected for cleanliness prior to field installation. Q*4.104 Hold Tag

M 10-8-80 JF

17. REPORTED BY: [signature] DATE: 9-15-80

18. VALIDATED BY: [signature] DATE: 9/17/80

19. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Subject piping will meet cleanliness requirements prior to turnover to the client as outlined in spec. 7220-M-342(Q), SECTION 6.4.1.B "USE AS IS"

[signature] 10-6-80

23. PROJECT ENGINEERING DISPOSITION

PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING TO "USE AS IS"; HOWEVER, THE SUBJECT PIPING IS CLEANLINESS CLASS "C" REQUIRING SECTION 6.3.3 OF SPECIFICATION 7220-M-342(Q) TO BE MET. SEE RE-M-828.

(CONT. ON PAGE 2) RS 10/16/80

Richard E Shepherd 10-14-80

NO DRAWING CHANGE

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

[signature] PROJECT FIELD ENGINEER 10/24/80 DATE

[signature] PROJECT ENGINEER 10/21/80 DATE

[signature] PROJ CONSTR QC ENGINEER 10/29/80 DATE

[signature] AUTHORIZED INSPECTOR 10-30-80 DATE

25. DISPOSITION RESULTS

"Use as is" [signature] 11/3/80

26. QC ACCEPTANCE [signature] QC ENGINEER 11/3/80 DATE

[signature] AUTHORIZED INSPECTOR 11/3/80 DATE

BLOCK 23 (CONT.)

EVEN THOUGH THE CLEANLINESS REQUIREMENTS OF SPEC. 7220-M-204 WERE NOT MET AT THE TIME OF INSTALLATION, THE ACCEPTANCE CRITERIA FOR PIPE CLEANLINESS WILL BE MET PRIOR TO TURNOVER BY INSTITUTING THE REQUIREMENTS OF SPEC. 7220-M342 FOR CLEANLINESS CLASS "C" DURING HYDRO AND FLUSH.

RE L. Snyder 10-20-80 RE Shepherd 10-17-80
A 10/17/80

F.E. CONTACT Steve Payne

NONCONFORMANCE REPORT

S/U NON-TESTABLE

1. PROJECT NAME: MIDLAND			JOB NO.: 7220					19. NO.: 3128	20. PAGE 1 OF 2
2. UNIT(S): COMMON	3. DRAWING/PART NO.: N/A		REV: N/A	4. ITEM DESCRIPTION: CUT REBAR				5. ITEM LOCATION: AUX. BLDG. WALL @ K-LINE, EL. 640'-0" BETWEEN 7.3 & 7.2 LINES	
6. ~~P.O. OR~~ SPEC NO.: C-231(Q) Rev 9	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N: N/A REV: N/A SER NO.: N/A		9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A				
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO: C-1-60-290 NO: C-231(Q) Rev 9			12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD			

16. NONCONFORMING CONDITION: SPEC. C-231(Q), APPENDIX E, PART 2.2 STATES IN PART "... TWO BARS MAY BE CUT EACH WAY, EACH FACE, PROVIDED THE MINIMUM RADIAL DISTANCE TO THE NEXT CUT BAR ON THE SAME FACE, IN THE SAME DIRECTION, IS AT LEAST TEN FEET." CONTRARY TO THIS, TWO VERTICAL #11 BARS HAVE BEEN CUT, ON THE NORTH FACE OF (K) LINE WALL, 9" APART. THERE IS ANOTHER #11 VERTICAL BAR CUT 8'-6½" AWAY. Q LIST #1,203. HOLD FOR ENG. DISP. 1 HOLD TAG APPLIED

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
Steve Payne	9-18-80	K. Bennett	9/22/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Project Engineering to evaluate.
Paul Bogren
9/25/80

23. PROJECT ENGINEERING DISPOSITION

INVESTIGATION OF WALL ALONG COL. LINE K-L INDICATES ADEQUTE STEEL PRESENT TO MEET STRUCTURAL REQUIREMENTS. (CALC. 23C.3).
NO COORDINATION REQ'D. NO DWG. CHANGE REQD.
USE AS IS. E.T.B.

W.V.P. 10/9/80 — P.S. Lam for B. Dhaw 10/20/80 — QE-P. Presley 10/22/80

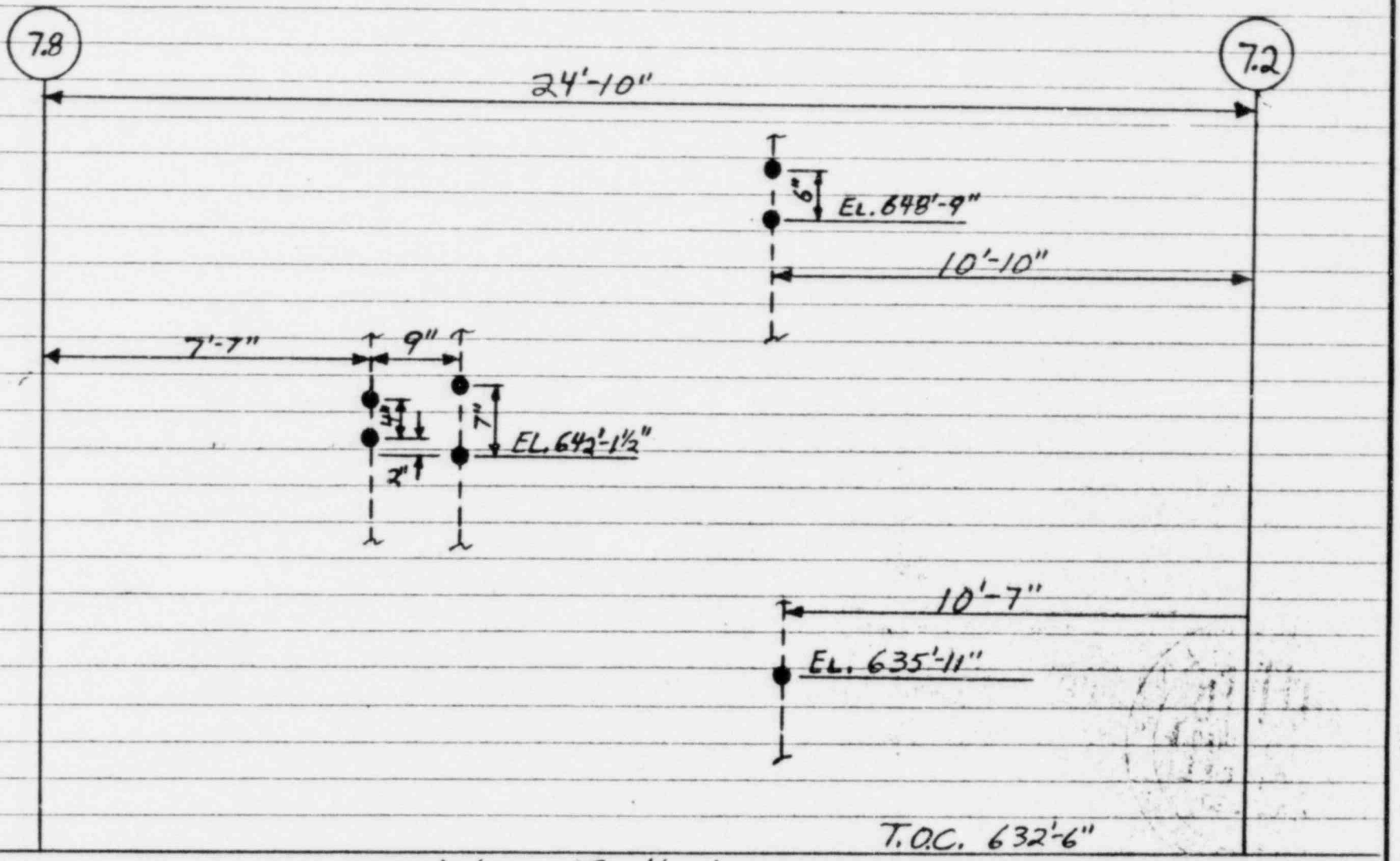
24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

J.P. Bottle MAG — PROJECT FIELD ENGINEER — 10/31/80 DATE
M.E. Lamb for F.W. Curtis — PROJECT ENGINEER — 10/23/80 DATE
K. Bennett — PROJ CONSTR QC ENGINEER — 10-3-80 DATE
P.S. for B.D.
AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE: James G. Keen — QC ENGINEER — 11/4/80 DATE
AUTHORIZED INSPECTOR — DATE



WALL @ KC LINE
NORTH FACE - LOOKING SOUTH
ALL REBAR ARE #11'S

● Drilled Holes
---- Cut Bar

J. Kelleher Contacted 9-23-80

VIN

SIV NON TESTABLE

NONCONFORMANCE REPORT

1. PROJECT NAME: MIDLAND	JOB NO.: 7220			19. NO. 3133	20. PAGE 1 OF 3
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: INITIAL CURE OF CONCRETE SPECIMENS	5. ITEM LOCATION: FIELD	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: ENG.	10. CONTRACTOR/SUPPLIER: BECHTEL	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO SC-1.05-199 NO. ASTM C-31-69		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g ( )Const (X)Test	15. Equip Furnished By ( )Client ( )Eng (X)FLD

16. NONCONFORMING CONDITION: ASTM-C-31-69 STATES IN PART THAT "THE CURING TEMPERATURE OF CONCRETE SPECIMENS BE MAINTAINED AT A TEMP. OF 60°-80° F DURING THE FIRST 24 HR AFTER MOLDING." CONTRARY TO THE ABOVE, SPECIMENS CASTED ON 9-22-80 WERE MEASURED AT 57°-84°. TEST RESULTS ARE ATTACHED. "Q" LIST 1.405. NO HOLD TAGS APPLIED.

10-8-80

17. REPORTED BY: R Murdock — DATE: 9-23-80

18. VALIDATED BY: E. Smith — DATE: 9/24/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

Field Engineering Recommends To "Use As Is". The Cylinders in Question Represent The Most Accurate Measure of The Concrete Strength. A High Initial Cure Temperature Will Result In A High Early Strength Whereas A Low Initial Temperature Will Yeild A Low Early Strength. Either Condition Should Not

23. PROJECT ENGINEERING DISPOSITION

The required strength of cylinders is 2000 p.s.i @ 90 days. The cylinder strength has been more than 2000 p.s.i @ 7 days inspite of the non conformance. The concrete used is of much higher strength than required for backfills. Hence the recommended disposition is "USE AS IS". Specification requirement for the concrete is satisfied.

10/20/80 — P. Shemfer B. Thurber L. Prexley 10/20/80 10/22/80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER — DATE 10/31/80

PROJECT ENGINEER — DATE 10/23/80

PROJ CONSTR QC ENGINEER — DATE 11-3-80

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE B. Hammond — DATE 11-7-80

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

P.S. 10/1/80

BLOCK 22 CONTINUED

Effect The Overall Strength of the Concrete. The Concrete In Question Was Used For Concrete Backfill Which Only Requires 2,000 PSI In 90 Days Per Specification C-230(9). The 7 day Breaks Were 2960 PSI And 2920 PSI WHICH Is Well Above 2000 PSI Required. The Concrete Used Was C-1 which Is A 4,000 PSI Concrete

Paul Dogruer
10/3/80

POOR ORIGINAL

Page 3 OF 3 P.D. 10/3/80

BECHTEL POWER CORPORATION
MIDLAND NUCLEAR POWER PLANT JOB 07220
REPORT OF CONCRETE CYLINDERS

US ACCEPTANCE | DATE
CONTROL NUMBER | FILE NUMBER

1. CONCRETE IDENTIFICATION: DG/1632.0, C
DATE PLACED: 9-22-80
2. PLACEMENT LOCATION: Diesel-Generator

PLANT DATA | SOURCE: Allied Concrete Products | CEMENT BRAND AND TYPE: Aetna Type I
MIX: C-1 | CLASS: I | AIR ENT.: ☒ YES ☐ NO | SPECIFIED STRENGTH: 4000 PSI AT 90 DAYS

TEST DATA AT BATCH PLANT
Yield: 27.57
TICKET NO.: 40297 | TRUCK NO.: 16 | TIME OF BATCHING: 0955 HOURS AT 9 YARDS | INITIALS: RM
SLUMP: 3" INCHES | AIR CONTENT: 5.2 | UNIT WEIGHT: 145.80 LBS/FT³ | CONCRETE TEMP: 70 °F | AIR TEMP: 60 °F
AGGREGATE SIZE: 1 1/2 | GRADING: 1-1 | STONE 2: N/A | WATER/CEMENT + POZZOLAN RATIO: .47 MAX. 49 ACT.
ADMIXTURE: N/A | TYPE: N/A | STRENGTH: N/A AT N/A HRS. | INITIALS: N/A

TEST DATA AT PLACEMENT
TICKET NO.: 40297 | TRUCK NO.: 16 | TIME OF TESTING: 1055 HOURS AT 9 YARDS | TIME OF BATCHING: 1053 HRS.
SLUMP: 3 3/4 INCHES | AIR CONTENT: 3.4 | CONCRETE: 70 °F | AIR: 68 °F | INITIALS: GW
INITIAL CURING: 57 °F TO 84 °F | STRENGTH: 9-23-80 AT 0913 HRS. | INITIALS: RB

338 3-5-81

COMPRESSIVE STRENGTH DATA ASTM-C-39-71

SPECIMEN IDENTIFICATION	DATE MOLDED	DATE TESTED	AGE	TOTAL LOAD IN POUNDS	ACTUAL CYL DIAM.	ACTUAL CYL AREA	TYPE OF BREAK	CORE HGHT	CORE DIA	STRENGTH PSI
4740F 9511	9-22-80	9-29-80	7							
9512			7							
9513		10-20-80	28							
9514		"	28							
9515		12-21-80	90							
4740F 9516	9-22-80	"	90							

STANDARD CYLINDER: ☒ 6" X 12" ☐ CUBE ☐ CORE ☐ OTHER
REMARKS:

CURING (DATE)	WITNESSED BY	CHECKED BY	CHECKED BY QC REP.

LABORATORY SUPERVISOR | DATE

* TYPE OF BREAKS: A = CONE, MORTAR FAILURE; B = CONE, AGGREGATE FAILURE; C = SHEAR, MORTAR FAILURE; D = SHEAR, AGGREGATE FAILURE; E = OTHER

NCR# 3133 Pg 2 Pg 3 of 3 QC 10-3-80

16342 3-80-79 7220-QCF-39 Rev. 1 Page 1 of 2

discussed with A. Kilgrock

(SIO # 1 PEB)

NONCONFORMANCE REPORT

19. NO. 3141 | 20. PAGE 1 OF 1

1. PROJECT NAME: MIDLAND | JOB NO. 7220

2. UNIT(S): 1 | 3. ~~DRAWING~~/PART NO.: 00-550-01-BS | REV: N/A | 4. ITEM DESCRIPTION: 1¼" x 40" LONG FOUNDATION ANCHOR BOLT FOR DIESEL GEN. #1G-12 | 5. ITEM LOCATION: DIESEL BLDG., BAY # 1

6. P.O. OR SPEC NO.: N/A | 7. SERIAL NO.: N/A | 8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A | 9. SOURCE: CONSTRUCTION | 10. CONTRACTOR/SUPPLIER: N/A

11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER | IR NO. M-20-16-12 NO. M-018 | 12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO | 13. SKETCH ATTACHED ( ) YES (X) NO | 14. Discovered During ( )Rec'g (X)Const ( )Test | 15. Equip Furnished By ( )Client (X)Eng ( )FLD

16. NONCONFORMING CONDITION: 1¼" DIAMETER ANCHOR BOLT FOR DIESEL GENERATOR #1G-12 HAS THREAD DAMAGE IN AN AREA 1½" LONG BEGINNING 3" IN FROM ONE END. ALSO THERE IS A SMALL AMOUNT OF CONCRETE ON THE THREADS IN THE SAME AREA. (REFERENCE VENDOR DWG. #7220-M18-180-1). Q-LIST NO 4.5.2 ONE (1) HOLD TAG APPLIED TO BOLT

10-13-80

17. REPORTED BY: F. W. Waluda | DATE: 9-23-80

18. VALIDATED BY: [signature] | DATE: 9/29/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

REMOVE CONCRETE FROM THE THREADS BY WIRE BRUSHING. THE DAMAGE TO THE THREADS IS NOT A NON-CONFORMING CONDITION AS IT IS PRESENT IN THE AREA NOT ENGAGED BY ANCHOR BOLT NUTS, CONSEQUENTLY ANCHOR BOLT FUNCTION IS NOT AFFECTED. (AK) Kirkendall 10-9-80

23. PROJECT ENGINEERING DISPOSITION

INSPECTION HAS SHOWN THAT ~~THAT~~ Rej THE DAMAGED PORTION OF THE THREADS WILL NOT BE ENGAGED BY THE ANCHOR BOLT NUTS AND THE EXTENT OF DAMAGE DOES NOT INFRINGE Rej UPON THE ROOT DIAMETER OF THE BOLT. THE CONCRETE IS TO BE REMOVED FROM THE THREADS WITH A WIRE BRUSH. PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING TO "USE AS IS". SEE RE-M-839. Richard E Shepherd 10/24/80

NO DRAWING CHANGE QE - L. Singh 10-22-80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER: [signature] DATE: 10/24/80

PROJECT ENGINEER: [signature] DATE: 10/24/80

PROJ CONSTR QC ENGINEER: [signature] DATE: 10/24/80

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

CONCRETE HAS BEEN REMOVED FROM THE THREADS. USE-AS-IS PER BLOCK # 23 DISPOSITION.

F. W. Waluda 11/24/80

26. QC ACCEPTANCE: [signature] 11/26/80

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

Inksnm.

BECHTEL

NONCONFORMANCE REPORT

Non-testable

1. PROJECT NAME: MIDLAND UNITS 1 & 2	JOB NO. 7220			19. NO. 3143	20. PAGE 1 OF 2
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: CUT REBAR ALLOWANCE EXCEEDED	5. ITEM LOCATION: AUX BLDG EL. 584'-0" SLAB 6-9½" EL6.9-1 4-N10	
6. ~~SCCOR~~ SPEC NO.: C-306(Q)	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONST.	10. CONTRACTOR/SUPPLIER: ~~FIELD~~ N/A 9/24/80	
11. INSPECTION CRITERIA: ( ) DWG (X) SPEC ( ) OTHER IR NO C-1.60-290 NO. C-306	12. ASME AUTHORIZED INSPECTION REQ'D: ( ) YES (X) NO	13. SKETCH ATTACHED: (X) YES ( ) NO	14. Discovered During: ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By: ( ) Client ( ) Eng (X) FLD	

16. NONCONFORMING CONDITION:

WHILE DRILLING FOR LARGE PIPE HANGER (W7-8-32) 12"-2HBC-141-H7, A #5 N/S REBAR WAS ENCOUNTERED AND CUT IN EXCESS OF THAT ALLOWED PER SECTION 2.5 ~~2.5~~ 9/19/80 OF SPEC C-306, APPENDIX D. SEE PAGE 2 OF THIS NCR FOR LOCATION. HOLD FOR ENGINEERING DISPOSITION, "Q" LISTED 1.203. One hold tag applied.

C.G.D 10-6-80 KB

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER — DATE 10/3/80

M. Elsley For L.H. CURTIS — PROJECT ENGINEER — DATE 10/23/80

PROJ CONSTR QC ENGINEER — DATE 11-7-80

AUTHORIZED INSPECTOR — DATE

P.S. KB 11-7-80

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
BRIAN OLOHAM	9/25/80	G. Smith	9/29/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

PROJECT ENGINEERING TO EVALUATE AND ADVISE.

L.P. Wilson 10-3-80

23. PROJECT ENGINEERING DISPOSITION

3 TOP BARS WHICH HAVE BEEN CUT ARE TEMPERATURE BARS. THE REMAINING REBARS ARE ADEQUATE FOR TEMPERATURE & SHRINKAGE REQUIREMENTS. (CALC 23C.3) NO COORDINATION REQUIRED.

E.T.B. L.P. Preuss-QE-10/22/80

for B. Olsen 10/29/80

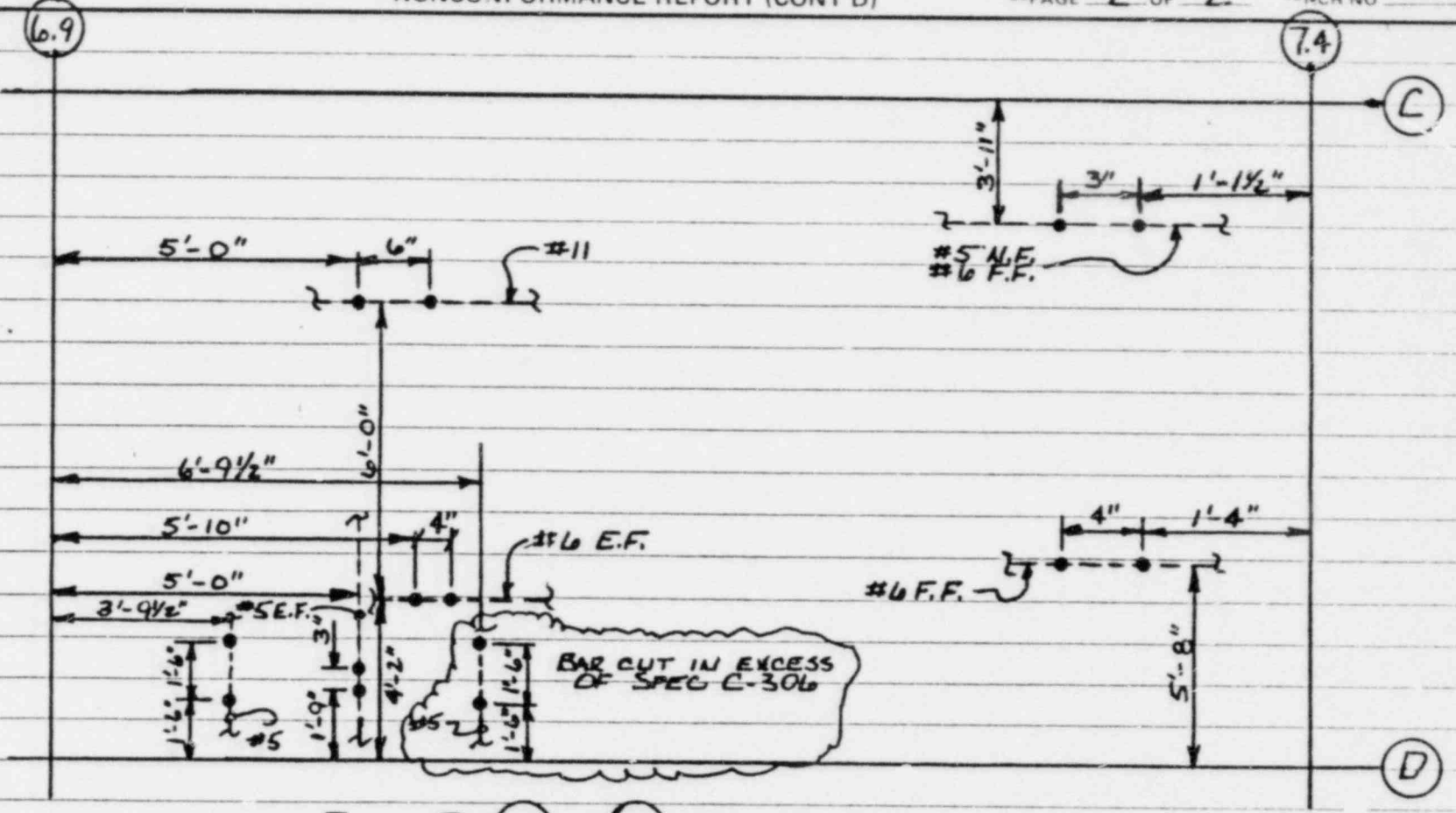
25. DISPOSITION RESULTS

26. QC ACCEPTANCE

James G Deuce 11/4/80

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE



SLAB @ (6.9) & (D) EL. 584'-0"
RM 129

LEGEND

● - CUT REBAR

⟩---⟨ - DIRECTION OF BAR

ALL BAR NEAR FACE U.N.O.

SKETCH NOT TO SCALE

REF: CUT REBAR DWGS FSK-CA-117, SH 136A, R5

Discussed with: J. Adams

NONCONFORMANCE REPORT 5/477 1AEA and 2AEA

1. PROJECT NAME: Midland	JOB NO. 07220			19. NO. 3158	20. PAGE 1 OF 1
2. UNIT(S): 1+2	3. DRAWING/PART NO.: 7220-M118B-92-2	REV: N/A	4. ITEM DESCRIPTION: Rust and Corrosion in valves	5. ITEM LOCATION: R/B #1+2 (see block 16)	
6. P.O. OR SPEC NO.: 7220-M118B	7. SERIAL NO.: R/B#1 NT-20; R/B#2 NT-84	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: Vendor	10. CONTRACTOR/SUPPLIER: Rockwell International	
11. INSPECTION CRITERIA: ( ) DWG (X) SPEC ( ) OTHER — IR NO.: NO. M204 rev 13	12. ASME AUTHORIZED INSPECTION REQ'D: (X) YES ( ) NO	13. SKETCH ATTACHED: ( ) YES (X) NO	14. Discovered During: ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By: ( ) Client ( ) Eng (X) FLD	

16. NONCONFORMING CONDITION: Valves 2XV-3966 A1P (S/N: NT-84; 439-3-44, Elev 622'; 139° A-Z; 2ELB-1; PI-30-M639-13-4a) and 1XV-3866 B1P (S/N: NT-20; 438-3-60; Elev 622'; 213° A-Z; 1ELB-2; PI-30-M638-13-4a) were found to have extensive corrsion, rust and scaling of the valve internals and piston sleeves. (Valves were being disassembled per manufac instructions 7220-M118B-92-2). Condition of valve is indeterminate Q list 4.384 and 4.394; Hold for Engineering Disposition; & Hold Tag Applied

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
L. Oxner	10/7/80	G. Summers	10/8/80

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Valves are to be disassembled by construction under manufacturers direction and ~~representative~~ inspected by manufacturers representative. Valves will then be reworked, cleaned, and reassembled under the direction of the manufacturers representative. (JRA) 10-23-80

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER 10/24/80 DATE

PROJECT ENGINEER 10/27/80 DATE

PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

Under the direction of Rockwell Int's Vendor Rep. Mr. Al Cranbow the above referenced valves were disassembled, cleaned using wire brushes, Acetone, and Emery cloth; Then Performed Visual Inspection after the cleaning showed that no deleterious effects were found. 11/18/80

Ref: PI 30 M638-13-4A 79574

PI-30-M639-13-13-4A 79569

26. QC ACCEPTANCE

QC ENGINEER 11/18/80 DATE

AUTHORIZED INSPECTOR DATE

ENGR. CONTACT: LARRY MORRIS

NONCONFORMANCE REPORT

S.U. - NON-TESTABLE

1. PROJECT NAME: MIDLAND 1 & 2	JOB NO.: 7220			19. NO. 3167	20. PAGE 1 OF 4
2. UNIT(S): UNIT #1	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: HORIZONTAL TENDON H32-030	5. ITEM LOCATION: CONT. #1 EL 685'6" BUTTRESS #3 TO BUTTRESS #2	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: CONSTRUCTION	10. CONTRACTOR/SUPPLIER: N/A	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER	IR NO. C-9.20-211 NO. CI-146-12, REV 6	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED (X) YES ( ) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client N/A ( ) FELD

16. NONCONFORMING CONDITION:

POST-TENSIONING FIELD INSTALLATION MANUAL STATES IN SECTION 5.3.J.2. DOUBLE END STRESSING, A) "ONCE THE SPACER AREA IS APPROXIMATELY EQUALIZED, BOTH JACKS ARE PUMPED TO THE PRESSURE INDICATED ON THE STRESSING CARD." ALSO B) SECTION 5.3.J.5., "COMPARE THE SUM OF LINE #10 WITH THE SUM OF LINE #1. IF THEY DIFFER, THE DIFFERENCE MUST BE WITHIN ±5% OF THE TOTAL CALCULATED ELONGATION

17. REPORTED BY: Michael Stark DATE: 10/10/80

18. VALIDATED BY: E. Smith DATE: 10/13/80.

21. ROUTING: (★) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition T.P. 10/31/80 (X) Field Engineering Recommended Disposition to Project Engineering T.P. 10/31/80

THE TENDON PRESENTLY LOCATED IN VOID H32-030, WHICH IS STRESSED BUT NOT GREASED, IS REJECTED. THE TENDON SHALL BE DETENSIONED AND REMOVED. THE LIFT-OFF FORCE SHALL BE MEASURED PRIOR TO DETENSIONING.

T.E. Moore 10/30/80
T.P. Walker 10/30/80

23. PROJECT ENGINEERING DISPOSITION

SEE PAGE 5 FOR DISPOSITION
AVD 11/3/80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

J. Beckham 10/30/80
PROJECT FIELD ENGINEER DATE

R. Emmett 10/30/80.
PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

TENDON REWORKED ON C-9.20-10.

M. Stark

26. QC ACCEPTANCE Michael Stark 11/19/80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

BLOCK #16 CONT'D —

AS SHOWN AT THE BOTTOM OF THE STRESSING CARD." CONTRARY TO THIS, 1.) ~~NO~~ A 650 PSI MEASUREMENT WAS NOT TAKEN, INSTEAD A 1,300 PSI READING WAS RECORDED. B.) THE CALCULATED DIFFERENCE (15.25") WAS OUTSIDE THE ESTABLISHED ±5% RANGE (16.15" TO 17.85") BY 0.9".

HELD FOR ENGR. DISPOSITION. Q-LIST #1.107. 1 HOLD TAG(S) APPLIED.

BLOCK 22 REVISED: INFORMATION GAINED DURING DE-TENSIONING OF TENDON H32-030 ON 10/30/80 AS PER THE ORIGINAL DISPOSITION IN BLOCK 22 HAS SHOWN THAT THIS TENDON CAN BE REWORKED TO ELIMINATE THE NON-CONFORMING CONDITION RATHER THAN REJECT THE TENDON.

THE FIELD RECOMMENDS THAT THE TENDON BE RE-STRESSED USING THE INFORMATION GIVEN ON THE ORIGINAL STRESSING CARD EXCEPT FOR THE LOCKOFF PRESSURE. THE LOCK-OFF SHOULD BE ESTABLISHED AT THE VALUES MEASURED PRIOR TO DE-STRESSING WITH A TOLERANCE RANGE OF MINUS 0% TO PLUS 5% OF THE PRESSURE GAUGE READINGS. THEREFORE, THE SHOP END LOCK-OFF PRESSURE SHALL BE 4100 P.S.I. (MINIMUM) TO 4300 P.S.I. AND THE FIELD END LOCK-OFF WILL BE 4250 P.S.I. (MINIMUM) TO 4450 P.S.I.. A NEW STRESSING CARD SHALL BE FILLED OUT AND THE TENDON SHALL BE GREASED WITHIN 10 DAYS OF THIS RE-STRESSING SO THAT 30 DAYS IN THE STRESSED CONDITION WITHOUT GREASING IS NOT EXCEEDED.

L E Morris 10/31/80

Paul Bryson 11/3/80

TENDON STRESSING CARD

1400 T D GEON 8779•80•83, 8 DATE 10/10/80

H 32 - 30 45T-365 MIDLAND UNIT #1

TENDON LOCATION _____ JOB NO. _____ JOB _____

Page 5 of 4

NCR #3167

DO NOT EXCEED 80% OF ULT
1602 KIPS ~~4000~~ PSI 4771 - (4750)
LINES IN PARENTHESIS ( ) FOR STAGE STRESSING ONLY

650 PSI

	JACK NO.	8783	JACK NO.	8784
	GAUGE NO.	N-286	GAUGE NO.	N-258
	END	2-R	END	3-R

	PSI	ELONGATION	PSI	ELONGATION
1. CALCULATED ELONGATION OVER 2000 PSI		8.50		8.50
2. PRIOR TO STRESSING	~~2000~~ 650* (1000)	0.90	~~2000~~ 650* (1000)	.85
3. 3500 TO 4000 PSI (OR FULL RAM EXTENSION)				
4. (MEASURED 1ST STAGE ELONGATION) (LINE 3 MINUS LINE 2)				
5. (NEW LIFT OFF – SAME PSI AS LINE 3)				
6. (FULL RAM EXTENSION)				
7. (MEASURED 2ND STAGE ELONGATION) (LINE 6 MINUS LINE 5)				
8. (NEW LIFT OFF – SAME PSI AS LINE 6) 4771 (4750)				
9. OVERSTRESS 1602 KIPS ~~4000~~ PSI	4750	7.85	4750	9.15
10. TOTAL MEASURED ELONGATION (4+7+9) LINE 9 MINUS LINE 2 (9-8+7+4)		6.95	(*)	8.30
11. LOCKOFF 1402 KIPS 4220 PSI TO 4430 PSI	4300		4250	

REMARKS (1) wire pulled for length verification. A .30" Feiler gauge was used to check liftoff. Liftoff was good

SHIMS	4, 2, 1, 1/8	SHIMS	4, 1/2, 1/8 (2)
FLD. HEAD	RM 106	BUSHING	SC-290
BRG. PLATE	GB49	BRG. PLATE	FR-29
TENDON END PROTECTED	✓	TENDON END PROTECTED	X

FOREMAN _____

Q.C. INSPECTOR Kathy Gunser / Mike Stark DATE 10/10/80 / 10/10/80

FORM 780.67-60 FEB. 1979 Inryco an Inland Steel company

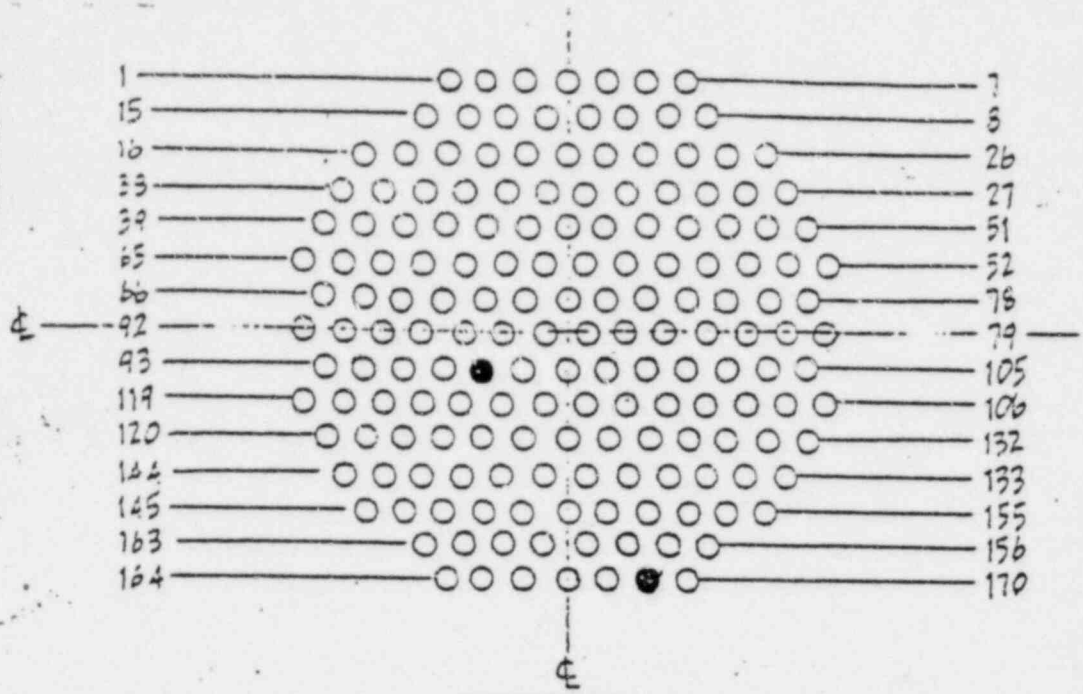
*NCR WRITTEN DENOTING 1000 PSI READING TAKEN IN PLACE OF 650 PSI READING, 5% RANGE (COMPARE LINE #10 WITH LINE #1) NOT MET. MS 10/10/80

BUTTONHEAD OR WIRE FAILURES AFTER STRESSING

TENDON NO. H32-03

PAGE 1 of 4

NCR#3167



RM 106

ANCHOR HEAD I.D. MARK

—SHOP ANCHOR HEAD — MM132

BUTTONHEAD NUMBER	LOCATION OF FAILURE		TYPE OF FAILURE	REMARKS
	SHOP END	FIELD END		
169		X	N/A	WIRE PULLED FOR LENGTH VERIFICATION.
97	X		N/A	WIRE PULLED FOR LENGTH VERIFICATION

Q.C. ENGINEER Mike Stark

BLOCK 23:

PROJECT ENGINEERING CONCURS WITH FIELD ENGINEERING'S PROPOSED DISPOSITION TO REWORK TENDON H32-030. THE TENDON WILL BE RESTRESSED AND THE INITIAL ELONGATION MEASUREMENT (LINE 2 ON STRESSING CARD) SHALL BE MADE AT 650 PSI, THEREBY ELIMINATING THE NONCONFORMING CONDITION.

AT EACH END, LOCK OFF WILL BE ESTABLISHED AT THE VALUES MEASURED DURING THE DESTRESSING OPERATION ON 10-30-80 AND SHALL BE WITHIN THE RANGES SPECIFIED IN BLOCK 22 OF THIS NCR. THIS METHOD OF STRESSING IS CONSISTENT WITH THE PROCEDURE FOR RESTRESSING PREVIOUSLY STRESSED TENDONS AS DESCRIBED BY SPEC. C-99(Q).

A NEW STRESSING CARD SHALL BE FILLED OUT AND THE TENDON SHALL BE GREASED WITHIN TEN DAYS OF THE FINAL STRESSING. THUS THE TENDON WILL NOT EXCEED THIRTY DAYS IN THE STRESSED CONDITION WITHOUT BEING GREASED (A TENDON MAY BE GREASED UP TO 30 DAYS AFTER STRESSING WITH THE APPROVAL OF PROJECT ENGINEERING AS PER SPEC. C-87(Q)).

NO DWG/SPEC REVISION REQUIRED
NO COORDINATION REQUIRED

Alan V. Dauerman JWD 11/3/80
REM C-2847

NONCONFORMANCE REPORT (CONT'D)

20. PAGE 6 OF 6 19. NCR NO 3167

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
X			

PROJECT FIELD ENGINEER — DATE 11/4/80

PROJECT ENGINEER — DATE 11/4/80

PROJECT CONSTR QC ENGINEER — DATE 11/4/80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Corrected Copy

NONCONFORMANCE REPORT

SIU MONTESTABEE

1. Project Name: MIDLAND UNITS 1&2	Job No.: 07220			19. No. 3169	20. Page 1 of 2
2. Unit(s): AUX	3. Drawing/Part No.: E6073 sh. 2	Rev: 0	4. Item Description: CROSS FLANGE WELDING	5. Item Location: SEE BLOCK 16	
6. P.O. Or Spec No.: N/A	7. Serial No.: N/A	8. Replacement Part P/N N/A REV N/A SER NO. N/A	9. Source: CONST.	10. Contractor/Supplier: N/A	
11. Inspection Criteria ☑ DWG ☐ SPEC ☐ OTHER IR NO. C3H-814W rev 3 NO. E42 Rev. 46	12. ASME AUTHORIZED INSPECTION REQ'D ☐ YES ☑ NO	13. SKETCH ATTACHED ☐ YES ☐ NO	14. Discovered During ☐ REC'G ☑ CONST ☐ TEST	15. Equip Furnished By ☐ CLIENT ☐ ENG ☑ FLD	

16. Nonconforming Condition:

E42 REV 46 SH. 306A PROVIDES GUIDELINES FOR CROSS-FLANGE WELDING OF TYPE 14 & 16 CONDUIT SUPPORTS. PARAGRAGH (L) GIVES A MAXIMUM WELD LENGTH OF 2½" INCHES WHEN WELD DOES NOT EXTEND TO THE EDGE OF THE FLANGE.

CONTRARY TO THE ABOVE A TYPE 14 CONDUIT SUPPORT WAS INSTALLED ON A W24x76 BEAM WITH THE FOLLOWING WELDS. SEE PAGE 2

K/C 10/31/80 MP

14x12 7.8cm/m 10/30/80 Amd 1 10/30/80

17. Reported By: J.C. Miller — Date: 10-14-80

18. Validated By: Amd 1 K.E. Brunell — Date: 10/31/80. Amd 1 10/30/80 — Amd 1 10/14/80.

21. Routing: ☑ TO FIELD ENGINEERING ☐ TO OTHERS (SPECIFY)

22. ☐ Field Engineering Disposition ☑ FIELD ENGINEERING RECOMMENDED DISPOSITION TO PROJECT ENGINEERING

USE AS IS — D.L. Scott 10/31/80

23. Project Engineering Disposition

Based on evaluation of the relative size of weld to member thickness, location of weld, and state of stress on the member, project engineering has determined the non-conforming condition to be acceptable and recommends to "use as is." J.C. Bell 10/31/80

No Dwg./Spec. change required

DRVC generated by Resident Engineering Ref. REMC2844

No COORDINATION REQ'D.

CALC 29C

10-31-80 JLH-10-31-80 Q.E.L. Smyth 10-31-80

24. Disposition Concurrence

REWORK	REJECT	REPAIR	USE AS IS
			☑

PROJECT FIELD ENGINEER: D.L. Scott — DATE: 11/6/80

PROJECT ENGINEER: J. Cerra for R.L. Cudlin — DATE: 10/31/80

PROJECT CONSTR QC ENGINEER: Amd 1 K.E. Brunell — DATE: 11/10/80

AUTHORIZED INSPECTOR — DATE

25. Disposition Results

"Use as is"

JCM 11-11-80

26. QC Acceptance

QC ENGINEER: J.C. Miller — DATE: 11-11-80

AUTHORIZED INSPECTOR — DATE

BLOCK 16 CONT.

Corrected Copy

WELD LENGTH IN INCHES FROM NORTH EDGE OF BEAM

	~~WELD~~SPACE	WELD	SPACE	WELD	SPACE	WELD	SPACE	WELD	SPACE
EAST SIDE	3/4	2	3/4	3 1/4	1	2 5/8	1	2 5/8	3/8
WEST SIDE	1/2	2 1/2	1	2 1/4	1	2 5/8	7/8	2 5/8	1/2

THIS SUPPORT IS LOCATED ON E LINE 87' EAST OF G.9 IN ROOM 124 OF AUX BLDG. FLOOR EL. 584'. SUPPORT IS ON CEILING BEAM. SUPPORTS CONDUIT NO. EBJB004

Q. LIST NO. 3.006 HOLD TAG APPLIED HELD FOR ENGINEERING DISPOSITION

Ref. George Beatty

NONCONFORMANCE REPORT START UP CODE: INDETERMINATE

1. PROJECT NAME: MIDLAND	JOB NO.: 07220		19. NO. 3185	20. PAGE 1 OF 1
2. UNIT(S): IND.	3. DRAWING/PART NO.: NA	REV: NA	4. ITEM DESCRIPTION: 1 Piece Junction Box Top Panel	5. ITEM LOCATION: QC HOLD AREA WAREHOUSE I
6. P.O. ~~BA SPEC~~ NO.: F46293Q	7. SERIAL NO.: NA	8. REPLACEMENT PART P/N NA REV ____ SER NO. ____	9. SOURCE: SUPPLIER	10. CONTRACTOR/SUPPLIER: BUNKER-RAMO CORP.

11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER	IR NO R-1.00-13770 NO E-20 REV 1e	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION: Purchase Order 7220-F-46293Q requires a Certificate of Conformance as Quality Verification documentation Submittal. Contrary to this, no certificate of Conformance has been received for Purchase Order item number 1, Junction box top panel. Part number 5002815-49. "Q" number is 3,002, 1 Hold Tag applied. Hold pending final disposition

17. REPORTED BY: John Kramer DATE: 10/28/80

18. VALIDATED BY: [illegible] E. Smith DATE: 10/28/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Procurement supervisor to secure proper documentation.
[illegible] 31 Oct 80

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

DCE [illegible] 11/3/80
PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER DATE

[illegible] E. Smith 11/10/80
PROJ CONSTR QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS: Documentation received, reviewed and accepted
John Kramer 11-11-80

26. QC ACCEPTANCE
John Kramer 11-11-80
QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

BECHTEL

STEVE HARVEY

NONCONFORMANCE REPORT

alab S/U CODE INDETERMINATE

1. PROJECT NAME: MIDLAND — JOB NO. 7220 — 19. NO. 3197 — 20. PAGE 1 OF 1

2. UNIT(S): INDETERMINATE — 3. DRAWING/PART NO.: N/A — REV: N/A — 4. ITEM DESCRIPTION: P.O. ITEM # 2 2500 EACH 5/16" x 3" A-307 HEX HEAD BOLTS — 5. ITEM LOCATION: WAREHOUSE #1

6. P.O. OR SPEC NO.: F-47860 — 7. SERIAL NO.: N/A — 8. REPLACEMENT PART: P/N ____ REV N/A SER NO. ____ — 9. SOURCE: SUPPLIER — 10. CONTRACTOR/SUPPLIER: NORTH CENTRAL FASTENERS

11. INSPECTION CRITERIA: ( ) DWG ( ) SPEC (✓) OTHER — IR NO. R-1-00-13962 NO. ____ — 12. ASME AUTHORIZED INSPECTION REQ'D: ( ) YES (✓) NO — 13. SKETCH ATTACHED: ( ) YES (✓) NO — 14. Discovered During: (✓) Rec'g ( ) Const ( ) Test — 15. Equip Furnished By: ( ) Client ( ) Eng (✓) FLD

16. NONCONFORMING CONDITION: ASTM A-307 REQUIRES THAT THE BOLT HEADS SHALL BE MARKED TO IDENTIFY THE MANUFACTURER. CONTRARY TO THE ABOVE A SAMPLE SIZE-80 OUT OF 2500 (5/16" x 3" HEX HEAD BOLTS) RECEIVED ON AEO-13962 WERE FOUND WITH NO MARKINGS. LEAVING THE STATUS OF THE MATERIAL INDETERMINATE. HOLD FOR ENGINEERING DISPOSITION. 'Q' NUMBER IS INDETERMINATE. ONE (1) HOLD TAG APPLIED TO THE NON-CONFORMING ITEM.

17. REPORTED BY: F Kanchwala — DATE: 11/4/80

18. VALIDATED BY: E Smith — DATE: 11-5-80.

21. ROUTING: ( ) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (✓) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

Reject Material and Return To Vendor.

L.P. Wilson 11-13-80

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
	✓		

PROJECT FIELD ENGINEER — DATE 11/14/80

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE 11-18-80.

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

MATERIAL RETURNED TO VENDOR ON SHIPPING NOTICE #7220-13006.

F Kanchwala 11/19/80

26. QC ACCEPTANCE F Kanchwala — 11/19/80

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Alab

SU Indeterminate

NONCONFORMANCE REPORT

1. PROJECT NAME: Midland	JOB NO.: 7220			19. NO. 3198	20. PAGE 1 OF 1
2. UNIT(S): 1 & 2	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: Component Supports Material		5. ITEM LOCATION: Standish
6. P.O. OR SPEC NO.: 47349(Q) Rev. 2	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE: ~~Supplier~~ Receiving	10. ~~CONTRACTOR~~/SUPPLIER: Carbon Steel Products	
11. INSPECTION CRITERIA ( ) DWG ( ) SPEC (X) OTHER IR NO. N/A NO ASME III		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During (X) Rec'g ( ) Const ( ) Test	15. Equip Furnished By ( ) Client ( ) Eng (X) FLD

16. NONCONFORMING CONDITION: NF 2130 requires that Class 2 impact tested material be supplied by a manufacturer with an approved NA 3700 quality program. Contrary to this, Phoenix Steel Corporation of Claymont, Delaware (material manufacturer for Carbon Steel Products) is not qualified by ASME or Bechtel for an NA 3700 quality program. One hold tag applied. Q-list number indeterminate. Hold pend. final disposition

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
James McEdoy	11-4-80	[signature]	11-5-80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition ( ) Field Engineering Recommended Disposition to Project Engineering

23. PROJECT ENGINEERING DISPOSITION

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

25. DISPOSITION RESULTS

26. QC ACCEPTANCE

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

cc: H. Leonard
W. Bird
D. Miller

QUALITY ACTION REQUEST

AI: P-022

From: (1)		
M. A. Dietrich	Site Q.A.	Job 7220
To: (2) L. H. Curtis	Control Document ref.: (3) 7220 M-326 & M-209	QAR Ident. No.: (4) SD-347

Action Requested: (5)

CPco Letter 283FQA79 dated 8/22/79 J. Corley to L. Dreisbach addresses the hanger installation problem where welding is done across vertical center lines of structural building framing. It is requested therein that BPCo formulate and implement a program to purge contradictory information from all affected hanger drawings.

Bechtel responsive communications, L. H. Curtis to L. A. Dreisbach, 10/19/79, TWX L. H. Curtis to L. E. Davis 11/9/79, L. A. Dreisbach to J. Corley 11/8/79, and L. E. Davis to L. H. Curtis 12/4/79, cover the subject requirements and discuss disposition of the problem.

Corrective action has not been taken as requested by CPCo letter 283FQA79.

(Continued on page 2 of 2)

Signature: (6)	Date: (7)	Reply Requested by: (8)
M Mullan for HMD	11/14/80	12/1/80

Reply: (9)

CONSUMERS POWER COMPANY
RECEIVED
NOV 13 1980
FIELD QUALITY ASSURANCE
MIDLAND

Signature: (10)	Date: (11)
Action Verified: (12)	Date: (13)

8/2/74

ACTION REQUESTED: (1) Review the content of the referenced communications. (2) Determine the area and department responsibility. (3) Formulate and implement the program as initially requested, or resolve the problem in another mutually acceptable manner.

QUALITY ACTION REQUEST

D. G. Turnbull
B. Marguglio
D. Miller

AI: P-025

From: M. A. Dietrich — Site Q.A. — Job 7220 (1)		
To: L. H. Curtis (2)	Control Document ref.: 7220-G-33 (Q) Rev 13 (3)	QAR Ident. No.: SD-346 (4)

Action Requested: (5)

It is assumed, by interpretation, that Control Document G-33, "General Quality Assurance Requirements for 'Q' Listed Materials/Shelf Items Listing and Special Service Items" is not regulated by reference to the ASME Code Sec III Div 1, as stated in paragraph 2. It is requested that para 3.0, "Chart Codes and Definitions" be explained.

A) Sub-paragraph 3.2 - Code 2: "Material Test Reports"

1) Is this the same as/or similar to a certified material test report?

2) If this is a "CMTR", why is it called a MTR?

B) Sub-paragraph 3.3 - Code 3: "Material Certificate of Compliance", states in part "A written statement, signed by a qualified and authorized party . . . . . and (cont)

Signature: (6)	Date: 11/20/80 (7)	Reply Requested by: 12/1/80 (8)

Reply: (9)

Job 7220-QA-Received 11/21/80
Log No. File No.
Response Req'd Date
QA Action Item No.

Route	Info	Act	Comment
PQAE			
Resp. Cor.			
Elect (1)			
Elect (2)			
Civil/Arch			
Piping/Weld			
Inst.			
Trn Ovr			
Trend	X		
Sect.			

Signature: (10)	Date: (11)
Action Verified: (12)	Date: (13)

8/2/74

accompanied by additional information to substantiate the statement.

1) What or who is a qualified and authorized party?

2) What constitutes the additional information required to "Substantiate the statement?

It is assumed that by definition, "qualified and authorized party" applies to both "Code 1" and "Code 3". Without reference to relevant sections of ASME, these requirements must be clearly stated and defined.

0

QUALITY ACTION REQUEST

cc: H. Leonard
D. Miller
W. Bird

AI/859

From: M. A. Dietrich ~~L. A. Dreisbach~~ (1)		
To: E. Smith ~~W. L. Barclay~~ (2)	Control Document ref.: SF/PSP G-3.2 Rev. 4 (3)	QAR Ident. No.: SD-234 (4)

Action Requested: (5)

Quality Control is requested to provide provisions for identifying on a hold tag the specific item(s) that is nonconforming. This will eliminate confusion and/or mis-interpretation by construction personnel as to what a hold tag is applicable to.

Job 7220-QA-P... 11/13/80

Log No. _____ File No. _____

Response Req'd ____ Date ____

QA Action Item No. _____

Route	Info	Act	Comments
PGAE			
Resp. Cor.			[redacted]
Elect (1)			
~~Elect (2)~~			
Civil/Mch			
Pipe/Weld			
Inst.			
Trn Ovr			
Struct.			
Sect.			

Signature: E. Smith for L.A.D. (6)	Date: July 9, 1979 (7)	~~Reply Requested by~~ July 20, 1979 (8)

Reply: (9)

The hold tag will identify the number of the NCR. Our program was not established with the intent to identify all the information contained ~~on an NCR onto the~~ Hold Tag. The Hold Tag should lead the individual to obtain the current NCR, read the disposition and proceed with work operation. Craft persons should not work on items with Hold Tags until the former action has been taken.

Signature: (10) REF IOM E.Newman to L.Dreisbach QCFM-8200,dtd 7/10/80	Date: 7/10/80 (11)
Action Verified: R.C. Hollar (12)	Date: 11/13/80 (13)

8/2/74

WHITE – Return to sender CANARY – Addressee's file PINK – Sender's file

BPC 20877
G1001649-05

cc: [illegible] H. Leonard
D. Miller
W. Bird

QUALITY ACTION REQUEST

A.I. H-83

From: M. A. Dietrich ~~L. A. Dreisbach~~ (1)		
To: L. E. Davis (2)	Control Document ref.: QAR SD-275 (attached) (3)	QAR Ident. No.: SD-299 (4)

Action Requested: (5)

During a follow-up verification of Project Engineering's reply the following condition was noted:

(1) The subsequent Project Engineering disapproval of a previously approved field revision as noted on FCR C-2126 was not reflected in the current (field) revision of the reference hanger sketch No. 2-613-5-44 Rev. 5 (Sub. 6/F1).

(2) Current Field Engineering procedures have no provisions for controlling subsequent Project Engineering dis-approvals of previously approved field revisions by use of an FCR.

(3) Controlled field revisions of the referenced sketch [illegible] applicable QCIE

Signature: (6)	Date: 1/16/80 (7)	Reply Requested by: [illegible]	Comment (8)

Job 7220-QA-Received 1/14/80
Log No. File No.
Response Req'd Date
QA Action Item No.
PQAE 2/18/80
Resp. C.
Insp.
Insp.
Trend
Sect.

Reply: (9)

Responses to "Actions Requested" (QAR-Pg. 2): (1) Memo, A. J. Boos to L. A. Dreisbach, 5/14/80, states in part, "FCR's/FCN's disapproved by Project Engineering after interim approval by the Resident are to be treated as design changes to completed work." NOTE: This is a part of Rev. 9 dated 5/22/80, to FPD 1.000(Q) which is now in use. Above referenced memo items (2) & (3) explain the review cycle of FCN's/FCR's that is and has been adequate without revision, Beyond the present issue in use. (2), (3) & (4) the A.J.Boos memo further explains the detail of the reason for the subject FCR and that the control of hanger changes is adequate.

(Continued on Page 2 of 2)

Signature: SIGNATURES ON RESPONSE (10)		Date: 11-10-80	(11)
Action Verified: [signature] 11-10-80 (12)		Date: 11-10-80	(13)

8/2/74

WHITE – Return to sender CANARY – Addressee's file PINK – Sender's file

criteria sheets do not reflect Project Engineering's disposition on the referenced FCR.

ACTION REQUESTED:

Based on the above conditions, the following is requested:

(1) Revise the applicable procedures to eliminate the inadequacies for controlling the use of FCRs that reject previously approved design drawings.

(2) Ascertain the extent of the above condition by performing a documented review.

(3) Provide Bechtel QA a copy of the results of the review.

(4) Where similar conditions exist, re-submit the affected documents in accordance with the applicable procedure.

REPLY (Continued from Page 1 of 2)

The "Case in Point" was a request to approve an unacceptable departure from an obvious specification requirement for "grouted" anchors.

QPRR dated 4/10/80 addresses this condition as one to be resolved, (not included in the original QAR "Action Requested") prior to closure of the subject QAR. A review of the current hanger sketch verifies that the anchors were not changed but are still the initially required "grouted design."

The verification as noted above along with the review of the procedure FPD 1.000 Rev. 9 completes the action requested and therefore the QAR is closed.

(1-G 1 OF 2

QUALITY ACTION REQUEST

cc: ~~J. Corley~~ H. Leonard
D. Miller
W. Bird

AI: 14-104

From: ARTHUR M^c CLURE

Job 7220-QA-Received 11/12/8 (1)

To: L.H. CURTIS (2)

Control Document ref.: SPEC. 7220-M488 (3)

QAR Ident. No. — Log No. — File No. — Response Req. — Due — QA Action Item No. — (4)

Item	Initial	Comment
PQAE		
Resp Cog.		
Elect (1)		
Elect (2)		
Inst.		
Trend	KN	

Action Requested: (5)

WHERE BRANCH CONNECTIONS ARE WELDED INTO THE PIPING SYSTEMS OF UNITS #1 & #2, FORGED TYPE WELDING FITTINGS (SUCH AS "WELDOLETS") ARE USED.

THE CLIENT, BECHTEL QUALITY CONTROL & QUALITY ASSURANCE HAVE DIFFERENT INTERPRETATIONS OF THE INTENT OF NOTE 6, PAGE 2 OF THE ABOVE REF. SPECIFICATION. THE ~~MODIFICATIONS~~ IN THE SPECIFICATION AND THE RELEVANT ASME SEC. III SUB-SEC. NC PARA. 3643.2 (b)1 SHOW ONLY APPLICATIONS OF STRAIGHT SIDE COUPLINGS AND PIPE SECTIONS. DUE TO THE FORM OF THE FORGED "WELDOLETS", THE WELD SHAPE AT (SEE PG 2)

Signature: (6) Date: 3-20-80 (7) Reply Requested by: 4-3-80 (8)

Reply: (9)

IOMS: L.H. CURTIS TO L.A. DREISBACH DATED (A) MAY 5, 1980 & (B) JULY 21, 1980 STATE IN PART:

(A) NOTE 5 IS BEING REVISED TO READ AS FOLLOWS:

WHERE USED, COMMERCIALLY AVAILABLE "OLETS" ..... SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTION

(B) DCN-1 DATED JULY 14, 1980 HAS BEEN ISSUED TO INCORPORATE NOTE 5 TO DRAWING M-488.

Signature: SIGNATURES ON REF IOMS (10) Date: (11)

Action Verified: (12) Date: 9-19-80 (13)

8/2/74

WHITE – Return to sender CANARY – Addressee's file PINK – Sender's file

THE "CROTCH" AND "SKIRT" OF THE TRANSITION WILL DIFFER, THEREFORE FILLET SIZE IS NOT CONSTANT AS SHOWN IN THE REF. SPEC. ILLUSTRATIONS.

THE FOLLOWING ACTION IS RECOMMENDED:

(1) REVISE SPECIFICATION M-488 TO SHOW [redacted] OTHER THAN COUPLING TYPE BRANCH ATTACHMENTS TO INCLUDE THOSE APPROVED BY SEC III SUB SEC NC TABLE NC-3691-1, ANSI B 16.9 & NC 3643.2

(2) DELETE NOTE 5

(3) SHOW TEST APPROVED WELD CONFIGURATIONS AS RECOMMENDED BY THE MANUFACTURER OF SUCH FITTINGS.

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

PAGE 1 OF 1

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	2	11-20-80	Service Structure Tie Plates	MK-355

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	551	FCP #64

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
FS-III-1C	196893E, Rev. 0	N/A

13. DESCRIPTION OF NONCONFORMITY

The tie plates on service structure platform are installed incorrectly. They are 180° out of rotation as required by drawing. It appears that they were inadvertently installed &inspected per Sketch #1 attached to FCP #64. This sketch is included in the FCP for alignment only and was not intended to be used for ~~one~~ Rev. 11-20-80 orientation of tie plates.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
R W Hoyle 11-20-80 (NAME / DATE)	R W Hoyle 11-20-80 (NAME / DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — W. H. Lain, FIELD PROJECT ENGINEER — 11-20-80 DATE

18. RECOMMENDED DISPOSITION: ☒ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

N/A

W. H. Lain, FIELD PROJECT ENGINEER — 11-21-80 DATE

20. ACTUAL DISPOSITION: ☒ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

See Attachment.

W. H. Lain, FIELD PROJECT ENGINEER — 11-21-80 DATE

22. APPROVALS

B&W FQC R W Hoyle 11-21-80 (SIGNATURE / DATE) OTHER _____ (SIGNATURE / DATE)

OWNER/AGENT _____ (SIGNATURE / DATE) OTHER _____ (SIGNATURE / DATE)

23. ANI REVIEW _____ (SIGNATURE) _____ (DATE)

24. DISPOSITION COMPLETED	25. DISPOSITION VERIFICATION	☐ ACCEPTABLE ☐ UNACCEPTABLE
_____ (NAME) _____ (DATE)	_____ (NAME) _____ (DATE)	REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

Revise Sketch #1 of FCP #64 adding a note stating "This sketch to be used only for alignment not orientation of tie plates".

Walter J. Lazar, FIELD PROJECT MANAGER — 11/21/80 DATE

27. NONCONFORMITY CLOSED

_____ FIELD QUALITY CONTROL SUPV. _____ DATE

1760

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

PAGE _____ OF _____

REPORT OF NONCONFORMITY

B NUMBER	UNIT NUMBER	DATE	REPORT OF NONCONFORMITY #
CL-238	2	11-21-80	1760

010 Remove tie plates (MK-355), bolts (MK-410), and washers (MK-411).

1. These items can be removed one at a time, in groups, or all at one time to facilitate correction.

020 Re-orient tie plates in accordance with Drawing 196893E.

030 Inspect orientation of tie plates in accordance with Drawing 196893E.

040 Install bolts (MK-410), washers (MK-411), and bushings (MK-420) in accordance with Drawing 196893E. Torque to 50 ft./lbs.

050 Align platform and tie plate assembly per Sketch #1 (alignment only, not orientation).

A. Sequence 070 can be worked in parallel with Sequence 050 if interferences are incurred.

060 Inspect alignment per Sketch #1.

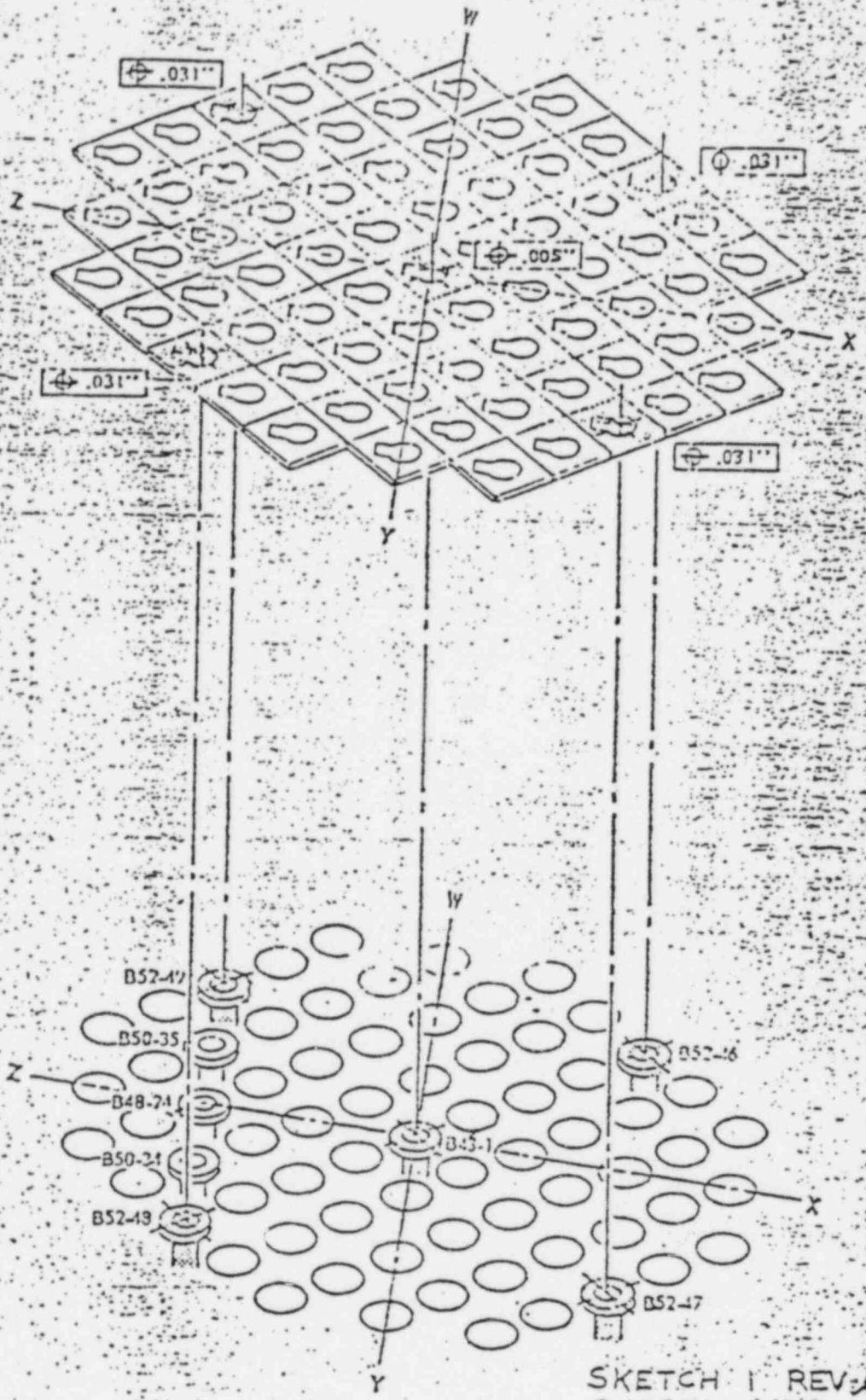
070 If necessary, mechanically grind out backing angle to floor plate welds.

A. Do not gouge floor plate.

B. Notify engineering prior to grinding welds.

080 If backing angles were removed, re-weld in accordance with Drawing 196893E and WIN-105-1.

090 Inspect weld configuration and size in accordance with Drawing 196893E.



NOTE: This sketch to be used only for alignment not orientation of tie plates.

SKETCH 1 REV Ø 1
SHEET 1 OF 1
B & W CONSTRUCTION
620-0012 UNIT 2

TRUE POSITION TOLERANCE PROFILE FOR LOCATING THE TIE PLATE ARRAY WITH RESPECT TO NOZZLE ARRAY ON HEAD

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

PAGE 1 OF 1

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
L-238	2	11-11-80	Decay Heat Removal System	2½"-2CCA-65

6. VENDOR MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Tyler-Dawson Co.	☐ RECEIVING ☐ TEST ☒ CONST.	474	283

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	M-611, Sh. 2, Rev. 10/F1	N/A

13. DESCRIPTION OF NONCONFORMITY 23 7/8" from FW 6 toward FW 7 is an arc strike on spool piece for 2CCA-65. The cavity is ¼" round and 0.085 deep. The arc was formed between the mild steel work bench and the spool piece.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
James L. Jones (NAME) 11-11-80 (DATE)	T. H. Davis Jr. (NAME) 11.11.80 (DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — W. G. Lain (FIELD PROJECT ENGINEER) — 11-11-80 (DATE)

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☒ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

See attachment.

Owner/Agent to advise.

W. G. Lain (FIELD PROJECT ENGINEER) — 11-12-80 (DATE)

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

_____ (FIELD PROJECT ENGINEER) _____ (DATE)

22. APPROVALS

B&W FQC _____ (SIGNATURE) _____ (DATE) OTHER _____ (SIGNATURE) _____ (DATE)

OWNER/AGENT _____ (SIGNATURE) _____ (DATE) OTHER _____ (SIGNATURE) _____ (DATE)

23. ANI REVIEW

_____ (SIGNATURE) _____ (DATE)

24. DISPOSITION COMPLETED

_____ (NAME) _____ (DATE)

25. DISPOSITION VERIFICATION ☐ ACCEPTABLE ☐ UNACCEPTABLE

_____ (NAME) _____ (DATE) REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

_____ (FIELD PROJECT MANAGER) _____ (DATE)

27. NONCONFORMITY CLOSED

_____ (FIELD QUALITY CONTROL SUPV.) _____ (DATE)

SEQUENTIAL NUMBER NO 1759 ~~1760~~

REPORT OF NONCONFORMITY

	UNIT NUMBER	DATE	REPORT OF NONCONFORMITY #
238	2	11-14-80	1759

1. Grind depression and remove upset metal.

2. NDE examine depression in accordance with 9-PT-103.

3. Map and record location, size, depth, width and root radius of depression.

4. Weld repair cavity flush or slightly convex in accordance with WIN-119-1 or WIN-219-1.

5. NDE examine weld in accordance with 9-RT-101 and 9-PT-101.

6. If Sequence 5 is rejected, repeat Sequence 1, 4, and 5 as necessary (3 times maximum) to obtain acceptance condition. Notify engineering if repair is still rejectable after third weld repair.

B&CC 3181-1

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	2	11-3-80 Rev 11-4-80	Service Structure	MK 729

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	#471	FCP #64

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	203262E	N/A

13. DESCRIPTION OF NONCONFORMITY

Oversize and undersize welds on monorail structure. See attached sheets.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
R Stone for C. Bowen 11-4-80 (NAME / DATE)	R W Shope 11-4-80 (NAME / DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — W. H. Linn (FIELD PROJECT ENGINEER) — 11-4-80 (DATE)

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

Accept as is. Vendor to advise.

W. H. Linn (FIELD PROJECT ENGINEER) — 11-6-80 (DATE)

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

Accept as is.
See SPR-177.

W. H. Linn (FIELD PROJECT ENGINEER) — 11-24-80 (DATE)

22. APPROVALS

B&W FQC: R W Shope (SIGNATURE) 11-24-80 (DATE) OTHER: _____ (SIGNATURE) _____ (DATE)

OWNER/AGENT: R E Whitaker (SIGNATURE) 11/25/80 (DATE) OTHER: _____ (SIGNATURE) _____ (DATE)

23. ANI REVIEW: _____ (SIGNATURE) _____ (DATE)

24. DISPOSITION COMPLETED: _____ (NAME) _____ (DATE)

25. DISPOSITION VERIFICATION: _____ (NAME) _____ (DATE) ☐ ACCEPTABLE ☐ UNACCEPTABLE REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

In the future, prior to proceeding with construction, necessary documentation will be instigated when unrealistic tolerances are encountered.

Walter J. Lyon (FIELD PROJECT MANAGER) — 11/24/80 (DATE)

27. NONCONFORMITY CLOSED

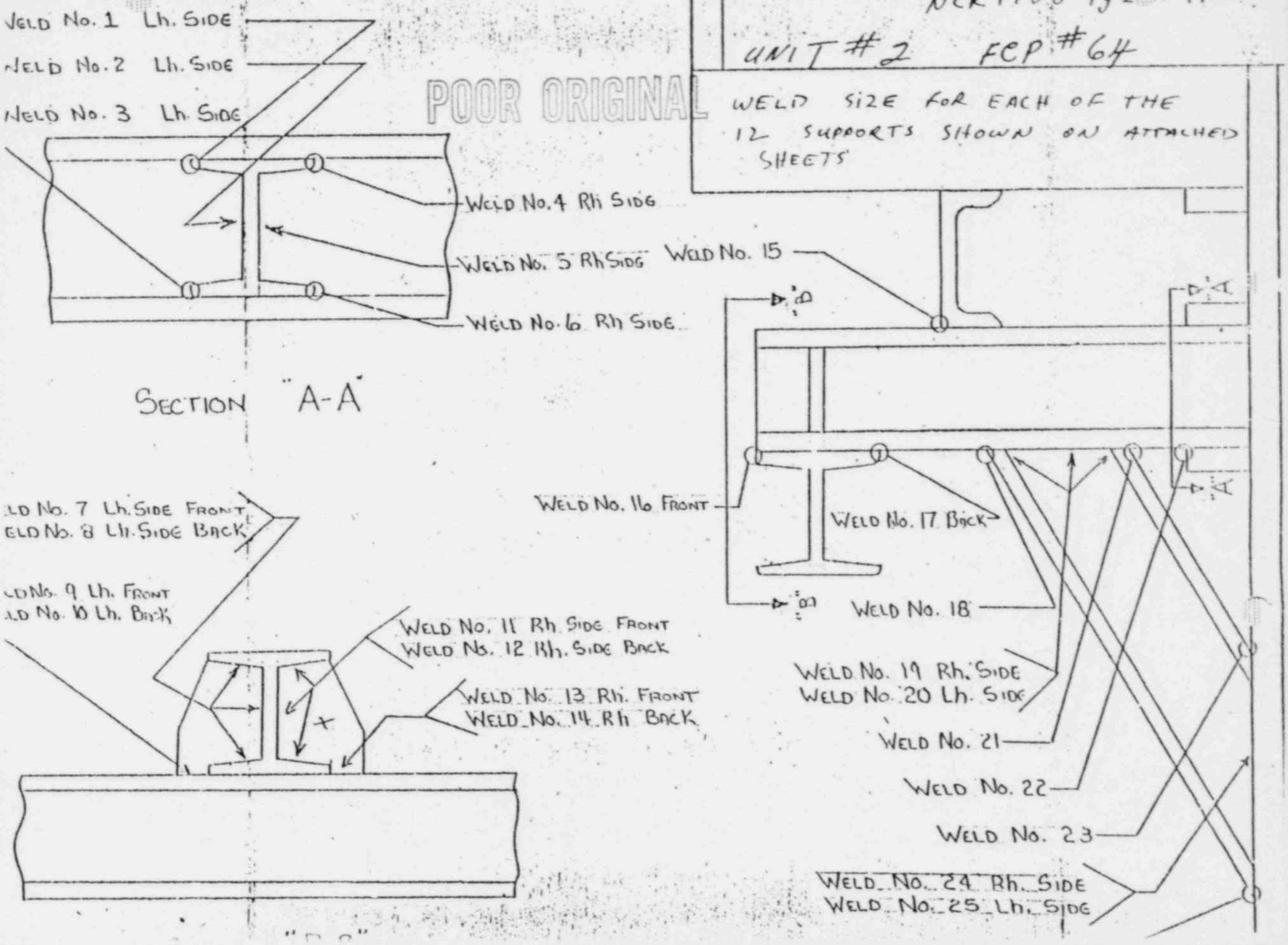
_____ (FIELD QUALITY CONTROL SUPV.) _____ (DATE)

SEQUENTIAL NUMBER № 1758

NCR 1758 Pg 2 of 14

UNIT #2 FCP #64

WELD SIZE FOR EACH OF THE 12 SUPPORTS SHOWN ON ATTACHED SHEETS



UNIT # 2 #(1)
SERVICE STRUCTURE
FCP #64 NCR 1168
Pg 3 OF 14

(1) 3/8 L
(2) 3/4 L REJECT
(3) 3/8 L
(4) 3/8 R
(5) 9/16 R
(6) 1/2 R
(7) 3/8 LF
(8) 3/8 LR
(9) 9/16 LF
(10) 3/8 LR
(11) 1/2 RF
(12) 1/2 RR
(13) 5/8 RF
(14) 1/2 RR
(15) — N/A
(16) 1/4 F REJECT DRAWING REQ. 3/8 TO 11/16
(17) 1/2 R
(18) 1/2 F
(19) 5/8 R
(20) 5/8 L
(21) 1/2
(22) 1/2
(23) 1/2
(24) 3/8 R
(25) 1/2 L
(26) 3/8

UNIT # 2 #(2)
SERVICE STRUCTURE
FCP #64 NCR 1758
Pg 4 of 14

1. 3/8 L
2. 5/8 L
3. 7/16 L
4. 1/2 R
5. 9/16 R
6. 3/8 R
7. 3/8 LF
8. 7/16 LR
9. 1/2 LF
10. 3/8 LR
11. 3/8 RF
12. 1/2 RR
13. 1/2 RF
14. 3/8 RR
15. — N/A
16. 3/8 F
17. 3/8 R
18. 3/8 F
19. 3/4 R
20. 3/4 L
21. 3/8 REJECT DRAWING REQ. 1/2 TO 13/16
22. 1/2
23. 3/8
24. 3/8 R
25. 3/8 L
26. 1/2

UNIT #2 #(3)
SERVICE STRUCTURE
FCP #64 NCR 1758
Pg 5 of 14

1. 3/8 L
2. 1/2 L
3. 3/8 L
4. 1/4 R REJECT (DRAWING REQ. ~~SMALL~~) 3/8 TO 11/16
5. 1/2 R
6. 3/8 R
7. 1/2 LF
8. 1/2 LR
9. 1/2 LF
10. 3/8 LR
11. 3/8 RF
12. 7/16 RR
13. 7/16 RF
14. 1/2 RR
15. — N/A
16. 3/8 F
17. 7/16 F
18. 3/8 R REJECT DRAWING REQ. 1/2 TO 13/16
19. 9/16 R
20. 3/4 L
21. 3/8 REJECT (SMALL) DRAWING REQ 1/2 TO 13/16
22. 1/2
23. 3/8
24. 3/8 R
25. 3/8 L
26. 1/2

UNIT #2 #4
SERVICE STRUCTURE
FCP #64 NCR 1759
pg 6 of 14

1. 3/8 L
2. 1/2 L
3. 1/2 L
4. 3/8 R
5. 1/2 R
6. 1/2 R
7. 7/16 LF
8. 1/2 LR
9. 1/2 LF
10. 7/16 LR
11. ~~7/16~~ RF 7/16 RF
12. 7/16 RR
13. 1/2 RF
14. 1/2 RR
15. —
16. 1/4 F REJECT DRAWING REQ. 3/8 TO 11/16
17. 3/8 F
18. 3/8 R REJECT. DRAWING REQ. 1/2 TO 13/16
19. 9/16 R
20. 5/8 L
21. 3/8 REJECT DRAWING REQ. 1/2 TO 13/16
22. 1/2
23. 1/2
24. 1/2 R
25. 3/8 L
26. 3/8

UNIT #2 #(5)
SERVICE STRUCTURE
FCP #64 NCR 1758.
pg 7 of 14

1. 1/2 L
2. 3/8 REJECT DRAWING REQ. 1/2 TO 13/16
3. 3/4 L REJECT DRAWING REQ. 3/8 TO 11/16
4. 7/16 L
5. 3/8 R
6. 1/2 R
7. 9/16 R
8. 1/2 LF
9. 1/2 LR
10. 1/2 LF
11. 1/2 LR
12. 3/8 RF
13. 7/16 RR
14. 3/8 RF
15. 1/2 RR
16. — N/R
17. 1/2 F
18. 3/8 F
19. 1/2 R
20. 3/4 R
21. 9/16 L
22. 1/2
23. 1/2
24. 1/2 R
25. 3/8 L
26. 3/8

UNIT # 2 #6
SERVICE STRUCTURE
FCP #64 NCR 1758
pg 8 of 14

1. 3/8 L
2. 1/2 L
3. 3/8 L
4. 3/8 R
5. 1/2 R
6. 1/2 R
7. 7/16 LF
8. 7/16 LR
9. 1/2 LF
10. 1/2 LR
11. 5/16 RF
12. 1/2 RR
13. 1/2 RF
14. 1/2 RR
15. 1/2
16. 3/16 F REJECT DRAWING REQ. 3/8 TO 11/16
17. 1/2 F
18. 3/8 R REJECT DRAWING REQ. 1/2 TO 13/16
19. 3/4 R
20. 3/4 L
21. 3/8 REJECT DRAWING REQ. 1/2 TO 13/16
22. 1/2
23. 1/2
24. 3/8 R
25. 3/8 L
26. 1/2

UNIT #2 #7
SERVICE STRUCTURE
FCP #64 NCR 1758
pg 9 OF 14

1. 3/8 L
2. 9/16 L
3. 3/8 L
4. 3/8 R
5. 5/8 R
6. 3/8 R
7. 3/8 LF
8. 1/2 LR
9. 1/2 LF
10. 9/16 LR
11. 3/8 RF
13. 3/8 RR
13. 5/8 RF
14. 9/16 RR
15. 1/2
16. 1/4 F REJECT DRAWING REQ. 3/8 TO 11/16
17. 3/8 F
18. 1/2 R
19. 9/16 R
20. 9/16 L
21. 3/8 REJECT DRAWING REQ 1/2 TO 13/16
22. 3/4 REJECT DRAWING REQ. 3/8 TO 11/16
23. 1/2
24. 1/2 R
25. 3/8 L
26. 1/2

UNIT # 2 #8
SERVICE STRUCTURE
FCP #64 NCR 1758
PG 10 OF 14

1. 3/8 L
2. 1/2 L
3. 9/16 L
4. 3/8 R
5. 1/2 R
6. 3/8 R
7. 3/8 LF
8. 1/2 LR
9. 1/2 LF
10. 1/2 LR
11. 5/8 RF Reject DRAWING REQ. 5/16 TO 9/16
12. 1/2 RR
13. 1/2 RF
14. 1/2 RR
15. 3/4 Reject DRAWING REQ 5/16 TO 9/16
16. 1/4 F REJECT DRAWING REQ. 3/8 TO 11/16
17. 3/8 R
18. 3/8 F
19. 3/4 R
20. 5/8 L
21. 3/8 Reject DRAWING REQ. 1/8 TO 13/16
22. 3/4 Reject DRAWING REQ. 3/8 TO 11/16
23. 3/8
24. 1/2 R
25. 1/2 L
26. 3/8

UNIT # 2 #(9)
SERVICE STRUCTURE
FCP #64 NCR 1758
pg 11 OF 14

(1) 5/8 L
(2) 9/16 L
(3) 5/8 L
(4) 5/8 R
(5) 1/2 R
(6) 9/16 R
(7) 1/2 LF
(8) 1/2 LR
(9) 1/2 LF
(10) 1/2 LR
(11) 9/16 RF
(12) 1/2 RR
(13) 1/2 RF
(14) 5/8 RR
(15) — N/A
(16) 1/4 F Reject DRAWING REQ. 3/8 TO 11/16
(17) 3/8 R
(18) 3/8 F Reject DRAWING REQ. 1/2 TO 13/16
(19) 9/16 R
(20) 9/16 L
(21) 5/8
(22) 9/16
(23) 1/2
(24) 1/2 R
(25) 3/8 L
(26) 3/4 Reject DRAWING REQ. 5/16 TO 9/16

UNIT # 2 #10

SERVICE STRUCTURE

FCP #64 NCR 1758

PG 12 OF 14

1. 1/2 L
2. 1/2 L
3. 1/2 L
4. 3/8 R
5. 1/2 R
6. ~~5/8~~ R 1/2 R
7. 1/2 LF
8. 1/2 LR
9. 1/3 LF
10. 5/8 LR
11. 3/8 RF
12. 5/8 RR Right DRAWING REQ. 5/16 TO 9/16
13. 5/8 RF
14. 5/8 RR
15. — N/A
16. 1/2 F
17. 1/2 R
18. 1/2 F
19. 3/4 R
20. 3/4 L
21. 3/8
22. 5/8
23. 1/2
24. 3/8 R
25. 1/2 L
26. 1/2

UNIT # 2 #(11)
SERVICE STRUCTURE
FCP #64 NCR 1758
PG 13 OF 14

(1) 1/4 L Reject DRAWING REQ. 3/8 TO 1/16
(2) 1/2 L
(3) 3/8 L
(4) 1/2 R
(5) 9/16 R
(6) 11/2 R
(7) 5/8 LF Reject DRAWING REQ 5/16 TO 9/16
(8) 3/8 LR
(9) 1/2 LF
(10) 9/16 LR
(11) 3/8 RF
(12) 1/2 RR
(13) 3/8 RF
(14) 7/16 RR
(15) — N/A
(16) 1/2 F
(17) 1/2 R
(18) 3/8 F Reject DRAWING REQ. 1/3 TO 13/16
(19) 1/2 R
(20) 1/2 L
(21) 1/2
(22) 5/8
(23) 1/2
(24) 3/8 R
(25) 3/8 L
(26) 3/8

UNIT #2 #(2)
SERVICE STRUCTURE
FCP #64 NCR 1758
Pg 14 OF 14

(1) 3/8 L
(2) 5/8 L
(3) 3/8 L
(4) 3/8 R
(5) 1/2 R
(6) 3/8 R
(7) 3/8 LF
(8) 1/2 LR
(9) 3/8 LF
(10) 5/8 LR
(11) 1/2 RF
(12) 3/8 RR
(13) 1/2 RF
(14) 1/2 RR
(15) — N/A
(16) 1/4 F Reject DRAWING REQ. 3/8 TO 11/16
(17) 3/8 R
(18) 1/2 F
(19) 3/4 R
(20) 5/8 L
(21) 1/2
(22) 1/2
(23) 1/2
(24) 3/8 R
(25) 3/8 L
(26) 1/2

PDS-21091-S (4-80)

BABCOCK & WILCOX

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS)	PRIORITY 1☐ 2☒ 3☐ 4☐ NONE☐
SERVICE STRUCTURE	LEAD MANAGER J.W. MITCHELL

CUSTOMER	SUPPLIER	DOC. ID	MSS NO.	SPR NO.	REV. NO.
CONSUMERS POWER CO.	B & W	13	12	177	0

PA NO.	CHARGE NO.	MAN. BUDGET	VENDOR CLAIM NO./ SHIPPING DAMAGE NO.	PART NO./TGS NO.
				490-0012-52 01-001

DESCRIPTION OF PROBLEM

SEE ATTACHED B&W NCR # 1758

W.J. LEE

NOV 21 1980

B & W

ORIGINATOR For R.A. GUETLING I.D. GREEN DATE 11/20/80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L.D. CLINE — NPGD, LYNCHBURG

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

ACCEPT AS IS

RESOLUTION

Oversize welds do not interfere with equipment or operation of monorail. Undersize welds are within stress limits of the CRIM service structure Stress Report #32-5195-02 and were determined by calculation package #32-1122514-00. Welding can be accepted as is.

RESOLUTION PREPARED BY T.L. Brandebura DATE 11/19/80

☐ INFORMATION ONLY

REVIEWED BY W.A. Williamson DATE 11/19/80

MULTIPLE CONTRACT PROBLEM	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.	APPROVED/DISAPPROVED BY D.L. Ewald 11/20/80 DATE
☐ YES ☒ NO	☐ YES ☒ NO		COMPLETED (VERIFIED BY) DATE

SPR CLOSEOUT REPORT:

CLOSED OUT BY DATE

SHEET ____ OF ____

BCC 31862-1

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	1	11-4-80	Service Structure	MK 329

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	470	FCP #102

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	203262E	N/A

13. DESCRIPTION OF NONCONFORMITY

Oversize and undersize welds on monorail structure. See attached sheets.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
L Norman (NAME) 11-4-80 (DATE)	R W Thope (NAME) 11-4-80 (DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — W. H. Linn (FIELD PROJECT ENGINEER) — 11-4-80 (DATE)

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

Accept as is. Vendor to advise.

W. H. Linn (FIELD PROJECT ENGINEER) — 11-6-80 (DATE)

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

Accept as is.
See SPR-141.

W. H. Linn (FIELD PROJECT ENGINEER) — 11-24-80 (DATE)

22. APPROVALS

B&W FQC R W Thope (SIGNATURE) 11-24-80 (DATE) OTHER _____ (SIGNATURE) _____ (DATE)

OWNER/AGENT R E Whitelaw (SIGNATURE) 11/25/80 (DATE) OTHER _____ (SIGNATURE) _____ (DATE)

23. ANI REVIEW _____ (SIGNATURE) _____ (DATE)

24. DISPOSITION COMPLETED	25. DISPOSITION VERIFICATION ☐ ACCEPTABLE ☐ UNACCEPTABLE
_____ (NAME) _____ (DATE)	_____ (NAME) _____ (DATE) REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

In the future, prior to proceeding with construction, necessary documentation will be instigated when unrealistic tolerances are encountered.

Walter J Lee (FIELD PROJECT MANAGER) — 11/24/80 (DATE)

27. NONCONFORMITY CLOSED

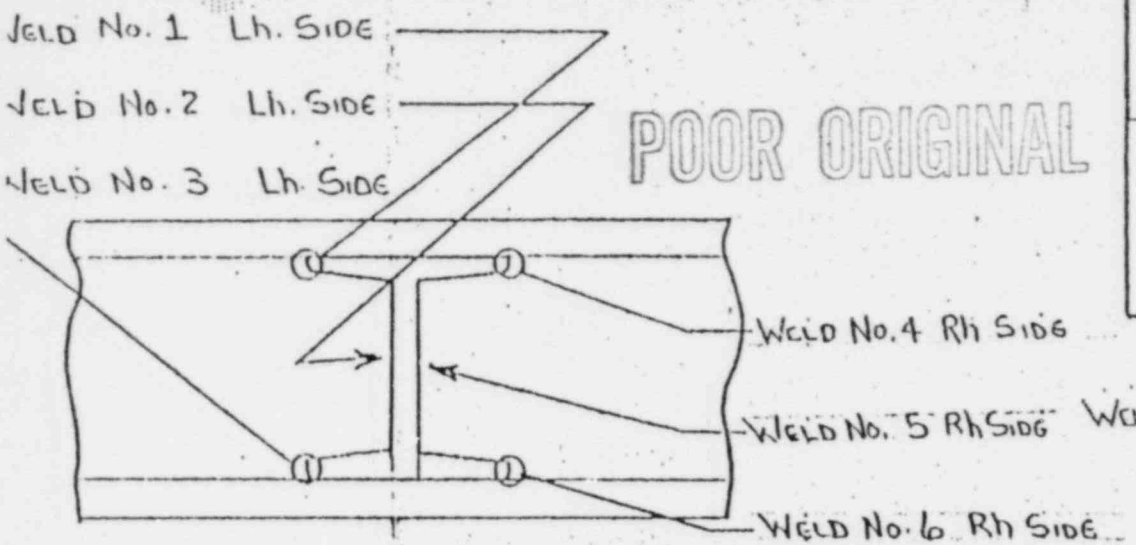
_____ (FIELD QUALITY CONTROL SUPV.) _____ (DATE)

SEQUENTIAL NUMBER № 1757

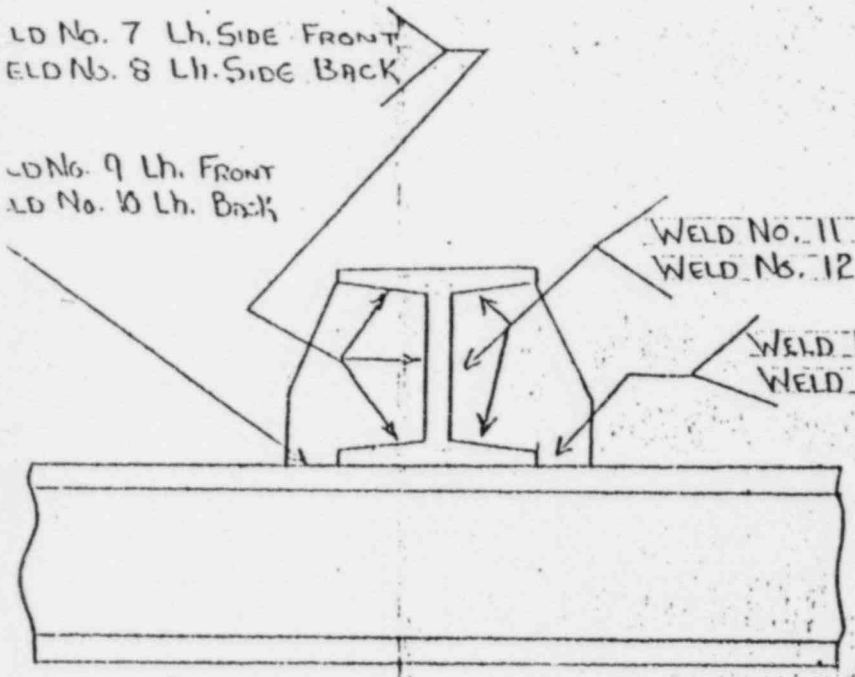
NCR # 1757 PAGE 2 OF 17

UNIT # 1 FCP # 102

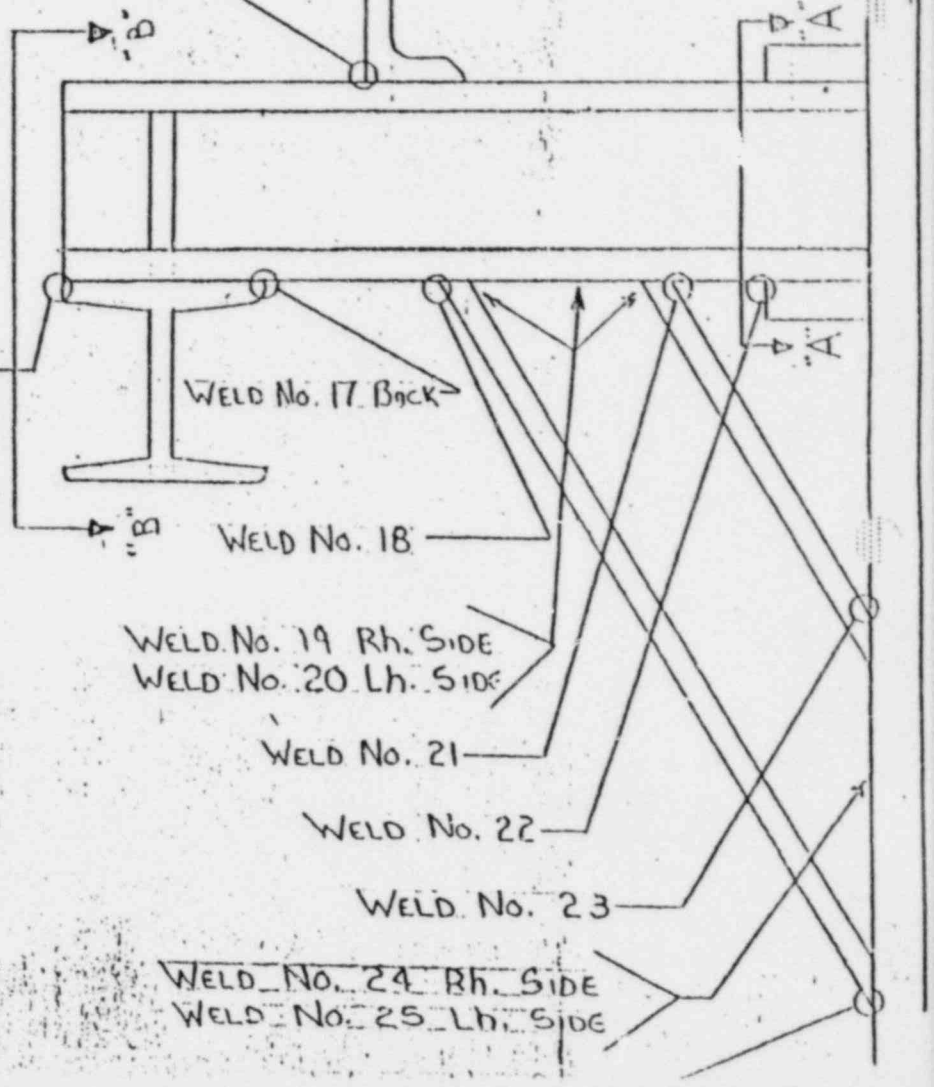
WELD SIZE FOR EACH OF THE 12 SUPPORTS ARE SHOWN ON ATTACHED SHEETS



SECTION "A-A"



"B-B"



UNIT # 1 = (1)

SERVICE STRUCTURE

FCP # 102 NCR 1757

193 of 13/14

(1) 3/8 L

(2) 3/8 L

(3) 3/8 L

(4) 3/8

(5) 7/1

(6) 7/16 R

(7) 1/2 LF

(8) 7/16 LR

(9) 1/2 LF

(10) 7/16 LR

(11) 9/16 RF

(12) 9/16 RR

(13) 7/16 RF

(14) 9/16 RR

(15)

(16) 7/16 F

(17) 7/16 R

(18) 5/8 F

(19) 5/8 R

(20) 3/4 L

(21) 5/16 R

(22) 1/2

(23) 3/8

(24) 7/16 L

(25) 1/2 R

(26) 7/16

UNIT "1" = #2

SERVICE STRUCTURE

FCP # 102

NCR 1757

Pg 4 of 4 #3 19

1) 1/2 L
2) 1/2 L
3) ~~1/2~~ 3/8 L
4) 5/8 R
5) 3/8 R
6) 3/8 R
7) 7/16 LF
8) 1/2 LR
9) 3/8 LF
10) 1/2 LR
11) 1/2 RF
12) 1/2 RR
13) 1/2 RF
14) 1/2 RR
15) 5/8 Reject Drawing Req. 5/16 to 9/16
16) 7/16 F
17) 7/16 R
18) 7/16 F
19) 1/2 R
20) 1/2 L
21) 7/16 R
22) 1/2
23) 3/8
24) 1/2 R
25) 1/2 L
26) 5/8

UNIT "1" #(3)

SERVICE STRUCTURE

FCP # 102 NCR 1757 Pg 5 of 14 13

Rev 11-78

1) 3/8 L

2) 7/16 L

3) 1/2 L

4) 3/8 R

5) 1/2 R

6) 3/8 R

7) 9/16 LF

8) 5/8 LR Insert DRAWING REQ. 5/16 TO 9/16

9) 9/16 LF

10) 5/8 LR

11) 1/2 RF

12) 1/2 RR

13) 9/16 RF

14) 9/16 RR

15) 9/16

16) 3/8 F

17) 1/2 R

18) 1/2 F

19) 5/8 R

20) 5/8 L

21) ~~1/2~~ 1/2 R

22) 1/2

23) 1/2

24) 1/2 R

25) 1/2 L

26) 3/4 Right DRAWING REQ 5/16 TO 9/16

UNIT "1 #(4)

SERVICE STRUCTURE

FCP# 102 NCR 1757 pg 6 of 13 14

1) 3/8 L

2) 7/16 L

3) 3/8 L

4) 3/8 R

5) 3/8 R

6) 3/8 R

7) 1/2 LF

8) 1/2 LR

9) 1/2 LF

10) 1/2 LR.

11) 5/8 RF Report DRAWING REQ 5/16 TO 9/16

12) 7/16 RR

13) 5/8 RF

14) 7/16 RR

15) 5/8 Report DRAWING REQ 5/16 TO 9/16

16) 3/8 F

17) 3/8 R

18) 3/8 F Report DRAWING REQ. 1/2 TO 13/16

19) 5/8 R

20) 5/8 L

21) 1/2 R

OK 22) 1/2 OK Report DRAWING REQ. 3/8 TO 11/16

23) 1/2

24) 1/2 R

25) 1/2 L

26) 1" Report DRAWING REQ. 5/16 TO 9/16

UNIT #1 (5)

SERVICE STRUCTURE

FCP # 102 NCR 1757 pg 7 of 13 14

1) 3/8 L
2) 1/2 L
3) 1/2 L
4) 3/8 R
5) 7/16 R
6) 3/8 R
7) 1/2 LF
8) 1/2 LR
9) 1/2 LF
10) 1/2 LR
11) 7/16 RF
12) 1/2 RR
13) 1/2 RF
14) 1/2 RR
15) —
16) 3/8 F
17) 1/2 R
18) 1/2 F
19) 5/8 R
20) 5/8 L
21) 7/16 R
22) 3/8
23) 3/8
24) 1/2 R
25) 1/2 L
26) 1/2

UNIT "1" #(6)

SERVICE STRUCTURE

FCP# 102 NCR 1757 pg 8 of 13 14

1) 3/8 L
2) 1/2 L
3) 3/8 L
4) 3/8 R
5) 1/2 R
6) 3/8 R
7) 1/2 LF
8) 9/16 LR
9) 1/2 LF
10) 1/2 LR
11) 1/2 RF
12) 7/16 RR
13) 3/8 RF
14) 1/2 RR
15) —
16) 3/8 F
17) 3/8 R
18) 3/8 F
19) 5/8 R
20) 5/8 L

21) 11/16 R
22) 1/2
23) 1/2
24) 7/16 R
25) 1/2 L
26) 5/8

Pipefit DRAWING REQ. 5/16 TO. 9/16

Pipefit DRAWING REQ 1/2 TO 13/16

UNIT "1 #(7)

SERVICE STRUCTURE

FCP# 102 NCR 1757 pg 9 OF 14

1) 3/8 L
2) 1/2 L
3) 3/8 L
4) 3/8 R
5) 1/2 R
6) 3/8 R
7) 1/2 LF
8) 7/16 LR
9) 1/2 LF
10) 1/2 LR
11) 3/8 RF
12) 1/2 RR
13) 1/2 RF
14) 1/2 RR
15) —
16) 3/8 F
17) 1/2 R
18) 3/8 F Repeat DRAWING REQ. 1/2 TO 13/16
19) 5/8 R
20) 1/2 L
21) 3/8 R DRAWING REQ. 1/2 TO 13/16
22) 3/8
23) 3/8
24) 5/8 R
25) 1/2 L
26) 1/2

UNIT # 1 #8

SERVICE STRUCTURE

FCP # 102 NXR 1757 Pg 10 OF 14

Rev. 11-4-9

1) 1/2 L

2) 1/2 L

3) 1/2 L

4) 3/8 R

5) 1/2 R

6) 3/8 R

7) 5/8 LF Pigtail DRAWING REQ 5/16 TO 9/16

8) 7/16 LR

9) 7/16 LF

10) 1/2 LR

11) 7/16 RF

12) 5/8 RR Pigtail DRAWING REQ. 5/16 TO 9/16

13) 7/16 RF

14) 7/16 RR

15) —

16) 3/8 F

17) 3/8 R

18) 3/8 F

19) 5/8 R

20) 5/8 L

21) 1/2 R

22) 3/8

23) 1/2

24) 1/2 R

25) 3/8 L

26) 1/2

UNIT "1" #(9)

SERVICE STRUCTURE

FCP # 102 NCR 1757 pg 11 of 14

1) 3/8 L

2) 1/2 L

3) 3/8 L

4) 3/8 R

5) 1/2 R

6) 3/8 R

7) 1/2 LF

8) 9/16 LR

9) 7/16 LF

10) 1/2 LR

11) 9/16 RF

12) 1/2 RR

13) 1/2 RF

14) 5/8 RR

15) —

16) 3/8 F

17) 3/8 R

18) 3/8 F

19) 3/4 R

20) 7/8 L Repeat DRAWING REQ. 1/2 TO 13/16

21) 3/8 R Repeat DRAWING REQ. 1/2 TO 13/16

22) 1/2

23) 1/2

24) 7/16 R

25) 1/2 L

26) 1/2

UNIT #1 #10

SERVICE STRUCTURE

FCP # 102 NCR 1757 Pg 12 of 14

1) 3/8 L
2) 1/2 L
3) 1/2 L
4) 3/8 R
5) 7/16 R
6) 3/8 R
7) 3/8 LF
8) 1/2 LR
9) 1/2 LF
10) 9/16 LR
11) 1/2 RF
12) 1/2 RR
13) 1/2 RF
14) 9/16 RR
15) —
16) 3/8 F
17) 3/8 R
18) 1/2 F
19) 5/8 R
20) 9/16 L

21) 1/2 R
22) 1/2
23) 1/2
24) 1/2 R
25) 1/2 L
26) 5/8 DRAWING REQ. 5/16 TO 9/16

UNIT # 1 #(11)

SERVICE STRUCTURE

FCP # 102 NCR 1757 PG 13 OF 14

1. 3/8 L
2. 1/2 L
3. 3/8 L
4. 3/8 R
5. 1/2 R
6. 3/8 R
7. 1/2 LF
8. 1/2 LR
9. 1/2 LF
10. 7/16 LR
11. 1/2 RF
12. 1/2 RR
13. 1/2 RF
14. 1/2 RR
15. —
16. 3/8 F
17. 1/2 R
18. 1/2 F
19. 5/8 R
20. 9/16 L
21. 3/8 R
22. 1/2
23. 1/2
24. 1/2 R
25. 1/2 L
26. 5/8 DRAWING 5/16 TO 9/16 REQ.

UNIT #1 #(12)

SERVICE STRUCTURE

FCP # 102 NCR 1757 PG 14 OF V

1) 7/16 L

2) 1/2 L

3) 3/8 L

4) 3/8 R

5) 1/2 R

6) 3/8 R

7) 3/8 LF

8) 1/2 LR

9) 7/16 LF

10) 1/2 LR

11) 1/2 RF

12) 1/2 RR

13) 5/8 RF

14) 9/16 RR

15) —

16) 1/2 F

17) 3/8 R

18) 7/16 F Right " DRAWING REQ. 1/2 TO 13/16

19) 5/8 R

20) 5/8 L

21) 7/16 R M DRAWING REQ 1/2 TO 13/16

22) 1/2

23) 1/2

24) 1/2 R

25) 1/2 L

26) 5/8 Right DRAWING REQ. 5/16 TO 9/16

BABCOCK & WILCOX

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS)	PRIORITY 1☐ 2☒ 3☐ 4☐ NONE☐
SERVICE STRUCTURE	LEAD MANAGER J.W. MITCHEM

CUSTOMER	SUPPLIER	DOC. ID	NSS NO.	SPR NO.	REV. NO.
CONSUMERS POWER Co.	B&W	13	13	141	0

PA NO.	CHARGE NO.	MHR. BUDGET	VENDOR CLAIM NO./ SHIPPING DAMAGE NO.	PART NO./TGS NO.
				620-0013-52 01-001

DESCRIPTION OF PROBLEM

SEE ATTACHED B&W NCR # 1757

W.J. LEE

NOV 21 1980

B & W

ORIGINATOR W.A. GUETLING FOR I.D. GLEN DATE 4/4/80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L.D. CLINE — NPGD, LYNCHBURG

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

ACCEPT AS IS

RESOLUTION

Oversize welds do not interfere with equipment or operation of monorail. Undersize welds are within stress limits of the CRDM service structure stress report #32-3195-02 and were determined by calculation package #32-1122314-00. Welding can be accepted as is.

RESOLUTION PREPARED BY T.H. Brandeberg DATE 11/17/80

☐ INFORMATION ONLY

REVIEWED BY W.W. Williamson DATE 11/19/80

MULTIPLE CONTRACT PROBLEM	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.
☐YES ☒NO	☐YES ☒NO	

APPROVED/DISAPPROVED BY T.L. Judd DATE 11/20/80

COMPLETED (VERIFIED BY) DATE

SPR CLOSEOUT REPORT:

CLOSED OUT BY DATE

SHEET ____ OF ____

BWCC 31912-1

0

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	2	11-4-80	Motor Centering Block	12-6

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Byron Jackson	☐ RECEIVING ☐ TEST ☒ CONST.	472	FCP #305

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	LF-7623, 25-1509, Rev. K 509-715-K	N/A

13. DESCRIPTION OF NONCONFORMITY

The welds broke on the southeast centering block during preliminary alignment of motor to pump. It appears that the welds did not penetrate the block on either side. The block is completely ~~seperated~~ SEPARATED from motor stand for pump no. 2P51A, pump serial no. 691-N-0043.

H. H. Linn 11-4-80

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
R. D. Brown 11-4-80 (NAME / DATE)	R W Shore 11-4-80 (NAME / DATE)	☐ YES ☒ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO

H. H. Linn — FIELD PROJECT ENGINEER — 11-5-80 — DATE

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

FIELD PROJECT ENGINEER — DATE

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

FIELD PROJECT ENGINEER — DATE

22. APPROVALS

B&W FQC _____ SIGNATURE _____ DATE — OTHER _____ SIGNATURE _____ DATE

OWNER/AGENT _____ SIGNATURE _____ DATE — OTHER _____ SIGNATURE _____ DATE

23. ANI REVIEW

_____ SIGNATURE _____ DATE

24. DISPOSITION COMPLETED

_____ NAME _____ DATE

25. DISPOSITION VERIFICATION ☐ ACCEPTABLE ☐ UNACCEPTABLE

_____ NAME _____ DATE REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

0-2

FIELD PROJECT MANAGER — DATE

27. NONCONFORMITY CLOSED

FIELD QUALITY CONTROL SUPV. — DATE

SEQUENTIAL NUMBER № 1756

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

Rev 11-3-80

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	Containment #1	10-19-79	Spool Sub Assembly	1CCA-013-603-01-03

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
ITT Grinnell	☒ RECEIVING ☐ TEST ☐ CONST.	329	FCP 20 9QPP 108

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	M603 Sheet #1	None

13. DESCRIPTION OF NONCONFORMITY

Drawing M603 Sheet 1 indicates one Sockolet of spool subassembly must face east after installation. If this Subassembly is installed as provided by vendor, this Sockolet will face straight up and therefore will not conform to drawing requirements. The above mentioned Sockolet is one of two on this subassembly, and is the Sockolet nearest Field Weld #5 as listed on sketch for line 013 in FCP 20 for Unit 1.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
[signature] 10-19-79 NAME / DATE	W A Wellman 10-19-79 NAME / DATE	☐ YES ☒ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO

W. H. Linn — FIELD PROJECT ENGINEER — 10-19-79 DATE

18. RECOMMENDED DISPOSITION: ☒ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

Vendor to supply disposition

W. H. Linn — FIELD PROJECT ENGINEER — 10-30-79 DATE

20. ACTUAL DISPOSITION: ☒ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS Correct condition in accordance with RFI #213 and dwg. M603 Sh.-1, Rev. 8/F1. The work instructions & welding data is to be completed & recorded as a ~~See RFI 213, FCR M-2338 and NCR Attachment~~. revision to FCP #20. W H Linn 11-3-80

W. H. Linn — FIELD PROJECT ENGINEER — 1-19-80 DATE

22. APPROVALS

B&W FQC [signature] 11-3-80 SIGNATURE / DATE — OTHER _____ SIGNATURE / DATE

OWNER/AGENT R E Stokes 11/6/80 SIGNATURE / DATE — OTHER _____ SIGNATURE / DATE

23. ANI REVIEW

[signature] — SIGNATURE — 11-11-80 DATE

24. DISPOSITION COMPLETED

W. H. Linn — NAME — 11-14-80 DATE

25. DISPOSITION VERIFICATION ☒ ACCEPTABLE ☐ UNACCEPTABLE

T. F. Dennis Jr — NAME — 11-14-80 DATE — REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

_____ FIELD PROJECT MANAGER — _____ DATE

27. NONCONFORMITY CLOSED T. F. Dennis Jr — FIELD QUALITY CONTROL SUPV. — 11-14-80 DATE

SEQUENTIAL NUMBER № 1679

PROJECT NO. 7220-M-1A S/C NO. CL-238 No. 213

REF. DWG. OR SPEC.	SHEET	REV.	TITLE
M603	1	6/F1	Make up & purification Line

PREPARED BY: W.G. Linn W. G. Linn

RESPONSE REQUESTED BY DATE

EXISTING CONDITION:

See NCR 1679

REQUESTED INFORMATION:

Bechtel to supply disposition

RESPONSE: ~~FOR WRITTEN~~ —

PER ATTACHED FCR - PLUG EXISTING P.P.
TAP & RELOCATE AS INDICATED

BECHTEL TO COMPLETE

Reviewed by: Date

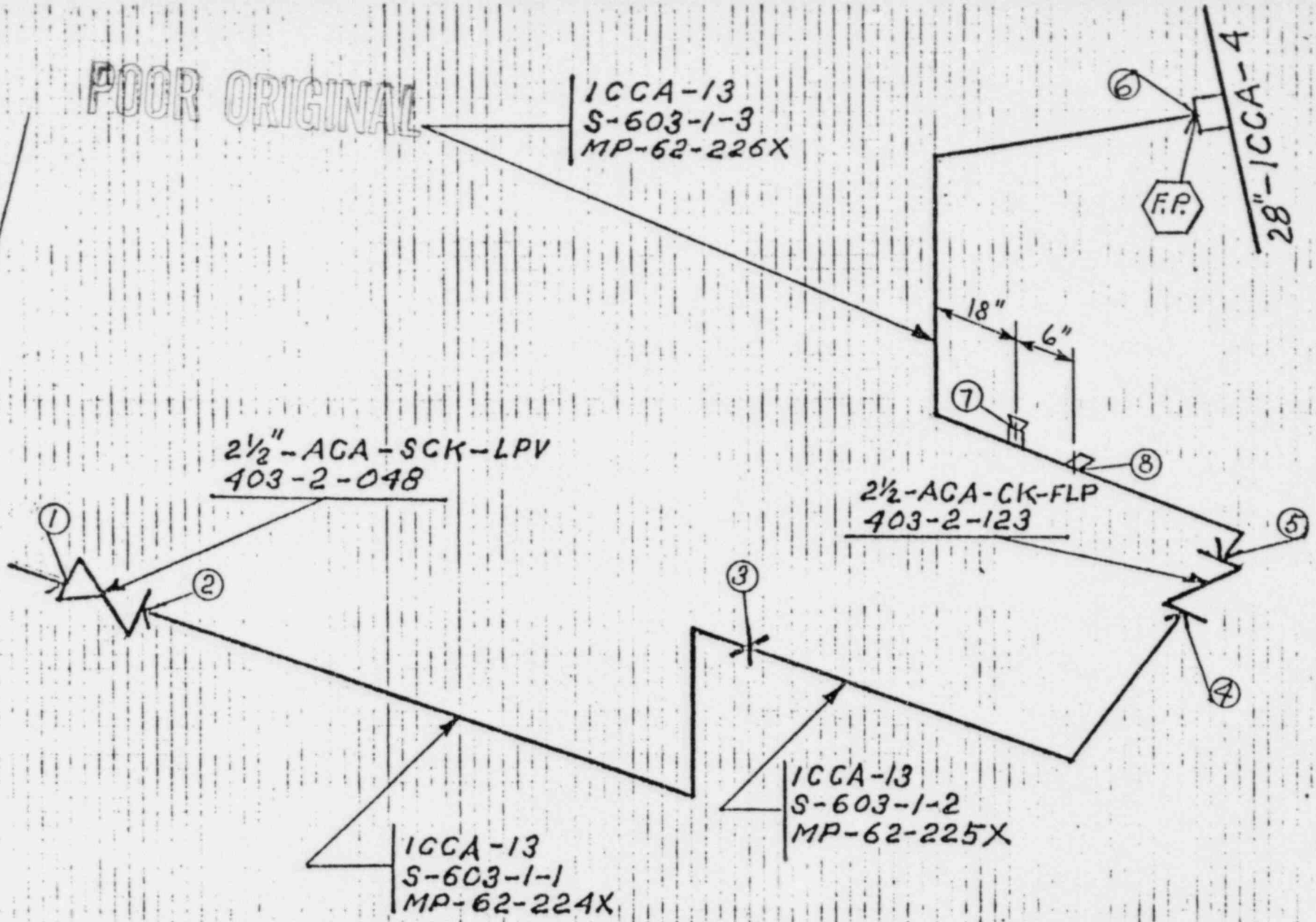
Civil N/A

Elect. ↓

Response Prepared by: Bruce McKenzie 12/6/79

Bechtel Approval: 12/6/79

Project Field Engineer or Designer Date



Rev. To Add Weld No. 7 & 8.
KJV 12-14-79

FCP-20-1 OF 2
MAKE UP & PURIFICATION
SYSTEM UNIT-1
2½-1CCA-13
FIELD WELDS

PWCC 318-1

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	1	8-12-80	Guide Block Dowel	MK 451

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☒ RECEIVING ☐ TEST ☐ CONST.	426	132

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
9-QPP-108	1100991C Rev. 1	N/A

13. DESCRIPTION OF NONCONFORMITY

The following guide block dowels do not meet print tolerance of 1.6250 $^{+.0005}_{-.0000}$:
S/N 11-451-2012-60-2,3,4,11,12,14,15,17,19,23 & 26 are undersize.

S/N 11-451-2012-60-6,9,10 & 15 are oversize. See attached sheet.

14. REPORTED BY	15. VERIFIED BY	15. CORRECTIVE ACTION REQUIRED
James L. Jones (NAME) 8-12-80 (DATE)	R W Shore (NAME) 8-12-80 (DATE)	☐ YES ☒ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — W H Hall (FIELD PROJECT ENGINEER) — 8-12-80 (DATE)

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

Accept as is.

W. H. Linn (FIELD PROJECT ENGINEER) — 8-13-80 (DATE)

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

See SPR-168.
Accept as is provided .0005 to .0015 interference fit is maintained.

W. H. Linn (FIELD PROJECT ENGINEER) — 8-28-80 (DATE)

22. APPROVALS

B&W FQC: R W Shore (SIGNATURE) 8-28-80 (DATE) OTHER: _____ (SIGNATURE) _____ (DATE)

OWNER/AGENT: R E Whitaker (SIGNATURE) 9/3/80 (DATE) OTHER: _____ (SIGNATURE) _____ (DATE)

23. ANI REVIEW: _____ (SIGNATURE) 9/9/80 (DATE)

24. DISPOSITION COMPLETED: James L. Jones (NAME) 11-14-80 (DATE)

25. DISPOSITION VERIFICATION: ☒ ACCEPTABLE ☐ UNACCEPTABLE — W. H. Davis Jr (NAME) 11.14.80 (DATE) — REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

_____ (FIELD PROJECT MANAGER) _____ (DATE)

27. NONCONFORMITY CLOSED: W. H. Davis Jr (FIELD QUALITY CONTROL SUPV.) 11-14-80 (DATE)

SEQUENTIAL NUMBER № 1742

WEEKLY WORK LOG

B&W CONSTRUCTION COMPANY

8-12-80

GUIDE BLOCK DOWEL PINS

FCP 132 -

HT# L-3587

CU 1-218

	SCRIBE END	MIDDLE	BOTTOM
# 11-451-2012-60-1	1.6253	1.6250	1.6251
2	1.6250	1.6249 ✓	1.6253
3	1.6249 ✓	1.6248 ✓	1.6249 ✓
4	1.6250	1.6248 ✓	1.6254
5	1.6252	1.6250	1.6255
6	1.6257 X	1.6250	1.6254
7	1.6250	1.6250	1.6253
8	1.6251	1.6250	1.6252
9	1.6256 X	1.6252	1.6253
10	1.6252	1.6250	1.6256 X
11	1.6254	1.6247 ✓	1.6251
12	1.6250	1.6246 ✓	1.6249 ✓
13	1.6252	1.6252	1.6253
14	1.6248 ✓	1.6246 ✓	1.6253
15	1.6250	1.6249 ✓	1.6257 X
16	1.6252	1.6251	1.6253
17	1.6250	1.6246 ✓	1.6251
18	1.6253	1.6252	1.6254
19	1.6251	1.6245 ✓	1.6250
20	1.6250	1.6251	1.6253
21	1.6251	1.6250	1.6254
22	1.6253	1.6250	1.6252
23	1.6250	1.6247 ✓	1.6253
24	1.6251	1.6250	1.6253
25	1.6252	1.6251	1.6255
26	1.6253	1.6248 ✓	1.6250

NCR1742

BABCOCK & WILCOX

PDS-21091-7 (3-80)

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS): GUIDE BLOCK DOWELS		PRIORITY: 1 ☐ 2 ☒ 3 ☐ 4 ☐ NONE ☐	
		LEAD MANAGER: J. W. Matheson	
CUSTOMER: Consumers Power Co.	SUPPLIER: B & W	DOC. ID: 13	NSS NO.: 12	SPR NO.: 168	REV. NO.: 0
PA NO.:	CHARGE NO.:	MHR. BUDGET:	VENDOR CLAIM NO./ SHIPPING DAMAGE NO.:	PART NO./TGS NO.: 620-0012, 60-11-001	

DESCRIPTION OF PROBLEM

SEE B&W NCR # 1742

W. J. LEE

AUG 27 1980

B & W

ORIGINATOR: H. A. Gueldner for I. D. Green — DATE: 8-26-80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L. D. CLINE - LYNCHBURG

D. P. JUDD - "

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

ACCEPT AS IS.

RESOLUTION

The recommended action is acceptable. Install dowels by reaming each hole to allow a .0005 to .0015 diametral interference fit as required by the field change

☐ INFORMATION ONLY

POTENTIAL CROSS-CONTRACT APPLICABILITY	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.
☐ YES ☒ NO	☐ YES ☒ NO	

RESOLUTION PREPARED BY: J. W. Matheson — DATE: 8/26/80

REVIEWED BY: W. R. Tillerman — DATE: 8/26/80

APPROVED BY: D. P. Judd — DATE: 8/26/80

SPR CLOSEOUT REPORT:

CLOSED OUT BY: — DATE:

BWCP 3[illegible]

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	2	8-14-80	Level Sensing Nozzle	132-2012-59-6

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	422	278

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	142121E, Rev. 7	N/A

13. DESCRIPTION OF NONCONFORMITY

Level Sensing Nozzle No. 132-2012-59-6 at elevation 658'-2" is bent downward 7° from a true horizontal position. There is 0.006" flatness & ovality on diameter. Nozzle located 14° from "W" Axis toward "X" Axis. — Rwt 8-20-80

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
R Thorpe for J. Larsen — NAME; 8-14-80 — DATE	R W Thorpe — NAME; 8-14-80 — DATE	☐ YES ☒ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO

W. H. Lian 8-20-80 — FIELD PROJECT ENGINEER — DATE 9-14-80

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION OR RECOMMENDED DISPOSITION INSTRUCTIONS

~~Accept as is.~~ See SPR-169. ~~#~~

Q.C. to obtain additional data per SPR-169. Transmit additional data to vendor for evaluation and disposition. TRANSMITTED 10-7-80

W. H. Lian 9-3-80 — FIELD PROJECT ENGINEER — DATE 8-20-80

See additional data req'd per SPR-169 on Page 2 of 2.

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

See SPR-169, Rev. 1
Accept as is.

W. H. Lian — FIELD PROJECT ENGINEER — DATE 11-11-80

22. APPROVALS

B&W FQC: R W Thorpe — SIGNATURE — 11-11-80 — DATE — OTHER: ____ — SIGNATURE — DATE

OWNER/AGENT: R. E. Whitaker — SIGNATURE — 11/13/80 — DATE — OTHER: ____ — SIGNATURE — DATE

23. ANI REVIEW

W. Vallone — SIGNATURE — 11-18-80 — DATE

24. DISPOSITION COMPLETED	25. DISPOSITION VERIFICATION	☒ ACCEPTABLE ☐ UNACCEPTABLE
R W Thorpe — NAME; 11-18-80 — DATE	R W Thorpe — NAME; 11-18-80 — DATE	REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

FIELD PROJECT MANAGER — DATE

27. NONCONFORMITY CLOSED

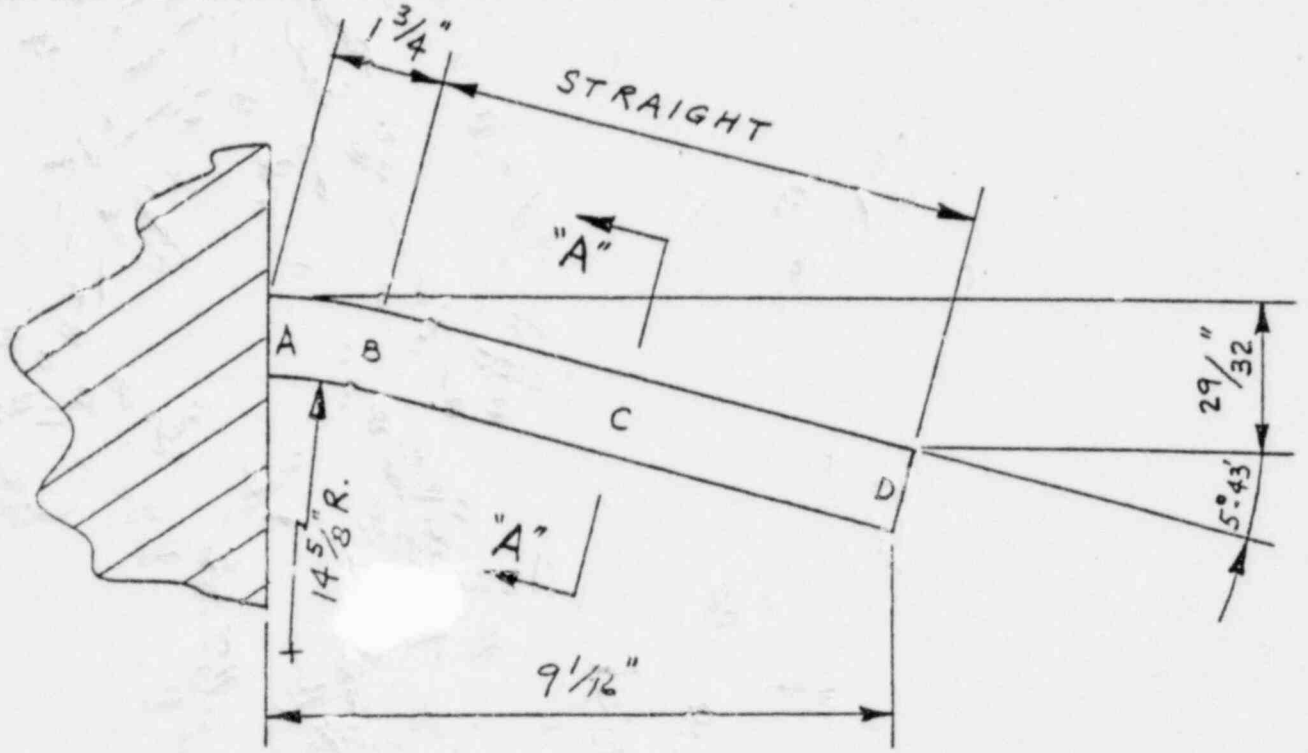
R W Thorpe — FIELD QUALITY CONTROL SUPV. — 11-18-80 — DATE

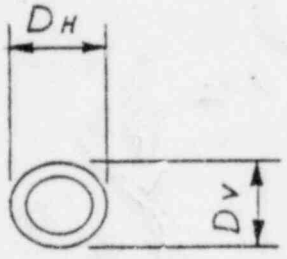
SEQUENTIAL NUMBER No. 1744

REPORT OF NONCONFORMITY

JOB NUMBER	UNIT NUMBER	DATE	REPORT OF NONCONFORMITY #
CL-238	2	10-7-80	1744

Damage was caused during loading of pressurizer for transfer into containment. A support block on the truck was misloca[illegible] the nozzle was bent when it hit the block. This damage was witnessed and documented by Consumers Power Q.A. representative Harold Allen, 6-13-78.





SECTION "A-A"

NOZZLE DIAMETERS

LOCATION	DH	DV
A	1.057"	1.051"
B	1.053"	1.052
C	1.053"	1.053
D	1.053"	1.053

DO NOT SCALE
CUI-172 MIC.
K. VOGEL 10-1-80

PDS-21091-B (4-80)

BABCOCK & WILCOX

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS)	PRIORITY 1☐ 2☒ 3☐ 4☐ NONE☐
Pressurizer	EAD MANAGER J. W Mitchell

CUSTOMER	SUPPLIER	DOC. ID	NSS NO.	SPR NO.	REV. NO.
Consumers Power Co.	B&W	13	12	169	0

PA NO.	CHARGE NO.	MHR. BUDGET	VENDOR CLAIM NO./ SHIPPING DAMAGE NO.	PART NO./TBS NO.
				520-0012-59 10-001

DESCRIPTION OF PROBLEM

Bent Nozzle
See NCR #1744

B&W NCR #1744

ORIGINATOR — H. A. Guetling for J. D. Green — DATE 6-20-80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L. D. Cline - Lynchburg

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

Accept as is since nozzle is to be plugged.

RESOLUTION

Detailed inspection depicting nature of bending is required to facilitate permanent strain calculations.

Upon receipt of revised data, a metallurgical evaluation will be performed based on calculated permanent strain magnitudes to determine acceptability. Cause of damage should also be defined and submitted. See attached sketch for inspection information required.

The "acceptable as is" recommendation is not approved until further site inspection data is provided to Engineering.

☐ INFORMATION ONLY

RESOLUTION PREPARED BY — DATE
Concurred for W Mitchem — 8/25/80

REVIEWED BY — DATE
Paul M Pullman — 8/26/80

APPROVED/DISAPPROVED BY — DATE
W. J. Seidel — 8/28/80

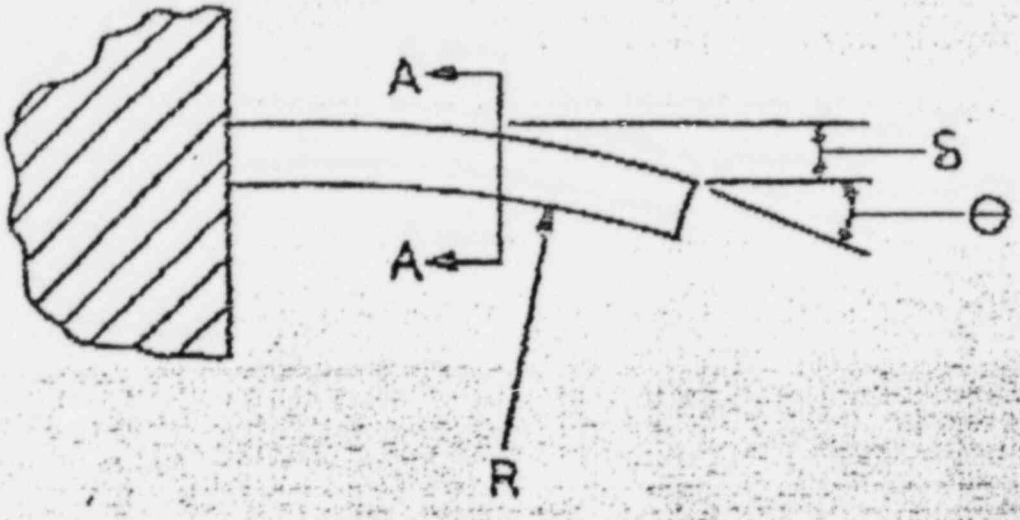
COMPLETED (VERIFIED BY) — DATE

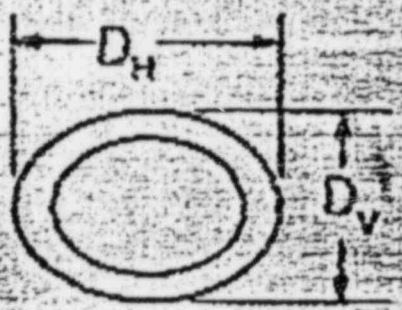
MULTIPLE CONTRACT PROBLEM	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.
☐YES ☒NO	☐YES ☒NO	

SPR CLOSEOUT REPORT:

CLOSED OUT BY — DATE

SHEET ____ OF ____





SECTION A-A

R - radius of curvature of bend

δ - total deflection at end

θ - slope at end

D_H, D_V - cross sectional diameter

R - To be determined at sufficient locations to determine basic form with one dimension taken at the minimum curvature. Locations to be recorded.

D_H, D_V - To be determined at sufficient locations to determine basic form with one dimension taken at the location of maximum ovality. Locations to be recorded.

Doc. No.
13-17-169-00

SEWCC

BABCOCK & WILCOX

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS)

PRESSURIZER

PRIORITY 1 ☐ 2 ☐ 3 ☐ 4 ☐ TRK ☐

LEAD MANAGER J.W. Mitchem

CUSTOMER	SUPPLIER	DOC. ID	RES NO.	SPR NO.	REV. NO.
Consumers Power Co.	B&W	13	12	149	1

PA NO.	CHANGE NO.	PROJ. BUDGET	VENDOR CLAIM NO./ SHIPPING DAMAGE NO.	PART NO./ITEM NO.
				160-0012-59 10-001

DESCRIPTION OF PROBLEM W.J. LEE

NOV 1 0 1980

See Page 2 B&W NCR 1724, Dated 10-1-80 (K. Vogel Sketch). Contains Data Required In SPR 13-12-149-0 Resolution.

ORIGINATED N.A. Gustafson DATE 11/7/80

FOR L.D. Green

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L.D. Green - NPGD, Lynchburg

D.F. Judd - " "

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

Accept As Is

RESOLUTION: Calculation Package (#32-1121934-00) Was Prepared to Determine the maximum strain in the 28 CENT nozzle. The maximum strain incurred was calculated to be less than 4%. Based on laboratory test, this amount of strain is not expected to promote stress corrosion cracking. Therefore, this SPR is accepted as is without any restrictions.

☐ INFORMATION ONLY

RESOLUTION PREPARED BY N.A. Gustafson DATE 11/7/80

REVIEWED BY [illegible] DATE 11/7/80

MULTIPLE CONTRACT PROBLEM	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.
☐ YES ☒ NO	☐ YES ☒ NO	32-1121834-00

APPROVED/ACCEPTED BY [illegible] DATE 11/7/80

COMPLETED (VERIFIED BY) DATE

SPR CLOSEOUT REPORT:

CLOSED OUT BY DATE

SHEET ___ OF ___

BWCC

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	Unit #2	9-19-80	Steam Generators	2E51A & 2E51B

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	2E51B #461 2E51A #460	2E51A FCP #284 2E51B FCP #284A

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	FCP #284-page 13 of 19; FCP #284A-page 13 of 19	N/A

13. DESCRIPTION OF NONCONFORMITY

1. The machined finish of the penetrations in 2E51A(north Gen.) and 2E51B(south Gen.) do not meet 250/RHR required in FCA #47. The finish is 500/RHR.
2. Three of the penetrations, #7, #9, & #10 in 2E51A(north Gen.) exceed tolerance of dimensions. See sheet 2 of 2.

14. REPORTED BY	15. VERIFIED BY	16. CORRECTIVE ACTION REQUIRED
R Hoge for R. Brown 9-19-80 (NAME / DATE)	R W Hoge 9-19-80 (NAME / DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — H H Lin, FIELD PROJECT ENGINEER — 9-19-80 DATE

18. RECOMMENDED DISPOSITION: ☒ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☐ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

N/A

H H Lin, FIELD PROJECT ENGINEER — 9-30-80 DATE

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS See SPR-173

Accept surface finish as is.

Accept holes 9 & 10 as is, provided fit up of nozzle is held to 1/16" ~~± 3/32"~~ +3/32 -0. Accept hole 7 as is, provided that a maximum of .020" clearance be maintained between the nozzle ~~outside diameter and the machined hole in the shell.~~

H H Lin 9-30-80 (FIELD PROJECT ENGINEER / DATE)

22. APPROVALS

B&W FQC: R W Hoge 9-30-80 (SIGNATURE / DATE) OTHER: _____ (SIGNATURE / DATE)

OWNER/AGENT: R E Whitaker 10/3/80 (SIGNATURE / DATE) OTHER: _____ (SIGNATURE / DATE)

23. ANI REVIEW: T S Lau 10-6-80 (SIGNATURE / DATE)

24. DISPOSITION COMPLETED	25. DISPOSITION VERIFICATION	
L Thomas 11-10-80 (NAME / DATE)	T. G. Davis 11-14-80 (NAME / DATE)	☒ ACCEPTABLE ☐ UNACCEPTABLE REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

The tooling has been redesigned. An instruction program for craft personnel will be given with a mock-up of the Steam Generator.

Walter J Lyon, FIELD PROJECT MANAGER — 9/30/80 DATE

27. NONCONFORMITY CLOSED T. G. Davis Jr, FIELD QUALITY CONTROL SUPV. — 11-14-80 DATE

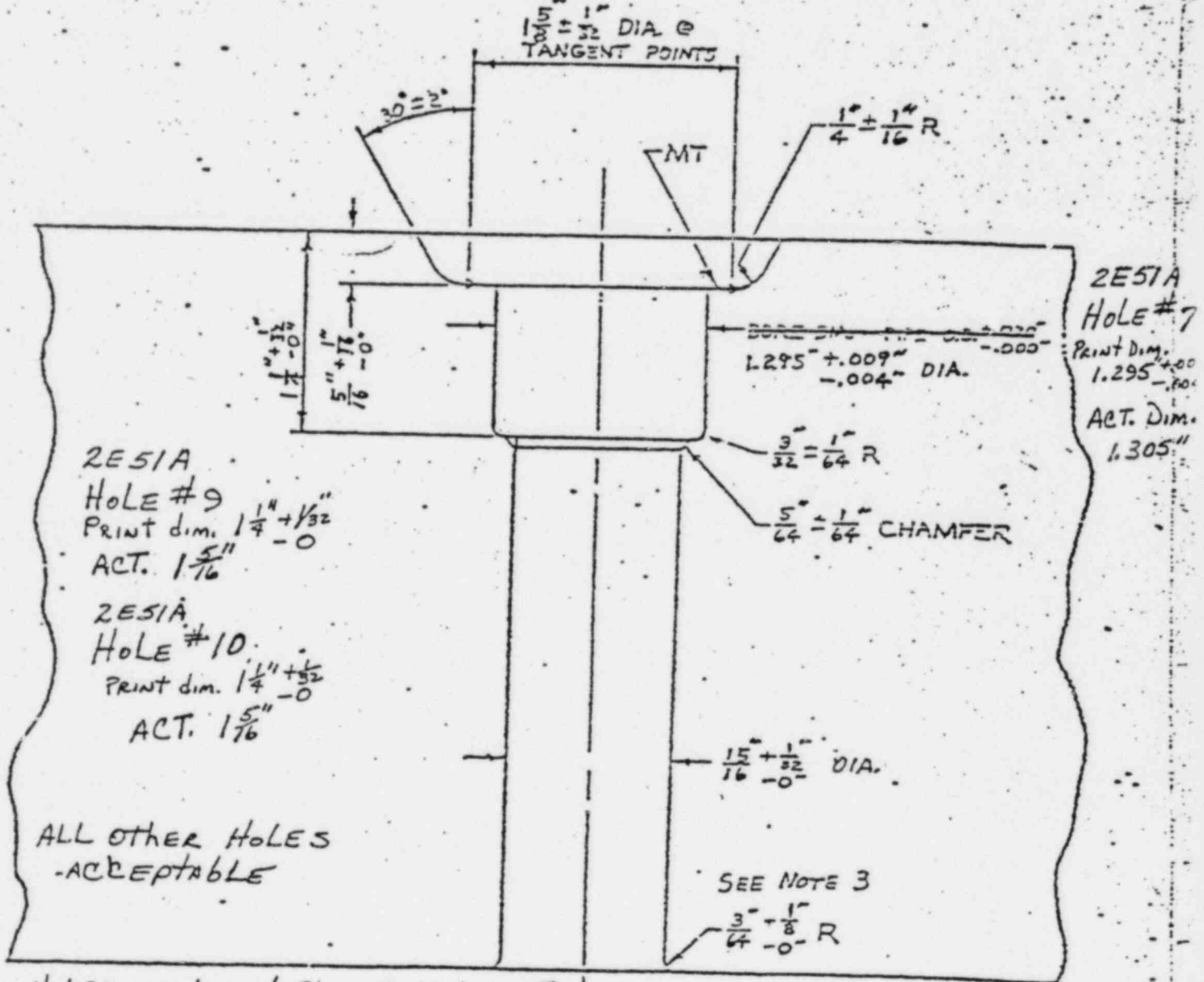
SEQUENTIAL NUMBER № 1750

NCR # 1750 9-19-80

NOTES

~~1. SEE NOTE 7 DWG 3107M43 SHEET 1~~

1. SEE ATTACHMENT 6 FOR HOLE LOCATIONS
2. ALL MACHINED SURFACES TO HAVE 250/RHR OR BETTER
3. RADIUS MAY BE MEASURED BY MULTIPLE POINT REPLICATION AND SHALL BE ACCEPTA IF FINAL CONTOUR FALLS WITHIN THE RADIUS ZONE SPECIFIED.



HOLES NUMBERED FROM RIGHT TO LEFT (OR CLOCKWISE) STARTING AT TOP OF GENERATOR.

POOR ORIGINAL

FDS-21091-B (4-80)

BABCOCK & WILCOX

SITE PROBLEM REPORT

TITLE (MAX. 30 CHARACTERS): STEAM GENERATORS

PRIORITY: 1 ☒ 2 ☐ 3 ☐ 4 ☐ MIN ☐

LEAD MANAGER: J S OLSZEWSKI

CUSTOMER	SUPPLIER	DOC. ID	ASS NO.	SPR NO.	REV. NO.
COMMONWEALTH POWER CO.	B&W	13	12	173	0

P.A. NO.	CHARGE NO.	MAT. BUDGET	VENDOR CLAIM NO./ SHIPPING CLAIMS NO.	PART NO./TAG NO.
				11C-0012-55 10-001 10-002

DESCRIPTION OF PROBLEM

SEE ITEM 13 OF NCR # 1750

ORIGINATOR: H. A. GUETLING — DATE: 9/11/80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L. D. CLINE
J. SREW
NPGD — LYNCHBURG

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

VENDOR TO SUPPLY DISPOSITION

RESOLUTION: SEE ATTACHMENT NO. 1. (SHEET 4 OF 4)

RESOLUTION PREPARED BY: [illegible] — DATE: 9/25/80

☐ INFORMATION ONLY

REVIEWED BY: [illegible] — DATE: 9/15/80

MULTIPLE CONTRACT PROBLEM	POTENTIAL SAFETY CONCERN	RESOLUTION DOCUMENT NO.	APPROVED/DISAPPROVED BY	DATE
☐ YES ☒ NO	☐ YES ☒ NO		[illegible]	9/25/80

COMPLETED (VERIFIED) BY: — DATE:

SPR CLOSEOUT REPORT:

CLOSED OUT BY: — DATE:

ATTACHMENT NO. 1 SPR 13-12-173-0

The surface finishes demonstrated by the clay replications sent to NPGD are acceptable to Engineering. No further rework of these surfaces is recommended.

The out of tolerance counterbore depths of 1 5/16" reported for hole #9 and #10 is acceptable provided the $1/16" \begin{smallmatrix} +3/32" \\ -0" \end{smallmatrix}$ nozzle to counterbore dimension is maintained for welding the nozzles into place.

The 1.305" counterbore diameter reported for hole #7 is acceptable provided this hole is selectively fit with a nozzle that will limit the nozzle to shell diametral clearance to 0.020" maximum.

BWC 318.2-1

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

1. JOB NUMBER	2. UNIT NUMBER	3. DATE	4. ITEM NAME	5. ITEM NUMBER
CL-238	#2	9-25-80	Internals Guide Block Dowel Pins	MK 451

6. VENDOR/MANUFACTURER	7. DISCOVERED DURING	8. REJECT TAG NUMBER	9. PROCEDURE NUMBER
Babcock & Wilcox	☐ RECEIVING ☐ TEST ☒ CONST.	463	135

10. SPECIFICATION NUMBER	11. DRAWING NUMBER	12. PRIOR REPORT OF NONCONFORMITY #
N/A	1100991C	N/A

13. DESCRIPTION OF NONCONFORMITY

(4) MK 451 dowel pins have been installed to a depth of 11/16", (Dwg. Dim. is 5/8" ± 1/32"). The hole depths and pin lengths are within dwg. tolerances. See attached sketch.

14. REPORTED BY	15. VERIFIED SY	15. CORRECTIVE ACTION REQUIRED
K. L Vogel (NAME) 9-25-80 (DATE)	R W Thope (NAME) 9-25-80 (DATE)	☒ YES ☐ NO

17. REPORTABLE DEFICIENCY IN ACCORDANCE WITH 10 CFR 50.55 (e)

☐ YES ☒ NO — D. G. Durst (FIELD PROJECT ENGINEER) — 9-26-80 (DATE)

18. RECOMMENDED DISPOSITION: ☐ N/A ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

19. TECHNICAL JUSTIFICATION/OR RECOMMENDED DISPOSITION INSTRUCTIONS

Accept as is.

Y. K. Lin (FIELD PROJECT ENGINEER) — 9-29-80 (DATE)

20. ACTUAL DISPOSITION: ☐ REWORK ☐ REPAIR ☐ REPLACE ☐ RETURN ☒ ACCEPT AS IS

21. DISPOSITION INSTRUCTIONS

See SPR-138.
Accept as is.

Y. K. Lin (FIELD PROJECT ENGINEER) — 10-8-80 (DATE)

22. APPROVALS

B&W FQC R W Thope 10-8-80 (SIGNATURE / DATE) OTHER _____ (SIGNATURE / DATE)

OWNER/AGENT R E Whitaker 10/9/80 (SIGNATURE / DATE) OTHER _____ (SIGNATURE / DATE)

23. ANI REVIEW

R. Fisher (SIGNATURE) — 10-16-80 (DATE)

24. DISPOSITION COMPLETED	25. DISPOSITION VERIFICATION	
R W Thope (NAME) 10-23-80 (DATE)	R W Thope (NAME) 10-23-80 (DATE)	☒ ACCEPTABLE ☐ UNACCEPTABLE REPORT OF NONCONFORMITY #

25. CORRECTIVE ACTION

Tooling will be revised. Insertion device will be revised to allow 360° bearing instead of 180°, ~~thus~~ THUS giving better control on restricting depth.

Y K Lin 10-9-80

Walter J Lee (FIELD PROJECT MANAGER) — 10/8/80 (DATE)

27. NONCONFORMITY CLOSED

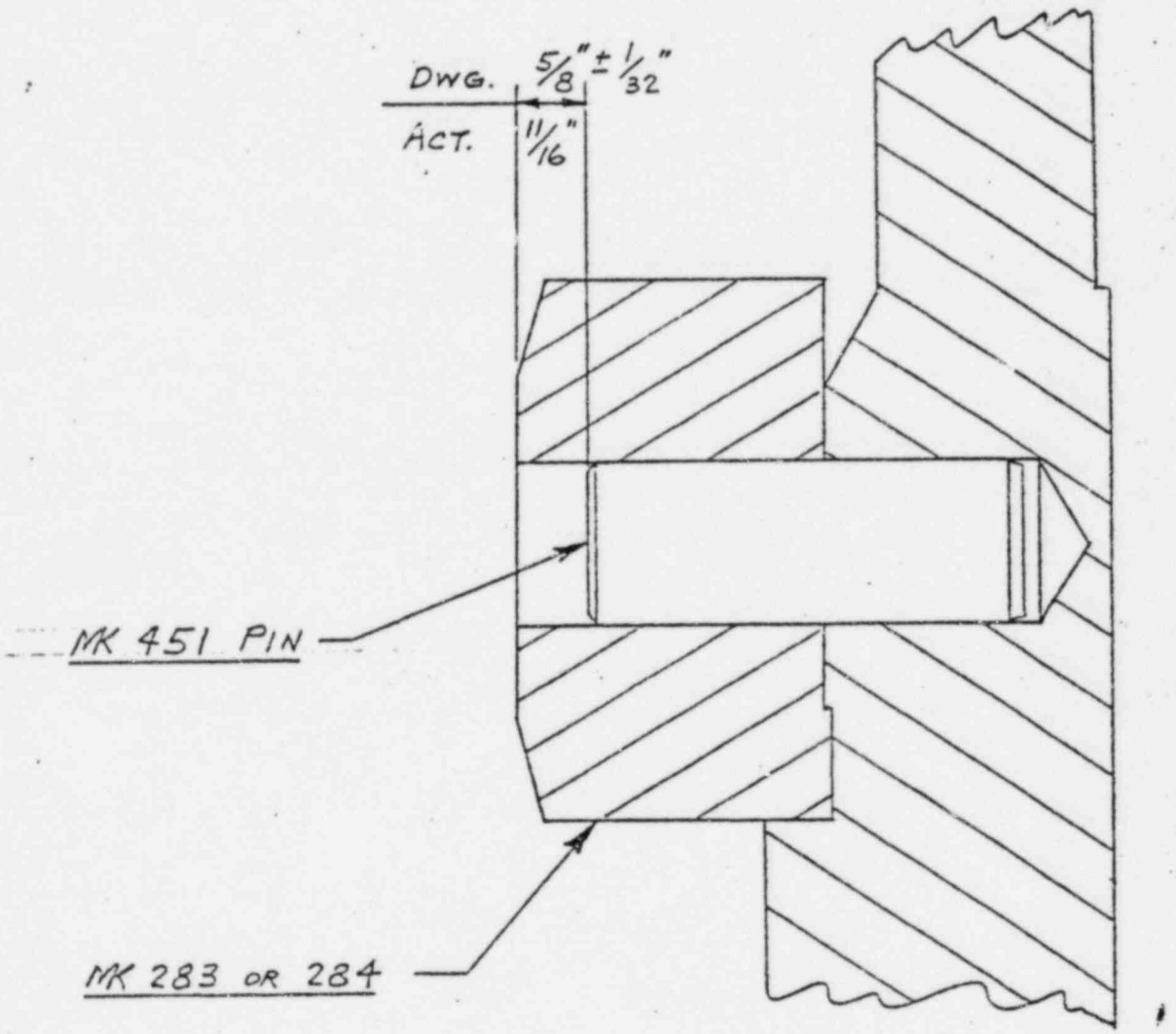
R W Thope (FIELD QUALITY CONTROL SUPV.) — 10-23-80 (DATE)

SEQUENTIAL NUMBER № 1753

BABCOCK & WILCOX
B&W CONSTRUCTION COMPANY

REPORT OF NONCONFORMITY

JOB NUMBER	UNIT NUMBER	DATE	REPORT OF NONCONFORMITY #
CL-238	#2	9-25-80	1753



TITLE (UNIQUE CHARACTERS): Conn. Yankee Tech. Spec. Page

PRIORITY: 2 ☐ 3 ☐ 4 ☐ HOLD ☐

LEAD ENGINEER: J. W. Mitchem

CUSTOMER: Northeast Utilities

SUPPLIER:

DOC. ID	ASS NO.	SYS NO.	REV. NO.
13	13	138	0

PA NO.	CHANGE NO.	PRINT SHEET	VENDOR CLAIM NO./ SHIPPING CHANGE NO.	PART NO./TAG NO.
				620-0013-60 01-001

DESCRIPTION OF PROBLEM:

See Attached N.C.R. NCR # 175

ID 25 ☐

ORIGINATOR: L. H. Gutierrez DATE: 9/9/80

STATUS ACTION TO DATE, INCLUDING PERSONS CONTACTED:

L. D. Clare - NPGD - Lynch 9/24

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL:

Accept As Is

RESOLUTION: ~~Accept As Is~~ NPGD Comment Engineering agrees with documented action. "Accept as is." The minor discrepancies will not affect function or functional requirements.

☐ INFORMATION ONLY

RESOLUTION PREPARED BY: E. F. Taborelli III DATE: 10/1/80

REVIEWED BY: J. W. Mitchem DATE: 10/2/80

MULTIPLE CONTACT PROBLEM	POTENTIAL SAFETY CONCERN?	RESOLUTION DOCUMENT NO.
☐ YES ☑ NO	☐ YES ☑ NO	

APPROVED/DISAPPROVED BY: R. F. Reid DATE: 10/2/80

COMPILED/VERIFIED BY: DATE:

NPR CLOSEOUT REPORT:

CLOSED OUT BY: DATE:

SHEET ___ OF ___

DESIGN QUALITY & RELIABILITY DIVISION

NONCONFORMANCE REPORT (NSR)

Contractor: Consolidated Controls Corp. Nonconformance Report No.: 77-2

Contract No.: GO-C-0012-0015 Inspection Report No.: 1

Component: Unit 2 & 3 Gen. Location: Bldg. 1 Floor

Description of nonconforming condition:

Vertical stand does not fasten on TDR tape recorder #24033.

Originator: Lisa Nosek Date: Nov 5 1977

DSI Corrective Action

Ship back to Lynchburg

DSI Manager: Lucy A. Hollins Date: 11-14-77

Other affected Components: for T.D. Adkins

Nonconformance Disposition: Accept ☒ Reject ☐

Comments:

QC Surveillance Manager: D.K. Berry Date: 11/14/77

Implementation Confirmed by: _____ Date: _____

Verifications:

DSI Manager _____ Group Leader _____ QAE _____ , SQA _____

OPEN
2 yr

THE BABCOCK & WILCOX COMPANY
NUCLEAR POWER GENERATION DIVISION
NONCONFORMANCE REPORT (ISI)

Customer: Consumers Power Co. Nonconformance Report No: 80-3
Contract No: 599-0642-25-03 Inspection Report No.: UIA
Component: Unit #2 "B" Generator Location: Midland, MI

Description of nonconforming condition:

Teac tape recorder #24123, horizontal channel is not functioning.

Originator Gene Nasuti Date Nov. 12, 1980

ISI Corrective Action

Ship back to Lynchburg

ISI Manager [signature] Date 11/13/80

Other affected Components:

Nonconformance Disposition: Accept ☐ Reject ☐

Comments:

QC Surveillance Manager [signature] Date 11/13/80
Implementation Confirmed by _____ Date _____

Distribution:

ISI Manager Group Leader QAE File

OK on Fax

THE BABCOCK & WILCOX COMPANY
NUCLEAR POWER GENERATION DIVISION
NONCONFORMANCE REPORT (ISI)

Customer: Consumers Power Co. Nonconformance Report No: 80-4
Contract No: 599-0642-25-03 Inspection Report No.: N/A
Component: Unit #2 "B" Generator Location: Midland, MI

Description of nonconforming condition:

Eddy current instrument #24082 and insert #24025 have a malfunctioning horizontal channel.

Originator Dave Nawrath Date Nov. 12, 1980

ISI Corrective Action

Ship Back To Lynchburg

ISI Manager [signature] Date 11/13/80

Other affected Components:

Nonconformance Disposition: Accept ☐ Reject ☐

Comments:

QC Surveillance Manager [signature] Date 11/13/80

Implementation Confirmed by _____ Date _____

Distribution:

ISI Manager Group Leader QAE File

O.K. CW KOK

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-419 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO:
Midland 1 & 2	1C-184A, 2C-185A, 2C-184B	H2 Recombiner Ctl Pnl H2 Recombiner Pwr Pnl	M-01-9-0-068
			2. DATE: 11/3/80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Engineering	685'0" Elevation 634'6" Elevation	N/A
			4. FILE NO: 16.3.1

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Specification 7220-M-169(Q) paragraph 6.9 states in part, "Power supply and control panels shall be designed in accordance with Attachment 2.8 to the Material Requisition, etc."

Contrary to the above, the following deficiencies were noted between Attachment 2.8 (7220-G-5) and the actual installation:

1. Paragraph 6.12 specifies wiring within Control Boards to be ASTM Class "B" stranded. The H2 Recombiner Control Panels have 8 wires each which are solid conductor; these wires are terminated as follows: 6 leads from TB-6 to Temperature Selector Sw., and 2 from the Temperature Selecter Sw. to the Temperature Indicator.

(Continued on page 3)

5. DISTRIBUTION

ACTION COPY:

LHCurtis
RCAsh

INFO COPY:

WRBird	DBMiller
RBCherba	JARutgers
JWCook	ESmith
TCCooke	
LADreisbach	
DRKeating	
GSKeeley	
HPLeonard	
BWMarguglio	

13. QA RECOMMENDATION FOR PART CA:

1. Determine acceptability of wiring; take approp. corrective action.
2. Evaluate and determine if insulation is acceptable; provide justification.

(Continued on page 3)

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 8; 8-Recombiner Panels; Hold for Clearance

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY:	24. SUPERVISOR'S SIGNATURE/DATE:
D. Nott	11/18/80 TO ESTABLISH CA COMPLETION DATE	RC Ashe 11/4/80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP.:	**31. SIG. OF TEST GROUP ACKNOW. CONDITION:**	**32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:**	**33. QA AUTH. SIG. TO IMPLEMENT DISP.:**
	N/A	N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION
QUALITY ASSURANCE DEPARTMENT
NCR SERIAL NUMBER M01-9-0

36. QA ASSESSMENT OF ROOT CAUSE(S):

Vendor did not adhere to specification requirements.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [ ] PROCUREMENT [X] INSPECTION [ ]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

Initiate action to inspect other electrical components on this purchase order for similar deficiencies and disposition (Project Engineering).

Evaluate and determine why these deficiencies were not discovered prior to shipment from vendor and identify action taken to preclude repetition (Procurement).

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-068
DATE: 11/3/80
DATE OF REV: N/A
FILE NO: 16.3.1
AI: S-419

12. "AS IS" NONCONFORMANING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

(Continued from Page 1)

2. Paragraph 6.12 specifies wiring with type IPCEA S-28-357 600V type TA, TBS, or SIS insulation to be used on these panels. There is no evidence in the QVD package, vendor Bill of Material or ident. cation on the wire insulation to identify it as the correct type.

3. Paragraph 6.21 of 7220-G-5 and 6.9(f) of 7220-M-169 specify terminal block marking strip to be marked per drawing 7220-E-50. Terminal blocks in these panels are not marked with cable scheme numbers or color coded as required by specification.

4. Paragraph 6.23 states in part, "A small gap shall separate the wire insulation from the lug barrel so it is evident by visual inspection that the wire and not the insulation is properly clamped in the lug." Insulated lugs are used throughout these units so that the acceptability of the terminations is indeterminate. Identical problem was previously reported on Bechtel QAR 332.

13. QA RECOMMENDATION FOR PART CA:

(Continued from Page 1)

3. Provide and install correct marking strips.

4. Determine acceptability of presently installed lugs; if satisfactory, revise specification.

Start-Up System: 1&2PFA 1&2PFB

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-420 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-069
Midland	DSRV-12	Diesel Engine	2. DATE: 11/6/80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
77001 thru 77004	Transamerica Delaval	Diesel Generator Bldg	N/A
			4. FILE NO: 16.7

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Correspondence from the manufacturer to Bechtel dated 9/22/80, which documents Part 21 notification, states in para 1.1 of enclosure 2, "There should be zero clearance between the bottom surface of the foot of the link rod and the mating surface of the link pin." The series of engines that could be effected include Midland engines as stated in enclosure 1. Until an inspection of all link rod clearances in all engines has been completed, the condition of the Midland engines is indeterminate. Instructions for completing required inspections are contained in enclosure 2.

5. DISTRIBUTION

ACTION COPY:

LEDavis

INFO COPY:

WRBird
RBCherba
JWCook
TCCooke(2)
LHCurtis
LADreisbach
DRKeating
GSKeeley
HPLeonard
BWMarguglio
DBMiller
JARutgers
DATaggart

13. QA RECOMMENDATION FOR PART CA:

1. Develop a schedule for completing the required inspections and furnish a copy to MPQA.

(Continued on page 3)

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [ ] NOT REQUIRED [X]

14. HOLD TAGS APPLIED: YES [X] NO [ ] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: One hold tag applied to each engine ; CPCo Hold Tag

15. IS PROCESS CA REQUIRED: YES [ ] NO [X] IF NO, ENTER JUSTIFICATION BELOW: All engines are on site, No process corrective action applicable to site activities.

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]

17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X] ★

18. IS NC REPORTABLE PER PART 21: YES [X] NO [ ]

19. IF YES, DATE & TIME OF REPORT TO NRC: ★

20. IF YES, WHO MADE REPORT TO NRC: Transamerica Delaval

21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: ★

22. NCR ORIGINATED BY: Donald K. Martin

23. WRITTEN REPLY REQUIRED BY: 11/13/80 TO ESTABLISH CA COMPLETION DATE

24. SUPERVISOR'S SIGNATURE/DATE: DRKeating 11-6-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
30. FAB/CONST. SIG. AUTH. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-0

38. QA ASSESSMENT OF ROOT CAUSE(S):

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-069
DATE: 11/6/80
DATE OF REV: N/A
FILE NO: 16.7
AI: S-420

13. QA RECOMMENDATION FOR PART CA:

(Continued from page 1)

2. Notify MPQAD one day prior to starting any of the inspections in order for MPQAD to witness all or part of the inspection. This is to be treated as a witness point.

3. Document all inspections and furnish copies to MPQA to facilitate closure of this NCR.

It is recognized Bechtel is aware of this Part 21 action and is in the process of inspection. This NCR was issued for tracking and record purposes.

*Note 1: Pending satisfactory completion of required inspections.

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-427 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-070
Midland 1 & 2	1X17, 1X18, 2X17, and 2X18	Transformers	2. DATE: 11/7/80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Engineering & Bechtel Construction	Elevation 614'0" Auxiliary Building	N/A
			4. FILE NO: 16.3.1

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

ANSI N45.2.4 - 1972 (IEEE Std-336) Section 4.0 states in part, "Equipment shall be located, installed, assembled and/or connected in strict accordance with the following as applicable: (1) Latest approved-for-construction drawings, (2) Manufacturer's instructions."

Vendor Installation Instruction 7220-E6-51-3 Page 2(Mounting) states in part, "Transformers shall be mounted using 1" bolts with the bolt type specified as ASTM, A325 high strength or equivalent. The bolt threads must not be in the shear plane. These requirements are also specified in Section 5.1 of the vendor's seismic test procedure (7220-E6-80-1), which was performed by Wyle Laboratories in accordance

(Contd on page 3)

5. DISTRIBUTION:

ACTION COPY:
LHCurtis

INFO COPY:
WRBird
RBCherba
JWCook
TCCooke(2)
LADreisbach
GSKeeley
JKovach
HPLeonard
BWMarguglio
DBMiller
JARutgers

13. QA RECOMMENDATION FOR PART CA:

Since the vendor has qualified the subject equipment and its mounting in accordance with IEEE-344, it is recommended that: (1) the installation of the subject equipment be in accordance with the vendor instructions on (2) the alternate method of installation be subject to vendor approval - a revision to the vendor instructions.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 4 (One on each transformer)

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X] *
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY:	24. SUPERVISOR'S SIGNATURE/DATE:
Stephen L Jones	11/17/80 TO ESTABLISH CA COMPLETION DATE	RCH DRKeating 11-7-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
	N/A	N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-0-C

38. QA ASSESSMENT OF ROOT CAUSE(S):

Design drawings do not reflect the vendor's mounting instructions.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [ ] PROCUREMENT [ ] INSPECTION [ ]

OTHER Engineering

41. QA RECOMMENDATION FOR PROCESS CA:

Determine who has the responsibility for the mounting design of equipment seismically qualified by a vendor.

1. If Bechtel has responsibility for the design of equipment mounting:
   a) Provide method for resolving conflict in field between the use of vendor instructions versus engineering design drawings.
   b) Provide evidence of seismic's calculations to substantiate Bechtel's mounting design for (1) the subject transformers, and (2) for other seismic qualified equipment where the mounting deviates from vendor instructions.

(Contd on page 3)

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-070
DATE: 11/7/80
DATE OF REV: N/A
FILE NO: 16.3.1
AI: S-427

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

(Continued from page 1)

with IEEE-344-1975. (Their vendor documents have been given a Level I approval by Bechtel Engineering.)

Contrary to these vendor requirements, the subject transformers were installed per Bechtel design drawing C-197 using (3) 1" anchors ASTM A36 (threads in the shear plan) and one leg welded to the embed.

This conflict between vendor requirements and engineering design drawings (both Project approval documents) results in an indeterminate condition.

*NOTE: PRESENTLY A SEISMIC ANALYSIS IS BEING RE-EVALUATED TO DETERMINE IF THE MOUNTING OF THE SUBJECT TRANSFORMERS MEETS THE FSAR DESIGN REQUIREMENTS. THIS CONDITION IS NOT REPORTABLE AT THIS TIME UNDER PART 50.55(e) BASED ON BECHTEL PROJECT ENGINEERING'S STATEMENT THAT THE INSTALLED CONDITIONS WERE ANALYZED AS PART OF THE DESIGN PROCESS.

41. QA RECOMMENDATION FOR PROCESS CA:

(Continued from page 2)

2. If vendor has responsibility for the design of equipment mounting:

   a) Submit alternate mounting design for subject transformers to vendor for approval - revise vendor prints.

   b) Determine what other equipment was not mounted in accordance with vendor instructions and submit engineering alternate design to vendor for approval - revise vendor print.

Start-Up System: 1755 & 2755

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NONCONFORMANCE REPORT

AI S-447 PAGE 1 OF 2

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-071
Midland 1&2	1A06 & 2A06	4160 V Switchgear	2. DATE: 11/13/80
9. SERIAL NUMBER: N/A	10. ORG. COMMITTING NC: Vendor	11. AREA/LOC. OF NC: 614 Elevation	3. DATE OF REV: N/A
			4. FILE NO: 16.7

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Midland Plant Quality Assurance performed an overinspection on Q-related 4160 V Switchgear on a sampling basis to determine the acceptability of workmanship on Vendor-supplied equipment. Results of this inspection were reported to Bechtel Engineering on QAR F-010, Action Item S-397 for evaluation and were found by Engineering to be unacceptable. Conditions reported were as follows:

1. Inadequate crimping of wire - approximately 90 terminations of #14 AWG wire were found which had (1 to 5) strands either broken off at the lug or outside of the lug barrel.
2. Nine (9) terminations were found loose.
3. Four (4) terminations were found to have oversize lugs.

5. DISTRIBUTION

ACTION COPY: LHCurtis

INFO COPY:
RCAsh
WRBird
RBCherba
JWCook
TCCooke(2)
MADietrich
DRKeating
GSKeeley
HPLeonard
BWMarguglio
DBMiller
JARutgers
ESmith

13. QA RECOMMENDATION FOR PART CA:

1. Bechtel to devise program to inspect all Q-related 4160 V Switchgear for vendor workmanship. Record all deficiencies found and take appropriate corrective action.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ]

NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 12: 3 on each switchgear unit: Hold for Clearance

15. IS PROCESS CA REQUIRED: YES [ ] NO [X] IF NO, ENTER JUSTIFICATION BELOW:

All 4160 V Switchgear is installed in place.

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: 12/2/80 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE: RCA DRKeating 11-13-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.: N/A	28. PROCUREMENT SIG. CONC. DISP.: N/A	29. SIG. OF ORG. RESP. FOR C/A:
30. FAB/CONST. SIG. AUTH. DSP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION: N/A	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.: N/A	33. QA AUTH. SIG. TO IMPLEMENT DISP.:

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-[illegible]

38. QA ASSESSMENT OF ROOT CAUSE(S):

N/A

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

N/A

40. PROCESS CA REQUIRED FROM:

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER N/A

41. QA RECOMMENDATION FOR PROCESS CA:

N/A

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

N/A

43. METHOD OF PROCESS CA VERIFICATION:

N/A

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

N/A

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

N/A

Start Up System: 1-GSA & 2-GSA

Consumers Power Company
QA27I-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-478 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO:
Midland 1 &2	1C-185 A & B 2C-185 A & B	H_2 Recombiner Ctl Pnl	M-01-9-0-072
			2. DATE: 11/18/80
9. SERIAL NUMBER:	10. ORG. CONCERNING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Construction Bechtel Quality Control	614' Elevation 628' Elevation	N/A
			4. FILE NO: 16.3.4 & 16.3.6

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Bechtel design drawing C-141, Rev 7, Detail 1, identifies the mounting instructions for the subject H_2 Recombiner Control Cabinets. These instructions specify that the Cabinets are to be plug welded in place.

Contrary to the above, the Cabinets were installed using 3/4" threaded Nelson studs. There is no known engineering approved document authorizing the use of Nelson studs for these applications. An investigation into the mounting of these Cabinets revealed that Bechtel Construction had installed and Quality Control inspected and accepted to Drawing C-197(Q) and applicable FCR C-1943. Drawing C-197(Q) identifies Cabinet location at the 614' elevation and references C-141(Q) Detail 1 for

(Continued on Page 3)

5. DISTRIBUTION

ACTION COPY:
LEDavis
ESmith
LHCurtis

INFO COPY:
WRBird
RBCherba
JWCook
TCCooke(2)
MADietrich
DRKeating
GSKeeley
HPLeonard
BWMarguglio
DBMiller
JARutgers
DMTurnbull

13. QA RECOMMENDATION FOR PART CA:

Construction comply with project design drawing or have Project Engineering issue an approved Field Change for Drawing C-141, to support the "as built" condition.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ]

NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 4; H_2 Recombiner Control Panels; Hold for QA Clearance

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY:	24. SUPERVISOR'S SIGNATURE/DATE:
D. Nott	12/3/80 TO ESTABLISH CA COMPLETION DATE	RCH DRKeating 11-19-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
	N/A	N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION
QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-0-

38. QA ASSESSMENT OF ROOT CAUSE(S):

Construction failed to comply with project design criteria; Quality Control inspected to inadequate criteria.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [ ] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [X]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

Field Engineering and Quality Control determine how these support foundations were constructed and bought off without authorized design change and provide corrective action to preclude repetition.

Project Engineering to determine why they approved FCR C-1934, which was based on disapproved FCN C-89. Provide corrective action to preclude repetition.

Quality Control to reinspect all four (4) Cabinets using latest approved Engineering criteria.

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:	45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-072
DATE: 11/18/80
DATF OF REV: N/A
FILE NO: 16.3.4 & 16.3.6
AI: S-478

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

(Continued from page 1)

foundation requirement. FCR C-1943 was issued 5/23/79 and approved by Project Engineering on 7/25/79. This FCR authorizes replacement of 4 of the 8 Nelson studs on the foundation pads with smaller sized studs and states that the pads were built to FCN-89. FCN C-89 was issued 3/1/79 to authorize welding of 8-3/4" stud bolts to the foundation pads and gives welding requirements to be used. This FCN was disapproved by Project Engineering on 3/21/79.

NOTE: No field change was made to alter the mounting criteria for Cabinets 1C-185A and 2C-185A at the 628' Elevation. The only design criteria available for these units (Dwg C-141), specifies they be plug welded.

12. (Contd from above)

FCR C-1943, Detail "A" shows typical installation for each H_2 Recombiner Control Panel.

Contrary to the above, "U" type fittings (not detailed on any drawing) were used on the 1/2" Nelson studs.

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

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AI S-450 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-03-1-0-073
Midland 1 & 2	1C45 and 2C45	ECCAS	2. DATE: 11/19/80
9. SERIAL NUMBER:	10. ORG. CONCERNING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV: N/A
N/A	B&W	Control Room el 659'	4. FILE NO: 16.4.1

12. AS IS NONCONFORMING CONDITION VERSUS AS REQUIRED CONDITION WITH REFS:

During a wiring check by a Bailey-Meter Co representative (a subsidiary of B&W) and a CPCo Project Testing Engineer, it was noted that the vendor wiring in the Emergency Core Cooling Actuation System (ECCAS) Cabinets 1C45 and 2C45 was inconsistent with redundant subsystem modules in the cabinets. In addition, a closer examination revealed that the wiring inconsistencies occurred in all four (4) Decay Heat Valve Automatic Closure Interlock (ACI) Trip Buffer Analog Subsystems in that each was wired differently. Also, the following Bailey-Meter Drawings for these modules do not agree with the internal cabinet wiring:

D8059388D Rev D D8059398D Rev D
D8059393D Rev D D8059403D Rev D

CPCo Project Testing identified the deficiency on Corrective Action Reports (CAR's) No's 1-SAA-I-004 and 2-SAA-I-005.

5. DISTRIBUTION

ACTION COPY:

DFJudd
B&W - Lynchburg, VA

INFO COPY:

VNAsgaonkar	BWMarguglio
RCBaker	DBMiller
RCBauman	MHRice
WRBird	RWShope
RBCherba	WHSpangler
JWCook	DATaggart
TCCooke(2)	DMTurnbull
MADietrich	JLWood
ROFrink	LHCurtis
IDGreen	JARutgers
GSKeeley	

13. QA RECOMMENDATION FOR PART CA:

1. Provide a complete review of the Bailey-Meter Drawings and a certification that they are corrected as necessary to the approved design drawings.

(Continued on Page 2)

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED:

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [X] NO [ ]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X] See Block 13 & 17	19. IF YES, DATE & TIME OF REPORT TO NRC: 11/17/80 4:30 PM
20. IF YES, WHO MADE REPORT TO NRC: WRBird & MJSchaeffer	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: RNSutphin, USNRC Region III

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: December 8, 1980 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE:
M.J. Schaeffer		RKeating 11-20-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP. DISP.:	31. SIG. OF TEST GROUP ACKNOWL. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
		N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M03-1-0-

38. QA ASSESSMENT OF ROOT CAUSE(S):

To be determined by B&W.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER B&W

41. QA RECOMMENDATION FOR PROCESS CA:

Provide a written report to Consumers Power Co by December 8, 1980. This is to support CPCo's commitment to provide either an interim or final 50.55(e) Report to the NRC by December 17, 1980. In addition to specific actions requested by other sections of this Nonconformance Report, this Report must include:

a) A description of the Nonconformance.

b) An analysis of the safety implications when the Item is not to be Reworked to conform to meet the criteria and bases stated in the Safety Analysis Report or Construction Permit.

(Continued on Page 3)

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-03-1-0-073
DATE: 11/19/80
DATE OF REV: N/A
FILE NO: 16.4.1
AI: S-450

13. QA RECOMMENDATION FOR PART CA:

(Continued from Page 1)

2. Perform a wiring verification to assure conformance with drawings and define what is required for wiring termination corrective action.

3. Evaluate whether Bailey-Meter Co should consider this reportable under 10CFR21.

4. Coordinate a repair/rework plan with Consumers Power Co to receive both Project Management and Quality Assurance approvals prior to any rework or repair.

5. Provide the necessary B&W Quality Requirements Matrix with the associated functional check-out of the modules as delineated by the B&W Specification M-1.32.

41. QA RECOMMENDATION FOR PROCESS CA:

(Continued from Page 2)

c) B&W's assessment of the root causes which allowed this equipment to have arrived on site containing the subject nonconformances.

d) The Corrective Actions taken and their corresponding effective dates.

e) The plans to assess other Bailey-Meter supplied equipment for similar conditions or justification as to why this is not necessary.

f) Sufficient additional information as may be necessary to permit an independent evaluation by NRC.

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

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AI S-453 PAGE 1 OF 2

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-074
Midland 1 & 2	FPW-6.000	In-process Measurement of Welding Amp/Volt	2. DATE: 11/20/80
9. SERIAL NUMBER:	10. ORG. CONCERNING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV: N/A
N/A	Bechtel Construction	All Q-listed Areas	4. FILE NO: 16.3.4

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Paragraph 7.1 of FPW-6.000 requires the Field Welding Engineer to make at least one volt/amp check of in-process welding each month in each building where Q-listed work is performed.

Contrary to the above, required inspections have not been performed by FWE because test equipment is currently being calibrated and has been out of service since September.

5. DISTRIBUTION:

ACTION COPY:
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TCCooke(2)
MADietrich
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JARutgers
DMTurnbull

13. QA RECOMMENDATION FOR PART CA:

1. Check out tong tester from calibration lab and perform necessary inspections as allowed in FPW-6.000.
2. Purchase additional equipment if necessary to assure compliance with procedure.
3. Alternate required calibration dates upon return of equipment so that all equipment is not due for calibration at the same time.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [ ] NOT REQUIRED [X]

14. HOLD TAGS APPLIED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: N/A

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: DEC 4, 1980 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE: DKKeating 11-20-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
30. FAB/CONST. SIG. AUTH. DEP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER M01-9-0-

38. QA ASSESSMENT OF ROOT CAUSE(S):

All equipment used was due for calibration at same time, and therefore, that test equipment was not available for field use. However, tong testers are available as a support piece of equipment and should be used.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

Stagger recalibration time period so that equipment used can be repaird, recalibrated and still be available for use as required.

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AT S-481 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-075
Midland 1 & 2	OC-10 OC-20	Evaporator Ctl Board Common Aux Vert Panel	2. DATE: 11/21/80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV: N/A
N/A	Magnetics	659' Elevation	4. FILE NO: 16.7

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Specification J-201 paragraph 7.2.1 states in part that all wire terminations (with certain exceptions) shall be made with solderless ring tongue compression type connectors. SDDR's 1382 and 1383 were issued to permit Magnetics to deviate from the specification because certain switches and fuses have saddle clamp terminals which is the recommended type of termination. No lugs were used on these types of terminations.

During overinspection of these Panels for Vendor Workmanship, it was discovered that when these unlugged wires were subjected to a firm tug to verify tightness to the termination as required by inspection

(Continued on Page 3)

5. DISTRIBUTION:

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TCCooke(2)
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HPLeonard
BWMarguglio
DBMiller
JARutgers

13. QA RECOMMENDATION FOR PART CA:

1. Investigate the remainder of the Control Panels for similar termination failures, evaluate and provide corrective action necessary to preclude repetition.
2. Provide direction to field for the repair of the discrepant wire terminations.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED:

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: 12/9/80 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE: RCM DRKeating 11-21-8

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMD SIG. AUTH. DISP.: N/A	28. PROCUREMENT SIG. CONC. DISP.: N/A	29. SIG. OF ORG. RESP. FOR C/A:
30. FAB/CONST. SIG. AUTH. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION: N/A	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.: N/A	33. QA AUTH. SIG. TO IMPLEMENT DISP.

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION
QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-0-075

ASSESSMENT OF ROOT CAUSE(S):

lors quality program failed to provide acceptable wire terminations.

TUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

PROCESS CA REQUIRED FROM:

ESIGN [X] FABRICATION [ ] CONSTRUCTION [ ] PROCUREMENT [X] INSPECTION [ ]

THER

A RECOMMENDATION FOR PROCESS CA:

Provide evidence that the vendor had implemented a detailed procedure and inspection plan for terminating wire with saddle clamp type connections and that the procedure and plan are part of the vendors Quality Assurance program.

Determine why the vendor's QA program and Bechtel's Procurement Supplier Quality Program did not detect the discrepancy.

PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-075
DATE: 11/21/80
DATE OF REV: N/A
FILE NO: 16.7
AI: S-481

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

(Continued from Page 1)

characteristic 1.4, some of the wires are pulling free. Approximately 30% of the Q-related terminations in the two subject panel sections were pull tested and 7 out of the approximately 500 tested pulled free. Lugged terminations were found satisfactory.

In Panel OC-20

0BV009-BA pulled out of CS/0BV009
0T16537B2-1X1 pulled out of 0T16537B2
0AB4504-8 pulled out of CS/0AB4504
0AB4509-1X1 pulled out of CS/0AB4509

In Panel OC-10

0AB6909-71 pulled out of CS/0AB6909
2AB6304-61 pulled out of CS/2AB6304
1BB6404-9 pulled out of CS/1BB6404

NOTE: Termination crew noted similar problems during panel modification.

Start UP System: 1980, 2006

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-482 PAGE 1 OF 2

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-076
Midland 1 & 2	Spec E-46 & Field P.O. F-24077	Current Transformers	2. DATE: November 20, 1980
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Construction & Bechtel Engineering	Aux Blgs Elevation 614' and 634'	N/A
			4. FILE NO: 16.3.1 16.3.4

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Form G-321-D of Specification E-46 requires the submittal of seismic data and electrical tests by the vendor.

Contrary to the above requirement, there is no evidence that the data and test reports have been submitted for the RCP current transformers.

5. DISTRIBUTION

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BWMarguglio
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ESmith
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VManta
RCAsh

13. QA RECOMMENDATION FOR PART CA:

1. Construction to obtain the required data and test reports required by the G-321-D form.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 32 - Elect Penetration Area 3, Elev 614' & 628', Units 1 & 2

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]

17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]

18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]

19. IF YES, DATE & TIME OF REPORT TO NRC: N/A

20. IF YES, WHO MADE REPORT TO NRC: N/A

21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY: R. Yee

23. WRITTEN REPLY REQUIRED BY: December 19, 1980 TO ESTABLISH CA COMPLETION DATE

24. SUPERVISOR'S SIGNATURE/DATE: RCH DRKeating 11-21-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
N/A	N/A	N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER M01-9-0-

36. QA ASSESSMENT OF ROOT CAUSE(S):

No method established in field to assure that Engineering documents per Form G-321-D for field procured "Q" material have been reviewed and approved prior to shipment of material.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [ ]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

1. Construction to determine if other field purchase orders are affected and take the necessary corrective action.
2. Construction to establish procedure to assure that Engineering drawings per G-321-D for field procured "Q" non-bulk material are submitted and approved by Project Engineering.
3. Project Engineering to determine why component qualification review (Ref MCAR-25) did not pick up deficiency and provide corrective action to preclude repetition.

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

Start Up System: 1PEA

Consumers Power Company

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI S-484 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO:
Midland 1 & 2	1G-11X, 1ABA001	D-G Neutral Grounding Resistor & Conduit	M-01-9-0-077
			2. DATE: 11/24/80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Construction Bechtel QC	Diesel Generator Bay 2 West Wall 650' Elev	N/A
			4. FILE NO: 16.3.4 16.3.6

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Per Delta Switchboard Drawing No D55502-5 Sh 5 (7220-M18-138-10) the entrance bushing is located on the upper section of the screen (see detail on sheet 3).

Spec 7220-M18(Q) Rev 6, Page 52, Para 5.2.10.b states, "Neutral grounding resistor enclosure shall be complete with wall-mounting supports and removable safety screens."

With the as-built condition of the conduit, the cable cannot be terminated on the high voltage bushing lugs located outside the enclosure. The screen is no longer removable in the as-built condition.

This nonconformance also affects 1G-12X(1BBA001), 2G-12X(2BBA001), 2G-11X(2ABA001).

5. DISTRIBUTION

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DMTurnbull
JARutgers
DATaggart
JLWood

13. QA RECOMMENDATION FOR PART CA:

1. Construction to rework installation as determined by Engineering.
2. Engineering to provide detail of how conduit is to be installed.
3. Engineering to evaluate present conditions to determine if there are any seismic effects due to the faulty installation.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [X] NO [ ] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: 4, Neutral grounding resistor boxes

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY:	24. SUPERVISOR'S SIGNATURE/DATE:
Larry D Seaman	December 15, 1980 TO ESTABLISH CA COMPLETION DATE	DR Keating 11-25-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
	N/A	N/A	
30. FAB/CONST. SIG. AUTH. DISP. DISP.:	**31. SIG. OF TEST GROUP ACKNOW. CONDITION:**	**32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:**	**33. QA AUTH. SIG. TO IMPLEMENT DISP.:**
	N/A	N/A	

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-0-

38. QA ASSESSMENT OF ROOT CAUSE(S):

Construction proceeded with installation without any drawings or details to justify installation relative to the one described.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [ ]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

Construction personnel should be trained not to proceed with an installation without Engineering approved drawings or details to justify the installation.

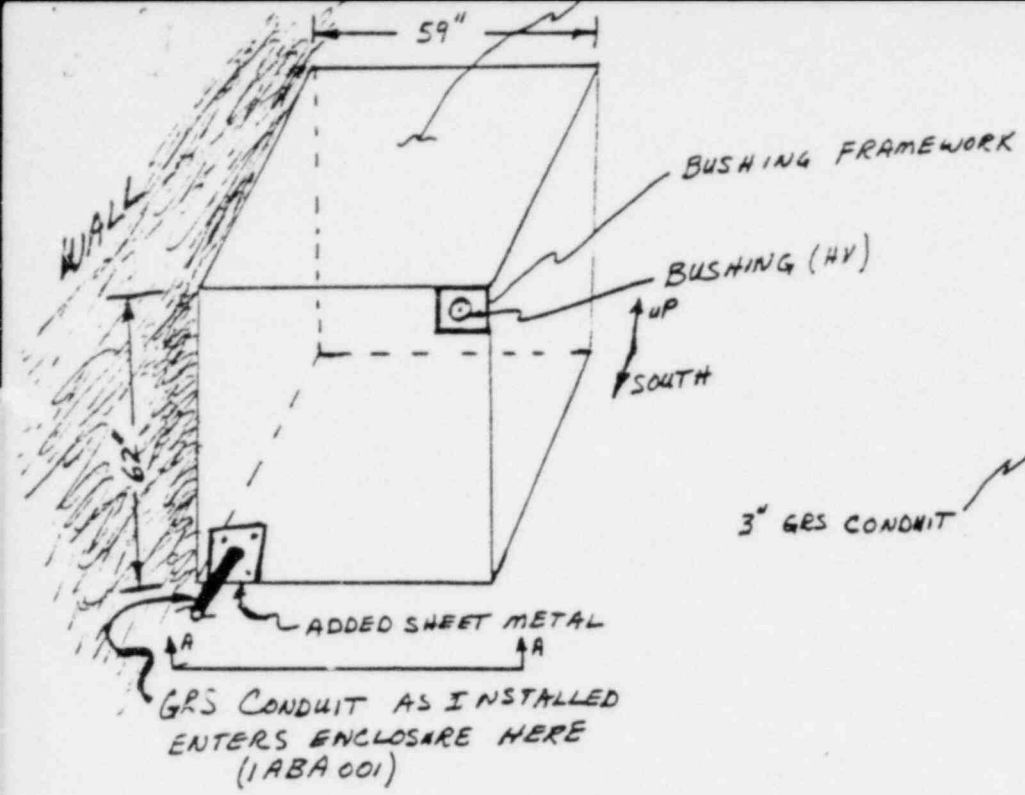
42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

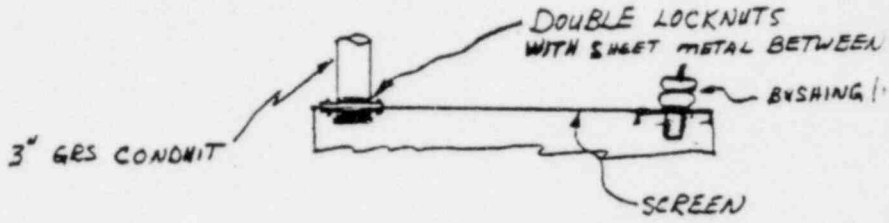
44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NCR SERIAL NO: M-01-9-0-077
DATE: 11/24/80
DATE OF REV: N/A
FILE NO: 16.3.4, 16.3.6
AI: S-484



DETAIL



VIEW A-A

Consumers Power Company
BA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AI: S-492 PAGE 1 OF 3

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-0-078
Midland	2P58A	RCS Makeup Pmp	2. DATE: 11/26/80
9. SERIAL NUMBER:	10. ORG. CONCERNING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
N/A	Bechtel Construction	Aux Bldg Elev 599'0"	N/A
			4. FILE NO: 16.3.4.6

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Tech Spec 7220-M1.16-15-1 states in part, "If the machine is not packaged (from the factory) for long-term storage and is not put into service immediately, certain precautions should be taken to protect it. During storage, all louvered, screened and other openings should be sealed with tape or waterproof paper to prevent entry of dust, dirt and other foreign material."

NOTE: If at all possible, place the motor under cover in a clean, dry location.

FPG-7.000 Rev 0, Para 7.7.g states in part, "Permanent material or

(Continued on Page 3)

5. DISTRIBUTION

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BWMarguglio
DBMiller
JARutgers
DMTurnbull

13. QA RECOMMENDATION FOR PART CA:

Inspect and megger motor to determine if motor was damaged by the removal of terminal lug. Relug cable by an approved procedure. Clean all foreign material from motor and terminal box, replace covers and protect from nearby construction activities.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [ ] NOT REQUIRED [X]

14. HOLD TAGS APPLIED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED:

15. IS PROCESS CA REQUIRED: YES [ ] NO [X] IF NO, ENTER JUSTIFICATION BELOW: The condition described is considered to be isolated to this motor only.

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [Y]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: N/A
20. IF YES, WHO MADE REPORT TO NRC: N/A	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: 12/12/80 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE: DRKeating 11-26-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

26. DESIGN/PROJECT SIG. AUTH. DISP.: N/A	27. PMO SIG. AUTH. DISP.: N/A	28. PROCUREMENT SIG. CONC. DISP.: N/A	29. SIG. OF ORG. RESP. FOR C/A:
30. FAB/CONST. SIG. AUTH. IMP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION: N/A	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.: N/A	33. QA AUTH. SIG. TO IMPLEMENT DISP.

34. METHOD OF PART CA VERIFICATION:

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M01-9-C-

38. QA ASSESSMENT OF ROOT CAUSE(S):

N/A

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROC. $ CA):

N/A

40. PROCESS CA REQUIRED FROM:

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER N/A

41. QA RECOMMENDATION FOR PROCESS CA:

N/A

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

N/A

43. METHOD OF PROCESS CA VERIFICATION:

N/A

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:	45. PROCESS CA COMPLETION VERIFIED BY/DATE:
N/A	N/A

NCR SERIAL NO: M-01-9-0-078
DATE: 11/26/80
DATE OF REV: N/A
FILE NO: 16.3.4.6
AI: S-492

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

(Continued from Page 1)

equipment located in work areas shall be protected, if necessary, by coverings in order to provide protection from operations within or conditions associated with the area which would impair the integrity of the material or equipment."

Contrary to the above, the terminal box attached to the motor of 2P58A has the covers off of two sides, exposing the interior to trash buildup and construction dust. Also, one of the motor leads has the terminal removed, making the condition of the motor and its windings indeterminate.

Consumers Power Company

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-9-9-003
Midland 1 & 2	NA	NA	2. DATE: 1-11-79
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV: NA
NA	Bechtel QA	NA	4. FILE NO: 16.3.5

12. AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

Section III, No 11 Rev 3-E, paragraph 3.2.11 of the Bechtel NQAM states that, "Field procedures and instructions shall provide for forwarding a copy of quality surveillance reports to the Project Field QC Engineer".

The above requirement was identified as nonconforming in QAR SD-45 and 64 dated 9-29-77 and 1-24-78 respectively and appropriate corrective action verified on 1-30-78 and 7-14-78 respectively. Contrary to the above corrective action completion, there is no field procedure prepared to date to include the above referenced requirement.

13. QA RECOMMENDATION FOR PART QA:

Implement Section III, No 11 Rev 3-E, paragraph 3.2.11 of the Bechtel Nuclear Quality Assurance Manual

DESIGN/PROJECT ENG. DISPOSITION REQUIRED: [ ] NOT REQUIRED [X]

5. DISTRIBUTION

ACTION COPY:

LADreisbach

INFO COPY:

WRBird	RBCherba
TCCooke (2)	JWCook
~~JLCorley~~	GSKeeley
~~SHHowell~~	HPLeonard
BWMarguglio	JARutgers
~~PAMartinez~~	
JMilandin	
DBMiller	
~~RLSouthon~~	
DATaggart	

14. HOLD TAGS AFFIXED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS AFFIXED: NA

15. IS PROCESS QA REQUIRED: YES [ ] NO [X] IF NO, ENTER JUSTIFICATION BELOW:

Past reviews of Bechtel NCR's, QAR's, etc, indicate this is a single occurrence.

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: NA
20. IF YES, WHO MADE REPORT TO NRC: NA	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: NA

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: 1-26-79 TO ESTABLISH QA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE:
W J Dickson Jr. 1/11/79		R L Southon per telephone 1/11/79

25. PART QA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

See Bechtel Letter LAD-1689, dated 8/13/80.

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF QAC. RESP. FOR C/A:
NA	NA	NA	See Letter LAD-1689 dated 8/13/80
30. PAR/CONST. SIG. AUTH. DP. DISP.:	31. SIG. OF TEST GROUP ACTION. CONDITION:	32. FOR WASTE MGR - FLD. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
NA	NA	NA	R E Whitaker

34. METHOD OF PART QA VERIFICATION:

NQAM revision 6-A verified.

35. SIG. OF ORG. DISP. / PART A SIGNATURE/DATE:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL DATE:	37. NCR CLOSED BY/DATE: (PART A PROCESS QA COMPLETE)
See JMilandin signature on NQAM Sect III No 11 Rev 6A	R E Whitaker 11/7/80	R E Whitaker 11/7/80

Document Control (1141-73*10*03)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

M-01-9-9-003

NCR SERIAL NUMBER: ____

36. QA ASSESSMENT OF ROOT CAUSE(S):

NA

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

NA

40. PROCESS CA REQUIRED FROM: NA

DESIGN ☐ FABRICATION ☐ CONSTRUCTION ☐ PROCUREMENT ☐ INSPECTION ☐

OTHER: _____

41. QA RECOMMENDATION FOR PROCESS CA:

NA

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

NA

43. METHOD OF PROCESS CA VERIFICATION:

NA

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

NA

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

NA

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

August 13, 1980

Consumers Power Company
1945 West Parnall Road
Jackson, MI 49201

Attention: W. R. Bird

Job 7220 Midland Project
CPCo NCR M-81-9-9-003
LAD-1689 Action Item 546

Dear Mr. Bird:

Reference: Bechtel Letter LAD-818, dated 4/16/79,
L. A. Dreisbach to J. L. Corley.

The subject NCR concerns a Bechtel NQAM requirement that has not been implemented.

Section III, No. 11, Paragraph 3.2.11 of the NQAM requires that a field procedure or instruction provide for forwarding a copy of quality surveillance reports to the PFQCE.

Although an information copy of the quality surveillance reports is being routed to the PFQCE, no field procedure/instruction exists requiring this submittal.

Since Quality Control receives no direction or action from quality surveillance reports, it is not necessary to require forwarding these reports to the PFQCE. Therefore, Paragraph 3.2.11 of Section III, No. 11 of the NQAM will be deleted in Revision 6-A, to be issued 8/15/80.

This is considered a complete response to the subject NCR. If there are concerns and/or clarification is needed, please contact R. C. Hollar of this office.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance
Engineer

JLC	
DRK	DRK
RGW	
HPL	
XREW	
FILE	V6.3.5

LAD/RCH/sjc

cc: J. Corley
B. Marguglio
D. Miller

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

April 16, 1979

Consumers Power Company
P.O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR M-01-9-9-003
LAD: 818 Action Item: 546

Dear Mr. Corley:

The subject NCR concerns a Bechtel NQAM requirement that has not been complied with.

Section III, No. 11 para. 3.2.11 of the NQAM requires that a field procedure or instruction be provided for forwarding a copy of quality surveillance reports to the PFQCE.

Although the quality surveillance reports have been routed to the PFQCE, no field instructions exist.

In response to the subject NCR the following actions have or will be taken:

1) The Project Field Quality Control Engineer (PFQCE) has been placed on the Project Master Distribution List for one (1) copy of all Quality Surveillance Reports pertaining to the Midland Project.

2) Section III, No. 11 para. 3.2.11 of the NQAM will be revised to reflect 1) above.

3) QARs SD-45 and SD-64, which identified the subject concerns, had been prematurely closed without all items being implemented. These QARs have been revised. All items addressed by the QARs have been properly closed out.

JLC	
DRK	
RGW	
PRK	
XLWFD	W
QE	
FILE	

A final response to the subject MCR will be issued upon revision of Bechtel's NQAM Section III, No. 11 para. 3.2.11.

If further assistance and/or clarification is necessary please contact the writer.

Very truly yours

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/RCH/bjc

cc: W. Bird
B. Marguglio

Start Up System: 2-BGC

Consumers Power Company

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

PAGE 1 OF 4

6. PROJECT NAME:	7. NONCONFORMING PART ID:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-7-9-098
Midland	NA	4" Sch 160 SS	2. DATE: 9-12-79
3. GENERAL NUMBER: 2CCB-6-604-8-2 MR-62-31X	10. REC. CONTRACTOR NO: Grinnell	11. AREA/DEPT. OF NC: A.B.	5. DATE OF DET: Closed 11/10/80
			4. ITEM ID: 16.3.4, 16.3.6

12. AS IT NONCONFORMING CONDITION VERSUS AS REQUIRED CONDITION WAS DETD:

1. Spool piece, under examination (visual & PT) exhibited linear indications.

   a. Subject indications place the spools in an indeterminate status.

9. DISTRIBUTION ACTION COPY:

LADreisbach

INFO COPY:

~~WEbarclay~~	WGMoring
WRBird	JFNewgen
TCCooke(2)	JARutgers
~~JLGorley~~	~~RASimanek~~
~~RHermesten~~	DATaggart
~~SIHowell~~	JWCook
~~DRJohnsen~~	RBCherba
GSKeeley	HPLeonard
BWMarguglio	ESmith
JMilandin	DLDaniels
DBMiller	

13. CA RECOMMENDATION PER PART 21:

1. Attach hold tags on pieces (same ht number) remaining.
2. Stop work on pieces (same ht number) being worked in the field. (Contd on Page 3)

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [ ] NO [X] REMOVAL, LOCATION & TYPE OF HOLD TAGS APPLIED: NA

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]

17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X] *

18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]

19. IF YES, DATE & TIME OF REPORT TO NRC: NA

20. IF YES, WHO MADE REPORT TO NRC: NA

21. IF 21A, NAME OF NRC OFFICIAL TO WHOM REPORTED: NA

22. NCR ORIGINATED BY: F.C. Hamell 9-12-79

23. WRITTEN REPLY REQUIRED BY: 9-26-79
TO ESTABLISH CA COMPLETION DATE

24. SUPERVISOR'S SIGNATURE/DATE: D.R. Keating 9-12-79

25. PART CA DESCRIPTION, IMPLEMENTATION & COMPLETION DATE:

1. Attach hold tags on pieces (same ht number) remaining.

   A. Subject pieces were identified with hold tags via BPCo NCR 2565.

(Contd on page 3)

26. DESIGN/PROJECT DOC. AFFEC. DISP.: LAD-1310 AI S-055	27. 2ND DOC. AFFEC. DISP.: N/A	28. PROCUREMENT DOC. AFFEC. DISP.: N/A	29. DOC. TO BE REV. FOR CA: LAD-1310 AI S-055
30. FAB/CONST. DOC. AFFEC. DISP.: LAD-1310 AI S-055	31. DOC. TO BE REV. AFTER CORR. ACTION COMPLETED: N/A	32. FOR MAINT. YES - FULL DISP. DOC. AFFEC. DISP.: N/A	33. CA AFFEC. DOC. IS DOCUMENT DISP.: F.C. Hamell

34. SUMMARY OF PART CA IMPLEMENTATION:

Reviewed documents discussed in Block 25.

35. DOC. REV. FOR PART CA IMPLEMENTATION COMPLETED: LAD-1310 AI S-055	36. PART CA & SELF CHK APPROVAL DATE: F.C. Hamell 11-10-80	37. APPROVED BY, DATE: (QA) & PROJECT CA COMPLETE: F.C. Hamell 11-10-80

*Block 17: Determination of reportability will be made as a result of the items in Block 13.

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

M-01-4-9-098

18. QA ASSESSMENT OF ROOT CAUSE(S):

Unknown, to be determined.

19. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

See Block 25.

20. PROCESS CA REQUIRED FROM:

DESIGN [ ] FABRICATION [X] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [X]

OTHER

21. QA RECOMMENDATION FOR PROCESS CA:

Unknown, to be determined.

22. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 21 & DATE OF COMPLETION:

See Block 25.

23. METHOD OF PROCESS CA VERIFICATION:

See Block 25.

24. NAME OF ORG. RESPONSIBLE FOR PROCESS CA VERIFICATION COMPLETION:

LAD-1310 AI-S-055

25. PROCESS CA COMPLETION VERIFIED BY/DATE

F R Hamlet 11-10-80

NCR SERIAL NO: M-01-4-9-098
DATE: 9-12-79
DATE OF REV: Closed 11/10/80
FILE NO: 16.3.4, 16.3.6

13. QA RECOMMENDATION FOR PART CA:

(Contd from Page 1)

3. Determine length and depth of indications in the subject spool piece.

4. Determine probable cause of indications.

5. Determine generic implications.

6. Provide technical justification for use-as-is or rejection.

7. Determine safety aspect of defects to determine reportability.

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

(Contd from Page 1)

2. Stop work on pieces (same ht number) being worked in the field.

   A. NCR-2565, in statement above, stopped work, however, on 12/4/79 a conditional release (CR) was released to allow continued installation of the pipe. The CR was granted because corrections or removal could be accomplished without causing damage or contamination to associated plant equipment or structures.

3. Determine length and depth of indications in the subject spool piece.

   A. The minimum wall thickness found under an imperfection was 0.471 inches. The minimum wall thickness allowed is 0.465 inches. This information was provided by BPCo. M&QS Metallurgical Laboratory Report (dtd 9/15/80).

4. Determine probable cause of indications.

   A. A metallurgical examination identified the indications as hot tears which are associated with normal difficulties in hot working type 316 austenitic stainless steel.

5. Determine generic implications.

   A. The metallurgical examination identified the linear indications as hot tears resulting from the normal difficulties encountered in hot working type 316 material into the final tube form. The depth of the imperfections does not violate the design and minimum wall thickness limitations and they are not significant as stress raisers because of the notch toughness of austenitic stainless steel.

NCR SERIAL NO: M-01-4-9-098
DATE: 9/12/79
DATE OF REV: Closed 11/10/80
FILE NO: 16.3.4, 16.3.6

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

(Contd from Page 3)

6. Provide technical justification for use-as-is or rejection.

   A. The investigation determined that the linear indications were manufacturing imperfections of a type which is normal for type 316 austenitic stainless steel seamless pipe and of a depth which is within acceptance limits for both ASME III, Class 2 piping systems and the design wall thickness requirements. The examination report recommends to use as is. This is considered satisfactory.

7. Determine safety aspect of defects to determine reportability.

   A. The depth of the imperfections does not violate the design and minimum wall thickness limitations and they are not considered significant as stress raisers because of the notch toughness of austenitic stainless steel. The minimum wall thickness allowed by SA-312 is 0.465 inches and project engineering has calculated a minimum design wall thickness requirement of 0.350 inches. The minimum wall thickness found under an imperfection was 0.471 inches (0.526 less 0.055). While not required, the fabricator provided the results of ultrasonic testing using a five percent notch calibration standard. There were no rej ctable UT indications in this heat of material. Additionally, there was approximately seventeen (17) feet of this pipe examined by the ultrasonic (UT) method on site. The UT examination procedure used was demonstrated to detect indications in excess of the requirements of NB 2552.2 and the examination personnel were certified to the requirements of SNT-TC-1A. This UT examination did not produce any rejectable indications.

Based on the foregoing, it is concluded that this condition is not reportable as defined by 50.55(e). The conclusion of the report to "use as is" is considered satisfactory.

Bechtel National, Inc.

Interoffice Memorandum

To L. H. Curtis w/a

Subject Failure Analysis Report
Evaluation of Linear Indications on the Inside Wall of a Piping Subassembly from the Makeup and Purification Line
Midland Units 1 & 2
Job No. 7220-001, File: 7220-Mechanical

Copies to
J. O. Abel w/a
S. DasGupta w/a
L. E. Davis w/a
L. A. Dreisbach w/a
B. D. Hackney w/o
E. M. Hughes w/a
D. J. Puchy w/o
M. O. Rothwell w/o

Date September 25, 1980

From R. F. Steigerwald (RFS-090-09)

Of R&E/Materials & Quality Servic

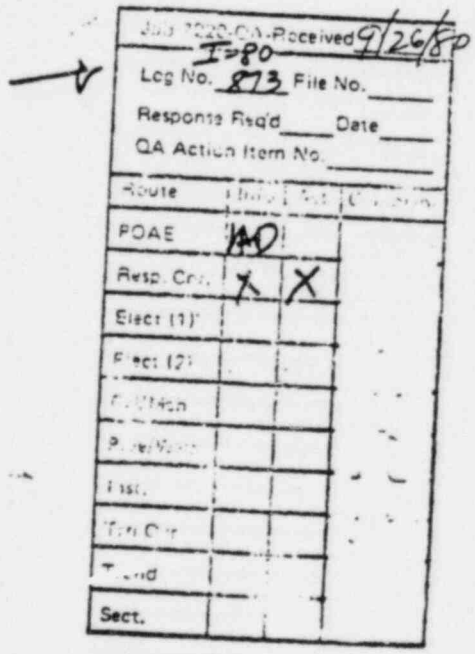
At Ann Arbor Office
9(B)3
Ext. 7001

REFERENCE: Quality Problem Response Request QA Action Item S-055, dated 7/16/80

The subject report has been revised to respond to the Quality Problem Response Request. Please let us know whether the revision meets your needs. Please note that the cover letter for the report is an essential part of the answer to the QPRR.

R. F. Steigerwald
R. P. Steigerwald

RFS:ddb



11569

Bechtel National, Inc.
Engineers — Constructors

Fifty Beale Street
San Francisco, California
Mail Address: P. O. Box 3965, San Francisco, CA 94119

To: R.F. Steigerwald (6)

Date: September 19, 1980

Subject: Revision to Report, Evaluation of Linear Indications on the Inside Wall of a Piping Subassembly from the Makeup and Purfication Line. Midland Project Units 1 &2 - Job No. 7220-001

From: G. R. Schmidt (090-02)

Of: R&E/M&QS

At: 50/16/D1 x5380

Copies to: J. E. Drennan w/a
B. D. Hackney/R. A. Manley w/a
P. J. Herbert w/a
B. H. Macleod w/a
R. A. White w/a
DCC (529154)
Failure Analysis File
BLN 979-14

Ref: Quality Problem Response Request, QA Action Item S-055, dated 7/16/80

Transmitted with this IOM are six (6) copies of a revision which supersedes the original Failure Analysis Report, dated 1/4/80 covering the Evaluation of Linear Indications on the Inside Surface of a Piping Subassembly. The report presents conclusions and details of the evaluation of the piping indications.

The report is limited to the evaluation of an 18 inch long sample taken from a spool section 12 feet in length. Recently the project reported that similar indications were also found in the balance of the spool and questioned if this information would affect the results of the original report.

It is not expected that the hot tears would vary significantly in a 12 foot spool and the additional indications in the original spool section which appear similar to those shown in this report, may also be considered harmless provided the material is within the minimum wall thickness limits of both ASME III, Class 2 piping and the design specifications.

The report has been modified to include a reference to the balance of the material in the spool.

All recipients of the original transmittal are instructed to destroy the original copy and retain the revision for their information.

GR Schmidt

G. R. Schmidt

GRS/CDP/cbs

11573

BECHTEL NATIONAL, INC.
SAN FRANCISCO, CALIFORNIA
JANUARY 4, 1980
SEPTEMBER 15, 1980; REV.1*

Project Number: 7220-001, Midland Units 1 & 2

Title: Evaluation of Linear Indications on the Inside Wall of a Piping Subassembly from the Makeup and Purification Line (Revision 1)*

Prepared For: W. B. Keyser

By: J E Brennan for S A Agnew
S. A. Agnew

Approved By: G R Schmidt
G. R. Schmidt
Metallurgical Engineering and Laboratory Services Group Manager

Approved By: B. D. Hackney
B. D. Hackney
Assistant Manager

MATERIALS AND QUALITY SERVICES DEPARTMENT
RESEARCH AND ENGINEERING

Log No. 628157
BLN No. 979-14
Log No. [illegible]915 Rev.1;
9/15/80
*Supersedes Report of 1/4/80.

TABLE OF CONTENTS

INDEX OF ILLUSTRATIONS

ABSTRACT

An 18 inch length of four inch diameter Schedule 160 ASME SA312 Type 316 seamless austenitic stainless steel pipe was submitted to the M&QS Laboratory to determine the cause of linear indications on the inside surface. A metallurgical examination identifies the indications as hot tears which are associated with normal difficulties in hot working Type 316 austenitic stainless steel. It was determined that the depth of the indications did not violate either the minimum design thickness or the minimum allowable wall thickness permitted by the material specification. Because of the toughness of austenitic stainless steel, the indications would not be expected to propagate.

I. INTRODUCTION TO THE PROBLEM

A visual examination at the Midland jobsite noted linear indications on the inside surface of a piping subassembly for the makeup and purification line. This line is part of an ASME Section III Class 2 system. The design wall thickness is 0.350 inch. The 18 inch sample length (between the end preparation and the first girth weld) containing the indications is seamless pipe, four inch nominal pipe size, Schedule 160 (0.531 inch nominal wall thickness) of SA312 Type 316 austenitic stainless steel. A liquid penetrant examination revealed numerous indications. A shear wave ultrasonic examination was made in the field and it was determined that the indications were 0.10 inch deep. Later, this report was verbally withdrawn because the ultrasonic equipment had been improperly calibrated using a mild steel calibration block. A radiographic examination was made in the field and showed faint indications.

Field personnel attempted to grind out two of the indications. Grinding was discontinued at a depth reported as 0.053 inches because the metal was "smearing" and it was desired to preserve the indications for laboratory analysis. A liquid penetrant examination in the ground area showed that the indications were still present. The 18 inch length of pipe was then cut from the piping subassembly and sent to M&QS along with a copy of nonconformance report number M-01-4-9-098. The sample was reported to be representative of a spool section containing approximately 12 feet of pipe. The spool reportedly contained several additional areas which showed similar indications. These areas were examined and evaluated by the field personnel. At a later date, field quality assurance personnel reported that there were 17 other piping subassemblies containing approximately 106 feet of pipe from the same heat (M9290) of material but that no indications were observed visually. The field also relayed a report from ITT Grinnell who supplied the subassemblies that the pipe had been made by Babcock and Wilcox using the "piercing" (Mannesman Mill) method.

II. SUMMARY AND CONCLUSIONS

The metallurgical examination identified the linear indications as hot tears resulting from the normal difficulties encountered in hot working Type 316 material into the final tube form. The lengths of the individual indications overlap to form a band about one inch wide which spirals slightly as it runs along the 18 inch length of pipe. The indications run parallel to the flow lines created during forming. The flow lines develop when the center of the ingot is pierced and expanded out to form the inside wall of the pipe. A local weakness to hot deformation (see Section V) in the centerline of the ingot resulted in hot tearing of the surface during the expansion process. The ingot centerline weakness appears to be localized as the indications vary in depth and fade toward the welded end of the sample and because the jobsite personnel reported that other than the indications in the original spool section, no additional indications were detected visually in the remainder of this heat of material at the jobsite.

The depth of the imperfections does not violate the design and minimum wall thickness limitations and they are not significant as stress raisers because of the notch toughness of austenitic stainless steel

Project specification 7220-M-201/8/1-4-78 requires compliance to ASME III, Division 1, Class 2 and to material specification SA-312 TP316. The minimum wall thickness allowed by SA-312 is 0.465 inches and project engineering has calculated a minimum design wall thickness requirement of 0.350 inches. The minimum wall thickness found under an imperfection was 0.471 inches (0.526 less 0.055). Specification SA-312 requires that the surface shall be free from injurious defects and shall have a workmanlike finish. ASME III, Division 1, Class 2 references SA-655, Class 2 which adds no requirement for nondestructive examination. While not required, the fabricator provided the results of ultrasonic testing using a five percent notch calibration standard. There were no rejectable UT indications in this heat of material.

III. RECOMMENDATIONS

It is recommended that the response to the nonconformance report state that the piping subassembly is usable as found. The investigation determined that the indications were manufacturing imperfections of a type which is normal for Type 316 austenitic stainless steel seamless pipe and of a depth which is within acceptance limits for both ASME III, Class 2 piping systems and the design wall thickness requirements.

IV. MATERIAL

The certified material test report (CMTR) verifies compliance to the requirements of ASME II (Summer 1973) for SA-312 TP316 and of ASME III (Summer 1973) for Class 2 materials (NC-2000). The content of the low melting point residuals (sulphur and phosphorus) and of manganese (which scavenges the sulphur as the low melting point MnS) was of interest. The CMTR lists four heats of material. This heat (M9290) contains 0.022 to 0.025 percent S versus 0.022, 0.023 and 0.026 percent. The content of manganese is 1.46 to 1.47 percent versus 1.75 to 1.76, 1.89 to 1.91 and 1.93 to 1.98 percent. While all values are acceptable, the indication of this small sample of four heats shows that heat M9290 is above average relative to content of low melting point constituents.

V. DISCUSSION OF PROBLEM

Localized surface tears may occur during the hot working of Type 316 austenitic stainless steel because of any one of the several metallurgical situations discussed below. Hot tears on the surface of austenitic stainless steel are not forge welded shut during subsequent working due to the rapid formation of a refractory oxide in the tears.

Hot tearing of the grain boundaries can result because of the rapid rate of grain growth at the hot working temperature. Successful hot working depends on a deforming schedule which reduces the size of the grains. During the solidification of the ingot, the crystals (grains) nucleate in the liquid and grow in the solid state while the contaminants, which solidify at a lower temperature, remain in the liquid state. The contaminants are trapped between the grains during solidification.

These low melting point grain boundary areas in the solid are the weakest constituents at hot working temperatures. The degree of weakening of the material is dependent on the degree of segregation of the contaminants. In very fine grained material, the fixed amount of contaminants is spread over the very extensive grain boundary network and they have minimal effect. Grain growth decreases the extent of the network, thus increasing the effectiveness of the contaminents in weakening the grain boundaries.

The boundary between phases of a two phase microstructure is also a weak location under hot working conditions. Austenitic stainless steel is normally a single phase (austenite) material; however, molybdenum favors the formation of some ferrite at the hot working temperature. The second phase commonly occurs at the grain boundaries where its weakening effect is at a maximum.

Planes of weakness in the ingot are created during ingot solidification. Crystals growing perpendicular to the mold walls form these planes of weakness at the intersections of the crystalline fronts. Austenitic stainless steels have a pronounced tendency to produce this pattern of crystal formation in the mold. The degree of weakness is at a maximum where the most planes intersect. The maximum number of planes intersect where crystals growing from the bottom meet crystals growing from all four sides. This phenomenon is sometimes termed "ingotism".

A central line of weakness occurs near the top of the ingot during final solidification. Lateral solidification shrinkage produces a centerline cavity into which liquid is forced by the head of molten metal above. With decreasing head, the tendency to leave a string of voids increases. This is the lower limit of the centerline cavity termed "piping" and sometimes may neither be cropped off nor forge welded shut during hot reduction of the ingot.

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In summary it appears that the linear indications originated at the ingot centerline which became the internal surface of the pipe when the ingot was hot pierced and expanded into the tube form. The ingot centerline was spread over the internal pipe wall to become a band. The spiral path of the band is due to the skewed arrangement of the rolls in a piercing mill. The ingot is forced to flow over a mandrel in a helicoidal direction due to this roll arrangement. The source of the observed indications could be caused by any one of the above situations but was probably due to ingotism near the bottom or piping near the top of the ingot since only a short length of tubing appears to be affected.

VI. DETAILED RESULTS OF THE METALLURGICAL EVALUATION

All data marked on the sample was recorded during a visual examination. The indications observed visually formed a band about one inch wide running spirally along the inside surface of the sample. The indications were more prominent at the beveled end than at the welded end. The entire inside of the pipe had been dressed by grinding. The 18 inch long sample was cut into an 8-1/2 inch length at the welded end and a 9-1/2 inch length at the beveled end. Each section was then split longitudinally with the band of indications essentially centered on one half of each section. A closer examination, see Figure 1, indicated that typical hot working imperfections such as tears or seams had produced the indications. Figure 2 shows the indications for the 18 inch length (during liquid penetrant examination) and illustrates how they tend to fade toward the welded end. Figure 3 shows the grinding done in the field. Note that the visual indications remaining due to smearing in the bottom of the grindout are very prominent in contrast to the liquid penetrant indications shown in Figure 2 (b). The pipe wall thickness, away from the weld and bevel, varied from 0.524 to 0.542 inches.

A liquid pentrant examination of the pipe surfaces disclosed little more than the visual examination. A lap 1/2 inch long by 0.020 inch deep was found on the outside of the pipe, diametrically opposite to the band of indications.

An examination of etched surfaces under oblique lighting showed that the indications run parallel to the flow lines formed during hot working. Figure 4 (a) shows the section closest to the beveled end after etching and illustrates the parallel relationship of the tears with hot work flow lines in a cross-sectional view. Figure 4 (b) is an etched section of the inside wall surface of the length at the welded end and shows the parallel relationship with hot work flow lines in plan view. This relationship holds for all sections viewed. Also, the oxides in the tears in two sections were subjected to energy dispersive x-ray analysis. The peaks produced were for iron, chromium and nickel indicating that the oxides filling the laps is scale formed during hot working. The relationship of the tearing to the grain boundaries was obliterated by scaling except at the point of the deepest penetration, in some cases. In those cases, the oxidation followed an intergranular path.

The maximum depth of the tears was measured at six locations as was the depth at the grindout cavity made by the jobsite. At the grindout, false liquid penetrant indications due to smeared metal may have prompted grinding to a depth greater than the actual tears. No tears were found when a cross section of the cavity was examined. The grindout has the deepest dimension. If the depth of grindout and of the deepest indication are the same, the maximum indication depth would be 0.055 inches. The deepest tear would be 10.4 percent of nominal wall thickness whereas 12.5 percent is allowed by material specification SA312. The deepest tear measurement of 0.050 inches was found on the section closest to the beveled end (9.5 percent). The next highest reading found was 0.034 inches (6.4 percent).

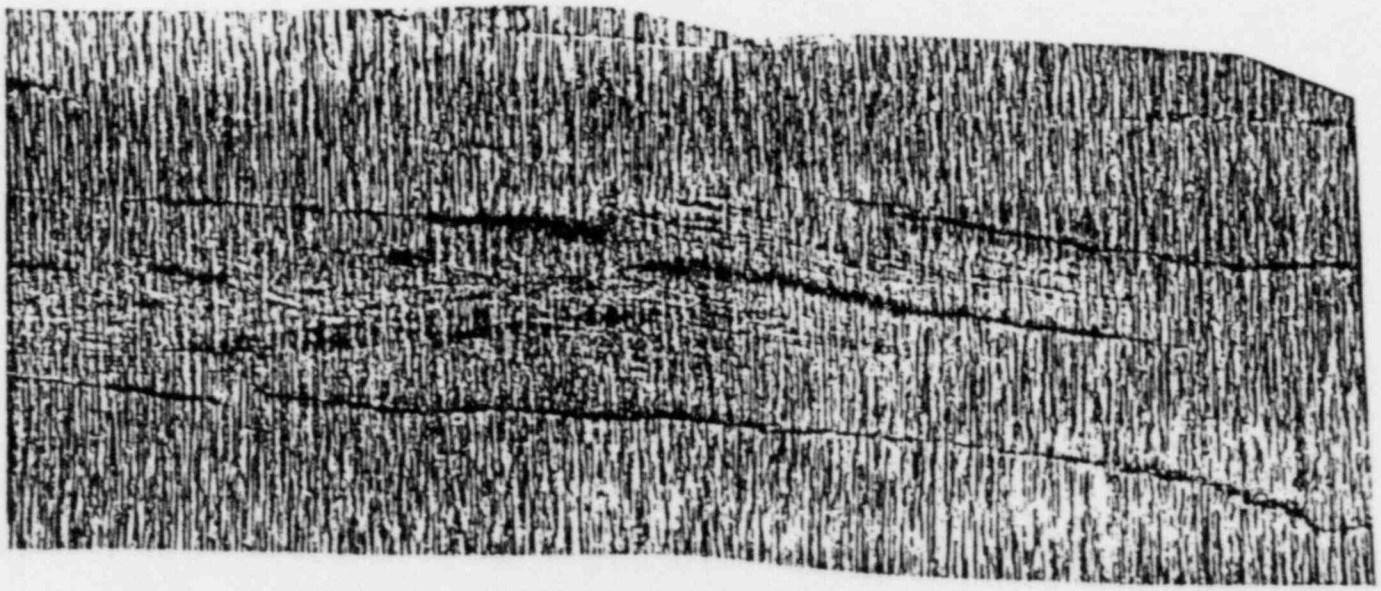
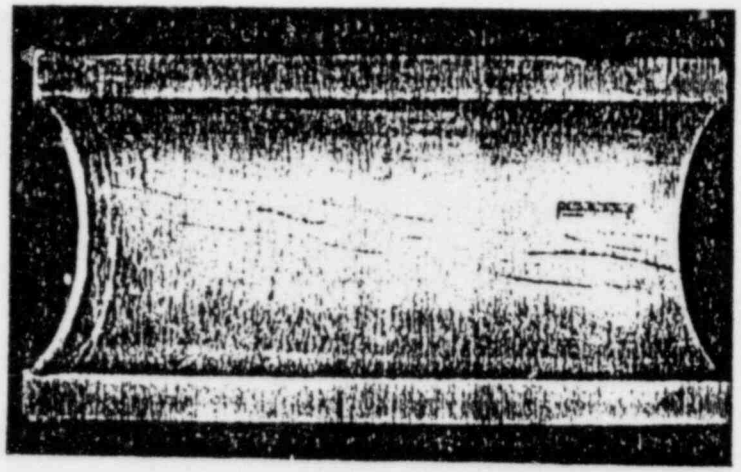


Figure 1. Typical appearance of an indication on the inside wall of the pipe (2.5x).



Welded End

Figure 2a (0.4x)

Beveled End

Figure 2b (0.4x)

Figures 2a and 2b. Illustration of indications over the full length of the pipe submitted.

Figure 3a (0.39x)

Figure 3b (2.5x)

Figure 3a and 3b. Illustration of grinding done on site.

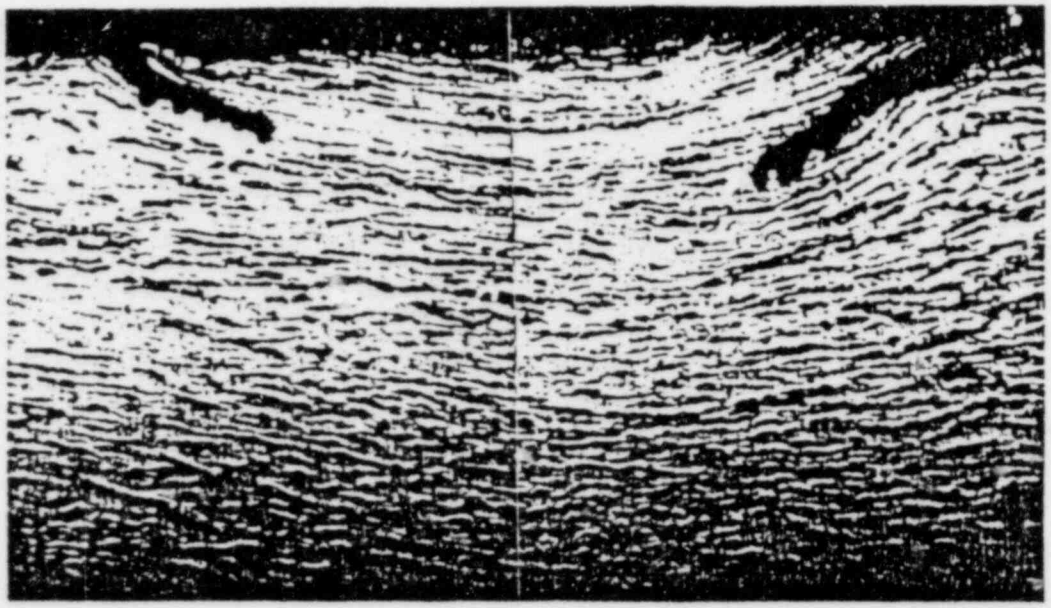


Figure 4a (25x)

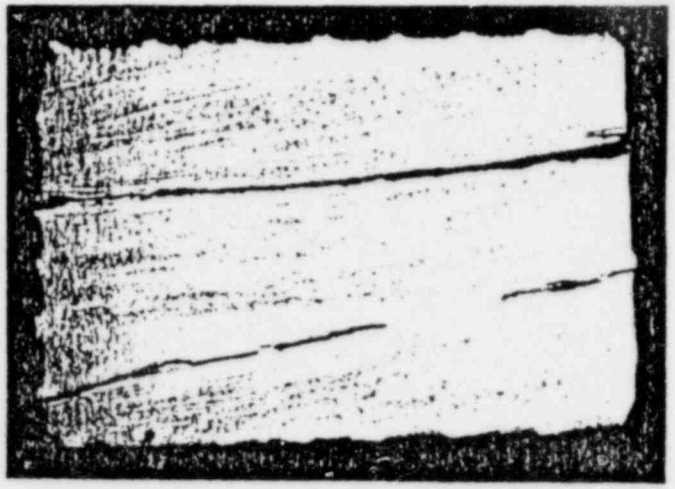


Figure 4b (5x)

Figure 4a and 4b. Illustrations showing indications running parallel to flow lines.

Consumers Power Company

Midland Project: P.O. Box 1963, Midland, Michigan 48640 - Area Code 517 631-0951

January 22, 1980

Mr. L. H. Curtis
Bechtel Power Corporation
P.O. Box 1000
Ann Arbor, MI 48106

MIDLAND PROJECT GWO 7020 -
RETURN OF PIPE SAMPLES FROM M&QS
File: B1.7 UFI: 15100(E) Serial: CSC-4750

A letter was recently sent from J. L. Corley to W. B. Keyser, Serial 20FQA80, regarding the return of Grinnell spool piece section 2-CCB-6-604-8-2. This request should have been submitted by this office since the investigation of technical problems is the responsibility of the Midland Project Management Organization (PMO). In discussion with Bechtel field personnel, it is in the best interest to have this spool section on site for the additional UT exams requested by Consumers Power Company to aid in dimensioning discontinuities that may be found. Therefore, please send this pipe section to the Midland site to the attention of Mr. D. J. Vokal who will coordinate its use with Bechtel field personnel.

In a related matter, we are in receipt of your Condensate Tank Fill Pipe Corrosion Study (Log #56177) which was transmitted by BLC-8608, dated December 19, 1979. We are in the process of reviewing this report, and plan to set up a meeting in the near future to discuss our comments. It is apparent from the study that no further testing will be done on the pipe by Bechtel. We desire that the spool section be returned to our custody in case we decide to run further tests on the pipe. Please return this pipe spool section also to the Midland site to the attention of our Mr. D. J. Vokal..

T. C. Cooke
Project Superintendent

TCC/DJV/sd

CC: GSKeeley
BWMarguglio
DBMiller
JLCorley
RLTeuteberg
AJBirkle/HWSlager/MAPuschel

JLC	
DRK	
RGW	
PRK	
DDB	
QE	
FILE	

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

January 21, 1980

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR M-01-4-9-098
CPCo Letter WRB 123-79
Complete Response
LAD-1310 Action Item-S-055

Dear Mr. Corley:

References: (1) Report from "Materials and Quality Services Department Research and Engineering." Log Number 628157 BLN Number 979-14
(2) IOM, L. H. Curtis to M & QS, dated 9/14/79
(3) LAD-1165

The subject NCR identified a piece of 4 inch stainless steel Schedule 160 pipe that had numerous linear indications on the inside diameter surface which were detected by visual examination.

A 17 inch length of the subject pipe was sent to our M & QS metallurgical laboratory in San Francicso for detailed analysis. Based on the final report, Reference 1, the piping is considered usable as found and no further action is considered necessary.

CPCo Letter WRB 123-79, W. R. Bird to L. A. Dreisbach, required additional ultrasonic examination of subject piping. Based on the results of the metallurgical examination as reported by Reference 1 additional ultrasonic examination is not considered necessary.

Should you have any questions, please contact Marion Dietrich of my office.

Very truly yours,

LADreisbach

L. A. Dreisbach
Project Quality Assurance Engineer

XJLC	
XDRK	DAK
RGW	
PRK	
DDB	
XLRH	
QE	
FILE	

LAD/MAD/bss
Attachment: Reference (1)
cc: W. Bird
B. Marguglio

BECHTEL NATIONAL, INC.
SAN FRANCISCO, CALIFORNIA
JANUARY 4, 1980

Project Number: 7220-001, Midland Units 1 & 2

Title: Evaluation of Linear Indications on The Inside Wall of a Piping Subassembly From the Makeup and Purification Line

Prepared For: W. B. Keyser

By: S. A. Agnew
S. A. Agnew

Approved By: G R Schmidt
G. R. Schmidt
Metallurgical Engineering and Laboratory Services Group Manager

Approved By: B. D. Hackney
B. D. Hackney
Assistant Manager

MATERIALS AND QUALITY SERVICES DEPARTMENT
RESEARCH AND ENGINEERING

Log No. 628157
BLN No. 979-14

TABLE OF CONTENTS

INDEX OF ILLUSTRATIONS

ABSTRACT

An 18 inch length of four inch diameter Schedule 160 ASME SA312 Type 316 seamless austenitic stainless steel pipe was submitted to the M&QS Laboratory to determine the cause of linear indications on the inside surface. A metallurgical examination identifies the indications as hot tears which are associated with normal difficulties in hot working Type 316 austenitic stainless steel. It was determined that the depth of the indications did not violate either the minimum design thickness or the minimum allowable wall thickness permitted by the material specification. Because of the toughness of austenitic stainless steel, the indications would not be expected to propagate.

I. INTRODUCTION TO THE PROBLEM

A visual examination at the Midland jobsite noted linear indications on the inside surface of a piping subassembly for the makeup and purification line. This line is part of an ASME Section III Class 2 system. The design wall thickness is 0.350 inch. The 18 inch length (between the end preparation and the first girth weld) containing the indications is seamless pipe, four inch nominal pipe size, Schedule 160 (0.531 inch nominal wall thickness) of SA312 Type 316 austenitic stainless steel. A liquid penetrant examination revealed numerous indications. A shear wave ultrasonic examination was made in the field and it was determined that the indications were 0.10 inch deep. Later, this report was verbally withdrawn because the ultrasonic equipment had been improperly calibrated using a mild steel calibration block. A radiographic examination was made in the field and showed faint indications.

Field personnel attempted to grind out two of the indications. Grinding was discontinued at a depth reported as 0.053 inches because the metal was "smearing" and it was desired to preserve the indications for laboratory analysis. A liquid penetrant examination in the ground area showed that the indications were still present. The 18 inch length of pipe was then cut from the piping subassembly and sent to M&QS along with a copy of nonconformance report number M-01-4-9-098. At a later date, field quality assurance personnel reported that there were 17 other piping subassemblies containing approximately 106 feet of pipe from the same heat (M9290) of material but that no indications were observed visually. The field also relayed a report from ITT Grinnell who supplied the subassemblies that the pipe had been made by Babcock and Wilcox using the "piercing" (Mannesman Mill) method.

II. SUMMARY AND CONCLUSIONS

The metallurgical examination identified the linear indications as hot tears resulting from the normal difficulties encountered in hot working Type 316 material into the final tube form. The lengths of the individual indications overlap to form a band about one inch wide which spirals slightly as it runs along the 18 inch length of pipe. The indications run parallel to the flow lines created during forming. The flow lines develop when the center of the ingot is pierced and expanded out to form the inside wall of the pipe. A local weakness to hot deformation (see Section V) in the centerline of the ingot resulted in hot tearing of the surface during the expansion process. The ingot centerline weakness appears to be localized as the indications vary in depth and fade toward the welded end of the sample and because jobsite personnel report that no other indications have been detected visually in the remainder of this heat of material at the jobsite.

The depth of the imperfections does not violate the design and minimum wall thickness limitations and they are not significant as stress raisers because of the notch toughness of austenitic stainless steel.

Project specification 7220-M-201/8/1-4-78 requires compliance to ASME III, Division 1, Class 2 and to material specification SA-312 TP316. The minimum wall thickness allowed by SA-312 is 0.465 inches and project engineering has calculated a minimum design wall thickness requirement of 0.350 inches. The minimum wall thickness found under an imperfection was 0.471 inches (0.526 less 0.055). Specification SA-312 requires that the surface shall be free from injurious defects and shall have a workmanlike finish. ASME III, Division 1, Class 2 references SA-655, Class 2 which adds no requirement for nondestructive examination. While not required, the fabricator provided the results of ultrasonic testing using a five percent notch calibration standard. There were no rejectable UT indications in this heat of material.

III. RECOMMENDATIONS

It is recommended that the response to the nonconformance report state that the piping subassembly is usable as found. The investigation determined that the indications were manufacturing imperfections of a type which is normal for Type 316 austenitic stainless steel seamless pipe and of a depth which is within acceptance limits for both ASME III, Class 2 piping systems and the design wall thickness requirements.

IV. MATERIAL

The certified material test report (CMTR) verifies compliance to the requirements of ASME II (Summer 1973) for SA-312 TP316 and of ASME III (Summer 1973) for Class 2 materials (NC-2000). The content of the low melting point residuals (sulphur and phosphorus) and of manganese (which scavenges the sulphur as the low melting point MnS) was of interest. The CMTR lists four heats of material. This heat (M9290) contains 0.022 to 0.025 percent S versus 0.022, 0.023 and 0.026 percent. The content of manganese is 1.46 to 1.47 percent versus 1.75 to 1.76, 1.89 to 1.91 and 1.93 to 1.98 percent. While all values are acceptable, the indication of this small sample of four heats shows that heat M9290 is above average relative to content of low melting point constituents.

V. DISCUSSION OF PROBLEM

Localized surface tears may occur during the hot working of Type 316 austenitic stainless steel because of any one of the several metallurgical situations discussed below. Hot tears on the surface of austenitic stainless steel are not forge welded shut during subsequent working due to the rapid formation of a refractory oxide in the tears.

Hot tearing of the grain boundaries can result because of the rapid rate of grain growth at the hot working temperature. Successful hot working depends on a deforming schedule which reduces the size of the grains. During the solidification of the ingot, the crystals (grains) nucleate in the liquid and grow in the solid state while the contaminants, which solidify at a lower temperature, remain in the liquid state. The contaminants are trapped between the grains during solidification.

These low melting point grain boundary areas in the solid are the weakest constituents at hot working temperatures. The degree of weakening of the material is dependent on the degree of segregation of the contaminants. In very fine grained material, the fixed amount of contaminants is spread over the very extensive grain boundary network and they have minimal effect. Grain growth decreases the extent of the network, thus increasing the effectiveness of the contaminents in weakening the grain boundaries.

The boundary between phases of a two phase microstructure is also a weak location under hot working conditions. Austenitic stainless steel is normally a single phase (austenite) material; however, molybdenum favors the formation of some ferrite at the hot working temperature. The second phase commonly occurs at the grain boundaries where its weakening effect is at a maximum.

Planes of weakness in the ingot are created during ingot solidification. Crystals growing perpendicular to the mold walls form these planes of weakness at the intersections of the crystalline fronts. Austenitic stainless steels have a pronounced tendency to produce this pattern of crystal formation in the mold. The degree of weakness is at a maximum where the most planes intersect. The maximum number of planes intersect where crystals growing from the bottom meet crystals growing from all four sides. This phenomenon is sometimes termed "ingotism".

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In the hot working of Type 316, techniques have been developed to reduce surface tears due to the situations described above. Tears on the surface which occur during hot working are removed by grinding, if detected, before proceeding since forge welding of the tears does not occur during further hot working. Surface examination of the inside wall of seamless tubing cannot be performed until the end of the operation. Unacceptable surface conditions are then removed. The entire 18 inch length of pipe on the ID had been ground, probably to correct unacceptable ID conditions.

In summary it appears that the linear indications originated at the ingot centerline which became the internal surface of the pipe when the ingot was hot pierced and expanded into the tube form. The ingot centerline was spread over the internal pipe wall to become a band. The spiral path of the band is due to the skewed arrangement of the rolls in a piercing mill. The ingot is forced to flow over a mandrel in a helicoidal direction due to this roll arrangement. The source of the observed indications could be caused by any one of the above situations but was probably due to ingotism near the bottom or piping near the top of the ingot since only a short length of tubing appears to be affected.

VI. DETAILED RESULTS OF THE METALLURGICAL EVALUATION

All data marked on the sample was recorded during a visual examination. The indications observed visually formed a band about one inch wide running spirally along the inside surface of the sample. The indications were more prominent at the beveled end than at the welded end. The entire inside of the pipe had been dressed by grinding. The 18 inch long sample was cut into an 8-1/2 inch length at the welded end and a 9-1/2 inch length at the beveled end. Each section was then split longitudinally with the band of indications essentially centered on one half of each section. A closer examination, see Figure 1, indicated that typical hot working imperfections such as tears or seams had produced the indications. Figure 2 shows the indications for the 18 inch length (during liquid penetrant examination) and illustrates how they tend to fade toward the welded end. Figure 3 shows the grinding done in the field. Note that the visual indications remaining due to smearing in the bottom of the grindout are very prominent in contrast to the liquid penetrant indications shown in Figure 2 (b). The pipe wall thickness, away from the weld and bevel, varied from 0.524 to 0.542 inches.

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An examination of etched surfaces under oblique lighting showed that the indications run parallel to the flow lines formed during hot working. Figure 4 (a) shows the section closest to the beveled end after etching and illustrates the parallel relationship of the tears with hot work flow lines in a cross-sectional view. Figure 4 (b) is an etched section of the inside wall surface of the length at the welded end and shows the parallel relationship with hot work flow lines in plan view. This relationship holds for all sections viewed. Also, the oxides in the tears in two sections were subjected to energy dispersive x-ray analysis. The peaks produced were for iron, chromium and nickel indicating that the oxides filling the laps is scale formed during hot working. The relationship of the tearing to the grain boundaries was obliterated by scaling except at the point of the deepest penetration, in some cases. In those cases, the oxidation followed an intergranular path.

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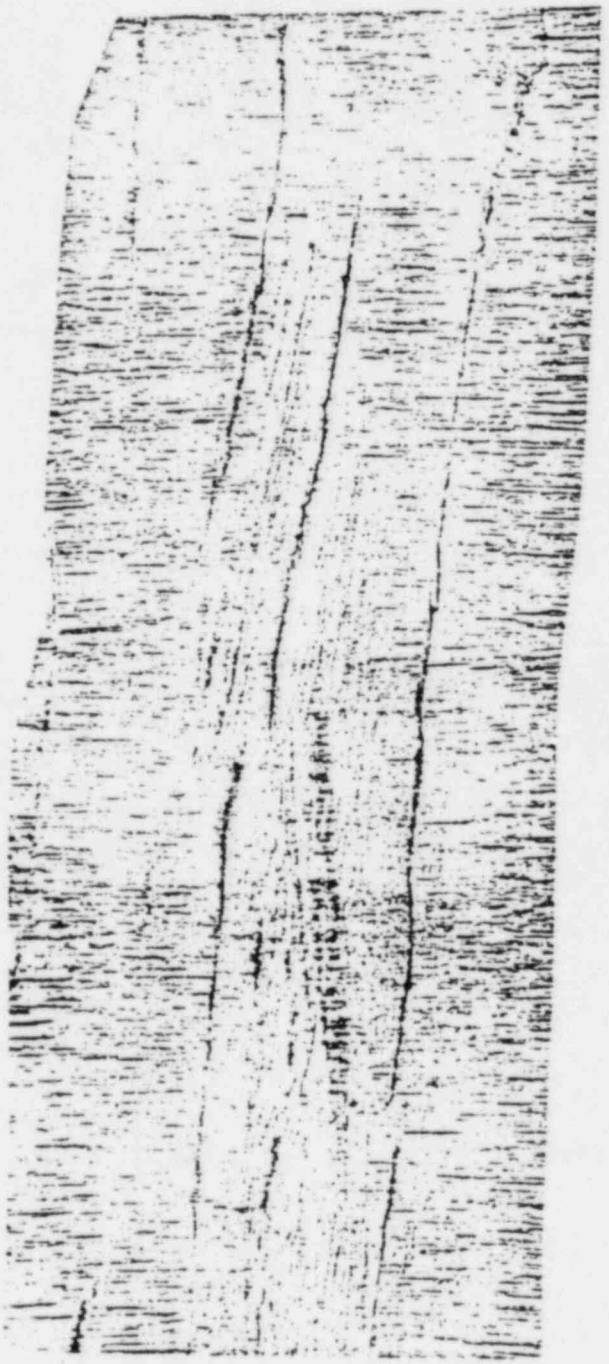

Figure 1. Typical appearance of an indication on the inside wall of the pipe (2.5x).

Beveled End

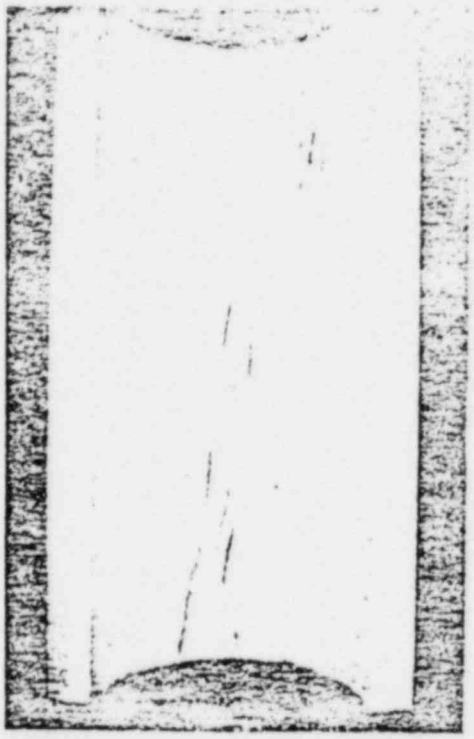

Figure 2b (0.4x)

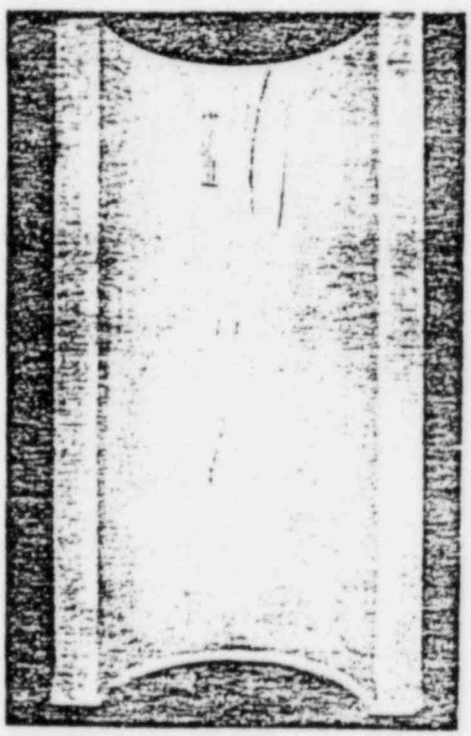

Figure 2a (0.4x)

Figures 2a and 2b. Illustration of indications over the full length of the pipe submitted.

Welded End

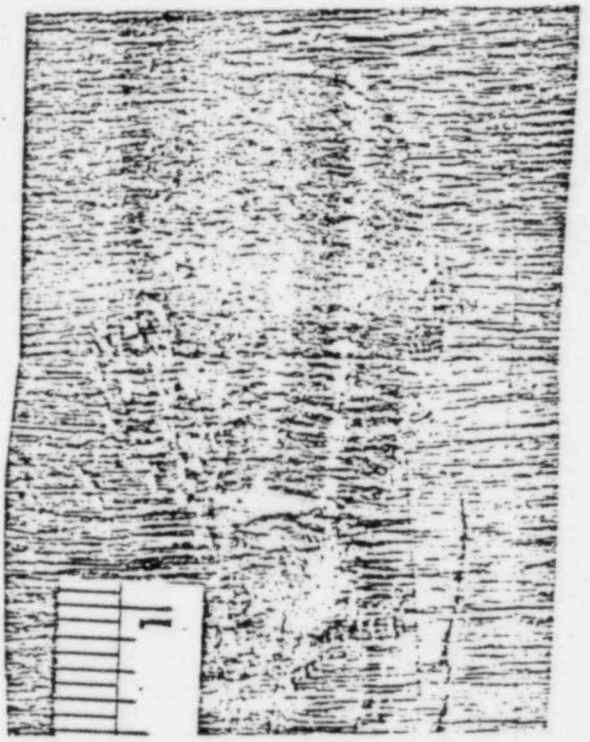

Figure 3b (2.5x)

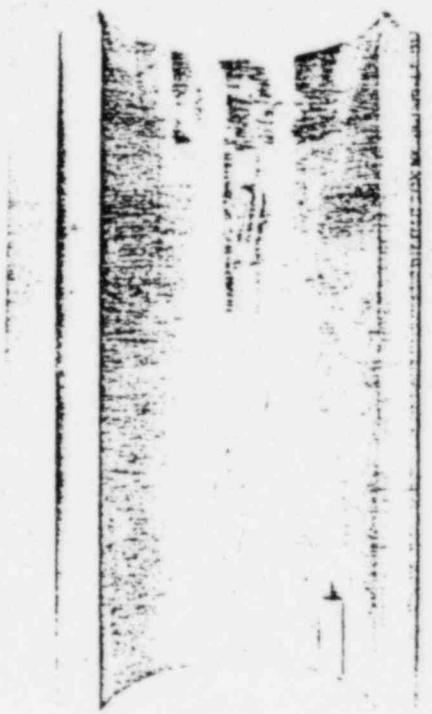

Figure 3a (0.39x)

Figure 3a and 3b. Illustration of grinding done on site.

Figure 4b (5x)

Figure 4a (25x)

Figure 4a and 4b. Illustrations showing indications running parallel to flow lines.

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

January 21, 1980

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo Letter 379FQA79
Complete Response
LAD-1307 Action Item-S-148

Dear Mr. Corley:

References: (a) NCR M-01-4-9-098
(b) LAD-1238

The subject letter requested Bechtel to identify the quantity of pipe on site from the supplier (B & W Tubular Products) by heat number.

Bechtel letter LAD-1238 dated December 4, 1979 requested an extension to January 1, 1980 for final response.

JLC	
DRK	DRK
RGW	
PRK	
DDB	
QE	
FILE	

Project Engineering has provided the following response.

> "Attached are marked up sheets from the field pipe cost control records. The spools bracketed in red in the left hand margin are those which are fabricated using pipe from B & W Tube. The information was obtained by Grinnell searching their Midland documentation and identifying all B & W pipe by ITT part numbers. This part number was matched to the field records to yield the attached information. This information is estimated to be 90% complete and accurate. One hundred percent accuracy could only be achieved by an exhaustive review of each individual spool documentation package, approximately 10,000 at the jobsite."

One hundred percent accuracy would have significant effects on project costs, manpower, and scheduling. Bechtel believes that continuing such a program is unwarranted at this time, based on current evidence.

Should you have additional questions, please contact R. Davis of this office.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/RED/bss
Attachment
cc: W. Bird
B. Marguglio
D. Miller

Consumers Power Company

Midland Project: P.O. Box 1963, Midland, Michigan 48640 - Area Code 517 631-0951

January 2, 1980

Mr. L. E. Davis
Bechtel Power Corporation
P.O. Box 2167
Midland, MI 48640

MIDLAND PROJECT GWO 7020 - LINEAR INDICATIONS IN ID OF FOUR-INCH, SCHEDULE 160, STAINLESS STEEL PIPE.
File: B1.7 UFI: 15100(E) Serial: CSC-4695

To provide further direction and clarification regarding Consumers Power Company's requests described in WRB 123-79 (W. R. Bird to L. A. Dreisbach), December 11, 1979, the following is offered:

Consumers Power Company requests that ultrasonic examination be performed on four to five lengths of the subject pipe approximately four feet in length each to detect any additional indications that may be present. The ultrasonic examination procedure used should be demonstrated to detect indications in excess of the requirements of NB 2552.2 and examination personnel shall be certified to the requirements of SNT-TC-1A.

The extent of examinations should be expanded if indications unaceptable to NB 2552.2 are found.

If you have any questions regarding the above, please contact D. J. Vokal of this office.

T. C. Cooke
Project Superintendent

TCC/DJV/as

CC: JLCorley
DBMiller
WRBird
AJBirkle/HWSlager

JLC	
DRK	DJV
RGW	
PRK	
DDB	
QE	
	9-
FILE	NRC 098

Consumers Power Company

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • (517) 788-0550

December 11, 1979

WRB 123-79

Mr L A Dreisbach
Bechtel Power Corporation
PO Box 2167
Midland, MI 48640

LINEAR INDICATIONS IN ID OF 4-INCH, SCHEDULE 160, STAINLESS STEEL PIPE AT THE MIDLAND NUCLEAR SITE

Reference: (A) Bechtel Power Corporation Letter (Dreisbach to Corley) LAD-1165, October 29, 1979

Attachment: (1) Memo, A J Birkle to W R Bird, Birk 108-79, November 14, 1979

(2) Memo, R C Bauman to W R Bird, File M-1.38, UFI: 02360S, Serial: 7981

Bechtel's preliminary evaluation of the subject indications, Reference (A), has been reviewed by CPCo. Comments are contained in Attachment (1). On the basis of these comments, additional ultrasonic examination of the subject material is required. It is acknowledged that the reference to ASME Section III, NB-2552 invokes Class 1 requirements on material which was purchased to Class 2. Attachment (2) states the CPCo PMO concurrence with this additional testing.

CPCo recommends that there be no further installation of this material until a final disposition has been made. Reference (A) indicated that the Bechtel M&QS analysis was not complete. This would also support the recommendation not to proceed with further fabrication at this time.

CPCo requests that the ultrasonic examination procedure used be demonstrated, with CPCo QA witness, to be adequate to detect indications in excess of the requirements of NB 2552.2. Examination personnel shall be certified to the requirements of SNT-TC-1A.

W R Bird
Section Head -
Quality Assurance Engineering, Midland

JLW/lr

JLC	
DRK	DRK
RGW	
PRK	
DDB	
QE	
FILE	NCR 9 - 095

CC: WLBarclay
AJBirkle
TCCooke
JLCorley
LHCurtis
LEDavis
LRHowell
GSKeeley
BWMarguglio
JMilandin
DBMiller
JARutgers
JLWood

To WRBird, JSC-216B

JWRB

From AJBirkle, P-14-227 O.K. W.S. /for A.J.B.

Date November 14, 1979

Subject LINEAR INDICATIONS IN ID OF 4-INCH SCHEDULE, 160 STAINLESS STEEL PIPE AT THE MIDLAND NUCLEAR SITE

RECEIVED
NOV 14 1979
QUALITY ASSURANCE

Consumers Power Company

INTERNAL CORRESPONDENCE

Birk 108-79

CC HWSlager, P-14-234
RCBauman, P-14-412

It is our opinion that the acceptability of the pipe should address ASME Section III, NB 2550, in addition to the 12-1/2% of wall criteria contained in ASTM A530, Paragraph 10, entitled "Permissible Variation in Wall Thickness." If the pipe produces indications in excess of the acceptance standards of NB 2552.2, the pipe is unacceptable unless the defects are eliminated or repaired in accordance with NB 2558 or NB 2559.

There is no need to reject pipe which has only visual indications which are laps or seams if the acceptance criteria of NB 2552.2 can be met. It is true that there have been austenitic stainless steel stress corrosion cracking problems in operating PWR and BWR nuclear plants. These cracks have been associated with the weld heat-affected zone of the pipe and to the best of my knowledge there have been no failures in the base metal. Defects such as laps and seams on the OD and ID of pipe (both welded and seamless) are common and not subject to failure due to static or cyclic stresses which do not exceed the code allowable levels.

At this stage of the investigation, I would not remove any pipe already welded into the piping system based on visual evidence alone. Additional volumes (4 to 5 lengths approximately 4 feet in length) having visual ID defects should be checked using the NDE methods and standards of NB 2552.1. The extent of the NB 2552.1 examination should be expanded if indications unacceptable to NB 2552.1 are found.

TO WRBird, JSC-216B

FROM RCBauman, P-14-412

DATE November 27, 1979

Consumers Power Company

INTERNAL CORRESPONDENCE

SUBJECT MIDLAND PROJECT
LINEAR INDICATIONS IN ID OF 4-INCH SCHEDULE 160
STAINLESS STEEL PIPE AT MIDLAND NUCLEAR SITE
FILE: M-1.38 UFI: 02360S SERIAL: 7981

CC AJBirkle, P-14-227
DBMiller, Midland

In response to your November 7, 1979 memo, WRB 116-79, please be advised that we have no comments to offer in addition to those provided by Mr A J Birkle in his November 14, 1979 memo, Birk 108-79. When passing Mr Birkle's comments on to Bechtel in response to Mr L A Dreisbach's October 29, 1979 letter to Mr J L Corley, please advise B&R that the PMO concurs with this position relative to the additional testing recommended by Mr Birkle.

2 B

RCBauman

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

December 4, 1979

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo Letter 379FQA79
Request for Extension
LAD-1238 Action Item-S-143

Dear Mr. Corley:

The subject letter requested Bechtel to identify the quantity and location of pipe supplied to the Midland site from our supplier B & W Tubular Products by heat number. We currently are in the process of preparing a interim response and time table to accomplish this request.

This task is expected to be completed and the information forwarded to you prior to the end of this month.

Should you require any additional information please contact Phil Falkenborg of this office.

Very truly yours,

E. Smith

for L. A. Dreisbach
Project Quality Assurance
Engineer

JLC
DRK DCK
RGW
PRK
DDB
QE
FILE NKR8099

LAD/PEF/bss

cc: B. Marguglio
D. Miller
W. Bird

DRK

TO WRBird, JSC-2

FROM AJBirkle, P-14-227 DR. DW.S. /for AJB

DATE November 14, 1979

SUBJECT LINEAR INDICATIONS IN ID OF 4-INCH SCHEDULE, 160 STAINLESS STEEL PIPE AT THE MIDLAND NUCLEAR SITE

CC HWSlager, P-14-234
RCBauman, P-14-412

Consumers Power Company
INTERNAL CORRESPONDENCE

CONSUMERS POWER COMPANY
RECEIVED
DEC 3 1979
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

Serial 108-79

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At this stage of the investigation, I would not remove any pipe already welded into the piping system based on visual evidence alone. Additional volumes (4 to 5 lengths approximately 4 feet in length) having visual ID defects should be checked using the NDE methods and standards of NB 2552.1. The extent of the NB 2552.1 examination should be expanded if indications unacceptable to NB 2552.1 are found.

(1) Decision is involved - we are looking at ...
11/19/79

NOV 8 1979

TO AJBirkle, P14-227
RCBauman, P14-412

FROM WRBird, JSC-216B

DATE November 7, 1979

SUBJECT LINEAR INDICATIONS IN ID OF 4-INCH SCHEDULE 160 STAINLESS STEEL PIPE AT MIDLAND NUCLEAR SITE

Consumers Power Company

INTERNAL CORRESPONDENCE

WRB 116-79

CC JLCorley, Midland
BWMarguglio, JSC-220A
DEMiller, Midland

Attachment: Bechtel Power Corporation letter LAD-1165, dated October 29, 1979 (Action Item C-055)

The attached letter is forwarded for your review and comment. QA-PE&C has requested that Bechtel determine how much of the subject material has been received on site and where it has been installed. While Bechtel has presented possible justification to use the subject material "as is", QA-PE&C strongly suggests that CPCo consider replacing this material. The subject systems (makeup and purification) are among the highest for operating pressure. With all of the other problems now being investigated concerning stainless steel piping, it may be to CPCo's advantage to replace all piping with known discontinuities prior to operation. It is also not known that the single piece of piping that Bechtel used for their investigation was an example of the worst case.

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

October 29, 1979

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR M-01-4-9-098
Interim Response
LAD-1165 Action Item-S-055

Dear Mr. Corley:

The subject NCR identified a piece of 4 inch stainless steel Schedule 160 pipe that had numerous linear indication on the inside diameter surface which were detected by visual examination.

A 17 inch length of the subject pipe was sent to our M & QS metallurgical laboratory in San Francisco for detailed analysis. Preliminary evaluation by our lab is as follows:

> Visual, liquid penetrant, ultrasonic and metallographic examination methods have determined that the indications are essentially restricted to those which can be observed visually.
>
> Visually, the indications have the characteristic appearance of laps or seams (not cracking or corrosion). Metallographically, the cross sectional shape is best described by the term "tear." To date, the greatest penetration found is about 10 percent of the wall thickness (about 0.525 inch). The walls of the tear contain a graph material which has been identified as scale. It appears that the ID surface tore open during the high temperature forming operation and the scale which formed was entrapped in the tears during the subsequent processing operations.
>
> From a metallurgical perspective the depth of tearing found to date (0.050) is not considered significant because of the notch toughness of austenitic stainless steel. The nominal wall thickness of 4 inch Schedule 160 pipe is 0.531 inch and the material standard permits a minimum wall thickness of 12.5 percent under nominal at any point. The actual wall is 0.525 inch and Project (Engineering) advises that the design wall thickness is 0.350 inch, therefore the depth of the indications does not exceed either the minimum specification or design thickness requirements.

JLC	
DRK	
RSH	
PRK	
DDB	
LAH	
CE	
FILE	

In summary, it appears that the cause of the linear indications is associated with the hot forming operation used in manufacturing the product, and there is no evidence of cracks caused by corrosion.

Should you have any questions, please contact Gene Smith of my office. I will update you as more information develops and when the M & QS Analysis is complete.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/GS/bss

cc: W. Bird
B. Marguglio

To AJBirkle, P14-227
RCBauman, P14-412

From WRBird, JSC-216B WRBird

Date November 7, 1979

Subject LINEAR INDICATIONS IN ID OF 4-INCH SCHEDULE 160 STAINLESS STEEL PIPE AT MIDLAND NUCLEAR SITE

Consumers Power Company

Internal Correspondence

WRB 116-79

cc JLCorley, Midland
BWMarguglio, JSC-220A
DRMiller, Midland

Attachment: Bechtel Power Corporation letter LAD-1165, dated October 29, 1979 (Action Item S-055)

The attached letter is forwarded for your review and comment. QA-PE&C has requested that Bechtel determine how much of the subject material has been received on site and where it has been installed. While Bechtel has presented possible justification to use the subject material "as is", QA-PE&C strongly suggests that CPCo consider replacing this material. The subject systems (makeup and purification) are among the highest for operating pressure. With all of the other problems now being investigated concerning stainless steel piping, it may be to CPCo's advantage to replace all piping with known discontinuities prior to operation. It is also not known that the single piece of piping that Bechtel used for their investigation was an example of the worst case.

JLC	
DRK	
RGW	
PRK	
DDB	
LCH	
QE	
FILE	NCR 058

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

October 29, 1979

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR M-01-4-9-098
Interim Response
LAD-1165 Action Item-S-055

Dear Mr. Corley:

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X JLC	
X DRK	DRK
RGW	
PRK	
DDB	
X LKH	
CE	
FILE	NCR 098

16.3.4,6

In summary, it appears that the cause of the linear indications is associated with the hot forming operation used in manufacturing the product, and there is no evidence of cracks caused by corrosion.

Should you have any questions, please contact Gene Smith of my office. I will update you as more information develops and when the M & QS Analysis is complete.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/GS/bss

cc: W. Bird
B. Marguglio

Midland Project: P.O. Box 1963, Midland, Michigan 48640 - Area Code 517 631-0051

November 7, 1979

JLC	
DRK	
RGW	
PRK	
DDB	
QE	
FILE	

Mr L A Dreisbach
Bechtel Power Corp
PO Box 2167
Midland, MI 48640

MIDLAND PROJECT - INTERIM RESPONSE
TO CPCO NCR M-01-4-9-098
File 16.3.4, 16.3.6 Serial 379FQA79

The interim response to the above referenced NCR (copy attached) has been preliminarily reviewed with a more formal review currently being conducted. Based on the preliminary review, it is felt that it is necessary at this time to identify the quantity of pipe that is on site from the supplier (B&W Tubular Products) by heat number. In conjunction with the above, indicate what systems are involved and, if possible, whether or not the pipe has been installed. The request to identify the subject pipe has the concurrence of the CPCo Project Management Organization.

Comments from our formal internal review will be forwarded to Bechtel. Also, based on the potential significance of the evaluation being conducted, we believe a timetable needs to be established for the completion of the investigation. Please respond to this letter by November 23, 1979 providing the above information and a timetable for completion of actions.

J L Corley
Section Head - IE&TV, Midland

JLC/DRK

CC RCBauman
WRBird
TCCooke
GSKeeley
BWMarguglio
DBMiller

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

October 29, 1979

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR M-01-4-9-098
Interim Response
LAD-1165 Action Item-S-055

Dear Mr. Corley:

The subject NCR identified a piece of 4 inch stainless steel Schedule 160 pipe that had numerous linear indication on the inside diameter surface which were detected by visual examination.

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XJLC	
XDRK	DRK
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FILE	NCR 058

16.3.4,6

In summary, it appears that the cause of the linear indications is associated with the hot forming operation used in manufacturing the product, and there is no evidence of cracks caused by corrosion.

Should you have any questions, please contact Gene Smith of my office. I will update you as more information develops and when the M & QS Analysis is complete.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/GS/bss

cc: W. Bird
B. Marguglio

Consumers Power Company

ORAL COMMUNICATIONS RECORD

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

QA5-O

CMSON. FILE NO 16.3.4, 16.3.6

PAGE 1 OF 1

DATE OF COMMUNICATION 10/8/79 QA-PE&C PERSONNEL PARTICIPATING DRKeating

TIME OF COMMUNICATION AM OTHER PARTY(S) ESmith, Bechtel QA

PREPARED BY DRKeating

PROJECTS AND/OR SUBJECTS DISCUSSED Midland Project - Stainless Steel Pipe with Linear Indications (NCR No M-01-4-9-098)

SUMMARY OF CONVERSATION Bechtel QA indicated that preliminary results were available from the San Francisco Laboratory that was evaluating linear indications in the above referenced pipe. Preliminary results are that the defect is a lap type defect from the manufacturing process and that the deepest any of the defects observed to date has been, is .051 inches. The .051 inches does not violate the minimum wall requirements of the pipe. A preliminary report is expected to be received this week (the week of 10/8/79). Bechtel Project Engineering has indicated that, based on the preliminary results, there is no adverse affect on safety.

CC WRBird

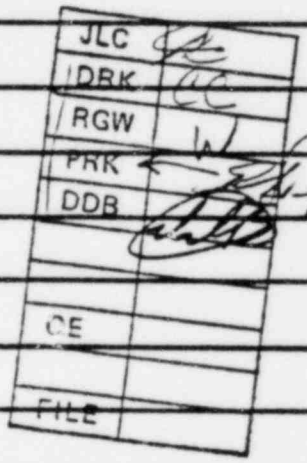
TCCooke

LHCurtis

LADreisbach

BWMarguglio

DBMiller



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MP	2	2	1-28194	17	04/30/77	WO	#4223	6	SS	PIP	10	15.0	79.11	PB				
MP	2	2	1-20264	2	06/13/76	1GCB	17 612 3 3	6		PIP	10S	-.9	68.32	USE				
MP	2	2	1-22289	8	08/31/76	1HCB	51 61610 1	6		PIP	10S	-1.0	68.32	USE				
MP	2	2	1-29928	1	08/11/77	2HCB	16 604 6 2	6		PIP	10S	-14.9	68.32	USE				
MP	2	2	1-30758	3	09/29/77	1HBC	17 603 5 2	6		PIP	10S	-.5	68.32	USE				
MP	2	2	1-34357	9	04/28/78	OHCD	708 649 4 3	6		PIP	10S	-7.7	68.32	USE	30.2	80.74	2438.	
MP	2	3	1-CP-9	32	06/30/75	GUY	I176680	8	SS	PIP	10	18.9	35.08	PB				
MP	2	3	1-17650	13	03/03/76	1HCB	5 612 4 3	8		PIP	40S	-7.0	35.08	USE				
MP	2	3	1-21545	29	08/07/76	2HCB	14 613 6 1	8		PIP	10S	-4.5	35.08	USE				
MP	2	3	1-35508	1	07/12/78	OHCC	50 61410 5	8		PIP	10S	-2.7	35.08	USE				
MP	2	3	1-38000	11	11/24/78	OHCC	50 61410 4	8		PIP	10S	-2.3	35.08	USE				
MP	2	3	1-32931	6	02/08/79	OHCC	14 61410 1	8		PIP	10S	-6.2	35.08	USE	-3.8	35.08	-133.	
MP	3	1	1-22702	41	09/25/76	GUY	I25451D	18	SS	PIP	STD	142.8	157.24	PB				A HT 19003 (13') HT 23945 20'
MP	3	1	1-20264	11	06/13/76	1HCB	2 610 3 2	18		PIP	STD	-1.9	157.24	USE				B HT 19011 & 19003
MP	3	1	1-20294	1	06/14/76	1HCB	2 612 7 5	18		PIP	STD	-19.2	157.24	USE				C HT 19003
MP	3	1	1-20664	10	06/26/76	1HCB	2 610 3 4	18		PIP	STD	-19.2	157.24	USE				D HT 19011
MP	3	1	1-20829	2	07/10/76	OHCC	152 506 1 1	18		PIP	STD	-32.9	157.24	USE				E HT 23945 & 19225
MP	3	1	1-25449	18	12/12/76	1HCB	2 610 3 5	18		PIP	STD	-14.1	157.24	USE				
MP	3	1	1-27972	32	04/23/77	1HCB	7 610 3 1	18		PIP	STD	-8.1	157.24	USE				
MP	3	1	1-29018	51	06/26/77	1HCB	2 610 3 3	18		PIP	STD	-12.3	157.24	USE				
MP	3	1	1-29930	18	08/11/77	1HCB	1 612 611	18		PIP	STD	-38.9	157.24	USE				
MP	3	1	1-30758	39	09/29/77	1HCB	2 610 3 1	18		PIP	STD	-9.2	157.24	USE				
MP	3	1	1-34757	8	05/26/78	1HCB	1 612 611	18		PIP	STD	-6.3	157.24	USE				
MP	3	1	1-38470	4	12/28/78	1HCB	1 610 5 6	18		PIP	STD	-14.1	157.24	USE	-33.4	157.24	-5252.	
MP	3	2	1-CP-10	1	07/31/75	CRU	C0601955	24	SS	PIP	40S	60.0	195.45	PB				
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MP	3	2	1-20661	7	06/26/76	1HCB	1 610 5 8	24		PIP	STD	-8.7	195.45	USE				
MP	3	2	1-25449	27	12/12/76	1HCB	1 610 5 9	24		PIP	STD	-3.3	195.45	USE				
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MP	3	2	1-38015	11	11/24/78	1HCB	1 610 5 7	24		PIP	STD	-11.9	195.45	USE				
MP	3	2	1-41123	3	5/24/79	2HCB	1 611 5 7	24		PIP	STD	-12.1	195.45	USE	9.0	195.45	1759.	
MP	3	3	1-06691	50	10/26/74	CAP	84675	12	SS	PIP	STD	10.0	227.09	PB				
MP	3	3	1-27148	18	02/26/77	CAP	43450	12	SS	PIP	STD	8.1	47.00	PB	18.1	146.50	2652.	
MP	4	1	1-06691	17	10/26/74	CAP	80052	4	SS	PIP	10S	369.3	19.65	PB				
MP	4	1	1-08272	1	01/25/75	1HCB	19 612 6 8	4		PIP	10S	-18.2	19.65	USE				
MP	4	1	1-08074	5	01/25/75	1HCB	18 612 510	4		PIP	10S	-30.6	19.65	USE				
MP	4	1	1-08074	3	01/25/75	1HCB	20 612 5 6	4		PIP	10S	-10.1	19.65	USE				
MP	4	1	1-08730	12	02/12/75	1HCB	19 612 6 5	4		PIP	10S	-12.2	19.65	USE				
MP	4	1	1-08730	17	02/12/75	1HCB	18 612 5 8	4		PIP	10S	-11.4	19.65	USE				
MP	4	1	1-09730	15	02/12/75	1HCB	18 612 5 9	4		PIP	10S	-19.8	19.65	USE				
MP	4	1	1-09376	7	03/07/75	1HCB	21 612 6 6	4		PIP	10S	-14.1	19.65	USE				
MP	4	1	1-09376	5	03/07/75	1HCB	20 612 5 9	4		PIP	10S	-30.0	19.65	USE				
MP	4	1	1-09755	11	03/18/75	1HCB	21 612 6 9	4		PIP	10S	-32.3	19.65	USE				

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
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MP 4 2	1-22982	1	10/15/76	1HBC 52 61416 1	3		PIP	10S	-.8	14.18	USE			
MP 4 2	1-25979	15	12/31/76	1HCB 52 614 5 1	3		PIP	10S	-1.5	14.18	USE			
MP 4 2	1-26447	1	01/29/77	1HCB253 61416 1	3		PIP	10S	-9.2	14.18	USE			
MP 4 2	1-26985	31	02/26/77	1HCC140 61612 7	3		PIP	10S	-8.2	14.18	USE			
MP 4 2	1-30622	2	09/22/77	1HCC162 612 5 1	3		PIP	10S	-2.8	14.18	USE			
MP 4 2	1-30622	3	09/22/77	1HCC139 61612 3	3		PIP	10S	-19.7	14.18	USE			
MP 4 2	1-30859	28	09/30/77	1HCB 25 612 5 2	3		PIP	10S	-6.6	14.18	USE			
MP 4 2	1-30859	26	09/30/77	1HCB 25 612 5 3	3		PIP	10S	-2.3	14.18	USE			
MP 4 2	1-31202	1	10/26/77	1HCB 25 612 5 1	3		PIP	10S	-2.2	14.18	USE			
MP 4 2	1-33196	28	02/23/78	OHCD708 649 4 2	3		PIP	10S	-1.3	14.18	USE			
MP 4 2	1-33923	4	04/10/78	OHCD708 649 4 1	3		PIP	10S	-.3	14.18	USE			
MP 4 2	1-34357	6	04/28/78	OHCD708 649 4 3	3		PIP	10S	-.6	14.18	USE	6.6	14.18	94.
MP 5 1	1-06691	52	10/26/74	CAP 84359	12	SS	PIP	STD	201.9	227.05	PB			
MP 5 1	1-07614	1	12/27/74	1GCB 26 610 7 1	12		PIP	40S	-1.0	227.05	USE			
MP 5 1	1-08074	12	01/25/75	1GCB 25 610 5 5	12		PIP	40S	-6.2	227.05	USE			
MP 5 1	1-08074	14	01/25/75	1GCB 25 610 5 9	12		PIP	40S	-9.9	227.05	USE			
MP 5 1	1-09376	16	03/07/75	1GCB 25 610 712	12		PIP	40S	-12.9	227.05	USE			
MP 5 1	1-09376	14	03/07/75	1GCB 25 610 711	12		PIP	40S	-23.8	227.05	USE			
MP 5 1	1-09376	12	03/07/75	1GCB 25 610 5 6	12		PIP	40S	-9.3	227.05	USE			
MP 5 1	1-09755	18	03/18/75	1GCB 25 610 3 4	12		PIP	40S	-8.8	227.05	USE			
MP 5 1	1-15058	6	11/19/75	1GCB 25 610 5 7	12		PIP	40S	-18.1	227.05	USE			
MP 5 1	1-17200	7	02/14/76	1GCB 25 610 710	12		PIP	40S	-25.6	227.05	USE			
MP 5 1	1-17261	21	02/15/76	1GCB 25 610 3 1	12		PIP	40S	-10.8	227.05	USE			
MP 5 1	1-20664	1	06/26/76	1GCB 26 610 7 2	12		PIP	40S	-13.7	227.05	USE			
MP 5 1	1-20664	5	06/26/76	1GCB 25 610 5 8	12		PIP	40S	-9.2	227.05	USE	52.6	227.05	11943.
MP 6 1	1-06691	33	10/26/74	CAP 81219	3	SS	PIP	40	22.0	21.19	PB			
MP 6 1	1-12045	7	07/09/75	CAP 1-06691	3	SS	PIP	40S	-22.0	21.19	PB	.0	.00	0.
MP 7 1	1-06691	31	10/26/74	CAP 81056	25	SS	PIP	160	28.0	54.03	PB			
MP 7 1	1-20884	26	07/11/76	1CCB 28 610 6 2	25		PIP	160	-10.3	54.03	USE			
MP 7 1	1-20884	1	07/11/76	1CCB 8 603 7 2	25		PIP	160	-1.5	54.03	USE			
MP 7 1	1-21543	11	08/07/76	1CCB 1 603 9 5	25		PIP	160	-1.0	54.03	USE			
MP 7 1	1-21543	41	08/07/76	1CCB 28 610 6 1	25		PIP	160	-2.6	54.03	USE			
MP 7 1	1-29930	1	08/11/77	1CCB 8 603 7 1	25		PIP	160	-1.8	54.03	USE			
MP 7 1	1-29970	1	08/17/77	1CCB 8 603 7 3	25		PIP	160	-1.6	54.03	USE	9.2	54.03	497.
MP 8 1	1-06691	24	10/26/74	CAP 82901	10	SS	PIP	160	20.0	545.16	PB			
MP 8 1	1-08074	18	01/25/75	1CCB 26 610 7 1	10		PIP	160S	-1.0	545.16	USE			
MP 8 1	1-08730	3	02/12/75	1CCB 25 610 7 1	10		PIP	160	-1.0	545.16	USE			
MP 8 1	1-29928	12	08/11/77	2CCB 26 611 1 2	10		PIP	160	-15.1	545.16	USE	2.9	545.16	1581.

<ITT PART>			<ID> INVOICE	SEQ	DATE	SPOOL				<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MP	9	1	1-06691	32	10/26/74	CAP	81056			6	SS	PIP	40	45.3	53.31	PB			
MP	9	1	1-12045	5	07/09/75	CAP	1-06691			6	SS	PIP	40S	-5.0	53.31	PB			
MP	9	1	1-09755	20	03/18/75	1FCB	37	610	6 1	6		PIP	40S	-1.1	53.31	USE			
MP	9	1	1-17259	26	02/15/76	1FCB	34	610	4 4	6		PIP	40S	-5.4	53.31	USE			
MP	9	1	1-19924	21	06/04/76	1FCB	21	610	6 1	6		PIP	40S	-12.1	53.31	USE			
MP	9	1	1-25223	8	11/20/76	1FCB	27	610	6 2	6		PIP	40S	-9.6	53.31	USE			
MP	9	1	1-26033	30	12/31/76	1FCB	19	610	4 2	6		PIP	40S	-2.0	53.31	USE			
MP	9	1	1-29025	17	06/26/77	1FCB	22	610	6 2	6		PIP	40S	-2.1	53.31	USE	8.0	53.31	426.
MP	9	2	1-06691	66	10/26/74	CAP	81831			3	SS	PIP	40	87.1	21.19	PB			
MP	9	2	1-12045	9	07/09/75	CAP	1-06691			3	SS	PIP	40S	-13.0	21.19	PB			
MP	9	2	1-08074	10	01/25/75	1FCB	29	610	6 2	3		PIP	40S	-11.5	21.19	USE			
MP	9	2	1-08074	8	01/25/75	1FCB	29	610	6 3	3		PIP	40S	-9.7	21.19	USE			
MP	9	2	1-08074	6	01/25/75	1FCB	29	610	6 1	3		PIP	40S	-7.8	21.19	USE			
MP	9	2	1-10000	1	03/28/75	1FCB	28	610	4 1	3		PIP	40S	-12.2	21.19	USE			
MP	9	2	1-15058	3	11/19/75	1FCB	28	610	4 2	3		PIP	40S	-10.1	21.19	USE			
MP	9	2	1-21543	34	08/07/76	1FCB	28	610	4 3	3		PIP	40S	-1.4	21.19	USE			
MP	9	2	1-22289	32	08/31/76	1FCB	29	610	5 2	3		PIP	40S	-5.6	21.19	USE	15.8	21.19	335.
MP	10	1	1-06691	34	10/26/74	CAP	81832			10	SS	PIP	40	123.3	178.83	PB			
MP	10	1	1-06691	67	10/26/74	CAP	81831			10	SS	PIP	40	264.1	179.58	PB			
MP	10	1	1-07094	9	11/23/74	CAP	85320			10	SS	PIP	40	74.3	179.58	PB			
MP	10	1	1-10398	3	04/22/75	PIP	37689			10	SS	PIP	STD	2.0	120.00	PB			
MP	10	1	1-08074	1	01/25/75	1FCB	22	610	7 7	10		PIP	40S	-9.7	178.83	USE			
MP	10	1	1-08730	1	02/12/75	1FCB	19	610	7 7	10		PIP	40S	-11.5	178.83	USE			
MP	10	1	1-08730	19	02/12/75	1FCB	19	610	7 7	10		PIP	40S	-10.9	178.83	USE			
MP	10	1	1-09376	10	03/07/75	1FCB	19	610	4 6	10		PIP	40S	-9.9	178.83	USE			
MP	10	1	1-10000	7	03/28/75	1FCB	22	610	710	10		PIP	40S	-10.5	178.83	USE			
MP	10	1	1-16084	7	12/31/75	1FCB	22	610	711	10		PIP	40S	-19.8	178.83	USE			
MP	10	1	1-17259	27	02/15/76	1FCB	34	610	4 4	10		PIP	40S	-4.0	178.83	USE			
MP	10	1	1-17259	37	02/15/76	1FCB	19	610	7 8	10		PIP	40S	-19.3	178.83	USE			
MP	10	1	1-17259	35	02/15/76	1FCB	35	610	6 5	10		PIP	10S	-20.3	178.83	USE			
MP	10	1	1-17650	31	03/03/76	1FCB	34	610	4 3	10		PIP	40S	-14.8	179.21	USE			
MP	10	1	1-17650	35	03/03/76	1FCB	35	610	6 7	10		PIP	40S	-13.8	179.58	USE			
MP	10	1	1-19924	13	06/04/76	1FCB	43	610	4 1	10		PIP	40S	-15.1	179.58	USE			
MP	10	1	1-19924	10	06/04/76	1FCB	42	610	4 1	10		PIP	40S	-7.2	179.58	USE			
MP	10	1	1-20264	17	06/13/76	1FCB	42	610	6 1	10		PIP	40	-7.8	179.58	USE			
MP	10	1	1-20884	33	07/11/76	1FCB	22	610	7 9	10		PIP	40S	-11.2	179.58	USE			
MP	10	1	1-20884	30	07/11/76	1FCB	35	610	6 2	10		PIP	40S	-8.3	179.58	USE			
MP	10	1	1-20884	20	07/11/76	1FCB	42	610	6 2	10		PIP	40S	-1.0	179.58	USE			
MP	10	1	1-21543	43	08/07/76	1FCB	22	610	7 8	10		PIP	40S	-17.5	179.58	USE			
MP	10	1	1-21767	32	08/19/76	1FCB	19	610	4 5	10		PIP	40S	-8.5	179.58	USE			
MP	10	1	1-22289	35	08/31/76	1FCB	22	610	6 6	10		PIP	40S	-18.4	179.58	USE			
MP	10	1	1-23141	27	10/22/76	1FCB	35	610	6 4	10		PIP	40S	-1.3	179.58	USE			
MP	10	1	1-23222	11	10/23/76	1FCB	35	610	6 1	10		PIP	40S	-9.7	179.58	USE			
MP	10	1	1-25449	20	12/12/76	1FCB	42	610	4 2	10		PIP	40S	-15.4	179.58	USE			
MP	10	1	1-25449	31	12/12/76	1FCB	35	610	6 3	10		PIP	40S	-18.8	179.58	USE			
MP	10	1	1-25717	48	12/29/76	1FCB	19	610	4 1	10		PIP	40S	-11.0	179.58	USE			
MP	10	1	1-26033	31	12/31/76	1FCB	19	610	4 2	10		PIP	40S	-2.9	179.58	USE			
MP	10	1	1-26033	39	12/31/76	1FCB	19	610	4 2	10		PIP	40S	-2.0	179.58	USE			
MP	10	1	1-27774	1	03/31/77	1FCB	22	610	6 1	10		PIP	40S	-9.4	179.58	USE			
MP	10	1	1-26006	16	04/27/77	2FCB	35	611	6 1	10		PIP	40S	-5.0	179.58	USE			
MP	10	1	1-26006	18	04/27/77	2FCB	22	611	6 2	10		PIP	40S	-3.9	179.58	USE			

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	INVOICE	SEQ	DATE	SPOOL		SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MP 11 1	1-06691	1	10/26/74	GUN	I14101	8	SS	PIP	40	250.4	109.25	PB			
MP 11 1	1-12045	13	07/09/75	GUY	1-06691	8	SS	PIP	40	-54.0	109.25	PB			
MP 11 1	1-08074	17	01/25/75	1GCB	25 610 5 9	8		PIP	40S	-1.0	109.25	USE			
MP 11 1	1-17200	1	02/14/76	1GCB	16 61266 2	8		PIP	40S	-9.8	109.25	USE			
MP 11 1	1-17259	23	02/15/76	1GCB	16 612 2 6	8		PIP	40S	-16.6	109.25	USE			
MP 11 1	1-17259	21	02/15/76	1GCB	16 612 2 5	8		PIP	40S	-19.6	109.25	USE			
MP 11 1	1-17259	18	02/15/76	1GCB	16 612 2 1	8		PIP	40S	-3.0	109.25	USE			
MP 11 1	1-17259	12	02/15/76	1GCB	15 612 4	8		PIP	40S	-29.9	109.25	USE			
MP 11 1	1-17259	8	02/15/76	1GCB	15 612 4 4	8		PIP	40S	-4.8	109.25	USE			
MP 11 1	1-17259	4	02/15/76	1GCB	15 612 4 2	8		PIP	40S	-8.8	109.25	USE			
MP 11 1	1-17261	2	02/15/76	1GCB	16 612 3 4	8		PIP	40S	-5.3	109.25	USE			
MP 11 1	1-17650	2	03/03/76	1GCB	16 612 3 8	8		PIP	40S	-10.7	109.25	USE			
MP 11 1	1-19924	1	06/04/76	1GCB	16 612 3 7	8		PIP	40S	-21.1	109.25	USE			
MP 11 1	1-20663	1	06/26/76	1GCB	16 612 3 3	8		PIP	40S	-9.1	109.25	USE			
MP 11 1	1-20884	13	07/11/76	1GCB	16 612 3 5	8		PIP	40S	-9.3	109.25	USE			
MP 11 1	1-21543	16	08/07/76	1GCB	16 612 3 1	8		PIP	40S	-12.1	109.25	USE			
MP 11 1	1-22289	38	08/31/76	1GCB	15 612 4 8	8		PIP	40S	-6.8	109.25	USE			
MP 11 1	1-22289	1	08/31/76	1GCB	15 612 4 3	8		PIP	40S	-9.2	109.25	USE			
MP 11 1	1-27972	25	04/23/77	1GCB	15 612 4 1	8		PIP	40S	-12.8	109.25	USE	6.5	109.25	710.
MP 12 1	1-10398	1	04/22/75	CRU	C1204729	6	SS	PIP	40S	41.9	37.58	PB			
MP 12 1	1-17261	16	02/15/76	1GCB	18 612 4 2	6		PIP	40S	-4.3	37.58	USE			
MP 12 1	1-17261	12	02/15/76	1GCB	18 612 4 1	6		PIP	40S	-1.7	37.58	USE			
MP 12 1	1-17261	1	02/15/76	1GCB	16 612 3 4	6		PIP	40S	-3.1	37.58	USE			
MP 12 1	1-17259	7	02/15/76	1GCB	15 612 4 4	6		PIP	40S	-3.1	37.58	USE			
MP 12 1	1-17650	4	03/03/76	1GCB	17 612 3 1	6		PIP	40S	-2.1	37.58	USE			
MP 12 1	1-19924	7	06/04/76	1GCB	17 612 3 2	6		PIP	40S	-4.0	37.58	USE			
MP 12 1	1-20264	1	06/13/76	1GCB	17 612 3 3	6		PIP	40S	-6.0	37.58	USE			
MP 12 1	1-20264	4	06/13/76	1GCB	18 612 4 3	6		PIP	40S	-7.0	37.58	USE			
MP 12 1	1-22919	4	10/13/76	1GCB	16 612 7 9	6		PIP	40S	-1.0	37.58	USE			
MP 12 1	1-29654	3	07/28/77	2GCB	18 610 4 3	6		PIP	40S	-5.6	37.58	USE			
MP 12 1	1-32630	1	01/20/78	1GCB	18 612 4 4	6		PIP	40	-.5	37.58	USE	3.5	37.58	132.
MP 13 1	1-22702	44	09/25/76	GUY	I26300D	18	SS	PIP	STD	40.0	157.24	PB			
MP 13 1	1-20664	28	06/26/76	1GCB	33 610 5 3	18		PIP	40S	-1.1	157.24	USE			
MP 13 1	1-25223	5	11/20/76	1GCB	33 610 5 1	18		PIP	STD	-6.6	157.24	USE			
MP 13 1	1-25717	61	12/29/76	1HCB	1 612 8 5	18		PIP	STD	-20.3	157.24	USE			
MP 13 1	1-26985	46	02/26/77	1GCB	32 610 3 3	18		PIP	40S	-1.1	157.24	USE			
MP 13 1	1-32394	9	12/30/77	1GCB	33 610 5 2	18		PIP	40S	-3.1	157.24	USE			
MP 13 1	1-32894	8	01/27/78	1GCB	32 610 3 1	18		PIP	40S	-5.6	157.24	USE			
MP 13 1	1-35785	1	07/27/78	1GCB	32 610 3 2	18		PIP	40	-3.0	157.24	USE	-.8	157.24	-126.
MP 14 1	1-06691	53	10/26/74	CAP	82783	3	SS	PIP	10	211.3	12.00	PB			
MP 14 1	1-12045	1	07/09/75	CAP	1-06691	3	SS	PIP	10S	-140.0	12.00	PB			
MP 14 1	1-17200	4	02/14/76	1HCC	140 61612 4	3		PIP	10S	-6.3	12.00	USE			
MP 14 1	1-17259	16	02/15/76	1HCC	139 61612 5	3		PIP	10S	-25.6	12.00	USE			
MP 14 1	1-17259	14	02/15/76	1HCC	139 61612 4	3		PIP	10S	-6.3	12.00	USE			
MP 14 1	1-20663	6	06/26/76	1HCC	140 61612 6	3		PIP	10S	-17.4	12.00	USE			
MP 14 1	1-21543	21	08/07/76	1HCC	139 61612 6	3		PIP	10S	-22.3	12.00	USE	-6.6	12.00	-79.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY--------> QUANT	UNIT $	TOT $
MP 15 1	1-07083	3	11/23/74	GUY 13118	25	SS	PIP	10	22.6	14.96	PB			
MP 15 1	1-07686	21	12/28/74	GUY 13118	25	SS	PIP	10	22.6	14.96	PB			
MP 15 1	1-09432	1	03/11/75	GUY 13118	25	SS	PIP	10S	-22.6	14.96	PB			
MP 15 1	1-20264	19	06/13/76	1HCC 37 610 6 1	25		PIP	10	-6.6	14.96	USE			
MP 15 1	1-25449	51	12/12/76	1HCC 73 60317 3	2 5		PIP	10S	-.6	14.96	USE			
MP 15 1	1-29018	16	06/26/77	1HCC 35 60314 3	25		PIP	10S	-.3	14.96	USE			
MP 15 1	1-31205	16	10/27/77	1HCC134 610 3 1	25		PIP	10S	-6.6	14.96	USE			
MP 15 1	1-39072	3	01/26/79	2HCC 11 60416 2	25		PIP	10S	-1.7	14.96	USE	6.8	14.96	102.
MP 16 1	1-18184	13	03/25/76	TAY 01106736	26	CS	PIP	STD	475.1	108.00	PB			
MP 16 1	1-20296	1	06/14/76	OHBC 15 619 4 6	26		PIP	STD	-20.0	108.00	USE			
MP 16 1	1-20456	1	06/21/76	OHBC 15 619 4 3	26		PIP	STD	-15.3	108.00	USE			
MP 16 1	1-21527	1	08/07/76	OHBC 19 619 6 3	26		PIP	STD	-3.3	108.00	USE			
MP 16 1	1-22595	2	09/24/76	OHBC 19 619 6 4	26		PIP	STD	-20.8	108.00	USE			
MP 16 1	1-22595	4	09/24/76	OHBC 20 619 7 3	26		PIP	STD	-20.0	108.00	USE			
MP 16 1	1-23082	9	10/23/76	OHBC 16 619 5 3	26		PIP	STD	-13.3	108.00	USE			
MP 16 1	1-25238	13	11/17/76	OHBC 20 619 7 4	26		PIP	STD	-22.3	108.00	USE			
MP 16 1	1-25238	9	11/17/76	OHBC 16 619 5 2	26		PIP	STD	-20.1	108.00	USE			
MP 16 1	1-25224	2	11/20/76	OHBC 19 619 6 8	26		PIP	STD	-11.3	108.00	USE			
MP 16 1	1-25715	1	12/29/76	OHBC 20 619 7 2	26		PIP	STD	-9.8	108.00	USE			
MP 16 1	1-26522	3	02/01/77	OHBC 19 619 6 5	26		PIP	STD	-34.8	108.00	USE			
MP 16 1	1-26668	9	02/10/77	OHBC 16 619 5 1	26		PIP	STD	-13.3	108.00	USE			
MP 16 1	1-26668	5	02/10/77	OHBC 15 619 4 9	26		PIP	STD	-5.6	108.00	USE			
MP 16 1	1-26812	1	02/20/77	OHBC 16 619 5 4	26		PIP	STD	-22.6	108.00	USE			
MP 16 1	1-27290	8	03/12/77	OHBC 20 619 7 5	26		PIP	STD	-17.8	108.00	USE			
MP 16 1	1-28943	1	06/26/77	OHBC 15 619 410	26		PIP	STD	-.9	108.00	USE			
MP 16 1	1-29020	1	06/26/77	OHBC 19 619 6 7	26		PIP	STD	-3.2	108.00	USE			
MP 16 1	1-29322	1	07/13/77	OHBC 15 619 4 4	26		PIP	STD	-5.8	108.00	USE			
MP 16 1	1-29781	8	07/30/77	OHBC 20 619 7 7	26		PIP	STD	-3.2	108.00	USE			
MP 16 1	1-30226	1	08/27/77	OHBC 20 619 7 6	26		PIP	STD	-9.8	108.00	USE			
MP 16 1	1-30624	1	09/22/77	OHBC 16 619 5 5	26		PIP	STD	-5.5	108.00	USE			
MP 16 1	1-31211	1	10/27/77	OHBC 19 619 6 2	26		PIP	STD	-1.8	108.00	USE			
MP 16 1	1-33099	4	02/21/78	OHBC 19 619 6 6	26		PIP	STD	-5.4	108.00	USE			
MP 16 1	1-33058	4	02/21/78	OHBC 15 619 4 7	26		PIP	STD	-.9	108.00	USE			
MP 16 1	1-33197	7	02/23/78	OHBC 15 619 4 5	26		PIP	STD	-16.8	108.00	USE			
MP 16 1	1-33263	1	02/24/78	OHBC 15 619 4 8	26		PIP	STD	-5.7	108.00	USE			
MP 16 1	1-38001	1	11/24/78	OHBC 19 619 6 9	26		PIP	STD	-16.5	108.00	USE	149.3	108.00	16124.
MP 17 1	1-09040	1	02/22/75	CAP 10476	6	SS	PIP	40S	22.5	63.39	PB			
MP 17 1	1-21767	34	08/19/76	1FCB 36 610 4 1	6		PIP	40S	-12.1	63.39	USE			
MP 17 1	1-22919	1	10/13/76	1FCB 17 603 5 5	6		PIP	40S	-4.0	63.39	USE			
MP 17 1	1-23222	5	10/23/76	1FCB 14 603 5 1	6		PIP	40S	-1.6	63.39	USE	4.8	63.39	304.
MP 18 1	1-16249	8	12/31/75	GUY 123018	8	SS	PIP	40S	-1.1	93.84	PB			
MP 18 1	1-16249	9	12/31/75	GUY 123018	8	SS	PIP	40S	457.4	93.84	PB			
MP 18 1	1-38238	1	12/14/78	GUY 123Q18	8	SS	PIP	40S	-1.0	93.84	PB			
MP 18 1	1-41053	1	5/18/79	GUY 23018	8	SS	PIP	40S	-8.1	93.84	PB			
MP 18 1	1-17259	25	02/15/76	1GCB 16 612 2 9	8		PIP	40S	-20.6	93.84	USE			
MP 18 1	1-17261	19	02/15/76	1GCB 15 612 2 7	8		PIP	40S	-20.3	93.84	USE			
MP 18 1	1-17650	27	03/03/76	1GCB 16 612 2 7	8		PIP	40S	-16.9	93.84	USE			
MP 18 1	1-17650	25	03/03/76	1GCB 15 612 210	8		PIP	40S	-25.9	93.84	USE			
MP 18 1	1-17650	23	03/03/76	1GCB 15 612 2 8	8		PIP	40S	-16.6	93.84	USE			

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			INVOICE	SEQ	DATE	SPOOL				SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MP	19	1	1-07094	1	11/23/74	GUY	15159			25	SS	PIP	40	538.9	18.21	PB			
MP	19	1	1-09040	7	02/22/75	GUY	16300			25	SS	PIP	40S	295.9	18.94	PB			
MP	19	1	1-26485	40	01/29/77	GUY	I32127D			25	SS	PIP	40S	-458.1	18.21	PB			
MP	19	1	1-26485	39	01/29/77	GUY	I32127D			25	SS	PIP	40S	591.9	18.21	PB			
MP	19	1	1-20264	12	06/13/76	1GCB	24	610	3 2	25		PIP	40S	-5.2	18.21	USE			
MP	19	1	1-22105	19	08/19/76	1GCB	8	612	1 1	25		PIP	40S	-18.9	18.21	USE			
MP	19	1	1-22015	35	08/19/76	1GCB	3	612	1 2	25		PIP	40S	-16.1	18.21	USE			
MP	19	1	1-22015	37	08/19/76	1GCB	10	612	1 2	25		PIP	40S	-16.1	18.21	USE			
MP	19	1	1-22105	21	08/19/76	1GCB	1	612	1 1	25		PIP	40S	-18.9	18.21	USE			
MP	19	1	1-22289	20	08/31/76	1GCB	8	612	1 3	25		PIP	40S	-12.2	18.21	USE			
MP	19	1	1-22289	23	08/31/76	1GCB	1	612	1 3	25		PIP	40S	-12.2	18.21	USE			
MP	19	1	1-22982	29	10/15/76	1GCB	2	612	1 3	25		PIP	40S	-13.0	18.21	USE			
MP	19	1	1-22982	33	10/15/76	1GCB	4	612	1 2	25		PIP	40S	-13.8	18.21	USE			
MP	19	1	1-22982	35	10/15/76	1GCB	5	612	1 7	25		PIP	40S	-6.8	18.21	USE			
MP	19	1	1-22982	31	10/15/76	1GCB	11	612	1 2	25		PIP	40S	-13.8	18.21	USE			
MP	19	1	1-25023	1	11/20/76	1GCB	12	612	1 7	25		PIP	40S	-6.8	18.21	USE			
MP	19	1	1-26443	13	01/29/77	1GCB	11	612	1 3	25		PIP	40S	-15.8	18.21	USE			
MP	19	1	1-26459	40	01/29/77	1GCB	4	612	1 3	25		PIP	40S	-15.8	18.21	USE			
MP	19	1	1-26459	34	01/29/77	1GCB	11	612	1 1	25		PIP	40S	-10.9	18.21	USE			
MP	19	1	1-26459	26	01/29/77	1GCB	1	612	1 2	25		PIP	40S	-18.8	18.21	USE			
MP	19	1	1-26459	44	01/29/77	1GCB	12	612	1 8	25		PIP	40S	-16.8	18.21	USE			
MP	19	1	1-26459	22	01/29/77	1GCB	8	612	1 4	25		PIP	40S	-15.3	18.21	USE			
MP	19	1	1-26443	1	01/29/77	1GCB	9	612	1 2	25		PIP	40S	-23.6	18.21	USE			
MP	19	1	1-26459	17	01/29/77	1GCB	2	612	1 5	25		PIP	40S	-23.5	18.21	USE			
MP	19	1	1-26443	17	01/29/77	1GCB	4	612	1 1	25		PIP	40S	-11.0	18.21	USE			
MP	19	1	1-26459	30	01/29/77	1GCB	1	612	1 4	25		PIP	40S	-15.3	18.21	USE			
MP	19	1	1-26443	5	01/29/77	1GCB	2	612	1 2	25		PIP	40S	-23.6	18.21	USE			
MP	19	1	1-26443	9	01/29/77	1GCB	8	612	1 2	25		PIP	40S	-18.8	18.21	USE			
MP	19	1	1-26707	9	02/14/77	1GCB	5	612	1 4	25		PIP	40S	-23.5	18.21	USE			
MP	19	1	1-26707	21	02/14/77	1GCB	10	612	1 3	25		PIP	40S	-15.5	18.21	USE			
MP	19	1	1-26707	1	02/14/77	1GCB	9	612	1 5	25		PIP	40S	-23.5	18.21	USE			
MP	19	1	1-26707	17	02/14/77	1GCB	3	612	1 6	25		PIP	40S	-23.3	18.21	USE			
MP	19	1	1-26707	5	02/14/77	1GCB	12	612	1 4	25		PIP	40S	-23.5	18.21	USE			
MP	19	1	1-26707	13	02/14/77	1GCB	7	612	1 3	25		PIP	40S	-15.0	18.21	USE			
MP	19	1	1-26985	38	02/26/77	1GCB	6	612	1 7	25		PIP	40S	-23.8	18.21	USE			
MP	19	1	1-26985	42	02/26/77	1GCB	10	612	1 6	25		PIP	40S	-23.3	18.21	USE			
MP	19	1	1-27614	70	03/30/77	1GCB	16	612	116	25		PIP	40S	-8.2	18.54	USE			
MP	19	1	1-27774	9	03/31/77	1FCC	1	610	4 1	25		PIP	40S	-9.8	18.94	USE			
MP	19	1	1-27774	42	03/31/77	1GCB	13	612	113	25		PIP	40S	-8.1	18.94	USE			
MP	19	1	1-28362	15	05/16/77	1GCB	6	612	1 3	25		PIP	40S	-15.1	18.94	USE			
MP	19	1	1-28431	33	05/26/77	1GCB	14	612	1 6	25		PIP	40S	-16.7	18.94	USE			
MP	19	1	1-28431	55	05/26/77	1GCB	3	612	1 3	25		PIP	40S	-15.5	18.94	USE			
MP	19	1	1-28431	51	05/26/77	1GCB	7	612	1 7	25		PIP	40S	-23.9	18.94	USE			
MP	19	1	1-28431	47	05/26/77	1GCB	5	612	1 8	25		PIP	40S	-16.8	18.94	USE			
MP	19	1	1-28431	40	05/26/77	1GCB	15	612	1 9	25		PIP	40S	-16.7	18.94	USE			
MP	19	1	1-33432	50	03/13/78	OHCD266	60715		2	25		PIP	10S	-11.8	18.94	USE			
MP	19	1	1-34357	43	04/28/78	OHCD266	60715		4	25		PIP	40S	-28.8	18.94	USE			
MP	19	1	1-34357	40	04/28/78	OHCD266	60715		3	25		PIP	10S	-13.3	18.94	USE			
MP	19	1	1-34584	9	05/18/78	OHCD261	60715		1	25		PIP	40S	-15.8	18.94	USE			
MP	19	1	1-34584	11	05/18/78	OHCD261	60715		2	25		PIP	40S	-13.6	18.94	USE			
MP	19	1	1-35673	61	07/25/78	OHCD266	60715		5	25		PIP	40S	-2.8	18.94	USE			
MP	19	1	1-36851	4	09/19/78	1FCC	3	610	6 2	25		PIP	40S	-24.5	18.94	USE			
MP	19	1	1-32751	25	10/20/78	2FCC	3	611	6 4	25		PIP	40S	-21.2	18.94	USE			
MP	19	1	1-32931	17	02/08/79	2FCC	3	611	6 5	25		PIP	40S	-8.1	18.94	USE	163.5	18.34	2999.

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	INVOICE	SEQ	DATE	SPOOL					SIZE	MAT	TYP	SCH	QUANT	UNIT	PRICE	MODE	QUANT	UNIT $	TOT $
MP 19 2	1-09040	8	02/22/75	GUY	16300				3	SS	PIP	40S	638.3		22.78	PB			
MP 19 2	1-12045	19	07/09/75	GUY	1-09040				3	SS	PIP	40S	-108.0		22.78	PB			
MP 19 2	1-34806	11	05/26/78	GUY	16300				3	SS	PIP	40S	-15.5		22.78	PB			
MP 19 2	1-41556	1	6/20/79	GUY	16300				3		PIP	STD	-13.3		22.78	PB			
MP 19 2	1-20663	8	06/26/76	1GCB	34	610	5	1	3		PIP	40S	-3.8		22.78	USE			
MP 19 2	1-21543	53	08/07/76	1GCB	16	612	115		3		PIP	40S	-12.8		22.78	USE			
MP 19 2	1-21543	37	09/07/76	1GCB	31	610	4	1	3		PIP	40S	-1.5		22.78	USE			
MP 19 2	1-21543	63	08/07/76	1GCB	15	612	1	8	3		PIP	40S	-12.8		22.78	USE			
MP 19 2	1-21543	61	08/07/76	1GCB	14	612	1	5	3		PIP	40S	-12.8		22.78	USE			
MP 19 2	1-21543	57	08/07/76	1GCB	13	612	112		3		PIP	40S	-12.8		22.78	USE			
MP 19 2	1-21767	16	08/19/76	1GCB	2	612	1	4	3		PIP	40S	-17.3		22.78	USE			
MP 19 2	1-22015	30	08/19/76	1GCB	5	612	1	6	3		PIP	40S	-20.0		22.78	USE			
MP 19 2	1-21767	19	08/19/76	1GCB	5	612	1	3	3		PIP	40S	-16.2		22.78	USE			
MP 19 2	1-21767	14	08/19/76	1GCB	9	612	1	3	3		PIP	40S	-12.9		22.78	USE			
MP 19 2	1-21767	27	08/19/76	1GCB	7	612	1	5	3		PIP	40S	-17.3		22.78	USE			
MP 19 2	1-22015	26	08/19/76	1GCB	12	612	1	6	3		PIP	40S	-20.0		22.78	USE			
MP 19 2	1-22105	23	08/19/76	1GCB	12	612	1	3	3		PIP	40S	-16.2		22.78	USE			
MP 19 2	1-21767	22	08/19/76	1GCB	6	612	1	5	3		PIP	40S	-17.3		22.78	USE			
MP 19 2	1-21767	24	08/19/76	1GCB	6	612	1	6	3		PIP	40S	-16.3		22.78	USE			
MP 19 2	1-21767	29	08/19/76	1GCB	7	612	1	6	3		PIP	40S	-16.3		22.78	USE			
MP 19 2	1-22289	16	08/31/76	1GCB	2	612	1	1	3		PIP	40S	-11.6		22.78	USE			
MP 19 2	1-22289	29	08/31/76	1GCB	10	612	1	1	3		PIP	40S	-20.0		22.78	USE			
MP 19 2	1-22289	13	08/31/76	1GCB	9	612	1	4	3		PIP	40S	-17.4		22.78	USE			
MP 19 2	1-22855	12	10/09/76	1GCB	10	612	1	5	3		PIP	40S	-17.4		22.78	USE			
MP 19 2	1-22855	9	10/09/76	1GCB	3	612	1	5	3		PIP	40S	-17.4		22.78	USE			
MP 19 2	1-22982	36	10/15/76	1GCB	5	612	1	7	3		PIP	40S	-13.6		22.78	USE			
MP 19 2	1-22982	19	10/15/76	1GCB	13	612	111		3		PIP	40S	-2.2		22.78	USE			
MP 19 2	1-22982	27	10/15/76	1GCB	15	612	1	7	3		PIP	40S	-11.3		22.78	USE			
MP 19 2	1-22982	25	10/15/76	1GCB	14	612	1	4	3		PIP	40S	-11.3		22.78	USE			
MP 19 2	1-23141	21	10/22/76	1GCB	6	612	1	2	3		PIP	40S	-24.9		22.78	USE			
MP 19 2	1-23141	12	10/22/76	1GCB	12	612	1	2	3		PIP	40S	-11.7		22.78	USE			
MP 19 2	1-23141	24	10/22/76	1GCB	3	612	1	1	3		PIP	40S	-20.0		22.78	USE			
MP 19 2	1-23141	16	10/22/76	1GCB	5	612	1	2	3		PIP	40S	-8.3		22.78	USE			
MP 19 2	1-23141	11	10/22/76	1GCB	12	612	1	2	3		PIP	40S	-8.3		22.78	USE			
MP 19 2	1-23141	8	10/23/76	1GCB	16	612	114		3		PIP	40S	-2.1		22.78	USE			
MP 19 2	1-25223	2	11/20/76	1GCB	12	612	1	7	3		PIP	40S	-13.5		22.78	USE			
MP 19 2	1-27614	71	03/30/77	1GCB	16	612	116		3		PIP	40S	-10.4		22.78	USE			
MP 19 2	1-27774	43	03/31/77	1GCB	13	612	113		3		PIP	40S	-10.4		22.78	USE			
MP 19 2	1-28431	41	05/26/77	1GCB	15	612	1	9	3		PIP	40S	-1.8		22.78	USE			
MP 19 2	1-28431	34	05/26/77	1GCB	14	612	1	6	3		PIP	40S	-1.8		22.78	USE			
MP 19 2	1-28805	20	06/13/77	1GCB	7	612	1	2	3		PIP	40S	-24.8		22.78	USE			
MP 19 2	1-35610	9	07/12/78	OHCD	374	608	12	12	3		PIP	40S	-9.8		22.78	USE			
MP 19 2	1-38015	1	11/24/78	1HCB	56	648	7	1	3		PIP	40S	-.7		22.78	USE			
MP 19 2	1-38000	1	11/24/78	2HCB	56	648	7	1	3		PIP	40S	-.8		22.78	USE			
MP 19 2	1-38631	1	12/28/78	1HCB	56	648	7	2	3		PIP	40S	-.5		22.78	USE			
MP 19 2	1-39247	1	02/20/79	2HCB	56	648	7	2	3		PIP	40S	-.5		22.78	USE	2.7	22.78	62.
MP 19 3	1-09040	9	02/22/75	GUY	16300				4	SS	PIP	40S	379.7		32.44	PB			
MP 19 3	1-12045	11	07/09/75	GUY	1-09040				4	SS	PIP	40S	-80.0		32.44	PB			
MP 19 3	1-21543	55	08/07/76	1GCB	13	612	110		4		PIP	40S	-10.1		32.44	USE			
MP 19 3	1-21543	59	08/07/76	1GCB	14	612	1	2	4		PIP	40S	-17.1		32.44	USE			
MP 19 3	1-21543	51	08/07/76	1GCB	16	612	113		4		PIP	40S	-12.1		32.44	USE			
MP 19 3	1-22015	28	08/19/76	1GCB	12	612	1	9	4		PIP	40S	-8.5		32.44	USE			
MP 19 3	1-22015	32	08/19/76	1GCB	7	612	1	4	4		PIP	40S	-20.9		32.44	USE			

MP	19	3	1-22105	17	08/19/76	1GCB	15	612	1	5	4	PIP	40S	-17.0	32.44	USE							
MP	19	3	1-22105	10	08/19/76	1GCB	14	612	1	3	4	PIP	40S	-13.0	32.44	USE							
MP	19	3	1-22289	26	08/31/76	1GCB	6	612	1	4	4	PIP	40S	-20.9	32.44	USE							
MP	19	3	1-22855	6	10/09/76	1GCB	5	612	1	1	4	PIP	40S	-20.0	32.44	USE							
MP	19	3	1-22982	20	10/15/76	1GCB	13	612	1	11	4	PIP	40S	-10.7	32.44	USE							
MP	19	3	1-22982	13	10/15/76	1GCB	13	612	1	9	4	PIP	40S	-4.7	32.44	USE							
MP	19	3	1-22982	6	10/15/76	1GCB	16	612	1	12	4	PIP	40S	-4.7	32.44	USE							
MP	19	3	1-23141	17	10/22/76	1GCB	5	612	1	2	4	PIP	40S	-11.7	32.44	USE							
MP	19	3	1-23141	9	10/23/76	1GCB	16	612	1	14	4	PIP	40S	-10.7	32.44	USE							
MP	19	3	1-25112	18	11/20/76	1GCB	12	612	1	1	4	PIP	40S	-20.0	32.44	USE							
MP	19	3	1-25112	14	11/20/76	1GCB	15	612	1	6	4	PIP	40S	-12.9	32.44	USE							
MP	19	3	1-25112	21	11/20/76	1GCB	5	612	1	5	4	PIP	40S	-2.1	32.44	USE							
MP	19	3	1-25449	16	12/12/76	1GCB	5	612	1	9	4	PIP	40S	-8.4	32.44	USE							
MP	19	3	1-25717	37	12/29/76	1GCB	12	612	1	5	4	PIP	40S	-18.3	32.44	USE							
MP	19	3	1-28975	1	06/23/77	1GCB	14	612	1	1	4	PIP	40S	-5.9	32.44	USE							
MP	19	3	1-29025	5	06/26/77	1GCB	15	612	1	4	4	PIP	40S	-5.9	32.44	USE							
MP	19	3	1-39065	7	01/26/79	1GCB	27	610	2	1	4	PIP	STD	-5.2	32.44	USE	38.9	32.44	1262.				

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MP 30 1	1-16762	1	01/24/76	CAP 25702	6	SS	PIP	40S	6.0	71.85	PB			
MP 30 1	1-21543	15	08/07/76	1FCB 16 603 6 1	6		PIP	STD	-1.0	71.85	USE			
MP 30 1	1-30186	43	08/27/77	1FCB 15 603 8 7	6		PIP	40S	-2.1	71.85	USE	2.9	71.85	208.
MP 31 1	1-21317	2	07/24/76	GUL 27901981	18	SS	PIP	STD	240.4	163.06	PB			
MP 31 1	1-21787	6	08/19/76	1HCB 2 612 510	18		PIP	STD	-35.0	163.06	USE			
MP 31 1	1-21767	39	08/19/76	1HCB 2 612 7 3	18		PIP	STD	-24.0	163.06	USE			
MP 31 1	1-22015	39	08/19/76	1HCB 1 612 8 3	18		PIP	STD	-22.0	163.06	USE			
MP 31 1	1-27774	62	03/31/77	1HCB 1 612 8 4	18		PIP	STD	-25.2	163.06	USE			
MP 31 1	1-27972	35	04/23/77	1HCB 2 612 7 4	18		PIP	STD	-24.0	163.06	USE			
MP 31 1	1-29022	26	06/26/77	1HCB 1 612 8 1	18		PIP	STD	-2.3	163.06	USE			
MP 31 1	1-29022	24	06/26/77	1HCB 2 612 7 1	18		PIP	STD	-2.3	163.06	USE			
MP 31 1	1-29930	9	08/11/77	1HCB 2 612 510	18		PIP	STD	-16.2	163.06	USE			
MP 31 1	1-30859	52	09/30/77	1HCB 2 612 7 6	18		PIP	STD	-2.3	163.06	USE			
MP 31 1	1-36850	1	09/19/78	OHCD974 661 1 1	18		PIP	STD	-35.8	163.06	USE			
MP 31 1	1-37097	3	09/28/78	W05084	18		PIP	STD	-11.0	163.06	USE			
MP 31 1	1-37858	1	11/16/78	2HCB 2 613 511	18		PIP	STD	-20.0	163.06	USE	20.3	163.06	3310.
MP 32 1	1-20512	2	6/26/76	GUY I-25871	4	SS	PIP	10S	-.3	4.97	PB			
MP 32 1	1-18896	10	04/24/76	GUY 125871	4	SS	PIP	10S	443.9	14.92	PB			
MP 32 1	1-20264	15	06/13/76	1HCB 19 612 8 3	4		PIP	10S	-10.1	15.22	USE			
MP 32 1	1-20264	16	06/13/76	1HCB 21 612 8 2	4		PIP	10	-12.8	14.92	USE			
MP 32 1	1-20294	3	06/14/76	1HCB 18 612 7 3	4		PIP	10S	-20.0	14.92	USE			
MP 32 1	1-20294	2	06/14/76	1HCB 20 612 7 2	4		PIP	10S	-20.8	14.92	USE			
MP 32 1	1-20663	15	06/26/76	1HCB 18 612 7 4	4		PIP	10S	-29.6	14.92	USE			
MP 32 1	1-20663	13	06/26/76	1HCB 18 612 7 2	4		PIP	10S	-12.2	14.92	USE			
MP 32 1	1-20661	9	06/26/76	1HCB 20 612 7 4	4		PIP	10S	-24.1	14.92	USE			
MP 32 1	1-20661	12	06/26/76	1HCB 19 612 8 5	4		PIP	10S	-24.3	14.92	USE			
MP 32 1	1-20661	11	06/26/76	1HCB 21 612 8 4	4		PIP	10S	-23.9	14.92	USE			
MP 32 1	1-20661	10	06/26/76	1HCB 18 612 7 5	4		PIP	10S	-25.2	14.92	USE			
MP 32 1	1-20661	1	06/26/76	1HCB 21 612 6 6	4		PIP	10S	-23.2	14.92	USE			
MP 32 1	1-20663	12	06/26/76	1HCB 20 612 7 3	4		PIP	10S	-29.9	14.92	USE			
MP 32 1	1-20884	37	07/11/76	1HCB 19 612 8 2	4		PIP	10S	-9.5	14.92	USE			
MP 32 1	1-20884	35	07/11/76	1HCB 19 612 8 1	4		PIP	10	-1.3	14.92	USE			
MP 32 1	1-21543	49	08/07/76	1HCB 18 612 5 6	4		PIP	10S	-23.3	14.92	USE			
MP 32 1	1-21543	50	08/07/76	1HCB 20 612 5 5	4		PIP	10S	-23.3	14.92	USE			
MP 32 1	1-22015	40	08/19/76	1HCB 21 612 8 3	4		PIP	10S	-37.6	14.92	USE			
MP 32 1	1-27972	1	04/23/77	1HCB 12 61416 2	4		PIP	10S	-4.1	14.92	USE			
MP 32 1	1-30186	26	08/27/77	1HCB 18 612 7 1	4		PIP	10S	-1.3	14.92	USE			
MP 32 1	1-31872	19	12/07/77	1HCB 20 612 7 1	4		PIP	10S	-3.4	14.92	USE			
MP 32 1	1-33980	1	04/13/78	1HCB 19 612 8 4	4		PIP	10S	-37.5	14.92	USE	46.2	14.92	689.
MP 33 1	1-17544	27	02/21/76	GUY 03003	14	SS	PIP	140	5.0	339.95	PB			
MP 33 1	1-26501	5	02/01/77	1CCB 29 610 1 1	14		PIP	140	-3.0	339.95	USE			
MP 33 1	1-34928	3	06/14/78	1ECB 2 610 1 2	14		PIP	140	-1.0	339.95	USE			
MP 33 1	1-39583	4	03/07/79	W05265	14		PIP	140	-1.0	339.95	USE	.0	.00	0.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MP 34 1	1-18896	3	04/24/76	CAP 36458	6	SS	PIP	10S	28.0	17.23	PB			
MP 34 1	1-20884	18	07/11/76	1HCC154 61610 1	6		PIP	10S	-12.8	17.23	USE			
MP 34 1	1-29967	10	08/17/77	2HCC154 61710 1	6		PIP	10S	-12.7	17.23	USE	2.5	17.23	43.
MP 35 1	1-22542	13	09/23/76	GUL 27911981	18	SS	PIP	STD	66.0	163.06	PB			
MP 35 1	1-23222	6	10/23/76	1HCB 2 612 510	18		PIP	STD	-6.8	163.06	USE			
MP 35 1	1-25449	52	12/12/76	1HCC 1 612 610	18		PIP	STD	-16.8	163.06	USE			
MP 35 1	1-28362	9	05/16/77	1HCB 2 612 513	18		PIP	STD	-23.1	163.06	USE			
MP 35 1	1-28654	53	05/28/77	1HCB 2 612 7 5	18		PIP	STD	-4.0	163.06	USE	15.3	163.06	2495.
MP 35 2	1-19805	14	05/22/76	GUY I-27291	8	SS	PIP	10	21.1	35.05	PB			
MP 35 2	1-22105	5	08/19/76	1HCB 14 612 6 2	8		PIP	10S	-3.8	35.05	USE			
MP 35 2	1-26985	29	02/26/77	1HCB 14 612 6 1	8		PIP	10S	-4.5	35.05	USE			
MP 35 2	1-28224	21	04/30/77	2HCB 14 613 6 2	8		PIP	10S	-3.8	35.05	USE			
MP 35 2	1-38000	12	11/24/78	OHCC 50 61410 4	8		PIP	10S	-1.3	35.05	USE	7.7	35.05	270.
MP 36 1	1-19805	13	05/22/76	GUY I-26315	4	SS	PIP	10S	67.8	14.92	PB			
MP 36 1	1-26033	41	12/31/76	1HCB 11 608 2 1	4		PIP	10S	-7.8	14.92	USE			
MP 36 1	1-28654	49	05/28/77	1HCB145 608 2 1	4		PIP	10S	-.9	14.92	USE			
MP 36 1	1-29930	16	08/11/77	1HCB 21 612 8 3	4		PIP	10S	-5.3	14.92	USE			
MP 36 1	1-29930	17	08/11/77	1HCB 19 612 8 4	4		PIP	10S	-5.8	14.92	USE			
MP 36 1	1-30622	1	09/22/77	1HCB 18 612 5 6	4		PIP	10S	-4.3	14.92	USE			
MP 36 1	1-30859	54	09/30/77	1HCB 18 612 7 4	4		PIP	10S	-6.6	14.92	USE			
MP 36 1	1-31872	4	12/07/77	1HCB112 614 6 2	4		PIP	10S	-1.6	14.92	USE			
MP 36 1	1-33425	1	03/13/78	1HCB 12 61416 1	4		PIP	10S	-3.5	14.92	USE			
MP 36 1	1-36501	7	08/30/78	OHCD862 60711 4	4		PIP	10S	-4.0	14.92	USE			
MP 36 1	1-32760	25	10/27/78	1HCB 20 612 7 3	4		PIP	10S	-6.2	14.92	USE			
MP 36 1	1-41908	18	7/ 2/79	OHCC 17 614 8 1	4		PIP	10S	-1.8	14.92	USE	20.0	14.92	298.
MP 37 1	1-18896	9	04/24/76	GUY 126766	3	SS	PIP	40S	26.1	13.66	PB			
MP 37 1	1-35080	18	06/22/78	2HCC114 614 2 1	3		PIP	40S	-3.6	13.66	USE			
MP 37 1	1-32760	21	10/27/78	1FCB 29 610 6 3	3		PIP	40S	-11.2	13.66	USE	11.3	13.66	154.
MP 38 1	1-19805	6	05/22/76	CAP 29255	12	SS	PIP	160	15.0	813.00	PB			
MP 38 1	1-29970	5	08/17/77	1CCA 61 610 2 2	12		PIP	160	-2.2	813.00	USE			
MP 38 1	1-35650	9	07/25/78	1CCA 61 610 2 1	12		PIP	160	-10.0	813.00	USE	2.8	813.00	2276.
MP 38 2	1-19805	7	05/22/76	CAP 29255	12	SS	PIP	140	16.0	771.00	PB			
MP 38 2	1-35650	8	07/25/78	1CCA 61 610 2 1	12		PIP	140	-3.7	771.00	USE			
MP 38 2	1-38470	2	12/28/78	1CCA 18 610 2 5	12		PIP	140	-2.7	771.00	USE			
MP 38 2	1-37270	12	09/29/79	2CCA 18 611 2 3	12		PIP	140	-7.0	771.00	USE	2.6	771.00	2005.

<ITT PART>	<----------ID---------->								<PAR. DESCRIPTION>				<----TRANSACTION---->			<------INVENTORY------>		
	INVOICE	SEQ	DATE	SPOOL					SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MP 39	1 1-19805	4	05/22/76	CAP	84112				12	SS	PIP	40	12.0	113.30	PB			
MP 39	1 1-23222	2	10/23/76	1GCB	26	610	2	1	12		PIP	STD	-7.0	113.30	USE	5.0	113.30	566.
MP 39	2 1-18895	8	04/24/76	GUY	126526				4	SS	PIP	40S	13.0	32.93	PB			
MP 39	2 1-23222	7	10/23/76	1GCB	26	610	2	1	4		PIP	STD	-2.2	32.93	USE			
MP 39	2 1-37792	1	11/14/78	WO5123					4		PIP	40S	-4.8	32.93	USE	6.0	32.93	198.
MP 40	1 1-19805	5	05/22/76	CAP	61477				4	SS	PIP	10S	13.0	12.00	PB			
MP 40	1 1-28956	1	06/23/77	CAP	61477				4	SS	PIP	10	-13.0	12.00	PB	.0	.00	0.
MP 41	1 1-22542	15	09/23/76	GUL	27911981				18	SS	PIP	STD	29.6	163.06	PB			
MP 41	1 1-33269	11	02/24/78	1HCB	1	612	8	6	18		PIP	STD	-8.5	163.06	USE	21.1	163.06	3441.
MP 42	1 1-21941	21	08/21/76	GUY	I28566				4	SS	PIP	160	61.6	87.47	PB			
MP 42	1 1-25717	1	12/29/76	1CCB	80	603	9	1	4		PIP	160	-20.7	87.47	USE			
MP 42	1 1-27668	5	03/31/77	1CCB	1	603	6	2	4		PIP	160	-7.3	87.47	USE			
MP 42	1 1-27668	1	03/31/77	1CCB	13	603	5	2	4		PIP	160	-7.6	87.47	USE			
MP 42	1 1-28209	8	04/30/77	1CCB	1	603	6	3	4		PIP	160	-18.1	87.47	USE			
MP 42	1 1-37270	3	09/29/79	2CCB	1	604	9	2	4		PIP	160	-1.8	87.47	USE	6.1	87.47	534.
MP 42	2 1-22542	16	09/23/76	GUY	I29173				25	SS	PIP	160	39.8	58.00	PB			
MP 42	2 1-22982	3	10/15/76	1CCB	14	603	7	1	25		PIP	160	-.5	58.00	USE			
MP 42	2 1-22982	2	10/15/76	1CCB	2	603	7	7	25		PIP	160	-.9	58.00	USE			
MP 42	2 1-27614	1	03/30/77	1CCB	2	603	7	3	25		PIP	160	-2.0	58.00	USE			
MP 42	2 1-27614	3	03/30/77	1CCB	12	603	7	3	25		PIP	160	-5.8	58.00	USE			
MP 42	2 1-28362	1	05/16/77	1CCB	12	603	7	2	25		PIP	160	-6.0	58.00	USE			
MP 42	2 1-28805	1	06/13/77	1CCB	9	603	9	3	25		PIP	160	-5.3	58.00	USE			
MP 42	2 1-29970	3	08/17/77	1CCB	2	603	7	1	25		PIP	160	-2.6	58.00	USE			
MP 42	2 1-30859	46	09/30/77	1CCB	28	601	2	1	25		PIP	160	-1.4	58.00	USE			
MP 42	2 1-30859	2	09/30/77	1CCB	8	603	7	5	25		PIP	160	-1.0	58.00	USE			
MP 42	2 1-32394	1	12/30/77	1CCB	9	603	9	1	25		PIP	160	-1.9	58.00	USE	12.4	58.00	719.
MP 43	1 1-21941	20	08/21/76	GUY	I28566				4	SS	PIP	40	22.0	22.53	PB			
MP 43	1 1-22982	5	10/15/76	1FCB	17	603	5	2	4		PIP	40S	-.8	22.53	USE			
MP 43	1 1-22982	4	10/15/76	1FCB	17	603	5	1	4		PIP	40S	-1.6	22.53	USE			
MP 43	1 1-26985	14	02/26/77	1FCB	17	603	5	3	4		PIP	40S	-4.0	22.53	USE			
MP 43	1 1-28209	16	04/30/77	1FCB	39	603	6	1	4		PIP	STD	-6.6	22.53	USE	9.0	22.53	203.
MP 44	1 1-21941	22	08/21/76	GUY	I28802				4	SS	PIP	10	8.8	15.81	PB			
MP 44	1 1-31126	3	10/25/77	1HCB	20	612	7	5	4		PIP	10S	-4.0	15.81	USE			
MP 44	1 1-31126	4	10/25/77	1HCB	18	612	7	6	4		PIP	10S	-4.0	15.81	USE	.8	15.81	13.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<-------INVENTORY-------> QUANT	UNIT $	TOT $
MP 47 1	1-26485	41	01/29/77	GUY I32192	25	SS	PIP	160	106.4	58.00	PB			
MP 47 1	1-26985	25	02/26/77	1CCC 3 60315 2	25		PIP	160	-27.8	58.00	USE			
MP 47 1	1-27454	12	03/23/77	1CCC 4 60315 1	25		PIP	160	-.6	58.00	USE			
MP 47 1	1-27454	11	03/23/77	1CCC 4 60315 1	2 5		PIP	160	-2.2	58.00	USE			
MP 47 1	1-27774	20	03/31/77	1HCC 36 60315 1	25		PIP	160	-1.0	58.00	USE			
MP 47 1	1-28431	13	05/26/77	1CCC 3 60315 3	25		PIP	160	-25.1	58.00	USE			
MP 47 1	1-29022	1	06/26/77	1CCC 4 60315 2	25		PIP	160	-.8	58.00	USE			
MP 47 1	1-32420	12	12/30/77	1CCC 3 60315 1	25		PIP	160	-14.8	58.00	USE			
MP 47 1	1-34490	1	04/28/78	1CCC 3 60315 4	25		PIP	160	-16.4	58.00	USE	17.7	58.00	1027.
MP 48 1	1-25083	17	11/20/76	GUL 27-90147	25	SS	PIP	10S	210.0	6.54	PB			
MP 48 1	1-25717	33	12/29/76	1HCC 35 60315 6	25		PIP	10S	-25.1	6.54	USE			
MP 48 1	1-25717	35	12/29/76	1HCC 79 60317 1	25		PIP	10S	-6.7	6.54	USE			
MP 48 1	1-26033	17	12/31/76	1HCC 35 60315 7	25		PIP	10S	-9.3	6.54	USE			
MP 48 1	1-26447	7	01/29/77	1HCC 35 60315 4	25		PIP	10S	-28.6	6.54	USE			
MP 48 1	1-2644[illegible]	9	01/29/77	1HCC 76 60317 9	25		PIP	10S	-11.8	6.54	USE			
MP 48 1	1-26985	27	02/26/77	1HCC 76 60317 5	25		PIP	10S	-16.5	6.54	USE			
MP 48 1	1-27614	36	03/30/77	1HCC 76 60317 8	25		PIP	10S	-12.3	6.54	USE			
MP 48 1	1-27614	28	03/30/77	1HCC 76 60317 4	25		PIP	10S	-10.1	6.54	USE			
MP 48 1	1-27614	33	03/30/77	1HCC 76 60317 6	25		PIP	10S	-20.3	6.54	USE			
MP 48 1	1-27774	22	03/31/77	1HCC 36 60315 1	25		PIP	10S	-1.7	6.54	USE			
MP 48 1	1-28209	27	04/30/77	1HCC 65 60316 7	25		PIP	10S	-6.4	6.54	USE			
MP 48 1	1-28654	26	05/28/77	1HCC 76 60317 2	25		PIP	10S	-5.0	6.54	USE			
MP 48 1	1-28805	11	06/13/77	1HCC 65 60316 5	25		PIP	10S	-12.5	6.54	USE			
MP 48 1	1-31385	30	10/29/77	1HCC 50 60311 1	25		PIP	10S	-7.2	6.54	USE			
MP 48 1	1-31672	7	11/25/77	1HCC 35 60315 2	25		PIP	10S	-12.6	6.54	USE			
MP 48 1	1-39064	1	01/26/79	1HCC 76 60317 7	25		PIP	10S	-21.1	6.54	USE	2.8	6.54	18.
MP 49 1	1-21941	24	08/21/76	LAB 94334	6	CS	PIP	120	145.5	11.59	PB			
MP 49 1	1-23142	5	10/23/76	1DBC 3 633 4 1	6		PIP	120	-6.4	11.59	USE			
MP 49 1	1-26314	1	01/22/77	1DBC 5 633 6 3	6		PIP	120	-11.0	11.59	USE			
MP 49 1	1-27523	1	03/25/77	1DBC 2 633 4 3	6		PIP	120	-8.7	11.59	USE			
MP 49 1	1-27657	1	03/31/77	1DBC 2 633 5 2	6		PIP	120	-5.3	11.59	USE			
MP 49 1	1-27667	5	03/31/77	1DBC 7 633 6 1	6		PIP	120	-3.6	11.59	USE			
MP 49 1	1-27670	2	03/31/77	1DBC 2 633 5 4	6		PIP	120	-8.5	11.59	USE			
MP 49 1	1-27667	3	03/31/77	1DBC 2 633 5 5	6		PIP	120	-16.8	11.59	USE			
MP 49 1	1-28232	15	04/30/77	1DBC 2 633 5 3	6		PIP	120	-27.6	11.59	USE			
MP 49 1	1-28796	1	06/11/77	1DBC 2 633 5 1	6		PIP	120	-9.8	11.59	USE			
MP 49 1	1-29320	4	07/13/77	1DBC 7 633 4 2	6		PIP	120	-22.0	11.59	USE			
MP 49 1	1-29344	1	07/14/77	1DBC 2 633 5 6	6		PIP	120	-11.0	11.59	USE	14.8	11.59	172.
MP 50 1	1-26485	43	01/29/77	GUY I32192	25	SS	PIP	160	52.6	66.70	PB			
MP 50 1	1-27668	25	03/31/77	1CCA 14 603 1 1	25		PIP	160	-16.0	66.70	USE			
MP 50 1	1-29022	8	06/26/77	1CCA 13 603 1 3	25		PIP	160	-7.2	66.70	USE			
MP 50 1	1-29581	1	07/24/77	1CCA 13 603 1 2	25		PIP	160	-12.1	66.70	USE	17.3	66.70	1154.

1CCB 8 604 75 -A 16'

<ITT PART>	<-----ID----->					<PART DESCRIPTION>				<----TRANSACTION---->			<------INVENTORY------>		
	INVOICE	SEQ	DATE	SPOOL		SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MP 51 1	1-26485	42	01/29/77	GUY	I32192	25	SS	PIP	160	107.3	58.00	PB			
MP 51 1	1-28209	21	04/30/77	1CCB	24 603 4 5	25		PIP	160	-33.4	58.00	USE			
MP 51 1	1-28654	1	05/28/77	1CCB	10 603 9 1	25		PIP	160	-10.2	58.00	USE			
MP 51 1	1-29228	40	06/30/77	1CCB	85 616 2 1	25		PIP	160	-.5	58.00	USE			
MP 51 1	1-30186	1	08/27/77	1CCB	24 603 4 8	25		PIP	160	-7.4	58.00	USE			
MP 51 1	1-31385	1	10/29/77	1CCB	10 603 9 3	25		PIP	160	-.5	58.00	USE			
MP 51 1	1-35079	1	06/22/78	1CCB	24 603 4 4	2	5	PIP	160	-12.8	58.00	USE			
MP 51 1	1-38015	3	11/24/78	1CCB	24 603 4 2	25		PIP	160	-38.1	58.00	USE	4.4	58.00	255.
MP 52 1	1-25702	1	12/27/76	CAP	41627	6	SS	PIP	40S	63.3	49.20	PB			
MP 52 1	1-26033	1	12/31/76	1FCB	17 603 5 2	6		PIP	40S	-.5	49.20	USE			
MP 52 1	1-26985	17	02/26/77	1FCB	17 603 6 3	6		PIP	40S	-7.7	49.20	USE			
MP 52 1	1-27774	16	03/31/77	1FCB	17 603 6 2	6		PIP	40S	-30.8	49.20	USE			
MP 52 1	1-28431	10	05/26/77	1FCB	16 603 6 2	6		PIP	40S	-14.2	49.20	USE			
MP 52 1	1-29018	8	06/26/77	1FCB	16 603 6 7	6		PIP	40S	-1.8	49.20	USE			
MP 52 1	1-29348	5	07/14/77	1FCB	16 603 6 6	6		PIP	40S	-1.0	49.20	USE			
MP 52 1	1-31385	2	10/29/77	1FCB	18 603 5 6	6		PIP	40S	-1.8	49.20	USE			
MP 52 1	1-32714	2	01/26/78	1HCD	149 61411 4	6		PIP	40S	-3.7	49.20	USE	1.8	49.20	89.
MP 53 1	1-21941	16	08/21/76	CAP	35084	4	SS	PIP	160	5.0	51.20	PB			
MP 53 1	1-32760	1	01/27/78	1CCB	9 603 5 1	4		PIP	160	-4.3	51.20	USE	.7	51.20	36.
MP 54 1	1-23274	4	10/23/76	CAP	37477	6	SS	PIP	10S	6.0	24.00	PB			
MP 54 1	1-23222	1	10/23/76	1HCB	17 603 5 1	6		PIP	10S	-5.6	24.00	USE	.4	24.00	10.
MP 55 1	1-21941	15	08/21/76	CAP	34302	4	SS	PIP	160	19.2	57.00	PB			
MP 55 1	1-28209	12	04/30/77	1CCB	35 603 6 1	4		PIP	160	-6.3	57.00	USE			
MP 55 1	1-31672	1	11/25/77	1CCB	6 603 8 1	4		PIP	160	-3.3	57.00	USE			
MP 55 1	1-32894	2	01/27/78	1CCB	1 603 9 2	4		PIP	160	-4.8	57.00	USE			
MP 55 1	1-38015	8	11/24/78	1CCB	80 603 8 2	4		PIP	160	-2.6	57.00	USE	2.2	57.00	125.
MP 56 1	1-27148	52	02/26/77	GUY	I33362D	4	SS	PIP	10S	147.0	10.45	PB			
MP 56 1	1-34806	9	05/26/78	GUY	33362	4	SS	PIP	10S	-30.7	10.45	PB			
MP 56 1	1-26928	1	02/25/77	1HCC	129 614 6 2	4		PIP	10S	-7.8	10.45	USE			
MP 56 1	1-27605	62	03/30/77	2HCC	129 614 3 2	4		PIP	10S	-6.8	10.45	USE			
MP 56 1	1-28654	27	05/28/77	1HCC	76 60317 2	4		PIP	10S	-1.7	10.45	USE			
MP 56 1	1-29228	32	06/30/77	1HCC	164 649 2 1	4		PIP	10S	-1.6	10.45	USE			
MP 56 1	1-33425	4	03/13/78	1HCB	33 649 2 1	4		PIP	10S	-9.7	10.45	USE			
MP 56 1	1-35610	12	07/12/78	OHCD	865 60710 1	4		PIP	10S	-1.2	10.45	USE			
MP 56 1	1-35574	1	07/18/78	2HCB	12 61416 1	4		PIP	10S	-3.5	10.45	USE			
MP 56 1	1-35598	2	07/20/78	1HCC	35 60315 1	4		PIP	10S	-.5	10.45	USE			
MP 56 1	1-35673	49	07/25/78	OHCD	862 60711 2	4		PIP	10S	-3.8	10.45	USE			
MP 56 1	1-35765	1	07/27/78	1HCC	39 60315 1	4		PIP	10S	-3.9	10.45	USE			
MP 56 1	1-36475	6	08/30/78	OHCD	862 6071111	4		PIP	10S	-2.0	10.45	USE			
MP 56 1	1-36475	10	08/30/78	OHCD	862 60711 5	4		PIP	10S	-.5	10.45	USE			
MP 56 1	1-37271	20	09/29/78	OHCD	865 60710 6	4		PIP	10S	-17.2	10.45	USE			
MP 56 1	1-41908	10	7/ 2/79	2HCC	49 60418 1	4		PIP	10S	-14.2	10.45	USE			
MP 56 1	1-41908	3	7/ 2/79	2HCC	35 60415 1	25		PIP	10S	-.5	10.45	USE			
MP 56 1	1-39074	1	01/26/79	2HCC	39 60415 1	4		PIP	10S	-3.9	10.45	USE	37.5	10.45	392.

<ITT PART>	<ID> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MP 57 1	1-27148	44	02/26/77	GUY 132338	4	SS	PIP	40S	105.6	19.66	PB			
MP 57 1	1-23453	1	12/30/77	GUY 132338	4	SS	PIP	40S	-1.0	19.66	PB			
MP 57 1	1-27614	38	03/30/77	1HCB 42 60317 1	4		PIP	40S	-14.0	19.66	USE			
MP 57 1	1-27614	40	03/30/77	1HCB 42 60317 2	4		PIP	40S	-18.4	19.66	USE			
MP 57 1	1-27774	26	03/31/77	1HCB 42 60317 5	4		PIP	40S	-14.8	19.66	USE			
MP 57 1	1-27972	10	04/23/77	1HCB 48 603 5 2	4		PIP	40S	-8.7	19.66	USE			
MP 57 1	1-28431	17	05/26/77	1HCB 42 60317 4	4		PIP	40S	-8.2	19.66	USE			
MP 57 1	1-28431	16	05/26/77	1HCB 42 60317 3	4		PIP	40S	-38.0	19.66	USE	2.5	19.66	49.
MP 58 1	1-27148	47	02/26/77	GUY 132338	25	SS	PIP	160	71.8	53.20	PB			
MP 58 1	1-27148	48	02/26/77	GUY 133265	25	SS	PIP	160	117.6	53.20	PB			
MP 58 1	1-26953	39	02/26/77	2CCA 15 602 2 3	25		PIP	160	-11.9	53.20	USE			
MP 58 1	1-26953	37	02/26/77	2CCA 16 602 2 1	25		PIP	160	-20.3	53.20	USE			
MP 58 1	1-28232	42	04/30/77	1CCA 15 601 214	25		PIP	160	-8.3	53.20	USE			
MP 58 1	1-28232	39	04/30/77	1CCA 15 601 211	25		PIP	160	-3.0	53.20	USE			
MP 58 1	1-28232	36	04/30/77	1CCA 15 601 210	25		PIP	160	-5.1	53.20	USE			
MP 58 1	1-28209	54	04/30/77	1CCA 16 601 2 1	25		PIP	160	-20.3	53.20	USE			
MP 58 1	1-29023	17	06/26/77	2CCA 16 602 2 2	25		PIP	160	-15.8	53.20	USE			
MP 58 1	1-29017	22	06/26/77	2CCA 15 602 2 9	25		PIP	160	-7.0	53.20	USE			
MP 58 1	1-29022	4	06/26/77	1CCA 14 603 114	25		PIP	160	-2.2	53.20	USE			
MP 58 1	1-29169	24	06/30/77	2CCA 13 604 1 3	25		PIP	160	-7.1	53.20	USE			
MP 58 1	1-29348	26	07/14/77	1CCA 15 601 215	25		PIP	160	-4.9	53.20	USE			
MP 58 1	1-30186	23	08/27/77	1CCA 15 601 2 8	25		PIP	160	-4.7	53.20	USE			
MP 58 1	1-31202	20	10/26/77	1CCA 15 601 2 3	25		PIP	160	-.6	53.20	USE			
MP 58 1	1-31385	62	10/29/77	1CCA 15 601 2 7	25		PIP	160	-7.2	53.20	USE			
MP 58 1	1-31385	58	10/29/77	1CCA 15 601 2 6	25		PIP	160	-10.8	53.20	USE			
MP 58 1	1-31872	16	12/07/77	1CCA 16 601 2 3	25		PIP	160	-8.1	53.20	USE			
MP 58 1	1-31872	14	12/07/77	1CCA 15 601 2 4	25		PIP	160	-8.4	53.20	USE			
MP 58 1	1-33328	13	02/24/78	2CCA 15 602 212	25		PIP	160	-4.9	53.20	USE			
MP 58 1	1-33269	8	02/24/78	1CCA 15 601 2 9	25		PIP	160	-7.0	53.20	USE	31.8	53.20	1692.
MP 59 1	1-26193	35	12/31/76	CAP 43415	25	SS	PIP	160	186.4	45.77	PB			
MP 59 1	1-27668	38	03/31/77	1CCB 5 603 2 3	25		PIP	160	-16.2	45.77	USE			
MP 59 1	1-28209	43	04/30/77	1CCB 1 603 2 2	25		PIP	160	-10.8	45.77	USE			
MP 59 1	1-28232	32	04/30/77	1CCB 1 603 2 5	25		PIP	160	-19.0	45.77	USE			
MP 59 1	1-28232	30	04/30/77	1CCB 1 603 2 4	25		PIP	160	-14.5	45.77	USE			
MP 59 1	1-28232	28	04/30/77	1CCB 1 603 2 3	25		PIP	160	-17.8	45.77	USE			
MP 59 1	1-28431	26	05/26/77	1CCB 70 603 3 5	25		PIP	160	-20.9	45.77	USE			
MP 59 1	1-28654	35	05/28/77	1CCB 1 603 2 1	25		PIP	160	-18.9	45.77	USE			
MP 59 1	1-28654	32	05/28/77	1CCB 70 603 3 3	25		PIP	160	-20.3	45.77	USE			
MP 59 1	1-28805	16	06/13/77	1CCB 1 603 2 6	25		PIP	160	-29.9	45.77	USE			
MP 59 1	1-29018	27	06/26/77	1CCB 10 603 1 3	25		PIP	160	-2.0	45.77	USE			
MP 59 1	1-32760	6	01/27/78	1CCB 70 603 3 1	25		PIP	160	-1.8	45.77	USE	14.3	45.77	655.
MP 60 1	1-27148	22	02/26/77	CAP 46107	4	SS	PIP	160	117.0	83.09	PB			
MP 60 1	1-30191	1	08/27/77	CAP 46107	4	SS	PIP	160	-6.3	83.09	PB			
MP 60 1	1-29018	38	06/26/77	1CCB 70 603 3 7	4		PIP	160	-29.0	83.09	USE			
MP 60 1	1-29018	34	06/26/77	1CCB 70 603 3 6	4		PIP	160	-24.1	83.09	USE			
MP 60 1	1-29348	8	07/14/77	1CCB 70 603 3 9	4		PIP	160	-11.8	83.09	USE			
MP 60 1	1-30186	10	08/27/77	1CCB 70 603 310	4		PIP	160	-1.4	83.09	USE			
MP 60 1	1-32760	11	01/27/78	1CCB 70 603 3 8	4		PIP	160	-40.8	83.09	USE			
MP 60 1	1-38015	7	11/24/78	1CCB 80 603 8 2	4		PIP	160	-2.5	83.09	USE	1.1	83.09	91.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MP 60	2 1-27148	45	02/26/77	GUY I32338	3	SS	PIP	160	78.8	56.86	PB			
MP 60	2 1-27614	58	03/30/77	1CCB 63 603 3 3	3		PIP	160	-5.4	56.86	USE			
MP 60	2 1-27614	55	03/30/77	1CCB 63 603 3 2	3		PIP	160	-21.6	56.86	USE			
MP 60	2 1-27614	52	03/30/77	1CCB 67 603 3 2	3		PIP	160	-5.4	56.86	USE			
MP 60	2 1-27614	48	03/30/77	1CCB 67 603 3 1	3		PIP	160	-19.3	56.86	USE			
MP 60	2 1-27614	61	03/30/77	1CCB 63 603 3 4	3		PIP	160	-6.4	56.86	USE			
MP 60	2 1-27668	31	03/31/77	1CCB 67 603 3 3	3		PIP	160	-6.4	56.86	USE			
MP 60	2 1-30859	19	09/30/77	1CCB 63 603 3 [illegible]	3		PIP	160	-6.7	56.86	USE	7.6	56.86	432.
MP 60	3 1-26193	34	12/31/76	CAP 43415	25	SS	PIP	160	139.8	45.77	PB			
MP 60	3 1-27774	30	03/31/77	1CCB 70 603 313	25		PIP	160	-1.4	45.77	USE			
MP 60	3 1-27668	35	03/31/77	1CCB 5 603 2 1	25		PIP	160	-9.3	45.77	USE			
MP 60	3 1-27972	21	04/23/77	1CCB 5 603 2 2	25		PIP	160	-21.6	45.77	USE			
MP 60	3 1-28362	7	05/16/77	1CCB 1 603 2 8	25		PIP	160	-22.4	45.77	USE			
MP 60	3 1-28654	38	05/28/77	1CCB 1 603 2 7	25		PIP	160	-16.4	45.77	USE			
MP 60	3 1-28668	4	05/28/77	1CCB 70 603 311	25		PIP	160	-9.2	45.77	USE			
MP 60	3 1-29018	29	06/26/77	1CCB 10 603 1 3	25		PIP	160	-4.3	45.77	USE			
MP 60	3 1-29018	22	06/26/77	1CCB 9 603 1 2	25		PIP	160	-11.9	45.77	USE			
MP 60	3 1-29969	8	08/17/77	1CCB 70 603 312	25		PIP	160	-13.6	45.77	USE			
MP 60	3 1-30186	9	08/27/77	1CCB 70 603 310	25		PIP	160	-6.6	45.77	USE			
MP 60	3 1-32760	7	01/27/78	1CCB 70 603 3 1	25		PIP	160	-3.4	45.77	USE	19.7	45.77	902.
MP 61	1 1-27148	46	02/26/77	GUY I32338	3	SS	PIP	160	116.4	62.28	PB			
MP 61	1 1-27614	45	03/30/77	1CCA 19 603 3 7	3		PIP	160	-19.5	62.28	USE			
MP 61	1 1-27614	42	03/30/77	1CCA 19 603 3 6	3		PIP	160	-12.9	62.28	USE			
MP 61	1 1-27668	28	03/31/77	1CCA 19 603 3 2	3		PIP	160	-15.3	62.28	USE			
MP 61	1 1-27972	17	04/23/77	1CCA 19 603 3 4	3		PIP	160	-19.9	62.28	USE			
MP 61	1 1-28431	23	05/26/77	1CCA 19 603 3 5	3		PIP	160	-9.3	62.28	USE			
MP 61	1 1-28431	19	05/26/77	1CCA 19 603 3 3	3		PIP	160	-11.4	62.28	USE			
MP 61	1 1-29025	31	06/26/77	1CCA 19 603 31A	3		PIP	160	-5.8	62.28	USE			
MP 61	1 1-32394	4	12/30/77	1CCA 19 603 3 1	3		PIP	160	-11.4	62.28	USE	10.9	62.28	679.
MP 62	1 1-26189	17	12/31/76	CAP 43501	4	SS	PIP	10S	5.0	11.45	PB			
MP 62	1 1-26193	39	12/31/76	CAP 43501	4	SS	PIP	10	5.0	11.45	PB			
MP 62	1 1-38000	8	11/24/78	OHCC 17 614 8 1	4		PIP	10S	-3.8	11.45	USE			
MP 62	1 1-41908	12	7/ 2/79	2HCC 49 60418 1	4		PIP	10S	-6.2	11.45	USE	.0	.00	0.
MP 63	1 1-26193	40	12/31/76	CAP 43501	4	SS	PIP	10	10.0	11.45	PB			
MP 63	1 1-39063	1	01/26/79	1HCB 11 608 2 2	4		PIP	10S	-9.8	11.45	USE	.2	11.45	2.
MP 64	1 1-27148	49	02/26/77	GUY I33273	25	SS	PIP	160	117.3	53.20	PB			
MP 64	1 1-28570	26	05/28/77	2CCA 15 602 2 4	25		PIP	160	-16.3	53.20	USE			
MP 64	1 1-28570	31	05/28/77	2CCA 15 602 [illegible]	25		PIP	160	-13.2	53.20	USE			
MP 64	1 1-29023	23	06/26/77	2CCA 15 602 [illegible]	25		PIP	160	-12.0	53.20	USE			
MP 64	1 1-29023	21	06/26/77	2CCA 15 602 2 2	25		PIP	160	-29.4	53.20	USE			
MP 64	1 1-29017	19	06/26/77	2CCA 15 602 2 8	25		PIP	160	-7.0	53.20	USE			
MP 64	1 1-29169	42	06/30/77	2CCA 15 602 2 5	25		PIP	160	-10.5	53.20	USE			
MP 64	1 1-29655	A3	07/28/77	2CCA 15 602 2 7	25		PIP	160	-8.1	53.20	USE			
MP 64	1 1-33981	10	04/13/78	2CCA 15 602 210	25		PIP	160	-1.0	53.20	USE			
MP 64	1 1-32760	23	10/27/78	1CCA 15 601 2 1	25		PIP	160	-3.0	53.20	USE	16.8	53.20	894.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<-------INVENTORY-------> QUANT	UNIT $	TOT $
MP 65 1	1-26569	1	02/01/77	GUY I33066	25	SS	PIP	160	216.0	47.01	PB			
MP 65 1	1-27605	64	03/30/77	2CCB 28 602 2 6	25		PIP	160	-25.4	47.01	USE			
MP 65 1	1-27629	39	03/31/77	2CCB 28 602 2 7	25		PIP	160	-14.8	47.01	USE			
MP 65 1	1-28362	17	05/16/77	1CCB 28 601 2 4	25		PIP	160	-35.8	47.01	USE			
MP 65 1	1-28668	6	05/28/77	1CCB 28 601 2 3	25		PIP	160	-20.5	47.01	USE			
MP 65 1	1-29018	28	06/26/77	1CCB 10 603 1 3	25		PIP	160	-10.0	47.01	USE			
MP 65 1	1-29022	21	06/26/77	1CCB 28 601 2 5	25		PIP	160	-25.4	47.01	USE			
MP 65 1	1-29018	59	06/26/77	1CCB 28 601 2 2	25		PIP	160	-18.1	47.01	USE			
MP 65 1	1-29022	31	06/26/77	1CCB 24 608 4 1	25		PIP	160	-3.4	47.01	USE			
MP 65 1	1-29018	61	06/26/77	1CCB 28 601 2 6	25		PIP	160	-17.8	47.01	USE			
MP 65 1	1-30859	45	09/30/77	1CCB 28 601 2 1	25		PIP	160	-6.2	47.01	USE			
MP 65 1	1-36852	6	09/19/78	2CCB 28 602 2 4	25		PIP	160	-10.9	47.01	USE			
MP 65 1	1-32931	29	02/08/79	2CCB 28 602 2 5	25		PIP	160	-24.3	47.01	USE	3.4	47.01	160.
MP 66 1	1-27148	50	02/26/77	GUY I33273	6	SS	PIP	160	24.2	191.24	PB			
MP 66 1	1-32894	11	01/27/78	1CCA 4 601 3 3	6		PIP	160	-10.3	191.24	USE			
MP 66 1	1-33425	12	03/13/78	1CCA 4 601 3 2	6		PIP	160	-7.7	191.24	USE	6.2	191.24	1186.
MP 66 2	1-27148	51	02/26/77	GUY I33273	4	SS	PIP	160	5.0	91.39	PB			
MP 66 2	1-29348	27	07/14/77	1CCA 15 601 215	4		PIP	160	-.8	91.39	USE			
MP 66 2	1-33328	14	02/24/78	2CCA 15 602 212	4		PIP	160	-.8	91.39	USE	3.4	91.39	311.
MP 67 1	1-25702	27	12/27/76	STD P4172	6	CS	PIP	120	21.8	10.88	PB			
MP 67 1	1-29167	1	06/30/77	1DBC 2 633 4 2	6		PIP	120	-3.2	10.88	USE			
MP 67 1	1-30759	1	09/29/77	1DBC 5 633 6 1	6		PIP	120	-7.5	10.88	USE			
MP 67 1	1-31559	1	11/17/77	1DBC 2 633 4 1	6		PIP	120	-6.3	10.88	USE			
MP 67 1	1-33948	1	04/12/78	1DBC 9 633 6 2	6		PIP	120	-1.2	10.88	USE	3.6	10.88	39.
MP 68 1	1-27148	19	02/26/77	CAP 45783	14	SS	PIP	STD	41.6	94.57	PB			
MP 68 1	1-33638	4	03/23/78	1HCD 27 514 3	14		PIP	STD	-5.3	94.57	USE	36.3	94.57	3433.
MP 68 2	1-27148	20	02/26/77	CAP 46022	6	SS	PIP	STD	57.8	35.42	PB			
MP 68 2	1-33425	8	03/13/78	1ECC 3 601 3 2	6		PIP	STD	-16.4	35.42	USE			
MP 68 2	1-33425	10	03/13/78	1ECC 2 601 3 2	6		PIP	STD	-16.4	35.42	USE			
MP 68 2	1-34677	8	05/26/78	1GCB 13 612 1 7	6		PIP	40S	-10.8	35.42	USE			
MP 68 2	1-38631	3	12/28/78	1ECC 3 601 3 1	6		PIP	STD	-10.3	35.42	USE	3.9	35.42	138.
MP 68 3	1-27148	53	02/26/77	GUY I33833D	4	SS	PIP	40S	9.3	20.65	PB	9.3	20.65	192.
MP 69 1	1-27148	21	02/26/77	CAP 46022	12	SS	PIP	STD	5.0	104.89	PB			
MP 69 1	1-35574	5	07/18/78	OHCC 12 614 8 1	12		PIP	STD	-4.9	104.89	USE	.1	104.89	10.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MP 71 1	1-28194	6	04/30/77	GUY I34444	25	SS	PIP	160	109.5	53.20	PB			
MP 71 1	1-29018	41	06/26/77	1CCA 11 603 2 2	25		PIP	160	-14.3	53.20	USE			
MP 71 1	1-29018	43	06/26/77	1CCA 11 603 2 3	25		PIP	160	-10.3	53.20	USE			
MP 71 1	1-29228	26	06/30/77	1CCA 11 603 2 1	25		PIP	160	-10.7	53.20	USE			
MP 71 1	1-29228	24	06/30/77	1CCA 12 603 2 1	25		PIP	160	-26.7	53.20	USE			
MP 71 1	1-30186	16	08/27/77	1CCA 11 603 2 4	25		PIP	160	-2.0	53.20	USE			
MP 71 1	1-31385	46	10/29/77	1CCA 12 603 2 3	25		PIP	160	-1.5	53.20	USE			
MP 71 1	1-31385	43	10/29/77	1CCA 12 603 2 2	25		PIP	160	-5.8	53.20	USE			
MP 71 1	1-33981	11	04/13/78	2CCA 15 602 210	25		PIP	160	-1.0	53.20	USE			
MP 71 1	1-32760	22	10/27/78	1CCA 15 601 2 1	25		PIP	160	-10.9	53.20	USE			
MP 71 1	1-39582	2	03/07/79	W05152	25		PIP	160	-1.5	53.20	USE	24.8	53.20	1319.
MP 72 1	1-28194	7	04/30/77	GUY I34474	25	SS	PIP	160	20.0	53.20	PB			
MP 72 1	1-28570	22	05/28/77	2CCA 13 604 1 1	25		PIP	160	-1.5	53.20	USE			
MP 72 1	1-29022	17	06/26/77	1CCA 15 601 212	25		PIP	160	-1.5	53.20	USE			
MP 72 1	1-29228	46	06/30/77	1CCA 16 601 2 2	25		PIP	160	-15.7	53.20	USE	1.3	53.20	69.
MP 74 1	1-28194	8	04/30/77	GUY I34474	25	SS	PIP	160	27.9	53.20	PB			
MP 74 1	1-29018	33	06/26/77	1CCA 13 603 1 1	25		PIP	160	-1.5	53.20	USE			
MP 74 1	1-29022	3	06/26/77	1CCA 14 603 114	25		PIP	160	-4.4	53.20	USE			
MP 74 1	1-29022	18	06/26/77	1CCA 15 601 212	25		PIP	160	-5.5	53.20	USE			
MP 74 1	1-33269	4	02/24/78	1CCA 15 601 2 5	25		PIP	160	-7.5	53.20	USE			
MP 74 1	1-33981	12	04/13/78	2CCA 15 602 210	25		PIP	160	-4.3	53.20	USE			
MP 74 1	1-35650	1	07/25/78	1CCA 14 603 1 3	25		PIP	160	-1.5	53.20	USE	3.2	53.20	170.
MP 75 1	1-28194	9	04/30/77	GUY I34474	25	SS	PIP	160	21.1	46.01	PB			
MP 75 1	1-29018	63	06/26/77	1CCB 28 601 2 7	25		PIP	160	-14.7	46.01	USE			
MP 75 1	1-29022	32	06/26/77	1CCB 24 608 4 1	25		PIP	160	-4.9	46.01	USE	1.5	46.01	69.
MP 76 1	1-33811	1	03/29/78	STA 0976D	8	CS	PIP	80	53.5	12.76	PB			
MP 76 1	1-35593	1	07/20/78	1ELB 7 631 2 1	8		PIP	80	-18.6	12.76	USE			
MP 76 1	1-35604	1	07/20/78	1ELB 12 631 3 3	8		PIP	80	-6.3	12.76	USE			
MP 76 1	1-38181	1	12/12/78	1ELB 7 631 2 2	8		PIP	80	-9.7	12.76	USE	18.9	12.76	241.
MP 76 2	1-32780	1	01/27/78	LAD P40627	335	CS	PIP	2375	19.5	499.80	PB			
MP 76 2	1-33112	1	02/21/78	LAD P40999	335	CS	PIP	2375	40.2	494.17	PB			
MP 76 2	1-33253	1	02/24/78	LAD P41201	335	CS	PIP	2375	40.1	494.17	PB			
MP 76 2	1-34021	1	04/18/78	LAD P42254	335	CS	PIP	2375	40.0	494.17	PB			
MP 76 2	1-35604	2	07/20/78	1ELB 12 631 3 3	335		PIP		-6.2	499.80	USE			
MP 76 2	1-35844	1	07/27/78	2ELB 12 632 3 1	335		PIP		-11.9	499.80	USE			
MP 76 2	1-35873	2	07/28/78	2ELB 12 632 3 4	335		PIP		-4.4	496.96	USE			
MP 76 2	1-36594	2	08/26/78	1ELB 11 631 2 1	335		PIP		-20.1	494.17	USE			
MP 76 2	1-36758	1	09/12/78	2ELB 11 632 2 1	335		PIP		-27.4	494.17	USE			
MP 76 2	1-37136	10	09/29/78	1ELB 11 631 2 2	335		PIP		-21.2	494.17	USE			
MP 76 2	1-37249	2	09/29/78	2ELB 11 632 2 2	335		PIP		-1.4	494.17	USE			
MP 76 2	1-37136	1	09/29/78	1ELB 11 631 2 2	335		PIP		-20.0	494.17	USE	27.2	494.17	13441.

<ITT PART>	<ID> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MP 77 1	1-29739	28	07/30/77	STD P4826	25	CS	PIP	160	19.8	3.09	PB			
MP 77 1	1-29026	2	06/26/77	1HBC298 616 2 1	25		PIP	160	-1.0	3.09	USE			
MP 77 1	1-29026	1	06/26/77	1HBC297 616 2 1	25		PIP	160	-2.6	3.09	USE			
MP 77 1	1-29090	5	06/30/77	2HBC297 617 5 1	25		PIP	160	-2.0	3.09	USE			
MP 77 1	1-29090	6	06/30/77	2HBC298 617 5 1	25		PIP	160	-2.0	3.09	USE			
MP 77 1	1-29090	8	06/30/77	2HBC300 617 5 1	25		PIP	160	-1.0	3.09	USE			
MP 77 1	1-29090	7	06/30/77	2HBC299 617 5 1	25		PIP	160	-2.0	3.09	USE			
MP 77 1	1-29927	1	08/11/77	1HBC300 616 3 1	25		PIP	160	-1.5	3.09	USE			
MP 77 1	1-31559	6	11/17/77	1HBC299 616 3 1	25		PIP	160	-2.4	3.09	USE	5.3	3.09	16.
MP 78 1	1-28683	5	05/28/77	CAP 49257	4	SS	PIP	10S	23.2	11.90	PB			
MP 78 1	1-30859	50	09/30/77	1HCC130 608 2 2	4		PIP	10S	-5.6	11.90	USE			
MP 78 1	1-33424	1	03/13/78	2HCB 11 608 1 2	4		PIP	10S	-9.8	11.90	USE			
MP 78 1	1-35793	1	07/27/78	2HCC130 608 1 1	4		PIP	10S	-2.8	11.90	USE			
MP 78 1	1-36475	11	08/30/78	OHCD862 60711 5	4		PIP	10S	-2.0	11.90	USE			
MP 78 1	1-40739	1	4/20/79	2HCB 12 61416 2	4		PIP	10S	-1.7	11.90	USE	1.3	11.90	15.
MP 79 1	1-29739	13	07/30/77	GUY I38550D	25	SS	PIP	10	42.0	4.41	PB			
MP 79 1	1-30758	24	09/29/77	1HCC 19 616 4 1	2 5		PIP	10S	-2.7	4.41	USE			
MP 79 1	1-30859	39	09/30/77	1HCC 18 616 4 2	25		PIP	10S	-2.3	4.41	USE			
MP 79 1	1-31126	1	10/25/77	1HCC 18 616 4 1	25		PIP	10S	-5.2	4.41	USE			
MP 79 1	1-31202	11	10/26/77	1HCC 17 616 4 1	25		PIP	10S	-6.7	4.41	USE			
MP 79 1	1-31202	13	10/26/77	1HCC 17 616 4 2	25		PIP	10S	-2.3	4.41	USE			
MP 79 1	1-31385	11	10/29/77	1HCC 55 60312 1	25		PIP	10S	-.6	4.41	USE			
MP 79 1	1-31385	52	10/29/77	1HCC 16 61614 1	25		PIP	10S	-10.0	4.41	USE			
MP 79 1	1-32952	44	02/09/78	2HCD134 604 712	25		PIP	10S	-8.5	4.41	USE			
MP 79 1	1-41908	2	7/ 2/79	2HCC 35 60415 1	25		PIP	10S	-.8	4.41	USE	2.9	4.41	13.
MP 79 2	1-29739	50	07/30/77	GUY I38383D	6 10	SS	PIP	10	31.4	12.39	PB			
MP 79 2	1-31202	9	10/26/77	1HCC417 616 4 2	6		PIP	10S	-10.2	12.39	USE			
MP 79 2	1-31202	6	10/26/77	1HCC417 616 4 1	6		PIP	10S	-13.3	12.39	USE			
MP 79 2	1-38589	21	12/28/78	1HCD170 601 3 2	6		PIP	10S	-7.5	12.39	USE	.4	12.39	5.
MP 80 1	1-32048	1	12/19/77	CAM 15244	335		PIP	2375	8.0	1534.00	PB			
MP 80 1	1-34687	1	05/25/78	1ELB 12 631 3 5	335		PIP		-4.0	1534.00	USE			
MP 80 1	1-35654	1	07/25/78	1ELB 11 631 2 4	335		PIP		-3.4	1534.00	USE	.6	1534.00	920.
MP 81 1	1-30775	6	09/29/77	GUY I40704D	10	SS	PIP	STD	19.7	77.00	PB			
MP 81 1	1-35650	3	07/25/78	1HCB 54 61410 1	10		PIP	STD	-11.8	77.00	USE			
MP 81 1	1-36453	1	08/30/78	1HCB 53 61410 2	10		PIP	STD	-3.4	77.00	USE			
MP 81 1	1-36759	1	09/12/78	2HCB 50 614 3 1	10		PIP	STD	-.3	77.00	USE	4.2	77.00	323.
MP 82 2	1-33811	3	03/29/78	STA 09760	14	CS	PIP	80	74.3	42.00	PB			
MP 82 2	1-35016	1	06/20/78	2ELB 3 63913 3	14		PIP	80	-17.4	42.00	USE			
MP 82 2	1-35016	3	06/20/78	2ELB 4 63913 3	14		PIP	80	-15.2	42.00	USE			
MP 82 2	1-35349	1	06/30/78	2ELB 4 63913 2	14		PIP	80	-10.4	42.00	USE			
MP 82 2	1-35485	5	07/12/78	2ELB 4 63913 4	14		PIP	80	-10.4	42.00	USE			
MP 82 2	1-35873	8	07/28/78	2ELB 4 63913 1	14		PIP	80	-15.2	42.00	USE	5.7	42.00	239.

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			INVOICE	SEQ	DATE	SPOOL		SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MP	83	1	1-32877	1	01/27/78	WO	4702	18		CS PIP	80	-250.0	60.20	PB			
MP	83	1	1-32877	4	01/27/78	WO	4702	18		CS PIP	80	250.0	60.20	PB			
MP	83	1	1-34806	5	05/26/78	USS	35508791	18		CS PIP	938	260.0	56.83	PB			
MP	83	1	1-37393	1	10/24/78	USS	355-0879	18		CS PIP	80	-164.7	56.83	PB			
MP	83	1	1-38976	2	01/26/78	1ELB	2 63813 2	18		PIP	80	-.8	56.83	USE			
MP	83	1	1-38976	1	01/26/78	1ELB	1 63813 2	18		PIP	80	-.8	56.83	USE			
MP	83	1	1-33853	2	03/29/78	1EBD	57 638 1 2	18		PIP	80	-6.0	56.83	USE			
MP	83	1	1-33853	1	03/29/78	1EBD	56 638 2 3	18		PIP	80	-14.8	56.83	USE			
MP	83	1	1-33852	1	03/29/78	1EBC	4 63813 1	18		PIP	80	-8.2	56.83	USE			
MP	83	1	1-33893	13	03/31/78	1EBD	57 638 1 1	18		PIP	80	-11.6	56.83	USE			
MP	83	1	1-33947	1	04/12/78	1EBC	5 63813 2	18		PIP	80	-5.3	56.83	USE			
MP	83	1	1-34349	4	04/28/78	1EBD	51 638 1 1	18		PIP	80	-4.4	56.83	USE			
MP	83	1	1-34360	1	04/28/78	1EBD	53 638 1 1	18		PIP	80	-3.0	56.83	USE			
MP	83	1	1-34647	1	05/23/78	1EBD	57 638 1 3	18		PIP	80	-25.8	56.83	USE			
MP	83	1	1-34679	1	05/26/78	1EBD	55 638 1 3	18		PIP	80	-23.8	56.83	USE			
MP	83	1	1-34898	1	06/08/78	1EBD	58 638 2 1	18		PIP	80	-6.8	56.83	USE			
MP	83	1	1-34959	1	06/15/78	1EBC	4 63813 2	18		PIP	80	-15.8	56.83	USE			
MP	83	1	1-35550	1	07/18/78	2ELB	2 63913 7	18		PIP	80	-6.5	56.83	USE			
MP	83	1	1-35763	1	07/27/78	1EBC	5 63813 1	18		PIP	80	-16.7	56.83	USE			
MP	83	1	1-36472	1	08/30/78	1ELB	1 63813 5	18		PIP	80	-27.2	56.83	USE			
MP	83	1	1-36468	2	08/30/78	2ELB	1 63913 3	18		PIP	80	-5.7	56.83	USE			
MP	83	1	1-38183	1	12/12/78	2ELB	1 63913 4	18		PIP	80	-27.2	56.83	USE			
MP	83	1	1-38492	1	12/28/78	2ELB	1 63913 2	18		PIP	80	-.8	56.83	USE			
MP	83	1	1-38492	2	12/28/78	2ELB	2 63913 2	18		PIP	80	-.8	56.83	USE			
MP	83	1	1-38649	4	12/28/78	2ELB	2 63913 2	18		PIP	80	-11.4	56.83	USE			
MP	83	1	1-39637	1	03/08/79	WO5267		18		PIP	80	-14.5	56.83	USE	-142.6	56.83	-8104.
MP	85	1	1-36923	8	09/20/78	GUY	I51438	25		SS PIP	40	48.9	14.44	PB			
MP	85	1	1-38517	1	12/28/78	GUY	151438	25		SS PIP	40	-4.7	14.44	PB			
MP	85	1	1-38770	1	01/18/79	GUY	I52435	25		SS PIP	40	-4.7	14.44	PB			
MP	85	1	1-39064	4	01/26/79	1FCC	3 610 6 1	25		PIP	40S	-23.3	14.44	USE	16.2	14.44	234.
MP	86	1	1-37976	1	11/24/78	CAP	77442	3		SS PIP	40	378.0	10.92	PB			
MP	86	1	1-38553	15	12/28/78	2GCC	3 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38553	5	12/28/78	2GCC	1 652 2 2	3		PIP	40S	-22.0	10.92	USE			
MP	86	1	1-38553	21	12/28/78	2GCC	2 652 2 2	3		PIP	40S	-9.7	10.92	USE			
MP	86	1	1-38472	16	12/28/78	2GCC	4 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38631	32	12/28/78	1GCC	2 652 2 3	3		PIP	40S	-31.0	10.92	USE			
MP	86	1	1-38553	11	12/28/78	2GCC	1 652 2 3	3		PIP	40S	-19.3	10.92	USE			
MP	86	1	1-38553	31	12/28/78	2GCC	4 652 2 3	3		PIP	40S	-31.0	10.92	USE			
MP	86	1	1-38631	20	12/28/78	1GCC	4 652 2 3	3		PIP	40S	-31.0	10.92	USE			
MP	86	1	1-38553	26	12/28/78	2GCC	4 652 2 2	3		PIP	40S	-9.7	10.92	USE			
MP	86	1	1-38472	13	12/28/78	2GCC	1 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38553	18	12/28/78	2GCC	2 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38631	27	12/28/78	1GCC	2 652 2 2	3		PIP	40S	-9.7	10.92	USE			
MP	86	1	1-38631	24	12/28/78	1GCC	2 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38470	9	12/28/78	1GCC	3 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38631	15	12/28/78	1GCC	4 652 2 2	3		PIP	40S	-9.7	10.92	USE			
MP	86	1	1-38631	12	12/28/78	1GCC	1 652 2 1	3		PIP	40S	-.4	10.92	USE			
MP	86	1	1-38631	8	12/28/78	1GCC	3 652 2 3	3		PIP	40S	-19.3	10.92	USE			
MP	86	1	1-40717	5	4/27/79	1GCC	3 652 2 2	3		PIP	40S	-22.0	10.92	USE			
MP	86	1	1-39074	8	01/26/79	2GCC	3 652 2 2	3		PIP	40S	-21.9	10.92	USE			
MP	86	1	1-39065	1	01/26/79	1GCC	1 652 2 2	3		PIP	40S	-23.0	10.92	USE	115.9	10.92	1266.

<ITT PART>	<-----ID----->	<PART DESCRIPTION>				<----TRANSACTION---->			<------INVENTORY------>		
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MQ4122	2 1-32049 16 12/19/77 ITT 117735	20	CS	BKR	40	23.0	2.25	PB			
MQ4122	2 1-32628 6 01/20/78 1GBD 21 636 3 7	20		BKR	40	-1.0	2.25	USE			
MQ4122	2 1-33332 12 02/24/78 1GBD 21 636 3 5	20		BKR	40	-1.0	2.25	USE			
MQ4122	2 1-33874 3 03/31/78 1GBD 21 636 3 9	20		BKR	40	-2.0	2.25	USE			
MQ4122	2 1-34210 9 04/27/78 1GBD 21 636 3 3	20		BKR	40	-2.0	2.25	USE			
MQ4122	2 1-34192 7 04/27/78 1GBD 21 636 3 4	20		BKR	40	-4.0	2.25	USE			
MQ4122	2 1-34620 6 05/23/78 1GBD 25 636 3 6	20		BKR	40	-3.0	2.25	USE			
MQ4122	2 1-34679 5 05/26/78 1GBD 25 636 3 4	20		BKR	40	-2.0	2.25	USE			
MQ4122	2 1-34957 5 06/15/78 1GBD 21 636 3 8	20		BKR	40	-1.0	2.25	USE			
MQ4122	2 1-35083 11 06/22/78 1GBD 25 636 3 5	20		BKR	40	-5.0	2.25	USE			
MQ4122	2 1-37281 2 09/29/78 1GBD 25 636 3 8	20		BKR	40	-2.0	2.25	USE	.0	.00	0.
MQ4123	3 1-33893 4 03/31/78 1EBD 25 631 4 1	10		BKR	80	-3.0	.00	USE			
MQ4123	3 1-33893 8 03/31/78 1EBD 26 631 4 1	10		BKR	80	-3.0	.00	USE			
MQ4123	3 1-33893 12 03/31/78 1EBD 27 631 4 1	10		BKR	80	-3.0	.00	USE			
MQ4123	3 1-37754 1 11/14/78 1EBD 27 631 4 1	10		BKR	80	6.0	.00	USE	-3.0	.00	0.
MQ4124	1 1-32049 11 12/19/77 ITT 117719	12		BKR	40	24.0	1.62	PB	24.0	1.62	39.
MQ4127	1 1-32049 12 12/19/77 ITT 117719	10	CS	BKR	80	11.0	1.36	PB			
MQ4127	1 1-32895 12 01/27/78 1EBD149 63615 2	10		BKR	80	-3.0	1.36	USE			
MQ4127	1 1-33691 2 03/29/78 1EBD149 63615 1	10		BKR	80	-2.0	1.36	USE			
MQ4127	1 1-33974 5 03/31/78 1EBD132 63615 1	10		BKR	80	-2.0	1.36	USE	4.0	1.36	5.
MQ4131	3 1-33254 2 02/24/78 ITT 17814	26	CS	BKR	2625	1.0	3.05	PB	1.0	3.05	3.
MQ4131	4 1-33254 3 02/24/78 ITT 17814	28	CS	BKR	30	1.0	3.37	PB			
MQ4131	4 1-37188 4 09/29/78 1HBD 38 631 9 3	28		BKR	30	-1.0	3.37	USE	.0	.00	0.
MQ4131	5 1-33254 4 02/24/78 ITT 17814	44		BKR	STD	2.0	7.49	PB	2.0	7.49	15.
MQ4137	1 1-35163 2 06/29/78 ITT 57841	12		BKR	80	2.0	1.17	PB	2.0	1.17	2.
MQ4137	2 1-35163 3 06/29/78 ITT 57841	10		BKR	80	1.0	.97	PB	1.0	.97	1.
MR	A 1-19809 2 05/22/76 TAY 18106722	26	CS	PIP	STD	423.0	131.40	PB			
MR	A 1-19910 1 06/01/76 TAY 18106722	26	CS	PIP	STD	-423.0	131.40	PB	.0	.00	0.
MR 1	1 1-06692 23 10/26/74 GUY 14101	6	SS	PIP	10	27.0	68.32	PB			
MR 1	1 1-27774 18 03/31/77 1HCB 16 603 6 2	6		PIP	10S	-11.5	68.32	USE			
MR 1	1 1-26006 36 04/27/77 2HCB 16 604 6 3	6		PIP	10S	-3.9	68.32	USE			
MR 1	1 1-29654 4 07/28/77 2GCB 18 613 4 3	6		PIP	10S	-2.0	68.32	USE			
MR 1	1 1-38086 41 11/24/78 1HCD170 601 3 1	6		PIP	10S	-7.8	68.32	USE	1.8	68.32	123.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY-------> QUANT	UNIT $	TOT $
MR 1 3	1-06692	22	10/26/74	GUY 14101	3	SS	PIP	10	24.0	14.59	PB			
MR 1 3	1-20662	2	06/26/76	2HCB 25 613 5 1	3		PIP	10S	-7.7	14.59	USE			
MR 1 3	1-27243	19	03/10/77	2HCB 52 614 2 1	3		PIP	10S	-1.5	14.59	USE			
MR 1 3	1-27243	1	03/10/77	2HCB253 61416 1	3		PIP	10S	-9.1	14.59	USE	5.7	14.59	83.
MR 2 1	1-CP-29	2	07/31/75	CRU 601954-5	24	SS	PIP	40S	79.9	195.45	PB			
MR 2 1	1-16520	11	01/21/76	2HCB 2 611 3 3	24		PIP	STD	-11.2	195.45	USE			
MR 2 1	1-17187	16	02/13/76	2HCB 2 611 3 2	24		PIP	STD	-8.9	195.45	USE			
MR 2 1	1-22290	24	09/12/76	2HCB 1 611 5 8	24		PIP	STD	-9.7	195.45	USE			
MR 2 1	1-25759	36	12/30/76	2HCB 2 611 3 4	24		PIP	STD	-14.0	195.45	USE			
MR 2 1	1-25759	33	12/30/76	2HCB 2 611 3 1	24		PIP	STD	-7.3	195.45	USE			
MR 2 1	1-29972	5	08/17/77	2HCB 1 611 5 8	24		PIP	STD	-9.8	195.45	USE			
MR 2 1	1-32751	13	01/20/78	2HCB 1 611 5 9	24		PIP	STD	-10.2	195.45	USE	8.8	195.45	1720.
MR 2 2	1-22704	4	09/25/76	GUY I26300D	18	SS	PIP	STD	25.0	157.24	PB			
MR 2 2	1-22704	1	09/25/76	GUY I25327D	18	SS	PIP	10	342.2	157.24	PB			
MR 2 2	1-20300	3	06/14/76	2HCB 2 613 510	18		PIP	STD	-27.5	157.24	USE			
MR 2 2	1-20300	5	06/14/76	2HCB 1 613 612	18		PIP	STD	-12.0	157.24	USE			
MR 2 2	1-22910	7	10/13/76	2HCB 2 611 3 6	18		PIP	STD	-2.0	157.24	USE			
MR 2 2	1-22910	6	10/13/76	2HCB 1 613 610	18		PIP	STD	-27.5	157.24	USE			
MR 2 2	1-25239	10	11/20/76	2HCB 2 613 510	18		PIP	STD	-16.4	157.24	USE			
MR 2 2	1-25239	12	11/20/76	2HCB 2 613 512	18		PIP	STD	-14.5	157.24	USE			
MR 2 2	1-25239	15	11/20/76	2HCB 2 613 513	18		PIP	STD	-23.1	157.24	USE			
MR 2 2	1-25333	12	12/05/76	2HCB 7 611 3 1	18		PIP	STD	-8.2	157.24	USE			
MR 2 2	1-25759	45	12/30/76	2HCB 8 611 5 1	18		PIP	40S	-9.2	157.24	USE			
MR 2 2	1-25759	42	12/30/76	2HCB 1 611 5 1	18		PIP	40S	-9.4	157.24	USE			
MR 2 2	1-25759	39	12/30/76	2HCB 2 611 3 5	18		PIP	STD	-9.2	157.24	USE			
MR 2 2	1-25801	27	12/31/76	2HCB 1 611 5 5	18		PIP	40S	-17.6	157.24	USE			
MR 2 2	1-25801	24	12/31/76	2HCB 1 611 5 2	18		PIP	40S	-5.5	157.24	USE			
MR 2 2	1-25801	18	12/31/76	2HCB 2 611 3 8	18		PIP	STD	-19.2	157.24	USE			
MR 2 2	1-27605	49	03/30/77	2HCB 1 613 612	18		PIP	STD	-12.8	157.24	USE			
MR 2 2	1-29017	9	06/26/77	2HCB 1 611 5 3	18		PIP	40S	-1.8	157.24	USE			
MR 2 2	1-29017	1	06/26/77	2HCB 2 613 511	18		PIP	STD	-11.3	157.24	USE			
MR 2 2	1-29017	10	06/26/77	2HCB 1 611 5 4	18		PIP	40S	-3.9	157.24	USE			
MR 2 2	1-29023	35	06/26/77	2HCB 1 613 611	18		PIP	STD	-1.0	157.24	USE			
MR 2 2	1-29654	1	07/28/77	2HCB 1 613 611	18		PIP	STD	-26.2	157.24	USE			
MR 2 2	1-35040	8	06/20/78	2HCB 2 611 3 7	18		PIP	STD	-11.3	157.24	USE			
MR 2 2	1-35040	13	06/20/78	2HCB 1 611 5 6	18		PIP	40S	-14.1	157.24	USE			
MR 2 2	1-35080	10	06/22/78	2HCB 1 673 613	18		PIP	STD	-25.9	157.24	USE			
MR 2 2	1-41124	11	5/24/79	OHCD974 661 1 3	18		PIP	STD	-20.0	157.24	USE			
MR 2 2	1-32931	33	02/08/79	2HBC 1 613 8 5	18		PIP	STD	-6.2	157.24	USE	31.4	157.24	4937.
MR 2 3	1-06692	1	10/26/74	CAP 84675	12	SS	PIP	10	55.6	227.05	PB			
MR 2 3	1-15062	5	11/19/75	2HCB 43 513 6 1	12		PIP	STD	-8.2	227.05	USE			
MR 2 3	1-16520	1	01/21/76	2HCB 6 613 3 3	12		PIP	STD	-1.2	227.05	USE			
MR 2 3	1-22290	6	09/12/76	2HCB 5 613 4 2	12		PIP	STD	-7.9	227.05	USE			
MR 2 3	1-22290	1	09/12/76	2HCD 6 613 3 2	12		PIP	STD	-7.8	227.05	USE			
MR 2 3	1-25333	1	12/05/76	2HCB 5 613 4 3	12		PIP	STD	-1.3	227.05	USE			
MR 2 3	1-27972	29	04/23/77	1HCB112 614 6 1	12		PIP	STD	-6.2	227.05	USE			
MR 2 3	1-30859	30	09/30/77	1HCB 5 612 4 1	12		PIP	STD	-7.3	227.05	USE			
MR 2 3	1-31043	10	10/13/77	2HCB 6 613 3 1	12		PIP	STD	-8.5	227.05	USE			
MR 2 3	1-31872	5	12/07/77	1HCB112 614 6 2	12		PIP	STD	-2.7	227.05	USE			

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MR	3	2	1-25082	9	11/20/76	CAP 23165B	4	SS	PIP	160	-355.8	92.95	PB			
MR	3	2	1-25703	22	12/27/76	CAP 35083A	4	SS	PIP	160	-324.4	92.95	PB			
MR	3	2	1-25713	10	12/29/76	CAP 36202	4	SS	PIP	160	50.2	92.95	PB			
MR	3	2	1-25713	9	12/29/76	CAP 35083	4	SS	PIP	160	324.4	92.95	PB			
MR	3	2	1-26189	16	12/31/76	CAP 43295	4	SS	PIP	160	328.0	92.95	PB			
MR	3	2	1-20249	1	06/12/76	2CCB 13 604 5 5	4		PIP	160	-.5	92.95	USE			
MR	3	2	1-21545	20	08/07/76	2CCB 79 604 8 2	4		PIP	160	-13.1	92.95	USE			
MR	3	2	1-26446	1	01/29/77	2CCB 80 604 8 2	4		PIP	160	-1.0	92.95	USE			
MR	3	2	1-26446	2	01/29/77	2CCB 4 604 6 1	4		PIP	160	-.8	92.95	USE			
MR	3	2	1-26447	4	01/29/77	1CCB 4 603 6 1	4		PIP	160	-1.0	92.95	USE			
MR	3	2	1-26501	1	02/01/77	1CCB 13 603 5 5	4		PIP	160	-1.4	92.95	USE			
MR	3	2	1-26985	8	02/26/77	1CCB 4 603 9 1	4		PIP	160	-4.5	92.95	USE			
MR	3	2	1-26985	5	02/26/77	1CCB 6 603 8 4	4		PIP	160	-6.3	92.95	USE			
MR	3	2	1-26985	1	02/26/77	1CCB 6 603 8 3	4		PIP	160	-31.6	92.95	USE			
MR	3	2	1-26985	11	02/26/77	1CCB 79 603 9 2	4		PIP	160	-23.2	92.95	USE			
MR	3	2	1-26953	1	02/26/77	2CCB 80 604 8 1	4		PIP	160	-8.5	92.95	USE			
MR	3	2	1-26953	4	02/26/77	2CCB 1 604 6 2	4		PIP	160	-7.2	92.95	USE			
MR	3	2	1-27243	5	03/10/77	2CCB 13 604 5 6	4		PIP	160	-3.6	92.95	USE			
MR	3	2	1-27243	14	03/10/77	2CCB 1 604 6 5	4		PIP	160	-5.8	92.95	USE			
MR	3	2	1-27614	11	03/30/77	1CCB 6 603 9 1	4		PIP	160	-25.2	92.95	USE			
MR	3	2	1-27605	27	03/30/77	2CCB 4 604 6 3	4		PIP	160	-4.5	92.95	USE			
MR	3	2	1-27605	19	03/30/77	2CCB 80 604 8 3	4		PIP	160	-15.2	92.95	USE			
MR	3	2	1-27605	22	03/30/77	2CCB 1 604 6 3	4		PIP	160	-7.3	92.95	USE			
MR	3	2	1-27605	8	03/30/77	2CCB 9 604 5 1	4		PIP	160	-11.3	92.95	USE			
MR	3	2	1-27605	14	03/30/77	2CCB 6 604 8 3	4		PIP	160	-25.5	92.95	USE			
MR	3	2	1-27614	8	03/30/77	1CCB 79 603 8 2	4		PIP	160	-14.7	92.95	USE			
MR	3	2	1-27668	9	03/31/77	1CCB 4 603 6 2	4		PIP	160	-21.3	92.95	USE			
MR	3	2	1-27774	11	03/31/77	1CCB 6 603 8 2	4		PIP	160	-8.8	92.95	USE			
MR	3	2	1-28224	1	04/30/77	2CCB 34 604 5 1	4		PIP	160	-10.4	92.95	USE			
MR	3	2	1-28224	11	04/30/77	2CCB 6 604 8 2	4		PIP	160	-12.2	92.95	USE			
MR	3	2	1-28359	7	05/16/77	2CCB 4 604 6 2	4		PIP	160	-11.1	92.95	USE			
MR	3	2	1-28359	3	05/16/77	2CCB 6 604 8 4	4		PIP	160	-7.6	92.95	USE			
MR	3	2	1-28431	1	05/26/77	1CCB 1 603 9 1	4		PIP	160	-9.2	92.95	USE			
MR	3	2	1-28431	7	05/26/77	1CCB 79 603 9 1	4		PIP	160	-21.6	92.95	USE			
MR	3	2	1-28431	4	05/26/77	1CCB 9 603 9 5	4		PIP	160	-6.8	92.95	USE			
MR	3	2	1-28654	5	05/28/77	1CCB 13 603 5 6	4		PIP	160	-4.2	92.95	USE			
MR	3	2	1-29928	4	08/11/77	2CCB 1 604 6 4	4		PIP	160	-9.7	92.95	USE			
MR	3	2	1-30859	9	09/30/77	1CCB 79 603 8 1	4		PIP	160	-1.0	92.95	USE			
MR	3	2	1-31871	1	12/07/77	2CCB 13 604 5 4	4		PIP	160	-6.1	92.95	USE			
MR	3	2	1-34759	1	05/26/78	2CCB 13 604 5 1	4		PIP	160	-2.2	92.95	USE			
MR	3	2	1-34757	2	05/26/78	1CCB 9 603 9 4	4		PIP	160	-11.4	92.95	USE	46.3	92.95	4307.
MR	4	1	1-06692	11	10/26/74	CAP 81057	25	SS	PIP	160	17.0	45.50	PB			
MR	4	1	1-29655	20	07/28/77	2CCB 8 604 7 5	2 5		PIP	160	-21.5	45.50	USE	-4.5	45.50	-206.
MR	5	1	1-10396	1	04/22/75	CRV C0200371	6	SS	PIP	40S	336.8	37.58	PB			
MR	5	1	1-CP-27	9	06/30/75	CRU C1204717	6	SS	PIP	40S	462.0	37.58	PB			
MR	5	1	1-15211	1	11/22/75	CRU C09-0296	6	SS	PIP	40S	168.0	37.58	PB			
MR	5	1	1-17187	22	02/13/76	2FCB 35 611 6 7	6		PIP	40S	-6.2	37.58	USE			
MR	5	1	1-17716	14	03/05/76	2FCB 36 611 4 1	6		PIP	40S	-18.2	37.58	USE			
MR	5	1	1-17716	27	03/05/76	2FCB 21 611 6 1	6		PIP	40S	-14.9	37.58	USE			
MR	5	1	1-17187	24	03/13/76	2FCB 35 611 6 8	6		PIP	40S	-5.0	37.58	USE			

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	INVOICE	SEQ	DATE	SPOOL					SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MR 7 1	1-06692	24	10/26/74	GUY	14101				6	SS	PIP	10	133.2	68.32	PB			
MR 7 1	1-12049	25	07/09/75	GUY	1-06691				6	SS	PIP	10S	-32.0	68.32	PB			
MR 7 1	1-27629	1	03/31/77	2HCD	16	604	6	1	6		PIP	10S	-22.4	68.32	USE			
MR 7 1	1-26006	1	04/27/77	2HCB	17	604	5	2	6		PIP	10S	-.5	68.32	USE			
MR 7 1	1-28209	18	04/30/77	1HCB	16	603	6	1	6		PIP	10S	-28.9	68.32	USE			
MR 7 1	1-29654	11	07/28/77	2HCB	51	617	4	1	6		PIP	10S	-1.0	68.32	USE			
MR 7 1	1-31305	7	10/29/77	2HCC	154	61710		2	6		PIP	10S	-14.8	68.32	USE			
MR 7 1	1-32952	19	02/09/78	OHCD	703	649	4	1	6		PIP	10S	-25.8	68.32	USE			
MR 7 1	1-34357	4	04/28/78	OHCD	703	649	4	6	6		PIP	10S	-3.3	68.32	USE			
MR 7 1	1-34357	8	04/28/78	OHCD	708	649	4	3	6		PIP	10S	-.7	68.32	USE	3.8	68.32	260.
MR 8 1	1-06692	21	10/26/74	GUY	14101				4	SS	PIP	40	72.8	29.43	PB			
MR 8 1	1-27746	3	03/31/77	2HCB	48	604	5	3	4		PIP	40S	-2.0	29.43	USE			
MR 8 1	1-27774	14	03/31/77	1HCB	48	603	5	1	4		PIP	40S	-22.2	29.43	USE			
MR 8 1	1-28655	1	05/28/77	2HCB	48	604	5	2	4		PIP	40S	-12.8	29.43	USE			
MR 8 1	1-30041	9	08/24/77	2HCB	42	60417		5	4		PIP	40S	-9.6	29.43	USE			
MR 8 1	1-36759	2	09/12/78	2HCB	50	614	3	1	4		PIP	STD	-4.8	29.43	USE	21.4	29.43	630.
MR 9 1	1-06692	29	10/26/74	CAP	82783				3	SS	PIP	10	230.5	12.00	PB			
MR 9 1	1-12049	11	07/09/75	CAP	1-06692				3	SS	PIP	10S	-202.0	12.00	PB			
MR 9 1	1-21739	14	08/18/76	2HCC	140	617	1	6	3		PIP	10S	-5.2	12.00	USE			
MR 9 1	1-22009	13	08/21/76	2HCC	140	61712		5	3		PIP	10S	-19.6	12.00	USE			
MR 9 1	1-22009	9	08/21/76	2HCC	139	61712		2	3		PIP	10S	-1.5	12.00	USE			
MR 9 1	1-23201	22	10/18/76	2HCC	139	61712		4	3		PIP	10S	-24.3	12.00	USE			
MR 9 1	1-26953	27	02/25/77	2HCC	139	61712		5	3		PIP	10S	-4.8	12.00	USE	-26.9	12.00	-323.
MR 9 2	1-06692	20	10/26/74	GUY	14101				25	SS	PIP	10	541.8	12.93	PB			
MR 9 2	1-09042	12	02/22/75	GUY	16661				25	SS	PIP	10	632.4	13.45	PB			
MR 9 2	1-08054	1	01/27/75	2HCC	37	611	6	1	25		PIP	10S	-6.1	12.93	USE			
MR 9 2	1-22910	5	10/13/76	2HCC	35	60415		3	25		PIP	10S	-38.0	12.93	USE			
MR 9 2	1-23201	58	10/18/76	2HCC	47	60413		6	25		PIP	10S	-24.8	12.93	USE			
MR 9 2	1-23201	62	10/18/76	2HCC	43	60414		6	25		PIP	10S	-12.4	12.93	USE			
MR 9 2	1-23201	66	10/18/76	2HCC	43	60412		1	25		PIP	10S	-12.8	12.93	USE			
MR 9 2	1-23201	35	10/18/76	2HCC	84	60418		2	25		PIP	10S	-13.4	12.93	USE			
MR 9 2	1-23201	55	10/18/76	2HCC	47	60413		4	25		PIP	10S	-4.6	12.93	USE			
MR 9 2	1-23201	41	10/18/76	2HCC	56	60411		1	25		PIP	10S	-4.0	12.93	USE			
MR 9 2	1-23201	68	10/18/76	2HCC	43	60414		2	25		PIP	10S	-18.4	12.93	USE			
MR 9 2	1-23201	39	10/18/76	2HCC	47	60411		7	25		PIP	10S	-15.2	12.93	USE			
MR 9 2	1-23201	60	10/18/76	2HCC	47	60413		9	25		PIP	10S	-13.1	12.93	USE			
MR 9 2	1-23201	33	10/18/76	2HCC	87	60418		1	25		PIP	10S	-18.0	12.93	USE			
MR 9 2	1-23201	64	10/18/76	2HCC	65	60412		10	25		PIP	10S	-13.6	12.93	USE			
MR 9 2	1-23201	50	10/18/76	2HCC	65	60416		3	25		PIP	10S	-21.1	12.93	USE			
MR 9 2	1-23201	28	10/18/76	2HCC	55	60412		2	25		PIP	10S	-5.7	12.93	USE			
MR 9 2	1-23201	53	10/18/76	2HCC	65	60416		4	25		PIP	10S	-14.8	12.93	USE			
MR 9 2	1-23201	26	10/18/76	2HCC	53	60412		1	25		PIP	10S	-8.9	12.93	USE			
MR 9 2	1-23201	30	10/18/76	2HCC	79	60418		3	25		PIP	10S	-11.0	12.93	USE			
MR 9 2	1-23201	24	10/18/76	2HCC	43	60412		3	25		PIP	10S	-18.4	12.93	USE			
MR 9 2	1-23201	37	10/18/76	2HCC	47	60411		1	25		PIP	10S	-11.8	12.93	USE			
MR 9 2	1-23256	37	10/23/76	2HCC	84	60418		3	25		PIP	10S	-12.5	12.93	USE			
MR 9 2	1-23256	27	10/23/76	2HCC	65	60412		6	25		PIP	10S	-6.6	12.93	USE			
MR 9 2	1-23256	7	10/23/76	2HCC	35	60415		4	25		PIP	10S	-16.8	12.93	USE			
MR 9 2	1-23256	19	10/23/76	2HCC	41	60414		2	25		PIP	10S	-1.1	12.93	USE			

MR	9	2	1-23256	23	10/23/76	2HCC	65	60412	5	25		PIP	10S	-2.6	12.93	USE
MR	9	2	1-23256	30	10/23/76	2HCC	79	60418	2	25		PIP	10S	-15.8	12.93	USE
MR	9	2	1-23256	9	10/23/76	2HCC	47	60413	5	25		PIP	10S	-6.4	12.93	USE
MR	9	2	1-23256	35	10/23/76	2HCC	79	60418	6	25		PIP	10S	-22.2	12.93	USE
MR	9	2	1-23256	3	10/23/76	2HCC	65	60416	1	25		PIP	10S	-42.1	12.93	USE
MR	9	2	1-23256	33	10/23/76	2HCC	79	60418	5	25		PIP	10S	-37.3	12.93	USE
MR	9	2	1-23256	13	10/23/76	2HCC	47	60413	8	25		PIP	10S	-38.0	12.93	USE
MR	9	2	1-23256	15	10/23/76	2HCC	35	60414	3	25		PIP	10S	-1.1	12.93	USE
MR	9	2	1-23256	5	10/23/76	2HCC	65	60416	5	25		PIP	10S	-6.8	12.93	USE
MR	9	2	1-23256	39	10/23/76	2HCC	84	60418	4	25		PIP	10S	-9.9	12.93	USE
MR	9	2	1-25071	22	11/20/76	2HCC	47	60411	8	25		PIP	10S	-15.6	12.93	USE
MR	9	2	1-25071	17	11/20/76	2HCC	47	60411	6	25		PIP	10S	-6.3	12.93	USE
MR	9	2	1-25239	5	11/20/76	2HCC	84	60418	6	25		PIP	10S	-1.0	12.93	USE
MR	9	2	1-25239	3	11/20/76	2HCC	35	60415	5	25		PIP	10S	-23.2	13.15	USE
MR	9	2	1-25071	25	11/20/76	2HCC	50	60411	1	25		PIP	10S	-17.9	13.45	USE
MR	9	2	1-25071	9	11/20/76	2HCC	37	60415	1	25		PIP	10S	-6.1	13.45	USE
MR	9	2	1-25071	12	11/20/76	2HCC	43	60414	5	25		PIP	10S	-38.0	13.45	USE
MR	9	2	1-25071	14	11/20/76	2HCC	47	60411	4	25		PIP	10S	-16.6	13.45	USE
MR	9	2	1-25759	21	12/30/76	2HCC	35	60415	7	25		PIP	10S	-7.3	13.45	USE
MR	9	2	1-26075	5	12/31/76	2HCC	76	60417	9	25		PIP	10S	-37.7	13.45	USE
MR	9	2	1-26075	7	12/31/76	2HCC	76	604171	0	25		PIP	10S	-16.5	13.45	USE
MR	9	2	1-25801	12	12/31/76	2HCC	43	60414	4	25		PIP	10S	-7.2	13.45	USE
MR	9	2	1-26075	1	12/31/76	2HCC	65	60412	9	25		PIP	10S	-19.5	13.45	USE
MR	9	2	1-25801	6	12/31/76	2HCC	47	60413	7	25		PIP	10S	-7.3	13.45	USE
MR	9	2	1-25801	9	12/31/76	2HCC	43	60414	3	25		PIP	10	-20.4	13.45	USE
MR	9	2	1-26446	7	01/29/77	2HCC	76	60417	7	25		PIP	10S	-20.6	13.45	USE
MR	9	2	1-26446	3	01/29/77	2HCC	72	60416	2	2	5	PIP	10S	-1.8	13.45	USE
MR	9	2	1-26441	4	01/29/77	2HCC	83	60418	1	25		PIP	10S	-1.4	13.45	US
MR	9	2	1-26441	9	01/29/77	2HCC	76	60417	6	25		PIP	10S	-14.6	13.45	USE
MR	9	2	1-26446	9	01/29/77	2HCC	76	60417	8	25		PIP	10S	-21.4	13.45	USE
MR	9	2	1-26659	11	02/10/77	2HCC	47	60411	3	25		PIP	10S	-10.6	13.45	USE
MR	9	2	1-26659	1	02/10/77	2HCC	65	60416	2	25		PIP	10S	-16.9	13.45	USE
MR	9	2	1-26659	5	02/10/77	2HCC	35	60415	6	25		PIP	10S	-10.5	13.45	USE
MR	9	2	1-26659	8	02/10/77	2HCC	47	60411	2	25		PIP	10S	-18.3	13.45	USE
MR	9	2	1-26953	20	02/26/77	2HCC	76	60417	5	25		PIP	10S	-5.8	13.45	USE
MR	9	2	1-27352	1	03/17/77	2HCC	65	60412	2	25		PIP	10S	-2.4	13.45	USE
MR	9	2	1-27605	63	03/30/77	2HCC	151	611	3	1	25	PIP	40S	-6.6	13.45	USE
MR	9	2	1-27605	45	03/30/77	2HCC	65	60412	1	25		PIP	10S	-8.5	13.45	USE
MR	9	2	1-27629	11	03/31/77	2HCC	65	60416	7	25		PIP	10S	-6.5	13.45	USE
MR	9	2	1-27629	6	03/31/77	2HCC	65	60416	6	25		PIP	10S	-7.7	13.45	USE
MR	9	2	1-27629	3	03/31/77	2HCC	72	60416	1	25		PIP	10S	-6.5	13.45	USE
MR	9	2	1-27629	18	03/31/77	2HCC	35	60414	2	25		PIP	10S	-6.5	13.45	USE
MR	9	2	1-27629	27	03/31/77	2HCC	76	604171	1	25		PIP	10S	-12.0	13.45	USE
MR	9	2	1-26006	26	04/27/77	2HCC	43	60412	2	25		PIP	10S	-9.5	13.45	USE
MR	9	2	1-26006	3	04/27/77	2HCC	11	60414	1	25		PIP	10S	-7.6	13.45	USE
MR	9	2	1-28209	33	04/30/77	1HCC	73	60317	2	25		PIP	10S	-6.0	13.45	USE
MR	9	2	1-28209	36	04/30/77	1HCC	76	60317	1	25		PIP	10S	-7.5	13.45	USE
MR	9	2	1-28209	39	04/30/77	1HCC	76	60317	2	25		PIP	10S	-.6	13.45	USE
MR	9	2	1-28231	1	04/30/77	2HCC	53	60412	4	25		PIP	10S	-2.3	13.45	USE
MR	9	2	1-28231	9	04/30/77	2HCC	76	60417	3	25		PIP	10S	-.6	13.45	USE
MR	9	2	1-28231	8	04/30/77	2HCC	73	60417	3	25		PIP	10S	-.6	13.45	USE
MR	9	2	1-28209	30	04/30/77	1HCC	73	60317	1	25		PIP	10S	-18.9	13.45	USE
MR	9	2	1-28655	15	05/28/77	2HCC	73	60417	1	25		PIP	10S	-.6	13.45	USE
MR	9	2	1-28570	23	05/28/77	2HCC	76	60417	2	25		PIP	10S	-7.2	13.45	USE
MR	9	2	1-28654	11	05/28/77	1HCC	47	60313	2	2	5	PIP	10S	-5.5	13.45	USE
MR	9	2	1-28570	7	05/28/77	2HCC	65	60416	8	25		PIP	10S	-1.8	13.45	USE
MR	9	2	1-28655	18	05/28/77	2HBC	76	60417	1	25		PIP	10S	-1.8	13.45	USE
MR	9	2	1-28570	15	05/28/77	2HCC	65	60412	4	25		PIP	10S	-2.4	13.45	USE
MR	9	2	1-28570	17	05/28/77	2HCC	43	60412	4	25		PIP	10S	-10.6	13.45	USE
MR	9	2	1-28655	5	05/28/77	2HCC	81	60418	1	25		PIP	10S	-.6	13.45	USE

MR	9	2	1-28655	10	05/28/77	2HCC	79	60418	1	25	PIP	10S	-.6	13.45	USE				
MR	9	2	1-28654	8	05/28/77	1HCC	46	60313	1	25	PIP	10S	-5.1	13.45	USE				
MR	9	2	1-28668	1	05/28/77	1HCC	47	60313	1	25	PIP	10S	-5.2	13.45	USE				
MR	9	2	1-28805	8	06/13/77	1HCC	41	60314	1	25	PIP	10S	-2.0	13.45	USE				
MR	9	2	1-28805	5	06/13/77	1HCC	35	60314	2	25	PIP	10S	-2.0	13.45	USE				
MR	9	2	1-29018	19	06/26/77	1HCC	41	60314	2	25	PIP	10S	-6.3	13.45	USE				
MR	9	2	1-29023	26	06/26/77	2HCC	41	60414	2	25	PIP	10S	-6.3	13.45	USE				
MR	9	2	1-29018	15	06/26/77	1HCC	35	60314	3	25	PIP	10S	-5.9	13.45	USE				
MR	9	2	1-29348	7	07/14/77	1HCC	37	60315	1	25	PIP	10S	-.8	13.45	USE				
MR	9	2	1-29928	9	08/11/77	2HCC	73	60417	2	25	PIP	10S	-6.6	13.45	USE				
MR	9	2	1-29967	8	08/17/77	2HCC	55	60412	1	25	PIP	10S	-.6	13.45	USE				
MR	9	2	1-29967	4	08/17/77	2HCC	65	60412	3	25	PIP	10S	-5.8	13.45	USE				
MR	9	2	1-30186	7	08/27/77	1HCC	78	60312	1	25	PIP	10S	-3.8	13.45	USE				
MR	9	2	1-30186	30	08/27/77	1HCC	47	60311	5	25	PIP	10S	-6.5	13.45	USE				
MR	9	2	1-30758	1	09/29/77	1HCC	87	603	7	1	25	PIP	10S	-7.8	13.45	USE			
MR	9	2	1-30758	8	09/29/77	1HCC	65	60312	7	25	PIP	10S	-5.7	13.45	USE				
MR	9	2	1-30859	16	09/30/77	1HCC	46	60313	2	25	PIP	10S	-5.6	13.45	USE				
MR	9	2	1-31205	5	10/27/77	2HCC	56	60411	2	25	PIP	10S	-15.1	13.45	USE				
MR	9	2	1-31418	27	10/29/77	2HCC	37	611	6	1	25	PIP	10S	-.5	13.45	USE			
MR	9	2	1-31418	1	10/29/77	2HCC	87	604	5	1	25	PIP	10S	-12.8	13.45	USE			
MR	9	2	1-31418	13	10/29/77	2HCC	79	60417	1	25	PIP	10S	-11.8	13.45	USE				
MR	9	2	1-31385	13	10/29/77	1HCC	65	60312	5	25	PIP	10S	-11.3	13.45	USE				
MR	9	2	1-31385	40	10/29/77	1HCC	77	60317	1	25	PIP	10S	-13.2	13.45	USE				
MR	9	2	1-31418	9	10/29/77	2HCC	47	60411	5	25	PIP	10S	-.6	13.45	USE				
MR	9	2	1-32420	2	12/30/77	1HCC	86	603	7	1	25	PIP	10S	-8.2	13.45	USE			
MR	9	2	1-33424	9	03/13/78	2HCC	76	60417	4	25	PIP	10S	-6.6	13.45	USE				
MR	9	2	1-34677	2	05/26/78	1HCC	84	60318	1	25	PIP	10S	-4.2	13.45	USE				
MR	9	2	1-40739	8	4/20/79	2HCC	77	60417	1	25	PIP	10S	-2.6	13.45	USE	2.1	13.45	28.	

<ITT PART>	<ID> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MR 10 2	1-06692	31	10/26/74	CAP 84357	12	SS	PIP	STD	111.8	227.05	PB			
MR 10 2	1-07613	5	12/27/74	OHCC 12 614 7 2	12		PIP	STD	-36.5	227.05	USE			
MR 10 2	1-07613	1	12/27/74	OHCC 12 614 7 1	12		PIP	STD	-8.1	227.05	USE			
MR 10 2	1-16520	8	01/21/76	OHCC 12 614 7 3	12		PIP	STD	-1.8	227.05	USE			
MR 10 2	1-20827	18	07/10/76	OHCC152 506 1 2	12		PIP	STD	-10.6	227.05	USE			
MR 10 2	1-20828	5	07/10/76	OHCC153 506 2 1	12		PIP	STD	-28.9	227.05	USE			
MR 10 2	1-27605	58	03/30/77	OHCC 3 614 8 1	12		PIP	STD	-6.2	227.05	USE			
MR 10 2	1-27746	22	03/31/77	2HCC156 61410 1	12		PIP	STD	-4.6	227.05	USE			
MR 10 2	1-32931	10	02/08/79	2HCC120 614 3 1	12		PIP	STD	-2.6	227.05	USE	12.5	227.05	2838.
MR 11 1	1-06692	16	10/26/74	GUY 14101	8	SS	PIP	40	255.3	109.25	PB			
MR 11 1	1-08068	1	01/20/75	2GCB 15 613 4 9	8		PIP	40S	-1.0	109.25	USE			
MR 11 1	1-16520	6	01/21/76	2GCB 16 613 3 2	8		PIP	40S	-9.8	109.25	USE			
MR 11 1	1-17187	12	02/13/76	2GCB 15 613 4 3	8		PIP	40S	-8.8	109.25	USE			
MR 11 1	1-17187	10	02/13/76	2GCB 15 613 4 2	8		PIP	40S	-8.8	109.25	USE			
MR 11 1	1-17187	5	02/13/76	2GCB 16 613 3 6	8		PIP	40S	-1.2	109.25	USE			
MR 11 1	1-17187	1	02/13/76	2GCB 16 613 3 3	8		PIP	40S	-9.2	109.25	USE			
MR 11 1	1-17188	8	02/13/76	2GCB 16 613 3 9	8		PIP	40S	-8.0	109.25	USE			
MR 11 1	1-17716	6	03/05/76	2GCB 15 613 4 8	8		PIP	40S	-6.7	109.25	USE			
MR 11 1	1-17716	4	03/05/76	2GCB 16 613 3 8	8		PIP	40S	-10.6	109.25	USE			
MR 11 1	1-19924	3	06/04/76	1GCB 15 612 4 7	8		PIP	40S	-38.2	109.25	USE			
MR 11 1	1-19947	6	06/04/76	2GCB 16 613 3 7	8		PIP	40S	-21.1	109.25	USE			
MR 11 1	1-20300	15	06/14/76	2GCB 16 613 3 1	8		PIP	40	-11.8	109.25	USE			
MR 11 1	1-20662	7	06/26/76	2GCB 16 613 3 5	8		PIP	40S	-9.3	109.25	USE			
MR 11 1	1-20827	4	07/10/76	2GCB 15 613 4 5	8		PIP	40S	-8.8	109.25	USE			
MR 11 1	1-22863	14	10/11/76	2GCB 15 613 2 4	8		PIP	40S	-17.3	109.25	USE			
MR 11 1	1-25239	18	11/20/76	2GCB 15 613 4 7	8		PIP	40S	-41.2	109.25	USE			
MR 11 1	1-25759	24	12/30/76	2GCB 15 613 4 6	8		PIP	40S	-22.9	109.25	USE			
MR 11 1	1-25759	26	12/30/76	2GCB 15 613 2 1	8		PIP	40S	-2.4	109.25	USE	18.2	109.25	1988.
MR 11 2	1-06692	17	10/26/74	GUY 14101	6	SS	PIP	40	27.0	50.49	PB			
MR 11 2	1-09337	13	03/06/75	2GCB 15 613 4 1	6		PIP	40S	-8.2	50.49	USE			
MR 11 2	1-09337	9	03/06/75	2GCB 16 613 3 4	6		PIP	40S	-8.3	50.49	USE			
MR 11 2	1-17188	7	02/13/76	2GCB 16 613 3 9	6		PIP	40S	-1.0	50.49	USE			
MR 11 2	1-17187	7	02/13/76	2GCB 17 613 3 2	6		PIP	40S	-4.0	50.49	USE			
MR 11 2	1-17716	9	03/05/76	2GCB 18 613 4 2	6		PIP	40S	-4.2	50.49	USE			
MR 11 2	1-26953	23	02/26/77	2GCB 17 613 3 3	6		PIP	40S	-6.0	50.49	USE			
MR 11 2	1-26006	9	04/27/77	2GCB 17 613 3 1	6		PIP	40S	-2.1	50.49	USE	-6.8	50.49	-343.
MR 11 3	1-06692	18	10/26/74	GUY 14101	3	SS	PIP	40	22.6	24.53	PB	22.6	24.53	554.
MR 11 4	1-06692	19	10/26/74	GUY 14101	25	SS	PIP	40	20.4	20.40	PB			
MR 11 4	1-17188	12	02/13/76	2GCB 24 611 3 2	25		PIP	40S	-5.3	20.40	USE			
MR 11 4	1-21545	9	08/07/76	2FCC 1 611 4 1	25		PIP	40S	-11.1	20.40	USE	4.0	20.40	82.

ITT	PART	INVOICE	SEQ	DATE	SPOOL	SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MR	15	1 1-07084	1	11/23/74	GUY 15159	4	SS	PIP	10S	27.5	20.52	PB			
MR	15	1 1-09337	19	03/06/75	2HCB 18 611 3 2	4		PIP	10S	-7.4	20.52	USE			
MR	15	1 1-09337	17	03/06/75	2HCB 18 611 3 1	4		PIP	10S	-7.3	20.52	USE			
MR	15	1 1-19947	12	06/04/76	2HCB 18 611 3 4	4		PIP	10S	-2.8	20.52	USE			
MR	15	1 1-20827	8	07/10/76	2HCB 18 611 3 3	4		PIP	10S	-1.8	20.52	USE			
MR	15	1 1-36475	5	08/30/78	OHCD862 6071111	4		PIP	10S	-2.0	20.52	USE	6.2	20.52	127.
MR	16	1 1-17546	16	02/21/76	CAP 23168	12	SS	PIP	140	64.9	971.27	PB			
MR	16	1 1-31418	28	10/29/77	2CCA 18 611 2 7	12		PIP	140	-2.7	971.27	USE			
MR	16	1 1-33981	5	04/13/78	2CCA 18 611 2 1	12		PIP	140	-21.6	971.27	USE			
MR	16	1 1-35646	1	07/25/78	2GCB 26 611 2 1	12		PIP	140	-1.5	971.27	USE			
MR	16	1 1-36467	1	08/30/78	2CCA 18 611 2 5	12		PIP	140	-22.7	971.27	USE	16.4	971.27	15929.
MR	16	2 1-18900	8	04/24/76	CAP 39155	10	SS	PIP	140	52.3	700.00	PB			
MR	16	2 1-33671	17	03/29/78	2CCA 17 602 1 1	10		PIP	140	-7.4	700.00	USE			
MR	16	2 1-34690	13	05/26/78	2CCA 17 602 1 2	10		PIP	140	-27.2	700.00	USE			
MR	16	2 1-32931	19	02/08/79	2CCA 17 602 1 3	10		PIP	140	-9.8	700.00	USE	7.9	700.00	5530.
MR	17	1 1-07084	26	11/23/74	85322	12	SS	PIP	STD	8.0	361.14	PB			
MR	17	1 1-08068	4	01/20/75	2GCB 26 611 7 1	12		PIP	40S	-1.0	361.14	USE			
MR	17	1 1-28224	26	04/30/77	2GCB 26 611 7 2	1[illegible]		PIP	40S	-4.3	361.14	USE			
MR	17	1 1-35646	4	07/25/78	2GCB 26 611 2 1	12		PIP	40S	-2.5	361.14	USE	.2	361.14	72.
MR	18	1 1-18899	1	04/24/76	TAY 01106866	26	CS	PIP	935	388.7	261.20	PB			
MR	18	1 1-32816	1	01/27/78	2ELB 9 632 1 3	26		PIP	935	-20.7	261.20	USE			
MR	18	1 1-33005	1	02/16/78	1ELB 10 631 1 5	26		PIP	1435	-22.7	261.20	USE			
MR	18	1 1-33099	1	02/21/78	2ELB 9 632 1 1	26		PIP	935	-5.3	261.20	USE			
MR	18	1 1-33197	1	02/23/78	2ELB 10 632 1 5	26		PIP	935	-22.5	261.20	USE			
MR	18	1 1-33270	1	02/24/78	2ELB 9 632 1 9	26		PIP	935	-26.1	261.20	USE			
MR	18	1 1-33442	7	03/13/78	2ELB 10 632 1 4	26		PIP	935	-25.6	261.20	USE			
MR	18	1 1-33442	1	03/13/78	2ELB 9 632 1 8	26		PIP	935	-20.9	261.20	USE			
MR	18	1 1-33442	5	03/13/78	2ELB 9 632 110	26		PIP	935	-19.3	261.20	USE			
MR	18	1 1-33599	4	03/21/78	1ELB 10 631 1 9	26		PIP	935	-30.3	261.20	USE			
MR	18	1 1-33599	2	03/21/78	1ELB 10 631 1 4	26		PIP	935	-25.7	261.20	USE			
MR	18	1 1-33599	1	03/21/78	1ELB 9 631 1 5	26		PIP	935	-20.8	261.20	USE			
MR	18	1 1-33875	1	03/31/78	2ELB 9 632 1 4	26		PIP	935	-15.0	261.20	USE			
MR	18	1 1-33938	1	04/10/78	2ELB 9 632 1 5	26		PIP	935	-21.8	261.20	USE			
MR	18	1 1-34688	1	05/26/78	2ELB 9 632 1 6	26		PIP	935	-5.4	261.20	USE			
MR	18	1 1-35012	1	06/20/78	1ELB 9 631 1 4	26		PIP	935	-19.3	261.20	USE			
MR	18	1 1-35077	1	06/22/78	2ELB 10 632 1 2	26		PIP	935	-29.4	261.20	USE			
MR	18	1 1-35652	1	07/25/78	2ELB 12 632 1 1	26		PIP	935	-21.5	261.20	USE	36.4	261.20	9508.
MR	18	2 1-18900	42	04/24/76	TAY 04110686	36	CS	PIP	1267	29.4	533.35	PB			
MR	18	2 1-23279	17	10/23/76	TAY 04100866	36	CS	PIP	1267	-29.4	532.86	PB			
MR	18	2 1-28191	14	04/30/79	TAY 04106866	36		PIP	1267	43.6	533.35	PB			
MR	18	2 1-34950	1	06/15/78	2EBD 49 632 3 2	36		PIP	1267	-16.8	533.35	USE			
MR	18	2 1-35652	2	07/25/78	2ELB 12 632 1 1 ✓	36		PIP	1267	-3.8	533.35	USE			
MR	18	2 1-35872	5	07/28/78	1EBD 11 631 2 1	36		PIP	1267	-6.5	533.35	USE			
MR	18	2 1-37277	2	09/29/78	2EBD 42 632 2 1	36		PIP	1267	-14.0	534.38	USE			
MR	18	2 1-38977	2	01/26/79	2ELB 11 632 1 1 ✓	36		PIP	1267	-3.8	533.35	USE			

<ITT PART>			<----------ID---------->							<PART DESCRIPTION>				<----TRANSACTION---->				<------INVENTORY------>		
			INVOICE	SEQ	DATE	SPOOL				SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE		QUANT	UNIT $	TOT $
MR	24	1	1-17547	2	02/21/76	CAP	23170			25	SS	PIP	40S	22.4	18.03	PB				
MR	24	1	1-20827	10	07/10/76	2FCB	29	611	6 5	25		PIP	40S	-4.2	18.03	USE				
MR	24	1	1-33328	6	02/24/78	2FCC	1	611	6 1	25		PIP	40S	-15.8	18.03	USE		2.4	18.03	43.
MR	25	1	1-21320	7	07/24/76	GUY	I14635D			8	SS	PIP	10	146.0	22.93	PB				
MR	25	1	1-16903	5	02/01/76	1HCD251	614	9	1	8		PIP	10S	-7.3	22.93	USE				
MR	25	1	1-22920	1	10/13/76	2HCD257	614	9	1	8		PIP	10S	-4.5	22.93	USE		134.2	22.93	3077.
MR	26	1	1-18186	12	03/25/76	GUY	I24977			25	SS	PIP	160	450.7	35.35	PB				
MR	26	1	1-28691	7	05/28/77	GUY	I36127			25	SS	PIP	160	5.8	35.35	PB				
MR	26	1	1-27806	23	03/25/79	GUY	DM7772			25		PIP	160	-94.2	35.35	PB				
MR	26	1	1-28191	5	04/30/79	GUY	I35561			25	SS	PIP	160	89.8	35.35	PB				
MR	26	1	1-29928	16	08/11/77	2CCA	15	602	2 1	25		PIP	160	-10.9	35.35	USE				
MR	26	1	1-29930	4	08/11/77	1CCA	14	603	1 2	25		PIP	160	-4.9	35.35	USE				
MR	26	1	1-30186	15	08/27/77	1CCA	11	603	2 4	25		PIP	160	-3.8	35.35	USE				
MR	26	1	1-31202	19	10/26/77	1CCA	15	601	2 3	25		PIP	160	-12.0	35.35	USE				
MR	26	1	1-31673	1	11/25/77	2CCA	13	604	1 2	25		PIP	160	-6.1	35.35	USE				
MR	26	1	1-33671	1	03/29/78	2CCA	14	604	1 3	25		PIP	160	-1.5	35.35	USE				
MR	26	1	1-34151	1	04/24/78	2CCA	14	604	1 1	25		PIP	160	-14.3	35.35	USE				
MR	26	1	1-35040	5	06/20/78	2CCB	83	617	4 1	25		PIP	160	-2.3	35.35	USE				
MR	26	1	1-35082	1	06/22/78	2CCA	14	604	1 2	25		PIP	160	-6.2	35.35	USE				
MR	26	1	1-37271	8	09/29/78	OHCD599	605	3	3	25		PIP	160	-.5	35.35	USE				
MR	26	1	1-37271	9	09/29/78	OHCD598	605	3	3	25		PIP	160	-.5	35.35	USE				
MR	26	1	1-37271	7	09/29/78	OHCD600	605	3	3	25		PIP	60	-.5	35.35	USE				
MR	26	1	1-38086	28	11/24/78	OHCD598	605	3	1	25		PIP	160	-.8	35.35	USE				
MR	26	1	1-38086	23	11/24/78	2HCD533	605	3	5	25		PIP	160	-20.5	35.35	USE				
MR	26	1	1-38000	6	11/24/78	2CCB	2	604	7 9	25		PIP	160	-.9	35.35	USE				
MR	26	1	1-38589	11	12/28/78	OHCD599	605	3	1	25		PIP	160	-.8	35.35	USE				
MR	26	1	1-40739	21	4/20/79	2CCA	16	602	2 3	25		PIP	160	-8.1	35.35	USE				
MR	26	1	1-39037	8	01/26/79	OHCD600	605	3	2	25		PIP	160	-.3	35.35	USE				
MR	26	1	1-39027	19	01/26/79	OHCD600	605	3	1	25		PIP	160	-7.8	35.35	USE				
MR	26	1	1-39037	4	01/26/79	OHCD600	605	3	1	25		PIP	60	-.8	35.35	USE				
MR	26	1	1-39037	12	01/26/79	OHCD598	605	3	2	25		PIP	160	-.3	35.35	USE				
MR	26	1	1-39037	10	01/26/79	OHCD599	605	3	2	25		PIP	160	-.3	35.35	USE				
MR	26	1	1-39027	5	01/26/79	OHCD595	605	3	3	25		PIP	160	-8.8	35.35	USE				
MR	26	1	1-39582	1	03/07/79	WO5152				25		PIP	160	-1.5	35.35	USE		337.7	35.35	11938.
MR	26	2	1-17547	3	02/21/76	CAP	23172			4	SS	PIP	160	4.0	133.85	PB		4.0	133.85	535.
MR	27	1	1-16764	3	01/24/76	CAP	23171			25	SS	PIP	160	3.0	56.23	PB				
MR	27	1	1-33671	23	03/29/78	2CCB	28	602	2 1	25		PIP	160	-2.4	56.23	USE		.6	56.23	34.
MR	28	1	1-19809	1	05/22/76	NAT	C-31-76			42	SS	PIP		20.1	1858.13	PB		20.1	1858.13	37348.

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	INVOICE	SEQ	DATE	SPOOL						SIZE	MAT	TYP	SCH	QUANT	UNIT PRICE	MODE	QUANT	UNIT $	TOT $
MR 29	1 1-16252	15	12/31/75	CAP	25695					10	SS	PIP	STD	39.8	128.75	PB			
MR 29	1 1-20515	3	6/26/76	CAP	25817A					10	SS	PIP	40	-83.8	128.75	PB			
MR 29	1 1-20515	2	6/26/76	CAP	D25695B					10	SS	PIP	STD	-39.8	128.75	PB			
MR 29	1 1-16764	4	01/24/76	CAP	25817					10	SS	PIP	40	83.8	128.75	PB			
MR 29	1 1-19808	2	05/22/76	CAP	34646					10	SS	PIP	STD	120.7	128.79	PB			
MR 29	1 1-37131	1	09/29/78	CAP	25817					10	SS	PIP	40	-5.0	128.75	PB			
MR 29	1 1-29369	10	07/14/77	2HCC	151	611	7	2		10		PIP	STD	-1.0	128.79	USE			
MR 29	1 1-31871	5	12/07/77	2HCC	112	614	8	1		10		PIP	STD	-25.8	128.79	USE			
MR 29	1 1-32457	6	12/30/77	OHCC	12	614	3	4		10		PIP	STD	-8.6	128.79	USE			
MR 29	1 1-32751	5	01/20/78	OHCC	13	614	8	2		10		PIP	STD	-9.8	128.79	USE			
MR 29	1 1-32751	11	01/20/78	2HCC	151	611	7	1		10		PIP	STD	-22.6	128.79	USE			
MR 29	1 1-33671	4	03/29/78	OHCC	15	614	8	4		10		PIP	STD	-4.2	128.79	USE			
MR 29	1 1-34151	5	04/24/78	OHCC	15	614	8	2		10		PIP	STD	-4.4	128.79	USE			
MR 29	1 1-35574	4	07/18/78	OHCC	12	611	8	1		10		PIP	STD	-.8	128.79	USE			
MR 29	1 1-37792	2	11/14/78	WO5123						10		PIP	STD	-.3	128.79	USE	38.2	128.80	4920.
MR 30	1 1-17547	12	02/21/76	GUY	23992					6	SS	PIP	10S	41.8	26.41	PB			
MR 30	1 1-26620	1	02/10/77	2HCB	17	604	5	1		6		PIP	10S	-4.8	26.41	USE			
MR 30	1 1-31202	3	10/26/77	1HCC	154	616	10	2		6		PIP	10S	-9.5	26.41	USE			
MR 30	1 1-31305	9	10/29/77	2HCC	417	617	4	1		6		PIP	10S	-6.0	26.41	USE			
MR 30	1 1-34357	3	04/28/78	OHCD	703	649	4	6		6		PIP	10S	-18.0	26.41	USE			
MR 30	1 1-20300	19	06/14/78	2HCB	51	617	10	1		6		PIP	10S	-1.0	26.41	USE	2.5	26.41	66.
MR 31	1 1-16764	5	01/24/76	CAP	26176					3	SS	PIP	10S	230.6	11.42	PB			
MR 31	1 1-21739	12	08/18/76	2HCC	140	617	12	2		3		PIP	10S	-2.8	11.42	USE			
MR 31	1 1-22009	7	08/21/76	2HCC	139	617	12	1		3		PIP	10S	-7.8	11.42	USE			
MR 31	1 1-22009	11	08/21/76	2HCC	140	617	12	1		3		PIP	10S	-22.7	11.42	USE			
MR 31	1 1-23201	20	10/18/76	OHCC	22	614	8	2		3		PIP	10S	-4.3	11.42	USE			
MR 31	1 1-25759	30	12/30/76	2HCC	139	617	12	4		3		PIP	10S	-9.9	11.42	USE			
MR 31	1 1-29017	7	06/26/77	2HCC	139	617	12	3		3		PIP	10S	-44.8	11.42	USE			
MR 31	1 1-29169	29	06/30/77	2HCC	162	613	5	1		3		PIP	10S	-2.5	11.42	USE			
MR 31	1 1-30768	11	09/29/77	2HCC	140	617	12	3		3		PIP	10S	-44.0	11.42	USE			
MR 31	1 1-30768	8	09/29/77	OHCC	22	614	8	1		3		PIP	10S	-.7	11.42	USE			
MR 31	1 1-31673	10	11/25/77	2HCC	140	617	12	4		3		PIP	10S	-37.9	11.42	USE			
MR 31	1 1-35080	17	06/22/78	2HCC	114	614	2	1		3		PIP	10S	-7.9	11.42	USE	45.3	11.42	517.
MR 32	1 1-20515	1	6/26/76	CAP	31241					8	SS	PIP	40S	137.3	64.98	PB			
MR 32	1 1-19808	1	05/22/76	CAP	28683					8	SS	PIP	40S	313.8	64.98	PB			
MR 32	1 1-36404	1	08/23/78	CAP	31241					8	SS	PIP	40S	-26.5	64.98	PB			
MR 32	1 1-21545	8	08/07/76	2GCB	16	613	2	9		8		PIP	40S	-20.0	64.98	USE			
MR 32	1 1-21545	7	08/07/76	2GCB	15	613	2	12		8		PIP	40S	-20.0	64.98	USE			
MR 32	1 1-21739	7	08/18/76	2GCB	16	613	2	7		8		PIP	40S	-10.5	64.98	USE			
MR 32	1 1-21739	1	08/18/76	2GCB	15	613	2	8		8		PIP	40S	-20.0	64.98	USE			
MR 32	1 1-21739	5	08/18/76	2GCB	16	613	2	5		8		PIP	40S	-16.5	64.98	USE			
MR 32	1 1-21739	3	08/18/76	2GCB	15	613	2	9		8		PIP	40S	-16.5	64.98	USE			
MR 32	1 1-22863	21	10/11/76	2GCB	15	613	2	11		8		PIP	40S	-26.3	64.98	USE			
MR 32	1 1-22863	26	10/11/76	2GCB	16	613	2	6		8		PIP	40S	-19.5	64.98	USE			
MR 32	1 1-22863	19	10/11/76	2GCB	15	613	2	10		8		PIP	40S	-19.0	64.98	USE			
MR 32	1 1-22863	23	10/11/76	2GCB	16	613	2	4		8		PIP	40S	-33.0	64.98	USE			
MR 32	1 1-22863	16	10/11/76	2GCB	15	613	2	6		8		PIP	40S	-11.8	64.98	USE			
MR 32	1 1-22863	12	10/11/76	2GCB	15	613	2	3		8		PIP	40S	-33.0	64.98	USE			
MR 32	1 1-23201	16	10/18/76	2GCB	15	613	2	5		8		PIP	40S	-9.0	64.98	USE			

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MR 33 1	1-26736	1	02/19/77	GUL 27911981	18	SS	PIP	STD	231.0	163.06	PB			
MR 33 1	1-32782	5	01/27/78	GUF 27911981	18	SS	PIP	STD	-1.5	163.06	PB			
MR 33 1	1-22910	10	10/13/76	2HCB 1 613 8 4	18		PIP	STD	-15.0	163.06	USE			
MR 33 1	1-22910	11	10/13/76	2HCB 1 613 8 5	18		PIP	STD	-7.8	163.06	USE			
MR 33 1	1-22910	8	10/13/76	2HCB 2 613 7 3	18		PIP	STD	-12.0	163.06	USE			
MR 33 1	1-22910	9	10/13/76	2HCB 1 613 8 2	18		PIP	STD	-20.0	163.06	USE			
MR 33 1	1-23256	56	10/23/76	2HCB 2 613 7 4	18		PIP	STD	-23.0	163.06	USE			
MR 33 1	1-23256	58	10/23/76	2HCB 1 613 8 1	18		PIP	STD	-24.0	163.06	USE			
MR 33 1	1-23256	57	10/23/76	2HCB 2 613 7 6	18		PIP	STD	-24.0	163.06	USE			
MR 33 1	1-26075	10	12/31/76	2HCB 1 613 610	18		PIP	STD	-15.3	163.06	USE			
MR 33 1	1-28570	33	05/28/77	2HCB 2 613 7 1	18		PIP	STD	-2.3	163.06	USE			
MR 33 1	1-29023	30	06/26/77	2HCB 1 613 611	18		PIP	STD	-5.3	163.06	USE			
MR 33 1	1-29017	3	06/25/77	2HCB 1 613 610	18		PIP	STD	-14.3	163.06	USE			
MR 33 1	1-31305	14	10/29/77	2HCB 1 613 8 6	18		PIP	STD	-2.3	163.06	USE			
MR 33 1	1-31418	30	10/29/77	2HCB 2 613 7 2	18		PIP	STD	-6.0	163.06	USE			
MR 33 1	1-31871	20	12/07/77	2HCB 2 613 7 5	18		PIP	STD	-20.3	163.06	USE			
MR 33 1	1-35658	9	07/25/78	2HCB 1 613 8 3	18		PIP	STD	-16.9	163.06	USE	21.0	163.06	3424.
MR 34 1	1-20515	8	6/26/76	GUY I-25871	4	SS	PIP	10S	-3.5	14.92	PB			
MR 34 1	1-18900	21	04/24/76	GUY 1-25871	4	SS	PIP	10S	424.7	14.92	PB			
MR 34 1	1-20662	4	06/26/76	2HCB 19 613 6 5	4		PIP	10S	-27.5	14.92	USE			
MR 34 1	1-20662	1	06/26/76	2HCB 20 613 5 5	4		PIP	10S	-27.5	14.92	USE			
MR 34 1	1-21545	18	08/07/76	2HCB 18 613 7 3	4		PIP	10S	-24.5	14.92	USE			
MR 34 1	1-21545	32	08/07/76	2HCB 20 613 7 3	4		PIP	10S	-9.6	14.92	USE			
MR 34 1	1-21545	34	08/07/76	2HCB 19 613 8 1	4		PIP	10S	-20.9	14.92	USE			
MR 34 1	1-21739	22	08/18/76	2HCB 20 613 7 4	4		PIP	10S	-23.5	14.92	USE			
MR 34 1	1-21739	20	08/18/76	2HCB 20 613 7 1	4		PIP	10S	-25.0	14.92	USE			
MR 34 1	1-22009	23	08/21/76	2HCB 18 613 7 1	4		PIP	10S	-22.4	14.92	USE			
MR 34 1	1-22910	12	10/13/76	2HCB 21 613 8 3	4		PIP	10S	-30.0	14.92	USE			
MR 34 1	1-27746	1	03/31/77	2HCB 33 649 2 1	4		PIP	10S	-10.6	14.92	USE			
MR 34 1	1-29928	17	08/11/77	2HCB 18 613 7 2	4		PIP	10S	-37.0	14.92	USE			
MR 34 1	1-31043	30	10/13/77	2HCB 21 613 8 1	4		PIP	10S	-15.2	14.92	USE			
MR 34 1	1-20300	26	06/14/78	2HCB 19 613 8 3	4		PIP	10S	-24.0	14.92	USE			
MR 34 1	1-35658	6	07/25/78	2HCB 11 608 1 1	4		PIP	10S	-8.4	14.92	USE			
MR 34 1	1-35658	11	07/25/78	2HCB 19 613 8 2	4		PIP	10S	-37.9	14.92	USE			
MR 34 1	1-32751	28	10/20/78	2HCB 21 613 8 2	4		PIP	10S	-38.6	14.92	USE	38.6	14.92	576.
MR 35 1	1-22539	12	09/23/76	GUL 27911981	18	SS	PIP	STD	72.0	163.06	PB			
MR 35 1	1-29023	36	06/26/77	2HCB 2 611 3 9	18		PIP	STD	-14.3	163.06	USE			
MR 35 1	1-33654	1	03/23/78	1HCB 2 612 7 2	18		PIP	STD	-10.6	163.06	USE			
MR 35 1	1-35658	10	07/25/78	2HCB 1 613 8 3	18		PIP	STD	-5.2	163.06	USE			
MR 35 1	1-36852	12	09/19/78	2HCB 1 613 8 6	18		PIP	STD	-6.2	163.06	USE			
MR 35 1	1-37271	1	09/29/78	OHCD974 661 1 4	18		PIP	STD	-8.9	163.06	USE	26.8	163.06	4370.
MR 35 2	1-19808	6	05/22/76	GUY I26315	3	SS	PIP	10S	24.0	9.86	PB	24.0	9.86	237.

MR	32	1	1-23201	18	10/18/76	2GCB	15	613	2	7	8		PIP	40S	-5.6		64.98	USE					
MR	32	1	1-23256	44	10/23/76	2GCB	16	613	2	3	8		PIP	40S	-39.0		64.98	USE					
MR	32	1	1-25239	23	11/20/76	2GCB	16	613	2	1	8		PIP	40S	-3.0		64.98	USE					
MR	32	1	1-25239	20	11/20/76	2GCB	15	613	2	2	8		PIP	40S	-13.4		64.98	USE					
MR	32	1	1-25759	28	12/30/76	2GCB	16	613	2	8	8		PIP	40S	-37.8		64.98	USE					
MR	32	1	1-27668	44	03/31/77	1GCB	16	612	2	3	8		PIP	40S	-40.0		64.98	USE	30.7		64.98		1995.

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MR 40 1 1	1-20515	4	6/26/76	CAP 30121	25	SS	PIP	160	201.0	45.51	PB			
MR 40 1 1	1-20827	3	07/10/76	2CCB 10 604 9 3	25		PIP	160	-.5	45.51	USE			
MR 40 1 1	1-20827	2	07/10/76	2CCB 5 604 9 3	25		PIP	160	-1.0	45.51	USE			
MR 40 1 1	1-20827	1	07/10/76	2CCB 1 604 9 5	2 5		PIP	160	-1.0	45.51	USE			
MR 40 1 1	1-21545	24	08/07/76	2CCB 12 604 7 2	25		PIP	160	-4.8	45.51	USE			
MR 40 1 1	1-21545	26	08/07/76	2CCB 9 604 9 3	25		PIP	160	-7.9	45.51	USE			
MR 40 1 1	1-21545	5	08/07/76	2CCB 8 604 7 4	25		PIP		-5.8	45.51	USE			
MR 40 1 1	1-22009	5	08/21/76	2CCB 8 604 7 2	25		PIP	160	-3.1	45.51	USE			
MR 40 1 1	1-22910	3	10/13/76	2CCB 24 604 4 4	25		PIP	160	-12.8	45.51	USE			
MR 40 1 1	1-25112	3	11/20/76	1CCB 24 603 4 6	25		PIP	160	-33.0	45.51	USE			
MR 40 1 1	1-25071	6	11/20/76	2CCB 24 604 4 2	25		PIP	160	-43.2	45.51	USE			
MR 40 1 1	1-25759	15	12/30/76	2CCB 10 604 9 2	25		PIP	160	-7.9	45.51	USE			
MR 40 1 1	1-25759	9	12/30/76	2CCB 1 604 9 4	25		PIP	160	-9.3	45.51	USE			
MR 40 1 1	1-25979	1	12/31/76	1CCB 24 603 4 7	25		PIP	160	-10.4	45.51	USE			
MR 40 1 1	1-26953	9	02/26/77	2CCB 5 604 9 2	25		PIP	160	-9.3	45.51	USE			
MR 40 1 1	1-27605	31	03/30/77	2CCB 1 604 9 3	25		PIP	160	-6.3	45.51	USE			
MR 40 1 1	1-28232	25	04/30/77	1CCB 24 603 4 3	25		PIP	160	-25.1	45.51	USE			
MR 40 1 1	1-28224	4	04/30/77	2CCB 6 604 8 1	25		PIP	160	-1.7	45.51	USE			
MR 40 1 1	1-33328	4	02/24/78	2CCB 9 604 9 4	25		PIP	160	-.9	45.51	USE			
MR 40 1 1	1-33671	22	03/29/78	2CCB 28 602 2 1	25		PIP	160	-1.4	45.51	USE			
MR 40 1 1	1-34759	17	05/26/78	2CCB 82 617 4 1	25		PIP	160	-.8	45.51	USE			
MR 40 1 1	1-34759	11	05/26/78	2CCB 84 617 4 1	25		PIP	160	-1.3	45.51	USE	13.5	45.51	614.
MR 42 1 1	1-21948	25	08/21/76	GUY I28566	4	SS	PIP	40	20.9	22.53	PB			
MR 42 1 1	1-22910	1	10/13/76	2FCB 18 604 5 1	4		PIP	40S	-1.6	22.53	USE			
MR 42 1 1	1-22910	2	10/13/76	2FCB 18 604 5 2	4		PIP	40S	-.5	22.53	USE			
MR 42 1 1	1-29169	1	06/30/77	2FCB 18 604 5 3	4		PIP	40S	-5.3	22.53	USE	13.5	22.53	304.
MR 43 1 1	1-21948	16	08/21/76	CAP 34165	10	SS	PIP	160	20.0	453.00	PB			
MR 43 1 1	1-25759	49	12/30/76	2FCB 22 611 712	10		PIP	160	-2.7	453.00	USE			
MR 43 1 1	1-28224	30	04/30/77	2CCB 26 611 1 1	10		PIP	160	-9.1	453.00	USE			
MR 43 1 1	1-31871	14	12/07/77	2FCB 19 611 7 8	10		PIP	160	-2.8	453.00	USE	5.4	453.00	2446.
MR 44 1 1	1-21948	26	08/21/76	GUY I28802	4	SS	PIP	10	10.0	15.81	PB			
MR 44 1 1	1-33196	31	02/23/78	OHCD709 649 4 1	4		PIP	10S	-1.8	15.81	USE			
MR 44 1 1	1-33196	39	02/23/78	OHCD710 649 4 1	4		PIP	10S	-1.8	15.81	USE			
MR 44 1 1	1-33196	35	02/23/78	OHCD709 649 4 2	4		PIP	10S	-.5	15.81	USE			
MR 44 1 1	1-34357	7	04/28/78	OHCD708 649 4 3	4		PIP	10S	-3.1	15.81	USE			
MR 44 1 1	1-34357	18	04/28/78	OHCD710 649 4 2	4		PIP	10S	-.5	15.81	USE			
MR 44 1 1	1-41908	9	7/ 2/79	2HCC 49 60418 1	4		PIP	10S	-1.8	15.81	USE	.5	15.81	8.
MR 44 2 1	1-21948	27	08/21/76	GUY I28802	3	SS	PIP	3	48.7	10.70	PB			
MR 44 2 1	1-23279	4	10/23/76	GUY I28802	3	SS	PIP	10	-1.9	10.70	PB			
MR 44 2 1	1-32366	33	12/30/77	OHCD727 607 9 1	3		PIP	10S	-5.2	10.70	USE			
MR 44 2 1	1-36475	2	08/30/78	1HCD 36 61414 5	3		PIP	10S	-22.3	10.70	USE			
MR 44 2 1	1-39027	35	01/26/79	1HCD 36 61414 5	3		PIP	10S	-7.7	10.70	USE	11.6	10.70	124.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MR 46 1	1-22703	21	09/25/76	GUY I29567	4	SS	PIP	160	78.6	87.47	PB			
MR 46 1	1-23201	8	10/18/76	2CCB 16 604 6 1	4		PIP	160	-2.0	87.47	USE			
MR 46 1	1-25759	18	12/30/76	2CCB 80 604 9 1	4		PIP	160	-19.4	87.47	USE			
MR 46 1	1-25759	7	12/30/76	2CCB 1 604 9 1	4		PIP	160	-3.9	87.47	USE			
MR 46 1	1-25801	3	12/31/76	2CCB 79 604 9 1	4		PIP	160	-38.2	87.47	USE			
MR 46 1	1-28224	5	04/30/77	2CCB 6 604 8 1	4		PIP	160	-4.2	87.47	USE			
MR 46 1	1-29228	4	06/30/77	1CCB 1 603 6 1	4		PIP	160	-1.6	87.47	USE			
MR 46 1	1-29655	9	07/28/77	2FCB 14 604 5 6	4		PIP	160	-.8	87.47	USE			
MR 46 1	1-29655	14	07/28/77	2CCB 1 604 6 1	4		PIP	160	-1.6	87.47	USE	6.9	87.47	604.
MR 47 1	1-22703	22	09/25/76	GUY I29567	4	SS	PIP	160	78.6	87.47	PB			
MR 47 1	1-23201	1	10/18/76	2CCB 34 604 5 1	4		PIP	160	-.9	87.47	USE			
MR 47 1	1-23141	1	10/23/76	1CCB 35 603 6 1	4		PIP	160	-3.8	87.47	USE			
MR 47 1	1-25759	12	12/30/76	2CCB 6 604 9 1	4		PIP	160	-22.1	87.47	USE			
MR 47 1	1-27605	34	03/30/77	2CCB 6 604 9 2	4		PIP	160	-22.8	87.47	USE			
MR 47 1	1-27605	2	03/30/77	2CCB 13 604 5 3	4		PIP	160	-6.0	87.47	USE			
MR 47 1	1-28209	3	04/30/77	1CCB 13 603 5 4	4		PIP	160	-12.5	87.47	USE			
MR 47 1	1-29169	12	06/30/77	2CCB 9 604 9 1	4		PIP	160	-3.9	87.47	USE			
MR 47 1	1-38015	9	11/24/78	1CCB 80 603 8 2	4		PIP	160	-1.0	87.47	USE			
MR 47 1	1-38470	1	12/28/78	1CCB 13 603 5 7	4		PIP	160	-1.3	87.47	USE	4.3	87.47	376.
MR 47 2	1-26487	21	01/29/77	GUY I32183	25	SS	PIP	160	5.0	58.00	PB			
MR 47 2	1-27605	1	03/30/77	2CCB 13 604 5 3	25		PIP	160	-3.1	58.00	USE	1.9	58.00	110.
MR 49 1	1-27151	25	02/26/77	CAP 44270	48	CS	PIP	STD	20.2	144.70	PB			
MR 49 1	1-30767	1	09/29/77	OHBC 2 618 1 1	48		PIP	STD	-14.8	144.70	USE			
MR 49 1	1-39636	1	03/08/79	WO5215	48		PIP	STD	-4.7	144.70	USE	.7	144.70	101.
MR 49 2	1-27151	26	02/26/77	CAP 44270	36	CS	PIP	STD	70.7	104.68	PB			
MR 49 2	1-27672	3	03/31/77	OHBC 1 618 1 3	36		PIP	STD	-11.0	104.68	USE			
MR 49 2	1-27672	1	03/31/77	OHBC 1 618 1 1	36		PIP	STD	-4.7	104.68	USE			
MR 49 2	1-28149	5	04/30/77	OHBC 15 618 1 3	36		PIP	STD	-4.6	104.68	USE			
MR 49 2	1-28760	1	06/09/77	OHBC 16 618 1 1	36		PIP	STD	-10.8	104.68	USE			
MR 49 2	1-29090	3	06/30/77	OHBC 1 618 1 3	36		PIP	STD	-7.0	104.68	USE			
MR 49 2	1-29689	1	07/28/77	OHBC 1 618 1 4	36		PIP	STD	-6.8	104.68	USE			
MR 49 2	1-29765	1	07/30/77	OHBC 1 618 153	36		PIP	STD	-3.0	104.68	USE			
MR 49 2	1-33099	8	02/21/78	OHBC 15 618 1 1	36		PIP	STD	-1.0	104.68	USE			
MR 49 2	1-34680	2	05/26/78	OHBC 19 618 1 1	36		PIP	STD	-1.0	104.68	USE			
MR 49 2	1-38001	2	11/24/78	OHBC 19 618 1 2	36		PIP	STD	-1.9	104.68	USE			
MR 49 2	1-39314	6	02/22/79	OHBC 19 618 1 3	36		PIP	STD	-7.6	104.68	USE	11.3	104.68	1183.
MR 49 3	1-27151	27	02/26/77	CAP	30	CS	PIP	STD	294.2	88.00	PB			
MR 49 3	1-30536	56	09/30/77	CAP 4427071	30	CS	PIP	STD	-14.3	88.00	PB			
MR 49 3	1-37765	1	11/14/78	LAB 13938	30	CS	PIP	STD	6.3	75.65	PB			
MR 49 3	1-27007	1	02/26/77	OHBC 20 618 1 6	30		PIP	STD	-38.0	88.00	USE			
MR 49 3	1-27290	10	03/12/77	OHBC 16 618 1 3	30		PIP	STD	-34.3	88.00	USE			
MR 49 3	1-27603	4	03/30/77	OHBC 20 618 1 5	30		PIP	STD	-5.8	88.00	USE			
MR 49 3	1-28179	2	04/30/77	OHBC 62 618 1 1	30		PIP	STD	-4.0	88.00	USE			
MR 49 3	1-28179	4	04/30/77	OHBC 16 618 1 2	30		PIP	STD	-19.5	88.00	USE			
MR 49 3	1-28391	3	05/18/77	OHBC 62 618 1 4	30		PIP	STD	-4.3	88.00	USE			

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MR 50	2 1-25082	22	11/20/76	GUL 27-90147	4	SS	PIP	10S	7.0	11.04	PB			
MR 50	2 1-32572	1	01/19/78	OHCD701 649 4 2	4		PIP	10S	-1.0	11.04	USE			
MR 50	2 1-35610	21	07/12/78	OHCD866 60711 4	4		PIP	10S	-3.9	11.04	USE			
MR 50	2 1-41908	13	7/ 2/79	2HCC 49 60418 1	4		PIP	10S	-3.6	11.04	USE	-1.5	11.04	-17.
MR 51	1 1-26487	22	01/29/77	GUY I32192	25	SS	PIP	160	160.6	58.00	PB			
MR 51	1 1-26953	13	02/26/77	2CCC 3 60415 4	25		PIP	160	-20.4	58.00	USE			
MR 51	1 1-26953	17	02/26/77	2CCC 4 60415 2	25		PIP	160	-1.8	58.00	USE			
MR 51	1 1-26953	15	02/26/77	2CCC 2 60415 1	25		PIP	160	-5.0	58.00	USE			
MR 51	1 1-27243	17	03/10/77	2CCC 3 60415 2	25		PIP	160	-40.3	58.00	USE			
MR 51	1 1-27605	40	03/30/77	2CCB 3 60415 3	25		PIP	160	-16.9	58.00	USE			
MR 51	1 1-27629	16	03/31/77	2CCC 4 60415 3	25		PIP	160	-.8	58.00	USE			
MR 51	1 1-27629	14	03/31/77	2CCC 3 60415 3	25		PIP	160	-22.1	58.00	USE			
MR 51	1 1-27746	8	03/31/77	2CCC 4 60415 1	25		PIP	160	-14.0	58.00	USE			
MR 51	1 1-28362	4	05/16/77	1CCB 70 603 3 2	25		PIP	160	-5.8	58.00	USE			
MR 51	1 1-29169	18	06/30/77	2CCC 3 60415 1	25		PIP	160	-17.1	58.00	USE			
MR 51	1 1-32420	11	12/30/77	1CCC 3 60315 1	25		PIP	160	-5.3	58.00	USE			
MR 51	1 1-32760	5	01/27/78	1CCB 70 603 3 1	25		PIP	160	-1.5	58.00	USE			
MR 51	1 1-33424	14	03/13/78	2FCC 3 611 6 2	25		PIP	160	-.8	58.00	USE			
MR 51	1 1-33424	13	03/13/78	2FCC 3 611 6 1	25		PIP	160	-1.3	58.00	USE			
MR 51	1 1-34490	3	04/28/78	1CCC 3 60315 4	25		PIP	160	-1.7	58.00	USE	5.8	58.00	336.
MR 52	1 1-26487	23	01/29/77	GUY I32192	25	SS	PIP	160	4.0	58.00	PB			
MR 52	1 1-33671	21	03/29/78	2CCB 28 602 2 1	25		PIP	160	-3.6	58.00	USE	.4	58.00	23.
MR 53	1 1-27151	46	02/26/77	GUY I-33050D	25	SS	PIP	10S	168.0	6.28	PB			
MR 53	1 1-27605	47	03/30/77	2HCC 53 60112 2	25		PIP	10S	-1.0	6.28	USE			
MR 53	1 1-27605	42	03/30/77	2HCC 35 60415 2	25		PIP	10S	-16.5	6.28	USE			
MR 53	1 1-27746	13	03/31/77	2HCC 65 60412 8	25		PIP	10S	-21.1	6.28	USE			
MR 53	1 1-27746	11	03/31/77	2HCC 46 60413 3	25		PIP	10S	-6.0	6.28	USE			
MR 53	1 1-27746	12	03/31/77	2HCC 47 60413 3	25		PIP	10S	-6.0	6.28	USE			
MR 53	1 1-26006	32	04/27/77	2HCC 46 60413 1	25		PIP	10S	-.7	6.28	USE			
MR 53	1 1-26006	29	04/27/77	2HCC 47 60413 1	25		PIP	10S	-.7	6.28	USE			
MR 53	1 1-28231	2	04/30/77	2HCC 79 60418 4	25		PIP	10S	-37.8	6.28	USE			
MR 53	1 1-28224	15	04/30/77	2HCC 46 60413 2	25		PIP	10S	-6.8	6.28	USE			
MR 53	1 1-28570	10	05/28/77	2HCC 36 60415 1	25		PIP	10S	-5.4	6.28	USE			
MR 53	1 1-34584	3	05/18/78	2HCD125 60814 8	25		PIP	10S	-16.5	6.28	USE			
MR 53	1 1-34759	14	05/26/78	2HCC 17 617 4 2	25		PIP	10S	-3.1	6.28	USE			
MR 53	1 1-34759	9	05/26/78	2HCC 19 617 4 3	25		PIP	10S	-3.8	6.28	USE			
MR 53	1 1-35598	1	07/20/78	1HCC 35 60315 1	25		PIP	10S	-3.9	6.28	USE			
MR 53	1 1-36501	4	08/30/78	2HCD125 60814 1	25		PIP	10S	-17.6	6.28	USE			
MR 53	1 1-37872	3	11/16/78	1HCC 84 60318 4	25		PIP	10S	-8.3	6.28	USE			
MR 53	1 1-40739	14	4/20/79	2HCC 17 617 4 1	25		PIP	10S	-2.4	6.28	USE	10.4	6.28	65.
MR 54	1 1-27151	43	02/26/77	GUY I-32338	4	SS	PIP	40S	104.8	19.66	PB			
MR 54	1 1-27629	24	03/31/77	2HCB 42 60417 1	4		PIP	40S	-26.3	19.66	USE			
MR 54	1 1-27746	16	03/31/77	2HCB 42 60417 4	4		PIP	40S	-17.3	19.66	USE			
MR 54	1 1-30041	6	08/24/77	2HCB 42 60417 3	4		PIP	40S	-33.7	19.66	USE	27.5	19.66	541

<ITT PART>	<ID> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MR 55 1	1-27806	15	03/25/79	CAP 46108	4	SS	PIP	160	47.7	83.09	PB			
MR 55 1	1-29169	13	06/30/77	2CCB 9 604 9 1	4		PIP	160	-14.2	83.09	USE			
MR 55 1	1-30186	39	08/27/77	1CCB 13 603 5 3	4		PIP	160	-7.3	83.09	USE			
MR 55 1	1-31043	1	10/13/77	2CCB 13 604 5 2	4		PIP	160	-12.9	83.09	USE			
MR 55 1	1-38015	6	11/24/78	1CCB 80 603 8 2	4		PIP	160	-9.0	83.09	USE			
MR 55 1	1-37270	2	09/29/79	2CCB 1 604 9 2	4		PIP	160	-3.2	83.09	USE	1.1	83.09	91.
MR 57 1	1-26189	18	12/31/76	CAP 43501	4	SS	PIP	10S	15.0	11.45	PB			
MR 57 1	1-32572	4	01/19/78	OHCD702 649 4 2	4		PIP	10S	-1.0	11.45	USE			
MR 57 1	1-32952	11	02/09/78	OHCD701 649 4 1	4		PIP	10S	-3.8	11.45	USE			
MR 57 1	1-32952	15	02/09/78	OHCD702 649 4 1	4		PIP	10S	-3.8	11.45	USE			
MR 57 1	1-40739	2	4/20/79	2HCB 12 61416 2	4		PIP	10S	-2.5	11.45	USE	3.9	11.45	45.
MR 58 1	1-27151	70	02/26/77	CAP 45365	25	SS	PIP	160	190.8	45.77	PB			
MR 58 1	1-27629	22	03/31/77	2CCB 10 604 1 2	25		PIP	160	-10.6	45.77	USE			
MR 58 1	1-27629	37	03/31/77	2CCB 28 602 2 3	25		PIP	160	-20.1	45.77	USE			
MR 58 1	1-27746	30	03/31/77	2CCB 28 602 2 2	25		PIP	160	-15.8	45.77	USE			
MR 58 1	1-26006	6	04/27/77	2CCB 10 604 1 3	25		PIP	160	-34.5	45.77	USE			
MR 58 1	1-28224	18	04/30/77	2CCB 9 604 1 1	25		PIP	160	-17.4	45.77	USE			
MR 58 1	1-28231	4	04/30/77	2CCB 10 604 1 1	25		PIP	160	-10.8	45.77	USE			
MR 58 1	1-28570	11	05/28/77	2HCC 36 60415 1	25		PIP	160	-1.0	45.77	USE			
MR 58 1	1-30186	2	08/27/77	1CCB 24 603 4 8	25		PIP	160	-14.8	45.77	USE			
MR 58 1	1-32420	20	12/30/77	1CCA 15 601 213	25		PIP	160	-10.8	45.77	USE			
MR 58 1	1-36852	5	09/19/78	2CCB 28 602 2 4	25		PIP	160	-16.5	45.77	USE			
MR 58 1	1-38553	1	12/28/78	2HCC 16 617 4 2	25		PIP	160	-4.8	45.77	USE			
MR 58 1	1-39106	1	02/07/79	WO5132	25		PIP	160	-22.8	45.77	USE			
MR 58 1	1-37270	10	09/29/79	2HCC 16 617 4 1	25		PIP	160	-6.9	45.77	USE	3.0	45.77	137.
MR 59 1	1-27151	47	02/26/77	GUY I-33273	6	SS	PIP	160	37.8	191.24	PB			
MR 59 1	1-39072	4	01/26/79	2CCA 4 602 3 1	6		PIP	160	-9.8	191.24	USE			
MR 59 1	1-32931	23	02/08/79	2CCA 4 602 3 2	6		PIP	160	-10.3	191.24	USE	17.7	191.24	3385.
MR 60 1	1-27151	71	02/26/77	CAP 45783	14	SS	PIP	STD	41.6	94.57	PB			
MR 60 1	1-33669	9	03/29/78	1HCD 27 514 1	14		PIP	STD	-5.0	94.57	USE			
MR 60 1	1-34153	13	04/24/78	1HCD 27 514 2	14		PIP	STD	-7.9	94.57	USE	28.7	94.57	2714.
MR 60 2	1-27145	6	02/26/77	CAP 46022	6	SS	PIP	STD	57.8	35.42	PB			
MR 60 2	1-27430	1	03/19/77	CAP 46022	6	SS	PIP	STD	-58.2	35.42	PB			
MR 60 2	1-33114	1	02/21/78	CAP 62401	6	SS	PIP	40	22.2	41.78	PB			
MR 60 2	1-27806	13	03/25/79	CAP 46022	6	SS	PIP		57.5	35.42	PB			
MR 60 2	1-33432	20	03/13/78	OHCD703 649141 3	6		PIP	40S	-23.9	41.33	USE			
MR 60 2	1-35040	21	06/20/78	2ECC 3 602 3 3	6		PIP	STD	-6.4	35.42	USE			
MR 60 2	1-36852	10	09/19/78	2ECC 3 602 3 3	6		PIP	STD	-13.3	35.42	USE			
MR 60 2	1-38472	8	12/28/78	2ECC 2 602 3 4	6		PIP	STD	-7.9	35.42	USE	27.8	35.42	985.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MR 62 1	1-28031	14	04/27/77	CAP 48030	12	SS	PIP	STD	5.0	100.52	PB			
MR 62 1	1-35574	6	07/18/78	OHCC 12 614 8 1	12		PIP	STD	-3.2	100.52	USE	1.8	100.52	181.
MR 62 2	1-28031	15	04/27/77	CAP 48031	6	SS	PIP	10S	3.0	12.60	PB			
MR 62 2	1-32931	9	02/08/79	2HCC120 614 3 1	6		PIP	10S	-2.0	12.60	USE	1.0	12.60	13.
MR 62 3	1-27151	68	02/26/77	CAP 45347	4	SS	PIP	10S	20.7	8.49	PB			
MR 62 3	1-30041	14	08/24/77	2HCC130 608 1 2	4		PIP	10S	-5.6	8.49	USE			
MR 62 3	1-30041	12	08/24/77	2HCC129 614 3 1	4		PIP	10S	-12.4	8.49	USE			
MR 62 3	1-41908	14	7/ 2/79	2HCC 49 60418 1	4		PIP	10S	-2.1	8.49	USE	.6	8.49	5.
MR 62 4	1-27151	69	02/26/77	CAP 45347	3	SS	PIP	10S	21.0	6.19	PB			
MR 62 4	1-32952	27	02/09/78	2HCD 95 60413 4	3		PIP	10S	-2.8	6.19	USE			
MR 62 4	1-33180	2	02/23/78	1HCD 95 60313 3	3		PIP	10S	-7.4	6.19	USE			
MR 62 4	1-34153	1	04/24/78	1HCD 95 60313 1	3		PIP	10S	-4.7	6.19	USE	6.1	6.19	38.
MR 63 1	1-28031	16	04/27/77	CAP 48031	12	SS	PIP	STD	11.0	101.65	PB			
MR 63 1	1-35774	2	07/27/78	1HCB 16 612 3 1	12		PIP	STD	-5.1	101.65	USE			
MR 63 1	1-39580	7	03/07/79	WO5266	12		PIP	STD	-1.7	101.65	USE	4.2	101.65	427.
MR 63 2	1-28031	17	04/27/77	CAP 48032	10	SS	PIP	STD	12.0	85.43	PB			
MR 63 2	1-33981	3	04/13/78	2HCB 54 614 316	10		PIP	STD	-6.4	85.43	USE	5.6	85.43	478.
MR 63 3	1-28031	13	04/27/77	CAP 47502	4	SS	PIP	10S	12.0	19.09	PB			
MR 63 3	1-28955	13	06/23/77	CAP 46184	4	SS	PIP	10S	-12.0	19.09	PB			
MR 63 3	1-27806	16	03/25/79	CAP 46184	4	SS	PIP	40S	12.0	19.09	PB			
MR 63 3	1-35611	5	07/20/78	OHCD862 60711 3	40		PIP	10S	-8.9	19.09	USE			
MR 63 3	1-36475	17	08/30/78	OHCD866 60711 5	4		PIP	10S	-2.0	19.09	USE	1.1	19.09	21.
MR 64 1	1-28191	2	04/30/79	CAP 49125	12	SS	PIP	40S	19.0	89.84	PB			
MR 64 1	1-31043	26	10/13/77	2GCB 26 611 2 2	12		PIP	40S	-7.2	89.84	USE			
MR 64 1	1-32760	14	01/27/78	1HCC156 61410 1	12		PIP	STD	-10.8	89.84	USE	1.0	89.84	90.
MR 64 2	1-27806	18	03/25/79	CAP 46999	4	SS	PIP	40S	12.0	22.54	PB			
MR 64 2	1-31043	25	10/13/77	2GCB 26 611 2 2	4		PIP	40S	-1.5	22.54	USE	10.5	22.54	237.
MR 66 1	1-30102	2	08/25/77	GUY I39460D	12	SS	PIP	160	17.0	519.36	PB			
MR 66 1	1-31871	18	12/07/77	2CCA 18 611 2 8	12		PIP	160	-2.0	519.36	USE			
MR 66 1	1-35646	2	07/25/78	2GCB 26 611 2 1	12		PIP	160	-1.7	519.36	USE	13.3	519.36	6907.

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MR 69 1	1-29240	20	06/30/77	STD P4826	18		CS PIP	80	34.0	55.07	PB	34.0	55.07	1872.
MR 70 1	1-29240	21	06/30/77	STD P4826	6		CS PIP	80	123.0	8.20	PB			
MR 70 1	1-30769	1	09/29/77	2EBB 6 63914 5	6		PIP	80	-16.2	8.20	USE			
MR 70 1	1-33007	5	02/16/78	2EBB 6 63914 4	6		PIP	80	-14.2	8.20	USE			
MR 70 1	1-33007	3	02/16/78	2EBB 6 63914 3	6		PIP	80	-22.2	8.20	USE			
MR 70 1	1-33007	1	02/16/78	2EBB 5 63914 3	6		PIP	80	-20.2	8.20	USE			
MR 70 1	1-33197	3	02/23/78	2EBB 6 63914 6	6		PIP	80	-20.5	8.20	USE			
MR 70 1	1-34689	1	05/26/78	2EBB 6 63914 2	6		PIP	80	-11.5	8.20	USE	18.2	8.20	149.
MR 71 1	1-30772	11	09/29/77	GUY I38748D	25		SS PIP	10	84.0	4.41	PB			
MR 71 1	1-32952	42	02/09/78	2HCD134 604 711	25		PIP	10S	-4.2	4.41	USE			
MR 71 1	1-33432	34	03/13/78	2HCD125 60814 6	25		PIP	10S	-38.9	4.41	USE			
MR 71 1	1-34759	7	05/26/78	2HCC 19 617 4 2	25		PIP	10S	-28.9	4.41	USE			
MR 71 1	1-38000	3	11/24/78	2HCC 47 60413 2	25		PIP	10S	-7.2	4.41	USE			
MR 71 1	1-40739	13	4/20/79	2HCC 17 617 4 1	25		PIP	10S	-2.1	4.41	USE			
MR 71 1	1-41908	1	7/ 2/79	2HCC 35 60415 1	25		PIP	10S	-3.1	4.41	USE	-.4	4.41	-2.
MR 71 2	1-29742	25	07/30/77	GUY I38731D	6		SS PIP	10	20.6	11.90	PB			
MR 71 2	1-31305	11	10/29/77	2HCC417 617 4 2	6		PIP	10S	-16.4	11.90	USE	4.2	11.90	50.
MR 72 1	1-32050	1	12/19/77	CAM 1S244	335		CS PIP	237S	8.0	1534.00	PB			
MR 72 1	1-34908	1	06/08/78	2ELB 11 632 2 4	335		PIP		-3.9	1534.00	USE			
MR 72 1	1-35608	1	07/20/78	2ELB 12 632 3 5	335		PIP		-4.0	1534.00	USE	.1	1534.00	153.
MR 73 1	1-30537	4	09/20/77	CAP 54233	20		SS PIP	STD	1.0	365.02	PB			
MR 73 1	1-36416	1	08/23/78	WO5047	20		PIP	STD	-.3	365.02	USE	.7	365.02	256.
MR 74 1	1-32232	2	12/29/77	GUY I42232	25		SS PIP	160	24.0	43.68	PB			
MR 74 1	1-33424	6	03/13/78	2CCA 13 604 1 1	25		PIP	160	-16.8	43.68	USE	7.2	43.68	314.
MR 77 1	1-33048	1	02/21/78	CAP 61858	25		SS PIP	40	58.2	10.62	PB			
MR 77 1	1-35011	4	06/20/78	OHCD228 607 8 5	25		PIP	10S	-6.5	10.62	USE			
MR 77 1	1-37271	5	09/29/78	OHCD594 605 3 2	25		PIP	40S	-.5	10.62	USE			
MR 77 1	1-37271	4	09/29/78	OHCD592 605 3 2	25		PIP	40S	-.5	10.62	USE			
MR 77 1	1-37271	6	09/29/78	OHCD595 605 3 2	25		PIP	40S	-.5	10.62	USE			
MR 77 1	1-37803	1	11/14/78	2HCD533 605 3 1	25		PIP	40S	-20.5	10.62	USE			
MR 77 1	1-38589	7	12/28/78	2HCD533 605 3 4	25		PIP	40S	-9.3	10.62	USE			
MR 77 1	1-40739	7	4/20/79	2HCC 77 60417 1	25		PIP	40S	-4.9	10.62	USE	15.5	10.62	165.
MR 78 1	1-33114	2	02/21/78	CAP G2401	6		SS PIP	40	61.2	41.78	PB			
MR 78 1	1-34490	7	04/28/78	1ECC 3 601 3 3	6		PIP	STD	-13.3	41.78	USE			
MR 78 1	1-35079	10	06/22/78	1ECC 2 601 3 3	6		PIP	STD	-13.3	41.78	USE			
MR 78 1	1-35080	20	06/22/78	2ECC 2 602 3 5	6		PIP	STD	-16.4	41.78	USE			
MR 78 1	1-38015	13	11/24/78	1ECC 2 601 3 1	6		PIP	STD	-7.9	41.78	USE			
MR 78 1	1-38631	4	12/28/78	1ECC 3 601 3 1	6		PIP	STD	-.8	41.78	USE	9.5	41.78	397.

<ITT PART>	<-----ID-----> INVOICE SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MR 79	1 1-36805	1 09/19/78	CAP 35716	30	CS	PIP	STD	25.2	155.25	PB			
MR 79	1 1-38564	1 12/28/78	OHBC 59 618 1 1	30		PIP	STD	-1.7	155.25	USE			
MR 79	1 1-38564	3 12/28/78	OHBC 61 618 1 1	30		PIP	STD	-1.7	155.25	USE	21.8	155.25	3384.
MR 80	1 1-36804	1 09/19/78	TAY 604681	30	CS	PIP	XS	39.9	91.80	PB			
MR 80	1 1-38053	1 11/24/78	2HBD254 632 9 4	30		PIP	XS	-1.5	91.80	USE			
MR 80	1 1-39096	1 02/07/79	2HBD255 632 9 4	30		PIP	XS	-1.5	91.80	USE	36.9	91.80	3387.
MR 81	1 1-36921	5 09/20/78	LAB 13941	30	CS	PIP	STD	14.0	89.57	PB			
MR 81	1 1-35016	9 06/20/78	OHBC 60 618 1 4	30		PIP	STD	-3.8	89.57	USE			
MR 81	1 1-37626	5 10/27/78	OHBC 60 618 1 3	30		PIP	STD	-1.8	89.57	USE			
MR 81	1 1-37626	1 10/27/78	OHBC 58 618 1 3	30		PIP	STD	-1.8	89.57	USE			
MR 81	1 1-37626	3 10/27/78	OHBC 59 618 1 3	30		PIP	STD	-1.8	89.57	USE			
MR 81	1 1-39314	3 02/22/79	OHBC 61 618 1 3	30		PIP	STD	-1.8	89.57	USE	3.0	89.57	269.
MR 82	1 1-36921	4 09/20/78	GUY I52447D	24	SS	PIP	STD	13.0	203.04	PB	13.0	203.04	2640.
MR 83	1 1-34493	5 05/16/78	WO 4861	30	CS	PIP	STD	8.9	231.92	PB			
MR 83	1 1-34623	1 05/23/78	OHBC 62 618 1 3	30 ✓		PIP	STD	-4.4	231.92	USE			
MR 83	1 1-34952	7 06/15/78	OHBC 61 618 1 4	30 ✓		PIP	STD	-1.7	231.92	USE			
MR 83	1 1-35016	8 06/20/78	OHBC 59 618 1 4	30 ✓		PIP	STD	-1.7	231.92	USE			
MR 83	1 1-35016	11 06/20/78	OHBC 60 618 1 4	30 ✓		PIP	STD	-1.7	231.92	USE			
MR 83	1 1-39314	1 02/22/79	OHBC 57 618 1 3	30 ✗ -0-		PIP	STD	-1.8	231.92	USE	-2.4	231.92	-557.
MR 84	1 1-36482	1 08/30/78	CAP 70300	6	SS	PIP	40S	16.4	52.00	PB			
MR 84	1 1-38553	3 12/28/78	2ECC 2 602 3 5	6		PIP	STD	-13.7	52.00	USE	2.7	52.00	140.
MR 87	1 1-38302	1 12/19/78	GUY I-56187D	6	SS	PIP	10S	42.0	12.34	PB			
MR 87	1 1-39069	5 01/26/79	1HCD622 610 2 1	6				-17.2	12.34	USE	24.8	12.34	306.
MR 90	1 1-38563	2 12/28/78	GUL 27-91511	18	SS	PIP	STD	41.4	116.43	PB			
MR 90	1 1-39070	4 01/26/79	OHCC134 665 1 3	18		PIP	STD	-.5	116.43	USE			
MR 90	1 1-39070	5 01/26/79	OHCC133 665 1 2	18		PIP	STD	-1.7	116.43	USE			
MR 90	1 1-39070	6 01/26/79	OHCC133 665 1 3	18		PIP	STD	-.5	116.43	USE			
MR 90	1 1-39070	3 01/26/79	OHCC134 665 1 2	18		PIP	STD	-1.7	116.43	USE	37.0	116.43	4308.
MR1AAA	A 1-06692	50 10/26/74	TAY 131258	4	SS	FLG	40S	3.0	190.00	PB	3.0	190.00	570.
MR1000	1 1-CP-28	1 06/30/75	LAD HO1597	25	SS	FLG	160	12.0	231.99	PB			
MR1000	1 1-39581	1 03/07/79	WO5151	25		FLG		-2.0	231.99	USE	10.0	231.99	2320.

USED MR-81-1

<ITT>	<IT>	<ID> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<TRANSACTION> QUANT	UNIT PRICE	MODE	<INVENTORY> QUANT	UNIT $	TOT $
MR4140	1	1-37580	3	10/27/78	ITT 97864	48		BKR	STD	2.0	8.83	PB	2.0	8.83	18.
MS	1	1-07094	4	11/23/74	GUY 13118	25	SS	PIP	10	21.7	14.96	PB			
MS	1	1-07691	1	12/28/74	GUY 13118	25	SS	PIP	10	21.7	14.96	PB			
MS	1	1-09430	6	03/11/75	GUY 13118	25	SS	PIP	10S	-21.7	14.96	PB			
MS	1	1-20250	17	06/12/76	OHCD 77 608 4 1	25		PIP	10S	-4.3	14.96	USE			
MS	1	1-20660	15	06/26/76	OHCD 74 608 4 2	25		PIP	10S	-8.9	14.96	USE			
MS	1	1-31205	15	10/27/77	1HCC134 610 3 1	25		PIP	10S	-.6	14.96	USE	7.9	14.96	118.
MS	1	2 1-07083	4	11/23/74	GUY 13118	3	SS	PIP	10	881.5	12.90	PB			
MS	1	2 1-07691	2	12/28/74	GUY 13118	3	SS	PIP	10	881.6	12.90	PB			
MS	1	2 1-09430	2	03/11/75	GUY 13118	4	SS	PIP	10S	-881.5	12.90	PB			
MS	1	2 1-12051	1	07/09/75	GUY 107083	3	SS	PIP	10S	-140.0	12.00	PB			
MS	1	2 1-16902	1	02/01/76	2HCD251 614 2 1	3		PIP	10S	-4.6	12.90	USE			
MS	1	2 1-16903	3	02/01/76	1HCD251 614 2 1	3		PIP	10S	-4.6	12.90	USE			
MS	1	2 1-16903	1	02/01/76	1HCD251 614 2 2	3		PIP	10S	-4.6	12.90	USE			
MS	1	2 1-16902	3	02/01/76	2HCD251 614 2 2	3		PIP	10S	-4.6	12.90	USE			
MS	1	2 1-20250	42	06/12/76	OHCD142 607 1 6	3		PIP	10S	-9.6	12.90	USE			
MS	1	2 1-20250	11	06/12/76	OHCD 74 608 4 6	3		PIP	10S	-.9	12.90	USE			
MS	1	2 1-20250	2	06/12/76	OHCD143 607 1 4	3		PIP	10S	-1.2	12.90	USE			
MS	1	2 1-20250	40	06/12/76	OHCD142 607 1 3	3		PIP	10S	-20.0	12.90	USE			
MS	1	2 1-20250	26	06/12/76	OHCD 11 608 3 5	3		PIP	10S	-1.4	12.90	USE			
MS	1	2 1-20250	7	06/12/76	OHCD 75 608 4 6	3		PIP	10S	-.9	12.90	USE			
MS	1	2 1-20250	38	06/12/76	OHCD142 607 1 2	3		PIP	10S	-15.3	12.90	USE			
MS	1	2 1-20250	4	06/12/76	OHCD144 607 1 4	3		PIP	10S	-1.2	12.90	USE			
MS	1	2 1-20457	7	06/21/76	OHCD142 607 1 4	3		PIP	10S	-29.1	12.90	USE			
MS	1	2 1-20457	9	06/21/76	OHCD142 607 1 7	3		PIP	10S	-25.1	12.90	USE			
MS	1	2 1-20660	27	06/26/76	OHCD142 607 1 5	3		PIP	10S	-29.3	12.90	USE			
MS	1	2 1-20660	17	06/26/76	OHCD 75 608 4 7	3		PIP	10S	-.4	12.90	USE			
MS	1	2 1-21544	13	08/07/76	OHCD606 61413 2	3		PIP	10S	-6.3	12.90	USE			
MS	1	2 1-21740	18	08/18/76	OHCD606 61413 3	3		PIP	10S	-19.6	12.90	USE			
MS	1	2 1-22008	35	08/21/76	OHCD 93 608 5 7	3		PIP	10S	-39.3	12.90	USE			
MS	1	2 1-22008	29	08/21/76	OHCD 92 608 5 8	3		PIP	10S	-39.8	12.90	USE			
MS	1	2 1-22008	33	08/21/76	OHCD 93 608 5 6	3		PIP	10S	-8.0	12.90	USE			
MS	1	2 1-22008	31	08/21/76	OHCD 92 608 5 9	3		PIP	10S	-10.1	12.90	USE			
MS	1	2 1-22008	25	08/21/76	OHCD 83 608 4 3	3		PIP	10S	-.9	12.90	USE			
MS	1	2 1-22261	22	09/11/76	OHCD923 607 1 1	3		PIP	10S	-1.1	12.90	USE			
MS	1	2 1-22837	17	10/08/76	OHCD 34 6081110	3		PIP	10S	-2.2	12.90	USE			
MS	1	2 1-22837	15	10/08/76	OHCD 33 60811 5	3		PIP	10S	-7.5	12.90	USE			
MS	1	2 1-22837	20	10/08/76	OHCD 26 6081115	3		PIP	10S	-4.0	12.90	USE			
MS	1	2 1-22837	11	10/08/76	OHCD 27 60811 1	3		PIP	10S	-19.1	12.90	USE			
MS	1	2 1-22837	13	10/08/76	OHCD 27 60811 4	3		PIP	10S	-17.1	12.90	USE			
MS	1	2 1-22837	6	10/08/76	OHCD264 61413 1	3		PIP	10S	-21.1	12.90	USE			
MS	1	2 1-22899	17	10/13/76	OHCD 93 608 5 8	3		PIP	10S	-10.4	12.90	USE			
MS	1	2 1-22899	14	10/13/76	OHCD 92 608 5 7	3		PIP	10S	-4.1	12.90	USE			
MS	1	2 1-23225	23	10/22/76	OHCD 92 608 8 3	3		PIP	10S	-.9	12.90	USE			
MS	1	2 1-23225	55	10/22/76	OHCD237 60710 1	3		PIP	10S	-3.9	12.90	USE			
MS	1	2 1-23156	15	10/23/76	OHCD 34 60811 9	3		PIP	10S	-7.7	12.90	USE			
MS	1	2 1-23156	17	10/23/76	OHCD 26 6091113	3		PIP	10S	-24.0	12.90	USE			
MS	1	2 1-23156	19	10/23/76	OHCD270 608 9 1	3		PIP	10S	-8.3	12.90	USE			
MS	1	2 1-23156	29	10/23/76	OHCD268 608 9 4	3		PIP	10S	-.8	12.90	USE			
MS	1	2 1-23156	24	10/23/76	OHCD268 608 9 1	3		PIP	10S	-8.3	12.90	USE			
MS	1	2 1-23156	12	10/23/76	OHCD 33 60811 6	3		PIP	10S	-15.1	12.90	USE			

MS	1	2	1-23156	21	10/23/76	OHCD374	608	9	1	3	PIP	10S	-13.6	12.90	USE					
MS	1	2	1-23156	26	10/23/76	OHCD268	608	9	2	3	PIP	10S	-1.0	12.90	USE					
MS	1	2	1-25069	22	11/20/76	OHCD 91	608	5	2	3	PIP	10S	-2.2	12.90	USE					
MS	1	2	1-25110	14	11/20/76	OHCD 93	608	5	2	3	PIP	10S	-4.9	12.90	USE					
MS	1	2	1-25110	8	11/20/76	OHCD 92	608	5	2	3	PIP	10S	-4.6	12.90	USE					
MS	1	2	1-25110	5	11/20/76	OHCD 91	608	5	3	3	PIP	10S	-4.7	12.90	USE					
MS	1	2	1-25110	11	11/20/76	OHCD 92	608	5	3	3	PIP	10S	-3.1	12.90	USE					
MS	1	2	1-25069	42	11/20/76	OHCD 92	608	8	1	3	PIP	10S	-17.7	12.90	USE					
MS	1	2	1-26069	1	12/31/76	2HCD 33	649	2	2	3	PIP	10S	-25.5	12.90	USE					
MS	1	2	1-26155	9	12/31/76	OHCD744	649	1	2	3	PIP	10S	-19.6	12.90	USE					
MS	1	2	1-26155	11	12/31/76	OHCD744	649	1	3	3	PIP	10S	-8.4	12.90	USE					
MS	1	2	1-26155	7	12/31/76	OHCD703	649	1	2	3	PIP	10S	-20.9	12.90	USE					
MS	1	2	1-26155	5	12/31/76	OHCD703	649	1	1	3	PIP	10S	-8.4	12.90	USE					
MS	1	2	1-26444	2	01/25/77	OHCD156	608	8	3	3	PIP	10S	-1.3	12.90	USE					
MS	1	2	1-26418	45	01/29/77	OHCD 36	608	8	2	3	PIP	10	-18.4	12.90	USE					
MS	1	2	1-26418	38	01/29/77	OHCD 93	608	5	3	3	PIP	10S	-3.4	12.90	USE					
MS	1	2	1-26521	12	02/01/77	OHCD142	607	1	1	3	PIP	10S	-18.2	12.90	USE					
MS	1	2	1-26520	1	02/01/77	1HCD161	6081119			3	PIP	10S	-1.8	12.90	USE					
MS	1	2	1-28208	42	04/30/77	OHCD156	608	8	2	3	PIP	10S	-5.7	12.90	USE					
MS	1	2	1-28665	28	05/28/77	OHCD 11	608	3	4	3	PIP	10S	-8.3	12.90	USE					
MS	1	2	1-28589	45	05/28/77	OHCD 18	608	3	2	3	PIP	10S	-1.0	12.90	USE					
MS	1	2	1-28662	27	05/28/77	OHCD103	608	5	1	3	PIP	10S	-4.4	12.90	USE					
MS	1	2	1-28665	23	05/28/77	OHCD 17	608	3	3	3	PIP	10S	-1.0	12.90	USE					
MS	1	2	1-29024	34	06/26/77	OHCD270	608	9	3	3	PIP	10S	-2.7	12.90	USE					
MS	1	2	1-29024	38	06/26/77	OHCD270	608	9	3	3	PIP	10S	-.3	12.90	USE					
MS	1	2	1-29915	34	08/11/77	OHCD 91	608	5	1	3	PIP	10S	-2.3	12.90	USE					
MS	1	2	1-30664	1	09/27/77	OHCD744	649	1	1	3	PIP	10S	-34.3	12.90	USE					
MS	1	2	1-37097	1	09/28/78	WO5084				3	PIP	10S	-18.9	12.90	USE					
MS	1	2	1-41124	25	5/24/79	OHCD 92	608	8	2	3	PIP	10S	-5.3	12.90	USE	47.3	15.56	736.		

<ITI PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MS 1 3	1-07083	9	11/23/74	GUY 14768	35	SS	PIP	10	42.0	21.64	PB	42.0	21.64	909.
MS 1 4	1-07083	5	11/23/74	GUY 13118	4	SS	PIP	10	53.3	20.52	PB			
MS 1 4	1-07691	3	12/28/74	GUY 13118	4	SS	PIP	10	53.3	20.52	PB			
MS 1 4	1-09430	A2	03/11/75	GUY 13118	4	SS	PIP	10S	-53.3	20.52	PB			
MS 1 4	1-20239	13	06/12/76	OHCD187 607 4 1	4		PIP	10S	-8.3	20.52	USE			
MS 1 4	1-20239	11	06/12/76	OHCD151 607 4 2	4		PIP	10S	-3.0	20.52	USE			
MS 1 4	1-20239	8	06/12/76	OHCD307 608 3 3	4		PIP	10S	-4.0	20.52	USE			
MS 1 4	1-20250	36	06/12/76	OHCD306 608 3 3	4		PIP	10S	-25.3	20.52	USE			
MS 1 4	1-20250	32	06/12/76	OHCD306 608 3 1	4		PIP	10S	-7.0	20.52	USE			
MS 1 4	1-20457	5	06/21/76	OHCD307 608 3 1	4		PIP	10S	-7.5	20.52	USE			
MS 1 4	1-27332	33	03/14/77	OHCD864 607 4 1	4		PIP	10	-1.2	20.52	USE			
MS 1 4	1-27332	36	03/14/77	OHCD864 607 4 2	4		PIP	10	-1.2	20.52	USE	-4.2	20.52	-86.
MS 1 5	1-07083	6	11/23/74	GUY 13118	6	SS	PIP	10	25.4	79.11	PB			
MS 1 5	1-07691	4	12/28/74	GUY 13118	6	SS	PIP	10	25.4	79.11	PB			
MS 1 5	1-09430	3	03/11/75	GUY 13118	6	SS	PIP	10S	-25.4	79.11	PB			
MS 1 5	1-12051	3	07/09/75	GUY 107083	6	SS	PIP	10S	-22.0	73.57	PB	3.4	114.96	391.
MS 2 1	1-07083	8	11/23/74	CAP 85321	10	SS	PIP	STD	255.9	330.52	PB			
MS 2 1	1-07083	11	11/23/74	GUY 13313	10	SS	PIP	STD	169.9	225.00	PB			
MS 2 1	1-07691	12	12/28/74	CAP 86192	10	SS	PIP	STD	286.0	330.52	PB			
MS 2 1	1-07612	3	12/27/74	2HCD151 614 9 1	10		PIP	STD	-6.3	330.52	USE			
MS 2 1	1-07612	1	12/27/74	OHCD154 614 9 1	10		PIP	STD	-8.5	330.52	USE			
MS 2 1	1-08072	1	01/20/75	OHCD154 614 9 2	10		PIP	STD	-8.5	330.52	USE			
MS 2 1	1-20299	3	06/12/76	1HCD254 614 8 1	10		PIP	STD	-6.0	330.52	USE			
MS 2 1	1-20657	2	06/26/76	2HCD254 614 8 1	10		PIP	STD	-13.9	330.52	USE			
MS 2 1	1-22836	1	10/08/76	1HCD254 618 8 2	10		PIP	STD	-34.9	330.52	USE			
MS 2 1	1-22900	1	10/13/76	1HCD154 61411 4	10		PIP	STD	-1.5	330.52	USE			
MS 2 1	1-23225	1	10/22/76	OHCD154 61411 4	10		PIP	STD	-35.4	330.52	USE			
MS 2 1	1-23225	5	10/22/76	2HCD151 61411 3	10		PIP	STD	-9.3	330.52	USE			
MS 2 1	1-23140	2	10/23/76	1HCD257 61410 1	10		PIP	STD	-11.3	330.52	USE			
MS 2 1	1-25069	16	11/20/76	2HCD154 61411 4	10		PIP	STD	-1.5	330.52	USE			
MS 2 1	1-25110	3	11/20/76	2HCD258 614 1 1	10		PIP	STD	-23.1	330.52	USE			
MS 2 1	1-25132	1	11/20/76	1HCD258 614 4 4	10		PIP	STD	-5.3	330.52	USE			
MS 2 1	1-25069	21	11/20/76	2HCD258 614 1 4	10		PIP	STD	-5.3	330.52	USE			
MS 2 1	1-25069	14	11/20/76	OHCD154 61411 1	10		PIP	STD	-35.4	330.52	USE			
MS 2 1	1-25070	3	11/20/76	1HCD151 61411 3	10		PIP	STD	-9.3	330.52	USE			
MS 2 1	1-26418	2	01/29/77	2HCD257 61410 1	10		PIP	STD	-7.6	330.52	USE			
MS 2 1	1-26930	6	02/25/77	1HCD258 614 4 1	10		PIP	STD	-23.1	330.52	USE			
MS 2 1	1-27777	7	03/31/77	1HCD258 614 4 2	10		PIP	STD	-14.7	294.63	USE			
MS 2 1	1-27745	17	03/31/77	2HCD258 614 1 3	10		PIP	STD	-13.6	225.00	USE			
MS 2 1	1-28150	4	04/30/77	1HCD258 614 4 3	10		PIP	STD	-13.6	225.00	USE			
MS 2 1	1-28424	6	05/26/77	2HCD154 61411 3	10		PIP	STD	-32.3	225.00	USE			
MS 2 1	1-28424	8	05/26/77	OHCD154 61411 2	10		PIP	STD	-31.0	225.00	USE			
MS 2 1	1-28665	12	05/28/77	2HCD151 61411 2	10		PIP	STD	-31.3	225.00	USE			
MS 2 1	1-28665	11	05/28/77	OHCD154 61411 3	10		PIP	STD	-31.3	225.00	USE			
MS 2 1	1-28653	7	05/28/77	1HCD151 61411 2	10		PIP	STD	-31.3	290.74	USE			
MS 2 1	1-28589	37	05/28/77	2HCD258 614 1 2	10		PIP	STD	-14.8	330.52	USE			
MS 2 1	1-28653	5	05/28/77	1HCD154 61411 3	10		PIP	STD	-32.3	330.52	USE			
MS 2 1	1-29039	10	06/26/77	2HCD154 61411 2	10		PIP	STD	-28.7	330.52	USE			
MS 2 1	1-29346	4	07/14/77	OHCD766 649 7 1	10		PIP	40	-4.1	330.52	USE			

<ITT PART>	<-----ID-----> INVOICE	SEQ	DATE	SPOOL	<PART DESCRIPTION> SIZE	MAT	TYP	SCH	<----TRANSACTION----> QUANT	UNIT PRICE	MODE	<------INVENTORY------> QUANT	UNIT $	TOT $
MS 121	1 1-34492	12	05/16/78	WO 4939	4	SS	PIP	10S	18.1	19.65	PB			
MS 121	1 1-34492	11	05/16/78	WO 4939	4	SS	PIP	10	192.7	15.82	PB			
MS 121	1 1-36410	1	08/23/78	GUL 27011559	4	SS	PIP	10S	49.1	10.45	PB			
MS 121	1 1-35610	22	07/12/78	OHCD866 60711 4	4		PIP	10S	-9.2	19.65	USE			
MS 121	1 1-35611	9	07/20/78	OHCD862 60711 8	40		PIP	10S	-12.6	18.53	USE			
MS 121	1 1-35673	55	07/25/78	OHCD866 60711 1	4		PIP	10S	-12.2	15.82	USE			
MS 121	1 1-35673	43	07/25/78	OHCD865 60710 3	4		PIP	10S	-16.6	15.82	USE			
MS 121	1 1-35673	53	07/25/78	OHCD862 60711 7	4		PIP	10S	-17.0	15.82	USE			
MS 121	1 1-35673	57	07/25/78	OHCD866 60711 1	4		PIP	10S	-10.6	15.82	USE			
MS 121	1 1-35673	59	07/25/78	OHCD866 60711 3	4		PIP	10S	-15.9	15.82	USE			
MS 121	1 1-35673	51	07/25/78	OHCD862 60711 6	4		PIP	10S	-12.4	15.82	USE			
MS 121	1 1-35673	50	07/25/78	OHCD862 60711 2	4		PIP	10S	-12.4	15.82	USE			
MS 121	1 1-36501	14	08/30/78	OHCD862 607111O	4		PIP	10S	-2.5	15.82	USE			
MS 121	1 1-36475	13	08/30/78	OHCD862 60711 5	4		PIP	10S	-13.3	15.82	USE			
MS 121	1 1-36501	8	08/30/78	OHCD862 60711 4	4		PIP	10S	-13.3	15.82	USE			
MS 121	1 1-36501	12	08/30/78	OHCD862 607111O	4		PIP	10S	-14.0	15.82	USE			
MS 121	1 1-36475	16	08/30/78	OHCD866 60711 5	4		PIP	10S	-15.3	15.82	USE			
MS 121	1 1-36475	7	08/30/78	OHCD862 607111	4		PIP	10S	-13.8	15.82	USE			
MS 121	1 1-38588	63	12/28/78	OHCD866 60711 6	4		PIP	10S	-17.3	15.82	USE	51.5	10.70	551.
MS 122	1 1-37802	4	11/14/78	MCJ 16218520	3	SS	PIP	10S	189.9	5.76	PB			
MS 122	1 1-36475	1	08/30/78	OHCD655 649 1 4	3		PIP	10S	-17.2	5.76	USE			
MS 122	1 1-38588	4	12/28/78	OHCD744 649 1 5	3		PIP	10S	-14.4	5.76	USE			
MS 122	1 1-38588	6	12/28/78	OHCD655 649 1 2	3		PIP	10S	-21.2	5.76	USE			
MS 122	1 1-38588	1	12/28/78	OHCD655 649 1 3	3		PIP	10S	-22.6	5.76	USE			
MS 122	1 1-38588	10	12/28/78	OHCD744 649 1 4	3		PIP	10S	-14.5	5.76	USE			
MS 122	1 1-38589	3	12/28/78	OHCD744 649 1 7	3		PIP	10S	-38.0	5.76	USE			
MS 122	1 1-38589	5	12/28/78	OHCD744 649 1 8	3		PIP	10S	-29.9	5.76	USE			
MS 122	1 1-38589	1	12/28/78	OHCD655 649 1 1	3		PIP	10S	-8.2	5.76	USE	23.9	5.76	138.
MS 123	1 1-37161	1	09/29/78	GUY I52438D	3	SS	PIP	10S	61.7	5.75	PB			
MS 123	1 1-38086	45	11/24/78	OHCD139 607 4 2	3		PIP	10S	-10.7	5.75	USE			
MS 123	1 1-38588	72	12/28/78	OHCD239 607 4 2	3		PIP	10S	-5.7	5.75	USE			
MS 123	1 1-38589	54	12/28/78	OHCD374 6081214	3		PIP	10S	-9.8	5.75	USE			
MS 123	1 1-38588	69	12/28/78	OHCD239 607 4 1	3		PIP	10S	-18.6	5.75	USE	16.9	5.75	97.
MS 126	1 1-36920	1	09/20/78	GUY I52437D	4	SS	PIP	10S	168.0	7.50	PB			
MS 126	1 1-38561	1	12/28/78	1HCD248 601 1 3	4		PIP	10S	-10.6	7.50	USE			
MS 126	1 1-38588	51	12/28/78	2HCD248 602 1 2	4		PIP	10S	-19.2	7.50	USE			
MS 126	1 1-38519	1	12/28/78	1HCD248 601 1 2	4		PIP	10S	-25.2	7.50	USE			
MS 126	1 1-38519	5	12/28/78	1HCD248 601 1 1	4		PIP	10S	-27.3	7.50	USE			
MS 126	1 1-41399	4	6/ 1/79	OHCD936 625 2 2	4		PIP	10S	-6.3	7.50	USE			
MS 126	1 1-39027	39	01/26/79	2HCD248 602 1 3	4		PIP	10S	-16.7	7.50	USE			
MS 126	1 1-39027	41	01/26/79	2HCD248 602 1 4	4		PIP	10S	-15.7	7.50	USE	47.0	7.50	353.

Start Up System: Indeterminate

Consumers Power Company
QA27-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

6. PROJECT NAME:	7. NONCONFORMING PART NO:	8. NONCONFORMING PART NAME:	1. NCR SERIAL NO: M-01-5-0-053
Midland 1 & 2	1DGA01 & 1DFB01	Cable Tray	2. DATE: 7-21-80
9. SERIAL NUMBER:	10. ORG. COMMITTING NC:	11. AREA/LOC. OF NC:	3. DATE OF REV:
NA	Bechtel Construction Bechtel Engineering	Lower Cable Spreader Room	NA
			4. FILE NO: 16.3.1, 16.3.4

12. "AS IS" NONCONFORMING CONDITION VERSUS "AS REQUIRED" CONDITION WITH REFS:

During overinspection of the above cable trays, the following discrepancies were noted:

(1) Cable tray 1DGA01 was not identified per Drawing E-42, Revision 45, Sheet 8, paragraph 6A and 6B. (Identification on this tray will not be visible after cable loading of tray's beneath it).

(2) Cable tray 1DFB01 is identified as 1BFB01 on Drawing E-602 Revision 2, Sheet 1, zone 7-F.

5. DISTRIBUTION

ACTION COPY:

~~LADreisbach~~
MADietrich

INFO COPY:

WRBird	DBMiller
RBCherba	~~EDNewman~~
JWCook	RLRixford
TCCooke(2)	JARutgers
~~JLGorley~~	~~RASinanek~~
LEDavis	DATaggart
PKHansen	HPLeonard
~~SHHowell~~	DLDaniels
GSKeeley	ESmith
BWMarguglio	
JMilandin	

13. QA RECOMMENDATION FOR PART CA:

(1) Identify cable tray 1DGA01 in a manner which will be visible after construction is complete.

(2) Correct Drawing E-602 to reflect proper cable tray identification.

DESIGN/PROJECT ENG. DISPOSITION REQUIRED [X] NOT REQUIRED [ ]

14. HOLD TAGS APPLIED: YES [ ] NO [X] NUMBER, LOCATION & TYPE OF HOLD TAGS APPLIED: NA

15. IS PROCESS CA REQUIRED: YES [X] NO [ ] IF NO, ENTER JUSTIFICATION BELOW:

16. DOES NC AFFECT Q-LIST ITEM: YES [X] NO [ ]	17. IS NC REPORTABLE PER 50.55(e): YES [ ] NO [X]
18. IS NC REPORTABLE PER PART 21: YES [ ] NO [X]	19. IF YES, DATE & TIME OF REPORT TO NRC: NA
20. IF YES, WHO MADE REPORT TO NRC: NA	21. IF YES, NAME OF NRC OFFICIAL TO WHOM REPORTED: NA

22. NCR ORIGINATED BY:	23. WRITTEN REPLY REQUIRED BY: 8-4-80 TO ESTABLISH CA COMPLETION DATE	24. SUPERVISOR'S SIGNATURE/DATE: DR Keating 7-21-80

25. PART CA DISPOSITION, JUSTIFICATION & COMPLETION DATE:

LADreisbach's letter LAD-1751, dated 10/31/80 to HPLeonard.

26. DESIGN/PROJECT SIG. AUTH. DISP.:	27. PMO SIG. AUTH. DISP.:	28. PROCUREMENT SIG. CONC. DISP.:	29. SIG. OF ORG. RESP. FOR C/A:
LAD-1751	NA	NA	LAD-1751
30. FAB/CONST. SIG. AUTH. IMP. DISP.:	31. SIG. OF TEST GROUP ACKNOW. CONDITION:	32. FOR MAJOR MOD - PLT. SUPT. SIG. AUTH. DISP.:	33. QA AUTH. SIG. TO IMPLEMENT DISP.:
LAD-1751	NA	NA	

34. METHOD OF PART CA VERIFICATION:

Verified that cable tray 1DGA01 has been identified in accordance with E-42 and that this identification will be visible after loading of the bottom tray. Verified drawing E-602 corrected to reflect correct cable tray identification.

35. SIG. OF ORG. RESP. FOR PART C/A SIGNIFYING COMPLETION:	36. SIG. VERIFYING PART C/A & HOLD TAG REMOVAL/DATE:	37. NCR CLOSED BY/DATE: (PART & PROCESS CA COMPLETE)
LAD-1751	11/14/80	11/14/80

UFI: ~~218~~ (1141-05000-37000-73*10*03)

Consumers Power Company

NONCONFORMANCE REPORT
PROCESS CORRECTIVE ACTION

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

NCR SERIAL NUMBER: M-01-5-0-05

38. QA ASSESSMENT OF ROOT CAUSE(S):

Unknown, to be determined.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

LAD-1751

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [X]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

Unknown, to be determined.

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

LAD-1751

43. METHOD OF PROCESS CA VERIFICATION:

N/A

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

N/A

45. PROCESS CA COMPLETION VERIFIED BY/DATE:

N/A

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

October 31, 1980

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: H. P. Leonard

Job 7220 Midland Project
CPCo NCR M01-5-0-053
Complete Response
LAD-1751 Action Item S-350

Dear Mr. Leonard:

The subject NCR concerns discrepant identification of divided cable trays.

DCN5 was issued against Drawing E-602, Sheet 1, Rev. 2, to correct the identification of tray 1DFB01 which was incorrectly identified as 1BFB01.

Cable Tray 1DFB01/1DGA01 has been restenciled to conform to the requirements of Drawing E-42, Sheet 8, Item 6. The identification of this tray will be visible after all cable pulling is complete.

This is an isolated case. No process corrective action is required.

This is considered to be a complete response to the subject NCR. If further assistance is necessary, please contact Raymond Yee of this office.

Very truly yours,

L. A. Dreisbach
Project Quality Assurance Engineer

LAD/RY/sjc

cc: W. Bird
B. Marguglio
D. Miller

This Copy For	This Copy For
WRBird	~~WLBarclay~~
JWCook	TCCooke (2)
HPLeonard	~~RHermeston~~
LHCurtis	~~SHHowell~~
BWMarguglio	~~DRJohnson~~
JARutgers	GSKeeley
JLWood	~~JMKlacking~~
	~~PAMartinez~~
	JMMandin
	~~TRThomas~~

Consumers Power

Nonconformance Report No OF-199

File 16.3.4 & 16.3.6
Issue Date November 4, 1977
Project Midland 1 & 2

File Title NCR's on Bechtel Construction and Quality Control

This Nonconformance Report is Issued To:

~~G. L. Richardson~~
~~Bechtel Lead QAE~~ LADreisbach

who is responsible for corrective action.

Prepared By ~~Donald E. Horn~~ Date 11-4-77
Approved By [signature] Date 11/4/77
Written Reply Requested By Date 11-23-77
Corrective Action Requested By Date 12-15-77

Nonconformance Description and Supporting Details:

See attachment.

AEC Reportable Yes ☐ No ☒ See Procedure 9 (For Nuclear Projects Only)

Stop Work Necessary Yes ☐ No ☒ See Procedure 16 - Stop Work No _____
No Hold Tags Applied

Recommended Corrective Action:

See attachment.

[1] **Corrective Action Taken:**

See attachment.

[1] **Verification of Corrective Action Required** Yes ☒ No ☐

[1] **Method of Verification:** Reviewed NCR's 1004 (with attachments) and 1005 (with attachments), letter GLR-12-77-510, letter 375FQA79, and letter LAD-1560, and USTesting Training Session dated 12/14/77.

[1] **Nonconformance Closure Confirmed By** Donald E. Horn
Date 11/3/80

[1] To be completed at time of closure by Consumers Power QA Services.

Document Control - (1141-73*10*03)

Attachment to NCR QF-199

Nonconformance Description and Supporting Details:

Specification C-210, Revision 5 Section 12.6.1 states in part, "The water content during compaction shall not be more than 2 percentage points below optimum moisture content and shall not be more than 2 percentage points above moisture content..."

Specification C-210, Revision 5 Section 13.7.1 states, "All cohesive backfill in the plant area and the berm shall be compacted to not less than 95 percent of maximum density as determined by ASTM D 1557, Method D".

Specification C-210, Revision 5 Section 13.7.2 states in part, "All cohesionless backfill in the plant area and the berm shall be compacted to not less than 80 percent of relative density as determined by ASTM D 2049..."

Part 1

Contrary to these requirements, the following tests had been passed using incorrect testing data. Using the correct testing data, the tests fail.

North Plant Dike

MD 290 (sampled 7-16-74) shows optimum moisture content 11.6. It should have been 9.5. Using the correct optimum moisture content of 9.5%, the actual moisture content is 2.2% above optimum moisture content.

MD 360 (sampled 7-31-74) shows optimum moisture content as 21.4. It should have been 15.2. This also shows maximum lab dry density as 103.2. It should have been 115.1. Using the correct optimum moisture content of 15.2%, the actual moisture content is 5.4% above optimum moisture content. Also using the correct maximum lab dry density of 115.1, the correct percent of maximum density is 86.4%.

MD 377 (sampled 8-6-74) shows optimum moisture content as 18.0. It should have been 15.2. Using the correct optimum moisture content of 15.2%, the actual moisture content is 4.5% above optimum moisture content.

Structural Backfill

MDR 621 (sampled 10-14-76) shows minimum dry lab density as 94.2. It should have been 112.2. Using the correct minimum dry lab density of 112.2, the correct percent of relative density is 41.5.

Part 2

Also contrary to these requirements, the following tests had failing results and did not indicate being cleared by passing tests or had been marked passing.

Attachment to NCR QF-199

Nonconformance Description and Supporting Details:

Part 2 (Contd)

North Plant Dike

MD 142 (sampled 5-30-74) shows optimum moisture content 8.0, moisture content 10.3. This test failed but it is shown as passing.

MD 143 (sampled 5-30-74) shows optimum moisture content 13.8, moisture content 11.4. This failed but it is shown as passing.

West Plant Dike

MD 227 (sampled 10-6-75) failed moisture but has not been cleared.

Plant Area Fill

Test No.	Date Sampled	Compaction	Moisture Actual	Moisture Optimum
MD 1311	5-03-77	61.6% of Relative Density		
1326	5-10-77		18.5%	15.2%
1328	5-10-77		12.2%	15.2%
1412	6-07-77		10.4%	15.2%

Structural Backfill

MDR 621	10-14-76	78.0% of Relative Density
671	11-12-76	74.8% of Relative Density
672	11-23-76	75.4% of Relative Density
685	11-24-76	56.2% of Relative Density
686	11-24-76	70.9% of Relative Density
691	11-24-76	62.0% of Relative Density

Recommended Corrective Action:

(1) Determine if there are passing tests in the same area to clear these failing tests.

(2) If these failing tests cannot be cleared by passing tests in the same area, present these findings to Bechtel Project Engineering so Project Engineering can determine what additional tests, reviews, etc. are needed to justify the material these tests represent. Have Project Engineering justify the material these failing tests represent.

(3) Determine the underlying cause(s) and take corrective action to preclude repetition.

Attachment to NCR QF-199
(Contd)

[1]Corrective Action Taken:

Part 1

(1) Bechtel QC has determined that none of the above failing tests have passing tests in the same area to clear them.

(2) North Plant Dike MD 290 and MD 377 have been identified on Bechtel NCR 1005. North Plant Dike MD 360 and Structural Backfill MDR 621 density problems have been identified on Bechtel NCR 1004. North Plant Dike MD 360 moisture problem has been identified on revised NCR 1005. NCR's 1004 and 1005 have been dispositioned "Use As Is".

(3) The underlying causes for this condition occurring were human error and lack of attention to detail. The actions taken to prevent this condition from recurring were taken in the form of a training session held on 12/14/77 for USTesting personnel. In conjunction with this training session, a list of all applicable proctors were developed to aid the inspector in obtaining correct values for density and moisture. No additional corrective actions were taken in density tests MD-142 and MD-143 in which failing tests were marked passing since it occurred only in May of 1974 and has not been a recurring problem.

Part 2

(1) Bechtel QC has determined that none of the above failing tests have passing tests in the same area to clear them.

(2) North Plant Dike MD 142 and MD 143, West Plant Dike MD 227 and Plant Area Fill MD 1326, 1328 and 1412 have been identified on Bechtel NCR 1005. Structural Backfill MDR 621, 671, 672, 685, and 686 have been identified on Bechtel NCR 1004. Plant Area Fill MD 1311 has been identified on revised NCR 1004. NCR's 1004 and 1005 have been dispositioned "Use As Is".

(3) Corrective action has been taken as of the last of July 1977 by Bechtel QC and U.S. Testing to more adequately clear failing tests. Therefore, the corrective action to preclude repetition for not clearing failing tests need not be addressed.

Attachment to NCR QF-199
(Contd)

[1]Corrective Action Taken: (Contd)

In addition to Part 1 and Part 2, on September 29, 1978 Consumers Power Company notified JGKeppler, in writing, pursuant to the requirements of 10CFR50.55(e), of a construction condition at its Midland Plant site regarding settlement of certain structures. Subsequently, further notifications regarding the settlement of these structures, related investigations and remedial actions proposed and undertaken by the Company were sent to JGKeppler pursuant to 10CFR50.55(e) on November 7, 1978, December 21, 1978, January 5, 1979, February 23, 1979, April 3, 1979, June 25, 1979, August 10, 1979 and September 5, 1979.

In a letter from JGKeppler to HDThornburg, dated November 1, 1978, the settlement issue was transferred to NRR for evaluation and resolution. The NRR Staff carried on their review through issuance of questions 1-22 in the 50.54(f) request on March 21, 1979 and supplemental questions 23 on September 11, 1979; 24-35 on November 19, 1979; 36-38 on June 30, 1980; 39-48 on August 4, 1980; and 49-53 on August 27, 1980. The Company responded to those questions pursuant to 10CFR50.54(f) on April 24, 1979, May 31, 1979, July 9, 1979, September 13, 1979 and November 13, 1979. On December 6, 1979 an Order Modifying the Construction Permit was sent to the Company. The Company filed Amendment 72 on December 19, 1979, Amendment 76 on April 1, 1980, Amendment 77 on May 5, 1980, Amendment 80 on August 15, 1980 and Amendment 81 on September 14, 1980 to its application for Reactor Construction Permit and Operating License for the Midland Plant. Those amendments detail the history of the soils settlement issue and the proposed remedial actions for which Commission approval is sought. Further amendments will provide more detail in response to the Staff's 50.54(f) questions. Resolution of this issue will occur as a result of Commission action regarding Amendments to the application, after appropriate review and issuance of a Safety Evaluation Report directed specifically to the settlement issue.

Copy to Chrono 42-8180

CPCO

Corrected Copy

NONCONFORMANCE REPORT

1. PROJECT NAME: Midland	JOB NO.: 7220					19. NO. 1004	20. PAGE 1 OF 17
2. UNIT(S): Common	3. DRAWING/PART NO.: N/A	REV: N/A	4. ITEM DESCRIPTION: Soil			5. ITEM LOCATION: Plant Area	
6. P.O. OR SPEC NO.: N/A	7. SERIAL NO.: N/A	8. REPLACEMENT PART P/N—N/A— REV—N/A— SER NO. N/A—		9. SOURCE: Construction	10. CONTRACTOR/SUPPLIER: N/A		
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER — IR NO. N/A NO. C-210 R5/C-211 R4		12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO		13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( ) Rec'g (X) Const ( ) Test	15. Equip Furnished By ( ) Client (X) Ag ( ) FLD	

16. NONCONFORMING CONDITION: Specifications C-210 Rev. 5 and C-211 Rev. 4 states in part.... "That the density requirements of cohesive soils is 95% Bechtel Modified Proctor and 80% Relative Density." Contrary to the above, the following density tests are failing with no retests taken:

(CONTINUED ON PAGE 2)

17. REPORTED BY: [illegible] DATE: 10/14/77

18. VALIDATED BY: Concurrence signed T.E. Barclay DATE: 10-26-77

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

DISPOSITION REQUIRED BY 11-11-77

ROUTE TO PROJECT ENGINEERING FOR EVALUATION AND DISPOSITION

J. Deem 10/27/77 for T.E. Barclay 11/1/77

D. Armstrong 2/15/79

23. PROJECT ENGINEERING DISPOSITION

Project engineering has reviewed the NCR 1004 (corrected copy dated 2-15-79) and notes the following:

Test No. MDR 685-- is accepted by test MDR 690, located near MDR 685 and about the same elevation.

Test No. MDR 686-- is acceptable based on the evaluation of the boring SWS 5. This boring is located in the vicinity MDR 686 and indicates high blow counts at elevation between 594 and 599.

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
			X

PROJECT FIELD ENGINEER: [illegible] DATE: 10-25-77

PROJECT ENGINEER: T.E. Rothwell DATE: 10-24-77

PROJ CONSTN QC ENGINEER: T.E. Barclay DATE: 10-27-77

AUTHORIZED INSPECTOR DATE

25. DISPOSITION RESULTS

CONSUMERS POWER COMPANY

RECEIVED

MAY 28 19[illegible]

FIELD QUALITY ASSURANCE

MIDLAND, MICHIGAN

26. QC ACCEPTANCE: [illegible] 5/22/80 5/15/80 10/31/79

QC ENGINEER DATE

AUTHORIZED INSPECTOR DATE

POOR ORIGINAL

BLOCK #16 CONTINUED: NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 7 19NCR NO 1004

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	METHOD OF TEST
STR. BACKFILL					
35' E of Wall Line	582.7'	10/14/76	~~MDR-621~~ ✓ ✗	42%	R.D.
15' off "6.0" 30" South of "Q"	613'	11/12/76	MDR-671 ✓ ✗	74.8%	R.D.
SWPS-11' S of N. Wall, 3' off W Wall	582.5'	11/23/76	~~MDR-672~~ ✓ ✗	75.4%	R.D.
SWPS-13' W of E. Wall, 30" off N Wall	589'	11/24/76	MDR-685 ✓ ✗	56.2%	R.D.
SWPS-13' N of N. Wall, 30" E of E Wall	596'	11/24/76	MDR-686 ✓ ✗	70.9%	R.D.
SWPS-2' W of E. Wall, 9' off N. Wall	595'	11/24/76	MDR-691 ✓ ✗	62.0%	R.D.
~~S. OF TURBINE, 35' S. OF "Q"/2~~ ✗ 5/15/80					
S OF TURBINE, 35' S. OF "Q"/28' W. OF 6.0 LINE ✗ 5/15/80	613'	5/3/77	MD-1311 ✓	66.1%	R.D. ✗ 5/15/80
NORTH DIKE				N/A ✗ 3/14/79	
~~0 + 80 100' L Center Line~~	~~629'~~	~~7/31/74~~	~~MD-360~~	~~86.4%~~	~~B.H.P.~~

DENSITY TEST MD360 WAS TRANSMITTED TO Q.C. FROM U.S. TESTING WITH A TYPO OF 113 BMP – THIS SHOULD HAVE BEEN BMP 118, GIVING A % COMPACTION OF 96.4 – NOT 86.4% ✗ 3/14/79

Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002 & 1.004. Barclay 2-15-79

Block 23 Contd:

Test No. MDR 691-- is acceptable based on the evaluation of the boring SWP-1, & SW-13. This boring reveals high blow counts between elevation 587 and 608.

Test No. MDR 671-- is acceptable based on the evaluation of boring DG-20 and DG-23. These borings indicate high blow counts at elevation 613.

Test No. MDR 621 and 672--are acceptable based on evaluation of borings SWP-1, SW-8, SW-3, SW-5 and SW-7. These borings indicate high blow counts at elevation 582.5 and 582.7 feet.

This completes the evaluation of NCR 1004 by project engineering. Jordanne 10-5-79 Rao 10/5/79 Jilbert 10.5.79 10/5/79

TEST ADDED PER CPCC TER 375-FQA79 DATED 11/7/79 ATTACHED

7 HWD 5-21-80

NONCONFORMANCE REPORT (CONT'D) 20PAGE 3 OF 10 19NCR NO 1004

BLOCK 23 Cont.

Project Engineering has added to its disposition. Refer to attached IOM (L. H. Curtis to L. A. Dreisbach, 4-24-80, File No. 0535.3, C-0465, C-211-PR).

Jim Zimmer HWD
5-19-80

PRYC Generated in Ann Arbor. REM C-3717 RS

No Spec./Dwg. Change Req'd.

NONCONFORMANCE REPORT (CONT'D) 20. PAGE 4 OF 7 19. NCR NO. 1004

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			✓

PROJECT FIELD ENGINEER — DATE 5/22/80

PROJECT ENGINEER — DATE 5/21/80

PROJECT CONSTR QC ENGINEER — DATE 5/22/80

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE

PROJECT ENGINEER — DATE

PROJECT CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

Bechtel Associates Professional Corporation

Inter-office Memorandum

To L.A. Dreisbach

Date April 25, 1980

Subject Midland Plant Units 1 and 2
Bechtel Job 7220
Quality Problem Response
Request: QA Action Item 175-a

From L.H. Curtis

Of Engineering

At Ann Arbor

Copies to W. Barclay
L. Curtis
V. Manta
R. Rixford
J.O. Wanzeck
Com Log

File 0535.3, C-0465, C-211-PR

Job 7220-QA-Program
I-80-
Log No. 433 File No.
Response Req'd Date
QA Action Item No.

Route	Init.	Act.	Comments
PQAE			
Resp. Cor.			
Elect (L)			
Civil/Mech			
Equip/Weld			
Inst.			
Tim Cur			
Trend			
NCR 1004			File

Reference CPCo letter Serial 375 FQA 79, 11/7/79

This is a complete response to the referenced memorandum transmitted via the subject QPRR.

The following paragraphs are numbered to correspond to those indicated in the referenced letter.

NCR 1004:

1. Project engineering dispositioned a corrected copy of NCR 1004 on October 24, 1979. This copy of the NCR did not include the failing test MD-1311. As recommended in the referenced letter, NCR 1004 should be reopened to include test MD-1311.

   Test MD-1311 is located in the vicinity of the diesel generator building. A review of boring log DG-20 and cross hole CH-13 indicates that the density is acceptable. In addition, the diesel generator building area will be dewatered to eliminate liquefaction potential. Based on this, project engineering recommends that test MD-1311 be accepted as is.

2. Project engineering concurs that the evaluation of MDR-686 was based on boring log SW-5 and not SWS-5.

3. For disposition of MDR-691, see Item 6. The previous disposition considered boring SWP-1 to review the material that existed prior to construction.

4. An evaluation of borings DG-28, DG-18, DG-20, and cross hole CH-13 for test MDR-671 indicates acceptable material at el 612', 612', 613', AND 614' RESPECTIVELY. Also, the area between the turbine building and diesel generator building will be dewatered, thereby eliminating liquefaction potential. Based on this, test MDR-671 is considered acceptable.

NCR 1004

5-21

5. Disposition of tests MDR-621 and MDR-672 is addressed in Item 6. Boring SWP-1 was previously utilized to review the material that was present before construction.

6. Project engineering concurs that the orientation used for locating test MDR-686 was different from that used to locate tests MDR-621, MDR-685, MDR-672, and MDR-691. However, project engineering has reevaluated these tests considering the two possible orientations and offers the following.

   a. Orientation Considered - Northeast wall of service water pump structure (SWPS) as north wall Tests - MDR-621, MDR-685, MDR-691, MDR-686 at el 582.7', 589', 595', and 596', respectively

      Borings PD-37, SW-5, and SW-13 indicate high blowcounts with acceptable material. Boring SW-5 indicates 151 blows/foot, at el 588', boring SW-13 indicates 40 blows/7 inches at el 597.5', and boring PD-37 indicates 72 blows/foot at el 552.5' and 45 blows/ foot at el 584'. These high blowcounts reveal hard soil. In addition, the proposed piling and dewatering system would assure the structural integrity of the SWPS.

      Test - MDR-672 at el 582.5'

      Borings SW-4, SW-5, SW-7 and SW-8 indicate blowcounts of 160/foot, 151/foot, 150/foot, and 130/foot at the end of the hole. These high blowcounts indicate hard soil toward the end of the borings. It is noted that these borings do not extend to the elevation of test MDR-672 at 582.5'. However, the proposed piling will carry the structural loads, and the structural integrity of the SWPS will not be affected by the soil represented by the failing test.

   b. Orientation Considered - Northwest wall of the SWPS as north wall

      Tests - MDR-621, MDR-685, MDR-672, MDR-691, and MDR-686

      Borings SW-1, SW-3, SW-4, SW-5, SW-7, and SW-8 reveal high blowcounts indicating hard soil at el 608', 585.5', 596', 588', 598.5', AND 588' respectively. The proposed dewatering system and piling would ensure the structural integrity of the SWPS. Therefore, the soil represented by the failing tests would not be detrimental to the structure.

NCR 1004

NCR 1005:

1. Project engineering has not received a copy of the reopened NCR 1005. However, the following is the input required to redisposition the NCR.

   The variance in the moisture content from allowable ±2% of the optimum for tests MD-227, 142, 1326, 1328, 1412, 290, and 377 ranges from 0.1% to 2.8%. Tests MD-227, 142, 143, 290, and 377 are located outside the Q-listed area as indicated in Drawing 7220-C-45. Therefore, these tests should be taken off the NCR. No safety-related structure is planned to be located in the areas represented by these tests. Also, these tests would not have an adverse effect on other areas.

   Test MD-1328 appears to be a retest for test MD-1326. The test results indicate that the area was reworked. The density of tests MD-1328 and MD-1412 is very high. Considering the moisture content of -3.0% and -4.8% for tests MD-1328 and MD-1412, it seems rather difficult to obtain compactions of 103.3% and 106.4%, respectively. This indicates that the tests could be erroneous. However, boring logs SWL-2 and PD-18 indicate acceptable soils in the vicinity of tests MD-1328 and MD-1412. The areas represented by these tests will be encompassed by the dewatering system. Based on this, it is concluded that the deviation of moisture from the specification requirements would not affect the performance of the soil.

2. Project engineering concurs that test MD-360 should be deleted from the NCR. In addition, tests MD-227, 142, 143, 290, and 377 should also be deleted because they fall outside the Q-listed area.

M. Elgohary

~~FJR~~: L.H. Curtis

BD/SR/js
4/7/4

Response Requested: No

PAGE 4 of 4
NCR 1004

Midland Project: P.O. Box 1063, Midland, Michigan 48640 - Area Code 517 631-0551

November 7, 1979

Mr L A Dreisbach
Bechtel Power Corp
PO Box 2167
Midland, MI 48640

MIDLAND PROJECT - STATUS OF NCR QF-199
File: 16.3.4 & 16.3.6 Serial: 375FQA79

To close out NCR QF-199, we reviewed the dispositions of Bechtel NCR 1004 and NCR 1005 which were written on the failing tests identified in NCR QF-199. We have reviewed Bechtel NCR 1004 which was written to cover the Structural Backfill tests MDR 621, 671, 672, 685, 686, 691 and Plant Area Fill test MD 1311, from CPCo NCR QF-199, and have the following comments:

(1) Plant Area Fill failing test MD 1311 with 66.1% compaction has been left off the final NCR 1004 and this failing test has not been dispositioned.

Therefore, NCR 1004 should be reopened to include failing test MD 1311 and this failing test dispositioned or a new NCR written to cover this.

(2) The disposition for MDR 686 at elevation 596 states in part, "is acceptable based on the evaluation of the boring SWS-5." Is boring SWS-5 supposed to be boring SW-5?

(3) The disposition for MDR 691 at elevation 595 states in part, "is acceptable based on the evaluation of the boring SWP-1 and SW-13. This boring reveals high blow counts between elevation 587 and 608." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing test MDR 691) and (b) boring SW-13 only goes down to elevation 597.9.

(4) The disposition for MDR 671 at elevation 613 states in part, "is acceptable based on the evaluation of boring DB-20 and DB-23."

These borings are approximately 40 feet to the south of failing test MDR 671 and, therefore, do not seem representative of the failing test area.

(5) The disposition for MDR 621 at elevation 582.7 and MDR 672 at elevation 582.5 states in part, "are acceptable based on evaluation of borings SWP-1, SW-8, SW-3, SW-5 and SW-7. These borings indicate high blow counts at elevation 582.5 and 582.7 feet." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing tests MDR 621 and 672) and (b) borings SW-8, SW-3, SW-5 and SW-7 only go down to elevation 588.0, 585.5, 588.0 and 598.5, respectively.

(6) The disposition for MDR 621, 672, 685, and 691 used the North wall of the Service Water Intake Structure as the wall that faces Northeast and the East wall as the wall that faces Southeast, while the disposition for MDR 686 used the North wall as the wall that faces Northwest and East wall as the wall that faces Northeast. The proper orientation of these tests must be determined and dispositioned accordingly or disposition these tests assuming the North wall as the wall that faces Northeast and then disposition these tests assuming the North wall as the wall that faces Northwest.

We have reviewed Bechtel NCR 1005 which was written to cover the soil tests North Plant Dike MD 142, MD 143, MD 290, MD 377, North Plant Dike MD 360 moisture problem, West Plant Dike MD 227 and Plant Area Fill MD 1326, 1328, and 1412 from CPCo NCR QF-199, and have the following comments:

(1) The Project Engineering disposition on NCR 1005 is unacceptable based on letter BEDC-2694 which states in part, "the moisture content during compaction is the governing control for acceptance. Compaction of any given lift is not considered complete until the testing requirement for moisture content plus density are satisfied. Therefore, during compaction is interpreted as the test result obtained from the inplace tests taken for moisture and density after placements and compaction."

Therefore, NCR 1005 should be reopened and redispositioned.

(2) MD-360 should be deleted from this NCR based on the fact that density test MD-360 was transmitted to Quality Control from US Testing with a typographical error - BMP 113 should have been BMP 118 resulting in a percent compaction of 96.4 and not 86.4 and an optimum moisture content of 21.4% and not 15.2%.

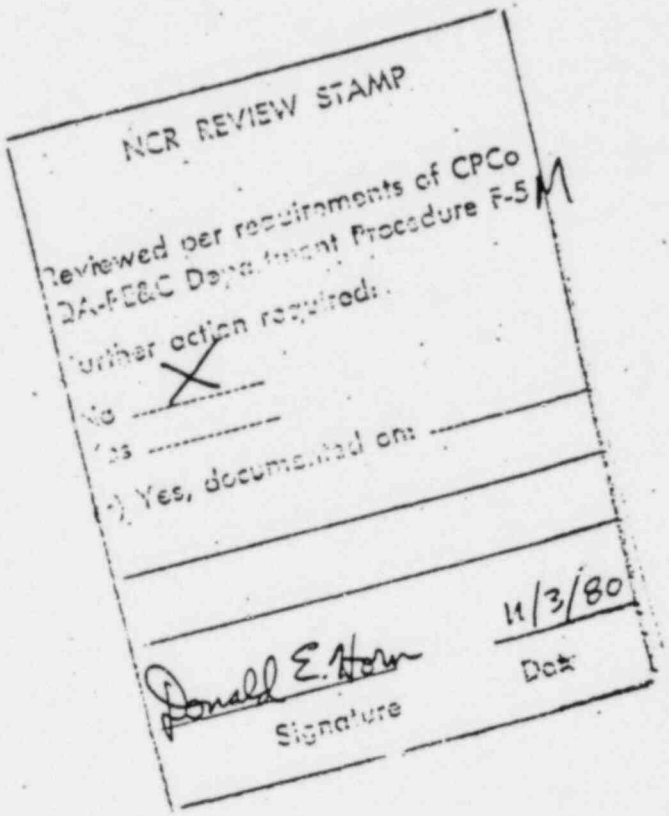
Resolving the items above will close out NCR QF-199. Your expedient cooperation in resolving these items would be appreciated.

D. E. Horn for

W R Bird
Section Head - QAE, Midland

WRB/DEH

CC TCCooke
JLCorley
GSKeeley
DWMarguglio
DBMiller



Corrected Copy

NONCONFORMANCE REPORT

1. PROJECT NAME	JOB NO.			19. NO. 1005	20. PAGE 1 OF 2
Midland	7220				
2. UNIT(S)	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION	
Common	N/A	N/A	Soil	Plant Area	
6. P.O. OR SPEC NO.	7. SERIAL NO.	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE	10. CONTRACTOR/SUPPLIER	
N/A	N/A		Construction	N/A	
11. INSPECTION CRITERIA ( ) DWG (X) SPEC ( ) OTHER IR NO. N/A NO. C-210, R.5	12. ASME AUTHORIZED INSPECTION REQ'D ( ) YES (X) NO	13. SKETCH ATTACHED ( ) YES (X) NO	14. Discovered During ( )Rec'g (X)Const ( )Test	15. Equip Furnished By ( )Client ( )A/E ( )FLD	

16. NONCONFORMING CONDITION: Specification C-210 Rev. 5, Section 12.6.1 states in part.... "That the moisture content is to be within +2% of the optimum moisture content." Contrary to the above, the following moisture tests are failing without retests taken:

(CONTINUED ON PAGE 2)

17. REPORTED BY D L Adam DATE 10/26/77

18. INVESTIGATED BY W K Barclay DATE 11-14-77 (5/15/80) W K Barclay 10-26-77

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. (X) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering SEE PAGE 3 Disposition Required 5-2-1-78

~~SPEC. C-210, SEC. 12.8.2 - ADDITIONAL ROLLING STATES IN PART ... WHERE MOISTURE CONTENT AT TIME OF ROLLING IS IMPROPER ... SUCH ROLLING SHALL BE AT THE EXPENSE OF THE SUB CONTRACTOR." THE FACT THAT PROPER COMPACTION WAS ACHIEVED IS EVIDENCE THAT ADDITIONAL ROLLING WAS PERFORMED (CONT.)~~

23. PROJECT ENGINEERING DISPOSITION. Project Engineering has previously responded to the condition in which acceptable dry density test has been obtained with moisture content out of the specified limits. This information is found in BERC-1859 & 1998; and need not be further addressed. Therefore, Project Engineering concurs with Field Engineering's disposition. For the material represented by test No. MD-360, Project Engineering has evaluated adjacent tests results in the same general area and subsequent lifts results, all of which are acceptable. In addition the location of test MD-360 lies in

(Contd. on page 3)

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
3/10/78			1/18/78

P. Stroth NSA 10/27/77 (X) 10/27/77 — PROJECT FIELD ENGINEER DATE

PROJECT ENGINEER 3/6/78

PROJ CONSTR QC ENGINEER 3-10-78 DATE

AUTHORIZED INSPECTOR DATE

CONSUMERS POWER COMPANY

RECEIVED

MAY 28 19[illegible]

FIELD QUALITY ASSURANCE

MIDLAND, MICHIGAN

26. (X) ACCEPTANCE 5/22/80 (X) 5/15/80

QC ENGINEER 3/13/78 DATE

AUTHORIZED INSPECTOR DATE

see pg 3 for 3rd sentence

BLOCK #16 CONTINUED: NONCONFORMANCE REPORT (CONT'D) 935-11 807 B A B 10/24/77

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	MOISTURE CONTENT	OPTIMUM MOISTURE CONTENT
West Plant Dike						
7 + 00 37' L Center Line	622'	10/6/75	MD-227 ✓	99%	10.2	8.1
North Plant Dike						
1 + 00 40' R Center Line	625'	5/30/74	MD-142 ✓	95.2%	10.3	8.0
North Plant Dike						
3 + 00 40' R Center Line	625'	5/30/74	MD-143 ✓	95.7%	11.4	13.8
Plant Area						
183' S of S. Wall -- SWI						
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1326 ✓	96.3%	18.5	15.2
Plant Area						
183' S of S. Wall -- SWI						
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1328 ✓	103.3%	12.2	15.2
Plant Area						
30' East of 12.0						
90' South of Q	622'	6/7/77	MD-1412 ✓	106.4%	10.4	15.2
North Plant Dike						
1 + 25 100' L Center Line	626'	7/16/74	MD-290 ✓	96.3%	11.7	9.5
North Plant Dike						
3 + 50 130' L Center Line	630.5	7/16/74	MD-377 ✓	95.4%	19.7	15.2
North Plant Dike 0 + 80 160' L Center Line	629'	1/31/74	MD-360 ✓	86.4%	20.6	15.2

Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002.

BLOCK 22 CONT.:

~~AS REQUIRED BY SPECIFICATION; OR THAT THE SPECIFIED ROLLING WAS ADEQUATE. FS~~ 10/28/77

Dear 10/27/77 Jules Lopez 10/27/77

MD360 DELETED BASED - V ERROR BY U.S.T. AS IDE FILED IN CPCO LETTER 375 FQA 79 DATED 11/7/79 ATTACHED.

VED 10/28/77

$ 5,150.80 PO Order 10/28/77 PAC 10/28/77

NONCONFORMANCE REPORT (CONT'D) PAGE 3 OF 4 NCR NO 1005

BLOCK 22 CONTINUED:

Spec. (210), Section 12.1 states in part that the water content during compaction shall not be more than 2 percentage points below or above optimum moisture content. The tests listed in this NCR were taken after proper compaction was achieved. This test procedure was accepted for the tests listed in this NCR by Project Engineering in letter #BEBC-1859. (copy attached) The Project Engineering Acceptance clearly addresses the fact that tests taken after compaction may have a different moisture than the moisture during compaction. As there are no specified restrictions on in place soil moisture content, after compaction, this condition is not unacceptable or indeterminate. No NCR is therefore required.

10/28/77

BLOCK 22 CONTINUED

THE ABOVE DISPOSITION APPLIES TO ALL ITEMS WITH MOISTURE CONTENT ABOVE OR BELOW 2% OF OPTIMUM MOISTURE. THE FACT THAT THESE ARE NOT NONCONFORMING CONDITIONS IS FURTHER SUPPORTED BY PROJECT ENGINEERING LETTER #BEBC-1998

FOR THE TEST TAKEN AT NORTH PLANT DIKE STATION 07+50 WITH NONCONFORMING COMPACTION, ROUTE TO PROJECT ENG. FOR DISPOSITION.

JPBetts 11/8/77

Block # 23 Project Engineering Disposition (Contd. from page 1):

An area away from Q-listed limits per dwg. C-45.

Since adjacent tests to MD-360 indicates acceptable density and there are no safety implications due to the location of test MD-360, Project Engineering concludes that the soil represented by test MD-360 be "used as is" with no additional testing.

2-27-78

2-27-78

2/27/78

Rao 2/27/78

BLOCK 23 Cont,

Project Engineering has ~~xx~~ added to its disposition. Refer to attached IOM (L. H. Curtis to L. A. Dreisbach, 4-24-80, File No. 0535.3, C-0465, C-211-PR).

Jim Zimmer HWD
5-19-80 RB

DRVC Generated in Ann Arbor

REM C-3717

No Dwg. / Spec. Change REQ'D.

NONCONFORMANCE REPORT (CONT'D) 20. PAGE 5 OF 10 19. NCR NO. 1005

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS
			✓

J. A. Gilmartin 5/21/80 — PROJECT FIELD ENGINEER — DATE
P. Grew for E. Lutz 5/21/80 — PROJECT ENGINEER — DATE
[signature] 5/21/80 — PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

24. Disposition Concurrence Item

REWORK	REJECT	REPAIR	USE AS IS

PROJECT FIELD ENGINEER — DATE
PROJECT ENGINEER — DATE
PROJECT CONSTR QC ENGINEER — DATE
AUTHORIZED INSPECTOR — DATE

Bechtel Associates Professional Corporation

Inter-office Memorandum

BEBC-1859

To J. F. Newgen

Subject Midland Plant Units 1 & 2
Job 7220
Quality Action Report
QAR No. SD-40

Copies to File: 0274, C-0467.1

S. Afifi
J. Klacking

Date September 30, 1977

From R. L. Castleberry

Of Engineering

At Ann Arbor

RECEIVED
OCT 0 5 1977
BECHTEL POWER CORP.
JOB 7220
PER _____

Reference: 1) BCBE-1533 dated 8/15/77

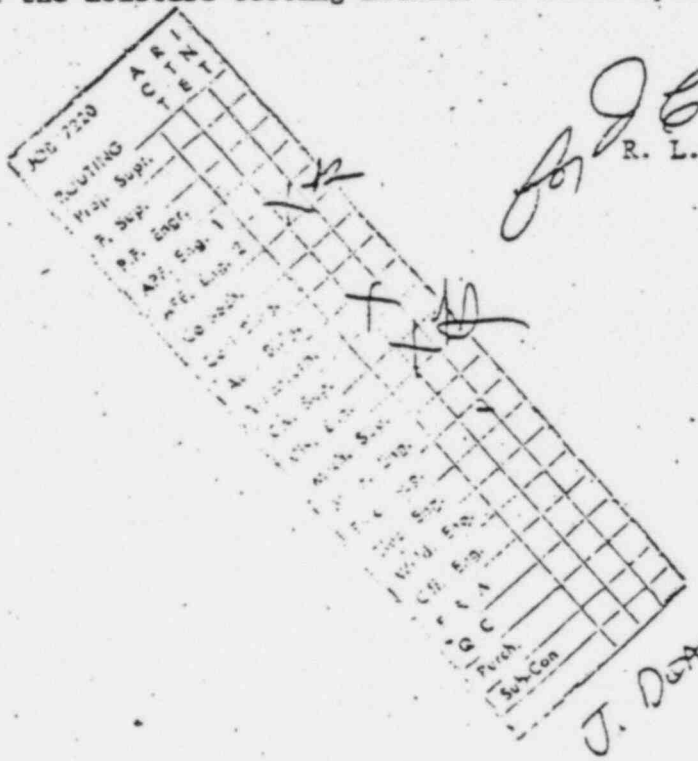
This is a complete response to Reference 1.

It should be noted that it is ideal to control the moisture of backfill material at the borrow areas by conditioning. It is true that moisture content tests should be conducted at the borrow areas in order to establish the control to meet the specification requirements. However, in the placing of soil in large quantities, it should be noted that after placement and compaction, the moisture is not necessarily the same due to drying and mixing with other loads. This implies that a moisture content check is needed after the compaction is acheived. Therefore, the procedure used to take the moisture content tests after compaction would not have direct impact on the quality of work.

Based on the above, we agree with field and backfill placed prior to modification of the moisture testing methods to be accepted as is.

for R. L. Castleberry

SR/bkp
9/30/5



J. Dietz

COLLECTED COPY

PAGE 4 OF 4 NCR 1005
OF 83 5-19-80
6 OF 10 TWD 5-21-80

Bechtel Associates Professional Corporation

Inter-office Memorandum

TELECOPY

BERC- 1998

To J. F. Newgen

Date December 15, 1977

Subject Midland Plant Units 1 & 2
Job 7220
Moisture Requirements for Backfill

From R. L. Castleberry

Of Engineering

Copies to File: 0274, C-210, C-208

At Ann Arbor

S. Afifi

Reference: 1. BCBE-1669 dated 11/18/77

This is a complete response to Reference 1.

The moisture content of the soil should be within 2% of optimum during placement and compaction. However, this property of the soil is not necessarily a measure of its adequacy after compaction.

The primary goal is to obtain the specified dry density. In order to achieve this end, certain means are prescribed; e.g., maximum lift thickness, specified compactive effort and controlled moisture content.

Soil which has been tested a few days following compaction and found to have suitable dry density should not be rejected solely on the basis that its moisture content is not within 2% of optimum.

for J C Hinds
R. L. Castleberry

GAT/sg
12/15/5

7 of 10 WD 5-11-80
OF 83 5-19-80

Bechtel Associates Professional Corporation

Inter-office Memorandum

To L.A. Dreisbach

Date April 25, 1980

Subject Midland Plant Units 1 and 2
Bechtel Job 7220
Quality Problem Response
Request: QA Action Item 175-a

From L.H. Curtis

Of Engineering

At Ann Arbor

Copies to W. Barclay
L. Curtis
V. Manta
R. Rixford
J.O. Wanzeck
Com Log

File 0535.3, C-0465, C-211-PR

Job 7220-QA-Item 4/69
1-78
Log No. 493 File No.
Response Req'd Date
QA Action Item No.

Route	Init.	Act	Comment
PQAE			
Resp. Cor			
Elect (L)			
Civ/Mech			
Equip/Weld			
Instr.			
Tm Ovr			
Trend			

Reference CPCo letter Serial 375 FQA 79, 11/7/79

This is a complete response to the referenced memorandum transmitted via the subject QPRR.

The following paragraphs are numbered to correspond to those indicated in the referenced letter.

NCR 1004:

1. Project engineering dispositioned a corrected copy of NCR 1004 on October 24, 1979. This copy of the NCR did not include the failing test MD-1311. As recommended in the referenced letter, NCR 1004 should be reopened to include test MD-1311.

   Test MD-1311 is located in the vicinity of the diesel generator building. A review of boring log DG-20 and cross hole CH-13 indicates that the density is acceptable. In addition, the diesel generator building area will be dewatered to eliminate liquefaction potential. Based on this, project engineering recommends that test MD-1311 be accepted as is.

2. Project engineering concurs that the evaluation of MDR-686 was based on boring log SW-5 and not SWS-5.

3. For disposition of MDR-691, see Item 6. The previous disposition considered boring SWP-1 to review the material that existed prior to construction.

4. An evaluation of borings DG-28, DG-18, DG-20, and cross hole CH-13 for test MDR-671 indicates acceptable material at el 612', 612', 613', AND 614' RESPECTIVELY. Also, the area between the turbine building and diesel generator building will be dewatered, thereby eliminating liquefaction potential. Based on this, test MDR-671 is considered acceptable.

NCR 1005

HWD
5-21

5. Disposi ion of tests MDR-621 and MDR-672 is addressed in Item 6. Boring SWP-1 was previously utilized to review the material that was present before construction.

6. Project engineering concurs that the orientation used for locating test MDR-686 was different from that used to locate tests MDR-621, MDR-685, MDR-672, and MDR-691. However, project engineering has reevaluated these tests considering the two possible orientations and offers the following.

   a. Orientation Considered - Northeast wall of service water pump structure (SWPS) as north wall Tests - MDR-621, MDR-685, MDR-691, MDR-686 at el 582.7', 589', 595', and 596', respectively

      Borings PD-37, SW-5, and SW-13 indicate high blowcounts with acceptable material. Boring SW-5 indicates 151 blows/foot, at el 588', boring SW-13 indicates 40 blows/7 inches at el 597.5', and boring PD-37 indicates 72 blows/foot at el 552.5' and 45 blows/ foot at el 584'. These high blowcounts reveal hard soil. In addition, the proposed piling and dewatering system would assure the structural integrity of the SWPS.

      Test - MDR-672 at el 582.5'

      Borings SW-4, SW-5, SW-7 and SW-8 indicate blowcounts of 160/foot, 151/foot, 150/foot, and 130/foot at the end of the hole. These high blowcounts indicate hard soil toward the end of the borings. It is noted that these borings do not extend to the elevation of test MDR-672 at 582.5'. However, the proposed piling will carry the structural loads, and the structural integrity of the SWPS will not be affected by the soil represented by the failing test.

   b. Orientation Considered - Northwest wall of the SWPS as north wall

      Tests - MDR-621, MDR-685, MDR-672, MDR-691, and MDR-686

      Borings SW-1, SW-3, SW-4, SW-5, SW-7, and SW-8 reveal high blowcounts indicating hard soil at el 608', 585.5', 596', 588', 598.5', AND 588' respectively. The proposed dewatering system and piling would ensure the structural integrity of the SWPS. Therefore, the soil represented by the failing tests would not be detrimental to the structure.

PAGE 8 of 8
NCR 1005

NCR 1005:

1. Project engineering has not received a copy of the reopened NCR 1005. However, the following is the input required to redisposition the NCR.

   The variance in the moisture content from allowable ±2% of the optimum for tests MD-227, 142, 1326, 1328, 1412, 290, and 377 ranges from 0.1% to 2.8%. Tests MD-227, 142, 143, 290, and 377 are located outside the Q-listed area as indicated in Drawing 7220-C-45. Therefore, these tests should be taken off the NCR. No safety-related structure is planned to be located in the areas represented by these tests. Also, these tests would not have an adverse effect on other areas.

   Test MD-1328 appears to be a retest for test MD-1326. The test results indicate that the area was reworked. The density of tests MD-1328 and MD-1412 is very high. Considering the moisture content of -3.0% and -4.8% for tests MD-1328 and MD-1412, it seems rather difficult to obtain compactions of 103.3% and 106.4%, respectively. This indicates that the tests could be erroneous. However, boring logs SWL-2 and PD-18 indicate acceptable soils in the vicinity of tests MD-1328 and MD-1412. The areas represented by these tests will be encompassed by the dewatering system. Based on this, it is concluded that the deviation of moisture from the specification requirements would not affect the performance of the soil.

2. Project engineering concurs that test MD-360 should be deleted from the NCR. In addition, tests MD-227, 142, 143, 290, and 377 should also be deleted because they fall outside the Q-listed area.

M. Elagely

For: L.H. Curtis

BD/SR/js
4/7/4

PAGE X of X
NCR 1005

Response Requested: No

Midland Project: P.O. Box 1963, Midland, Michigan 48640 - Area Code 517 631-00.

November 7, 1979

Mr L A Dreisbach
Bechtel Power Corp
PO Box 2167
Midland, MI 48640

MIDLAND PROJECT - STATUS OF NCR QF-199
File: 16.3.4 & 16.3.6 Serial: 375FQA79

To close out NCR QF-199, we reviewed the dispositions of Bechtel NCR 1004 and NCR 1005 which were written on the failing tests identified in NCR QF-199. We have reviewed Bechtel NCR 1004 which was written to cover the Structural Backfill tests MDR 621, 671, 672, 685, 686, 691 and Plant Area Fill test MD 1311, from CPCo NCR QF-199, and have the following comments:

(1) Plant Area Fill failing test MD 1311 with 66.1% compaction has been left off the final NCR 1004 and this failing test has not been dispositioned.

Therefore, NCR 1004 should be reopened to include failing test MD 1311 and this failing test dispositioned or a new NCR written to cover this.

(2) The disposition for MDR 606 at elevation 596 states in part, "is acceptable based on the evaluation of the boring SWS-5." Is boring SWS-5 supposed to be boring SW-5?

(3) The disposition for MDR 691 at elevation 595 states in part, "is acceptable based on the evaluation of the boring SWP-1 and SW-13. This boring reveals high blow counts between elevation 587 and 608." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing test MDR 691) and (b) boring SW-13 only goes down to elevation 597.9.

(4) The disposition for MDR 671 at elevation 613 states in part, "is acceptable based on the evaluation of boring DS-20 and DS-23."

These borings are approximately 40 feet to the south of failing test MDR 671 and, therefore, do not seem representative of the failing test area.

(5) The disposition for MDR 621 at elevation 582.7 and MDR 672 at elevation 582.5 states in part, "are acceptable based on evaluation of borings SWP-1, SW-8, SW-3, SW-5 and SW-7. These borings indicate high blow counts at elevation 582.5 and 582.7 feet." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing tests MDR 621 and 672) and (b) borings SW-8, SW-3, SW-5 and SW-7 only go down to elevation 588.0, 585.5, 588.0 and 598.5, respectively.

(6) The disposition for MDR 621, 672, 685, and 691 used the North wall of the Service Water Intake Structure as the wall that faces Northeast and the East wall as the wall that faces Southeast, while the disposition for MDR 686 used the North wall as the wall that faces Northwest and East wall as the wall that faces Northeast. The proper orientation of these tests must be determined and dispositioned accordingly or disposition these tests assuming the North wall as the wall that faces Northeast and then disposition these tests assuming the North wall as the wall that faces Northwest.

We have reviewed Bechtel NCR 1005 which was written to cover the soil tests North Plant Dike MD 142, MD 143, MD 290, MD 377, North Plant Dike MD 360 moisture problem, West Plant Dike MD 227 and Plant Area Fill MD 1326, 1328, and 1412 from CPCo NCR QF-199, and have the following comments:

(1) The Project Engineering disposition on NCR 1005 is unacceptable based on letter BEDC-2694 which states in part, "the moisture content during compaction is the governing control for acceptance. Compaction of any given lift is not considered complete until the testing requirement for moisture content plus density are satisfied. Therefore, during compaction is interpreted as the test result obtained from the inplace tests taken for moisture and density after placements and compaction."

Therefore, NCR 1005 should be reopened and redispositioned.

(2) MD-360 should be deleted from this NCR based on the fact that density test MD-360 was transmitted to Quality Control from US Testing with a typographical error - BMP 113 should have been BMP 118 resulting in a percent compaction of 96.4 and not 86.4 and an optimum moisture content of 21.4% and not 15.2%.

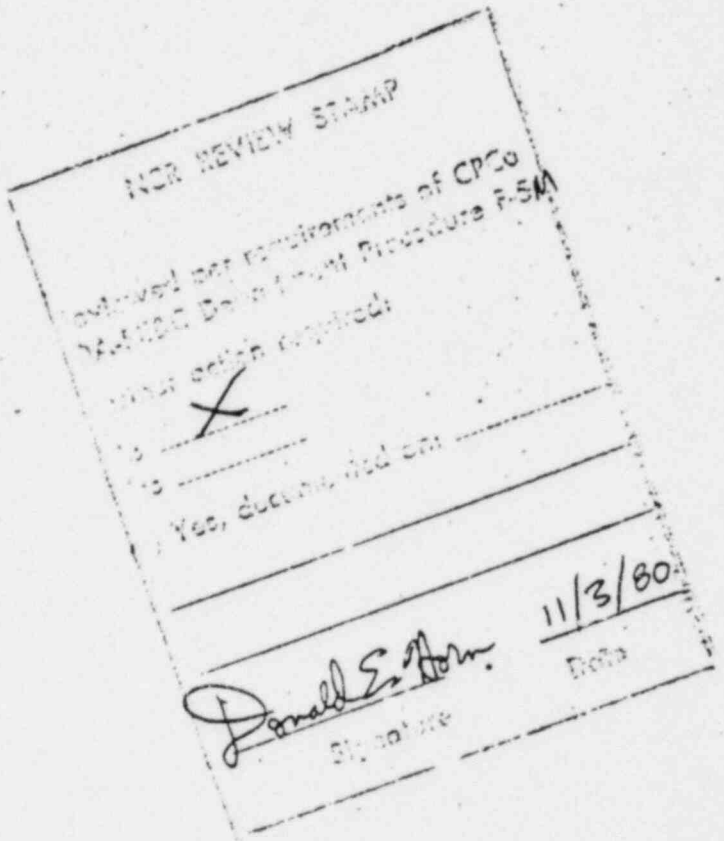
Resolving the items above will close out NCR QF-199. Your expedient cooperation in resolving these items would be appreciated.

D. E. Horn for

W R Bird
Section Head - QAE, Midland

WRB/DEH

CC TCCooke
JJCorley
GSKeeley
BWMarguglio
DBMiller



Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

May 21, 1980

Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Attention: W. R. Bird

Job 7220 Midland Project
CPCo Letter 375FQA79
Complete Response
LAD-1560 Action Item 175A

Dear Mr. Bird:

The subject CPCo letter questioned dispositions on Bechtel NCR's 1004 and 1005.

The following response is submitted. Paragraphs are numbered to correspond to those indicated in the subject letter.

NCR 1004

1. Test MD-1311 is located in the vicinity of the diesel generator building. A review of boring log DG-20 and cross hole CH-13 indicates that the density is acceptable. In addition, the diesel generator building area will be dewatered to eliminate liquefaction potential. Based on this, project engineering recommends that test MD-1311 be accepted as is.

   NCR 1004 has been reopened to include test MD-1311 as recommended.

2. The evaluation of MDR-686 was based on boring log SW-5 and not SWS-5. NCR 1004 has been reopened and this correction made.

3. For disposition of MDR-691, see Item 6. The previous disposition considered boring SWP-1 to review the material that existed prior to construction.

4. An evaluation of borings DG-28, DG-18, DG-20, and cross hole CH-13 for test MDR-671 indicates acceptable material at el 612', 612', 613', and 614', respectively. Also, the area between the turbine building and diesel generator building will be dewatered, thereby eliminating liquefaction potential. Based on this, test MDR-671 is considered acceptable.

5. Disposition of tests MDR-621 and MDR-672 is addressed in Item 6. Boring SWP-1 was previously utilized to review the material that was present before construction.

6. Project engineering concurs that the orientation used for locating test MDR-686 was different from that used to locate tests MDR-621, MDR-685, MDR-672, and MDR-691. However, project engineering has reevaluated these tests considering the two possible orientations and offers the following:

   a. Orientation Considered - Northeast wall of service water pump structure (SWPS) as north wall Tests - MDR-621, MDR-685, MDR-691, MDR-686 at el 582.7', 589', 595', and 596', respectively.

      Borings PD-37, SW-5, and SW-13 indicate high blowcounts with acceptable material. Boring SW-5 indicates 151 blows/foot, at el 588', boring SW-13 indicates 40 blows/7 inches at el 597.5', and boring PD-37 indicates 72 blows/foot at el 552.5' and 45 blows/foot at el 584'. These high blowcounts reveal hard soil. In addition, the proposed piling and dewatering system would assure the structural integrity of the SWPS.

      Test - MDR-672 at el 582.5'.

      Borings SW-4, SW-5, SW-7 and SW-8 indicate blowcounts of 160/foot, 151/foot, 150/foot, and 130/foot at the end of the hole. These high blowcounts indicate hard soil toward the end of the borings. It is noted that these borings do not extend to the elevation of test MDR-672 at 582.5'. However, the proposed piling will carry the structural loads, and the structural integrity of the SWPS will not be affected by the soil represented by the failing test.

   b. Orientation Considered - Northwest wall of the SWPS as north wall.

      Tests - MDR-621, MDR-685, MDR-672, MDR-691, and MDR-686.

      Borings SW-1, SW-3, SW-4, SW-5, SW-7, and SW-8, reveal high blowcounts indicating hard soil at el 608', 585.5', 596', 588', 598.5', and 588', respectively. The proposed dewatering system and piling would ensure the structural integrity of the SWPS. Therefore, the soil represented by the failing tests would not be detrimental to the structure.

NCR 1005

1. NCR 1005 has been reopened and redispositioned as follows:

   The variance in the moisture content from allowable + 2% of the optimum for tests MD-227, 142, 1326, 1328, 1412, 290, and 377 ranges from 0.1% to 2.8%. Tests MD-227, 142, 143, 290, and 377 are located outside the Q-listed area as indicated in Drawing 7220-C-45.

   Therefore, these tests need not be included in the NCR. No safety-related structure is planned to be located in the areas represented by these tests. Also, these tests would not have an adverse effect on other areas.

   Test MD-1328 appears to be a retest for test MD-1326. The test results indicate that the area was reworked. The density of tests MD-1328 and MD-1412 is very high. Considering the moisture content of -3.0% and -4.8% for tests MD-1328 and MD-1412, it seems rather difficult to obtain compactions of 103.3% and 106.4% respectively. This indicates that the tests could be erroneous. However, boring logs SWL-2 and PD-18 indicate acceptable soils in the vicinity of tests MD-1328 and MD-1412. The areas represented by these tests will be encompassed by the dewatering system. Based on this, it is concluded that the deviation of moisture from the specification requirements would not affect the performance of the soil.

2. NCR 1005 has been reopened and test MD-360 deleted as recommended.

If you need additional information, please contact M. A. Dietrich of this office.

Very truly yours,

LADreisbach

L. A. Dreisbach
Project Quality Assurance
Engineer

LAD/MAD/sjc

cc: J. Corley
B. Marguglio
D. Miller

Bechtel Associates Professional Corporation

Inter-office Memorandum

To L.A. Dreisbach

Date April 25, 1980

Subject Midland Plant Units 1 and 2
Bechtel Job 7220
Quality Problem Response
Request: QA Action Item 175-a

From L.H. Curtis

Of Engineering

At Ann Arbor

Copies to W. Barclay
L. Curtis
V. Manta
R. Rixford
J.O. Wanzeck
Com Log

File 0535.3, C-0465, C-211-PR

Job 7220-QA-Receipt 4/29/80
I-80-
Log No. 433 File No.
Response Req'd Date
QA Action Item No.

Route	Init.	Act	Comment
PQAE			
Resp. Cor.			
Elect. (.)			
Civil/Mech			
Piping/Weld Insp.			
Turn Over			
Trend			
NCR-1004			File

Reference CPCo letter Serial 375 FQA 79, 11/7/79

This is a complete response to the referenced memorandum transmitted via the subject QPRR.

The following paragraphs are numbered to correspond to those indicated in the referenced letter.

NCR 1004:

1. Project engineering dispositioned a corrected copy of NCR 1004 on October 24, 1979. This copy of the NCR did not include the failing test MD-1311. As recommended in the referenced letter, NCR 1004 should be reopened to include test MD-1311. OK

   Test MD-1311 is located in the vicinity of the diesel generator building. A review of boring log DG-20 and cross hole CH-13 indicates that the density is acceptable. In addition, the diesel generator building area will be dewatered to eliminate liquefaction potential. Based on this, project engineering recommends that test MD-1311 be accepted as is.

2. Project engineering concurs that the evaluation of MDR-686 was based on boring log SW-5 and not SWS-5.

3. For disposition of MDR-691, see Item 6. The previous disposition considered boring SWP-1 to review the material that existed prior to construction.

4. An evaluation of borings DG-28, DG-18, DG-20, and cross hole CH-13 for test MDR-671 indicates acceptable material at el 612', 613', and 614'. Also, the area between the turbine building and diesel generator building will be dewatered, thereby eliminating liquefaction potential. Based on this, test MDR-671 is considered acceptable.

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6. Project engineering concurs that the orientation used for locating test MDR-686 was different from that used to locate tests MDR-621, MDR-685, MDR-672, and MDR-691. However, project engineering has reevaluated these tests considering the two possible orientations and offers the following.

   a. Orientation Considered - Northeast wall of service water pump structure (SWPS) as north wall Tests - MDR-621, MDR-685, MDR-691, MDR-686 at el 582.7', 589', 595', and 596', respectively

      Borings PD-37, SW-5, and SW-13 indicate high blowcounts with acceptable material. Boring SW-5 indicates 151 blows/foot, at el 588', boring SW-13 indicates 40 blows/7 inches at el 597.5', and boring PD-37 indicates 72 blows/foot at el 552.5' and 45 blows/ foot at el 584'. These high blowcounts reveal hard soil. In addition, the proposed piling and dewatering system would assure the structural integrity of the SWPS.

      Test - MDR-672 at el 582.5'

      Borings SW-4, SW-5, SW-7 and SW-8 indicate blowcounts of 160/foot, 151/foot, 150/foot, and 130/foot at the end of the hole. These high blowcounts indicate hard soil toward the end of the borings. It is noted that these borings do not extend to the elevation of test MDR-672 at 582.5'. However, the proposed piling will carry the structural loads, and the structural integrity of the SWPS will not be affected by the soil represented by the failing test.

   b. Orientation Considered - Northwest wall of the SWPS as north wall

      Tests - MDR-621, MDR-685, MDR-672, MDR-691, and MDR-686

      Borings SW-1, SW-3, SW-4, SW-5, SW-7, SW-8, and SW-9 reveal high blowcounts indicating hard soil at el 608', 585.5', 596', 588', 598.5', 588', and 603.3', respectively. The proposed dewatering system and piling would ensure the structural integrity of the SWPS. Therefore, the soil represented by the failing tests would not be detrimental to the structure.

NCR 1005:

1. Project engineering has not received a copy of the reopened NCR 1005. However, the following is the input required to redisposition the NCR.

   The variance in the moisture content from allowable ±2% of the optimum for tests MD-227, 142, 1326, 1328, 1412, 290, and 377 ranges from 0.1% to 2.8%. Tests MD-227, 142, 143, 290, and 377 are located outside the Q-listed area as indicated in Drawing 7220-C-45. Therefore, these tests should be taken off the NCR. No safety-related structure is planned to be located in the areas represented by these tests. Also, these tests would not have an adverse effect on other areas.

   Test MD-1328 appears to be a retest for test MD-1326. The test results indicate that the area was reworked. The density of tests MD-1328 and MD-1412 is very high. Considering the moisture content of -3.0% and -4.8% for tests MD-1328 and MD-1412, it seems rather difficult to obtain compactions of 103.3% and 106.4%, respectively. This indicates that the tests could be erroneous. However, boring logs SWL-2 and PD-18 indicate acceptable soils in the vicinity of tests MD-1328 and MD-1412. The areas represented by these tests will be encompassed by the dewatering system. Based on this, it is concluded that the deviation of moisture from the specification requirements would not affect the performance of the soil.

2. OK Project engineering concurs that test MD-360 should be deleted from the NCR. In addition, tests MD-227, 142, 143, 290, and 377 should also be deleted because they fall outside the Q-listed area.
   Disposition as No 9

M. Elgaaly
FOR: L.H. Curtis

BD/SR/js
4/7/4

Response Requested: No

Midland Project: P.O. Box 1963, Midland, Michigan 48640 - Area Code 517 631-0951

November 7, 1979

Mr L A Dreisbach
Bechtel Power Corp
PO Box 2167
Midland, MI 48640

MIDLAND PROJECT - STATUS OF NCR QF-199
File: 16.3.4 & 16.3.6 Serial: 375FQA79

To close out NCR QF-199, we reviewed the dispositions of Bechtel NCR 1004 and NCR 1005 which were written on the failing tests identified in NCR QF-199. We have reviewed Bechtel NCR 1004 which was written to cover the Structural Backfill tests MDR 621, 671, 672, 685, 686, 691 and Plant Area Fill test MD 1311, from CPCo NCR QF-199, and have the following comments:

(1) Plant Area Fill failing test MD 1311 with 66.1% compaction has been left off the final NCR 1004 and this failing test has not been dispositioned.

Therefore, NCR 1004 should be reopened to include failing test MD 1311 and this failing test dispositioned or a new NCR written to cover this.

(2) The disposition for MDR 686 at elevation 596 states in part, "is acceptable based on the evaluation of the boring SWS-5." Is boring SWS-5 supposed to be boring SW-5?

(3) The disposition for MDR 691 at elevation 595 states in part, "is acceptable based on the evaluation of the boring SWP-1 and SW-13. This boring reveals high blow counts between elevation 587 and 608." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing test MDR 691) and (b) boring SW-13 only goes down to elevation 597.9.

(4) The disposition for MDR 671 at elevation 613 states in part, "is acceptable based on the evaluation of boring DG-20 and DG-23."

These borings are approximately 40 feet to the south of failing test MDR 671 and, therefore, do not seem representative of the failing test area.

(5) The disposition for MDR 621 at elevation 582.7 and MDR 672 at elevation 582.5 states in part, "are acceptable based on evaluation of borings SWP-1, SW-8, SW-3, SW-5 and SW-7. These borings indicate high blow counts at elevation 582.5 and 582.7 feet." Contrary to this statement, (a) boring SWP-1 is not a valid boring for this disposition because it was taken 10-28-74 (two years prior to the failing tests MDR 621 and 672) and (b) borings SW-8, SW-3, SW-5 and SW-7 only go down to elevation 588.0, 585.5, 588.0 and 598.5, respectively.

(6) The disposition for MDR 621, 672, 685, and 691 used the North wall of the Service Water Intake Structure as the wall that faces Northeast and the East wall as the wall that faces Southeast, while the disposition for MDR 686 used the North wall as the wall that faces Northwest and East wall as the wall that faces Northeast. The proper orientation of these tests must be determined and dispositioned accordingly or disposition these tests assuming the North wall as the wall that faces Northeast and then disposition these tests assuming the North wall as the wall that faces Northwest.

We have reviewed Bechtel NCR 1005 which was written to cover the soil tests North Plant Dike MD 142, MD 143, MD 290, MD 377, North Plant Dike MD 360 moisture problem, West Plant Dike MD 227 and Plant Area Fill MD 1326, 1328, and 1412 from CPCo NCR QF-199, and have the following comments:

(1) The Project Engineering disposition on NCR 1005 is unacceptable based on letter BEDC-2694 which states in part, "the moisture content during compaction is the governing control for acceptance. Compaction of any given lift is not considered complete until the testing requirement for moisture content plus density are satisfied. Therefore, during compaction is interpreted as the test result obtained from the inplace tests taken for moisture and density after placements and compaction."

Therefore, NCR 1005 should be reopened and redispositioned.

(2) MD-360 should be deleted from this NCR based on the fact that density test MD-360 was transmitted to Quality Control from US Testing with a typographical error - BMP 113 should have been BMP 118 resulting in a percent compaction of 96.4 and not 86.4 and an optimum moisture content of 21.4% and not 15.2%.

Resolving the items above will close out NCR QF-199. Your expedient cooperation in resolving these items would be appreciated.

D. E. Horn for

W R Bird
Section Head - QAE, Midland

WRB/DEH

CC TCCooke
JLCorley
GSKeeley
BWMarguglio
DBMiller

Bechtel Power Corporation

Interoffice Memorandum

Copy to Ham.

To Len Dreisbach

File No.

Subject Job 7220 Midland Project
QF-199; Soil Borings
0-1899

Date August 22, 1978

From J.F. Newgen

Of Construction

At Midland, MI Ext.

Copies to J.S. Dean
J.W. Morris
W.L. Barclay
L.F. Stornetta

References: 1) BEBC-2045, dated 1-13-78
2) GLR-05-78-244, dated 5-12-78

This memo is written to request an extension on the completion of the subject soil borings required to disposition NCR 1004. (See Reference 1)

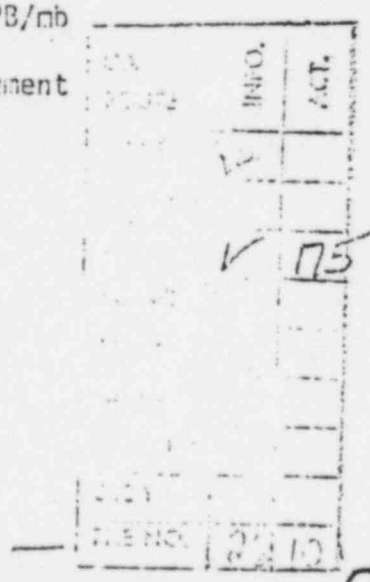
Reference 2) stated that the subject borings would be completed by August 31, 1973, however, construction in the areas for the borings is not yet complete due to delays and material delivery problems. Construction does not consider it economical to take special action such as building temporary ramps, etc. to facilitate the drilling rig to take these borings. Therefore, the soil borings will not be completed by August 31, 1978.

Field engineering has discussed this with Project Engineering (See Telcon) and they have no problem with delaying the boring until Spring. To this end, construction will try to complete the borings by May 1, 1979.

J.F. Newgen

JFN/JPB/mb

Attachment



See E-7X-326

QF199 41-A7-175

5024-(2-74)

Telephone call

BY J. Dea OF Atsite

TO S. Rao OF AAO

DATE 8/17/78 19 TIME

SUBJECT Borings Req'd. to resolve NCR-1004 JOB NO.
(BEBC-2045 dtd. 1/13/78)

ROUTE J. Bettess
G. Pickelsimer
Kl. Netzel
J. Morris

S. Rao indicated that the borings req'd. in the referenced letter could be delayed until the Spring of 1979, if necessary, due to field requirements.

(Note: Field will attempt to schedule these borings sometime in late 1978.)

MEMORANDUM

BECHTEL POWER CORP
JOB 7220

Jim Betts
Dany Richardson

DATE 5/15/78

OF-199 ; Soil Borings

CA	
ROUTE	
INITIAL	
FILE	
MTNG	
PLACE	
INST.	
SEND	
SECY	
FILE NO.	2610 OF 199

When you request a further extention to complete the four borings please address the following:

1. Project Engineering concurs that there is little concern and a further delay in obtaining the replacement data is not detrimental.

2. Based on the above it is not considered economical to take special action such as building a temporary ramp to facilitate the drill rig.

3. A realistic date when the borings will be taken.

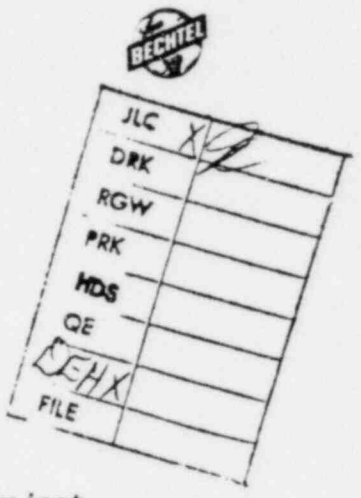
This will satisfy both Bechtel and QA organizations.

CONSUMERS POWER COMPANY
RECEIVED
MAY 12 1978
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

May 12, 1978



Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
Interim Response to CPCo NCR QF-199
GLR-05-78-244

Dear Mr. Corley:

Reference: (1) G. Richardson letter to J. Corley, dated 3/1/78 (GLR-03-78-094)
(2) G. Richardson letter to J. Corley, dated 1/24/78 (GLR-01-78-032)

This letter is to provide an update on the actions being taken to resolve the subject nonconformance report which describes problems with testing of soils.

Bechtel NCR-1005 has been dispositioned by Project Engineering as "Use-As-Is" and was closed on 3/23/78. Bechtel NCR-1004 remains open.

The previous letter indicated that the borings that must be taken to resolve NCR-1004 would be completed by 6/30/78. Recent changes in the construction schedule make this impossible. The area where the borings are to be taken will not be accessible to the necessary equipment until late summer. Completion of these borings is now anticipated by 8/31/78.

Very truly yours,

G. L. Richardson

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/sw

cc: W. Barclay
J. Klacking
J. Milandin
P. Martinez
J. Newgen
J. Hurley

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

March 1, 1978

CONSUMERS POWER COMPANY
RECEIVED
MAR 2 1978
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR QF-199
GLR-03-78-094

Dear Mr. Corley:

Reference: G. Richardson to J. Corley, GLR-01-78-032, dated 1/24/78

The referenced letter indicated the borings to be taken to resolve the remaining in place soils problems described in the referenced NCR would be completed by 3/20/78. Field Engineering has now informed me that these borings will not be completed until 6/30/78 due to the impracticability of completing them at this time. Field Engineering has also discussed this with Project Engineering who has indicated that the borings are not necessary to facilitate the planned cooling pond fill.

Very truly yours,

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/sw

cc: W. Barclay
J. Klacking
J. Milandin
J. Newgen
P. Martinez

CONSUMERS POWER COMPANY
RECEIVED
JAN 24 1978
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

January 24, 1978

JLC	
DRK	
RGW	
PRK	
QE	
FILE	

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR QF-199
GLR-01-78-032

Dear Mr. Corley:

The following is in response to the above subject nonconformance report which identifies failing soil tests for moisture and density with no retests taken.

Project Engineering has requested additional information prior to its formal disposition of NCR-1004. The need for additional information is documented on IOM BEBC-2045 dated 12/13/77, from R. L. Castleberry to J. F. Newgen, in which four standard penetration test borings are to be taken in the nonconforming area.

It is expected that the soil borings and the final disposition for NCR-1004 will be completed by 3/20/78.

NCR-1005 has not been dispositioned by Project Engineering. This NCR was forwarded to Ann Arbor on 1/19/78. The delay in obtaining resolution to this NCR was the anticipation of IOM BEBC-1998 resolving this nonconforming condition.

Because of the additional work involved in obtaining resolution to these NCRs, we request an extension of this subject nonconformance be given to March 20, 1978. Should you desire additional information on this subject, do not hesitate to bring it to my attention.

Very truly yours,

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/JGH/sw

cc: W. Barclay
J. Klacking
J. Milandin
P. Martinez
J. Newgen

Bechtel Associates Professional Corporation

Inter-office Memorandum

BEBC- 2045

To J. F. Newgen

Date January 13, 1978

RECEIVED

JAN 16 1978

BECHTEL POWER CORP.
JOB 7220

Subject Midland Plant Units 1 & 2
Job 7220
Nonconformance Report
NCR-1004

From R. L. Castleberry

Of Engineering

At Ann Arbor

Copies to File: 0274, C-0465

G. L. Richardson
S. S. Afifi
F. E. Meyer
W. Barclay

We have reviewed NCR 1004 along with the other test reports furnished by field QC. At this time we are not able to make an evaluation based on the available information. Therefore, it is requested that standard penetration test borings in accordance with ASTM D1586-67 be obtained at the following locations. Visual classification of soils should be done at 5-foot intervals unless directed otherwise by the soils engineer.

I. In the Vicinity of the Diesel Generator Building

The following locations are approximate.

1) S-5040; E-250
2) S-5040; E-300

These borings shall be extended to an elevation of 610 feet.

II. In the Vicinity of the Service Water Pump Structure

1) S-5000; E-750
2) S-4980; E-780

These borings shall extend to an elevation of 580 feet.

Please note that the disposition of NCR 1004 will be delayed until we receive the results of the penetration tests mentioned above.

Please inform us of the boring schedule so that we can arrange to have a soils engineer present during the tests.

R. L. Castleberry

SR/bkp
1/10/1

Consumers Power Company

Midland Project: P.O. Box 1963, Midland, Michigan 48640 · Area Code 517 631-0951

December 21, 1977

Mr. G. L. Richardson
Bechtel Power Corp.
P.O. Box 2167
Midland, MI 48640

MIDLAND PROJECT - EXTENDING COMPLETION DATE TO NCR QF-199
File: 16.3.4 & 16.3.6 Serial: 212FQA77

Reference: (a) GLR-12-77-510 letter dated December 16, 1977, GLRichardson to JLCorley.

We have reviewed your letter GLR-12-77-510 requesting the corrective action due date to NCR QF-199 be extended to January 20, 1978 and grant this request.

J. L. Corley
Quality Assurance Superintendent

JLC/DEH

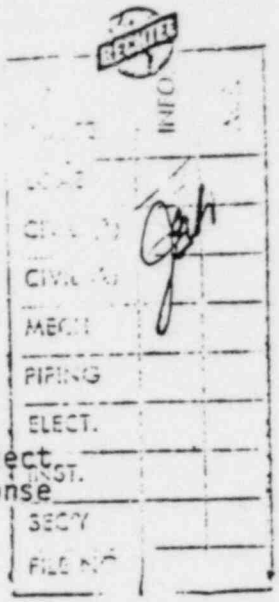
CC: WRBird
TCCooke
GSKeeley
BWMarguglio

JLC	
DRK	
RGW	
PRK	
QE	
FILE	16.3.4

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

December 16, 1977



Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR QF-199 Response
GLR-12-77-510

Dear Mr. Corley:

In response to the subject nonconformance report, the following actions have been taken.

NCR-1004 is currently being evaluated by Project Engineering; this delay was brought upon by the need for additional information supplied by the field. Project Engineering has indicated that the disposition will be completed on or before January 15, 1978.

NCR-1005 has been dispositioned by Field Engineering. This NCR is awaiting Project Engineering input before being accepted by Quality Control. It is expected that this NCR will be closed by December 30, 1977.

The underlying causes for this condition occurring were human error and lack of attention to detail. The actions taken to prevent this condition from recurring were taken in the form of a training session held on 12/14/77 for U.S. Testing personnel. In conjunction with this training session a list of all applicable proctors were developed to aid the inspector in obtaining correct values for density and moisture. It is felt that no additional corrective actions be taken in density tests MD-142 and MD-143 in which failing tests were marked passing since it occurred only in May of 1974 and has not been a recurring problem.

Because of the above two NCRs not being dispositioned, it is requested that the due date indicated on this nonconformance report be extended to Jan. 20, 1978. Should you desire additional information do not hesitate to bring it to my attention.

Very truly yours,

G. L. Richardson

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/JGH/sw

Bechtel Associates Professional Corporation

Inter-office Memorandum

TELECOPY

BEBC- 1998

To J. F. Newgen

Date December 15, 1977

Subject Midland Plant Units 1 & 2
Job 7220
Moisture Requirements for
Backfill

From R. L. Castleberry

Of Engineering

Copies to File: 0274, C-210, C-208

At Ann Arbor

S. Afifi

Reference: 1. BCBE-1669 dated 11/18/77

This is a complete response to Reference 1.

The moisture content of the soil should be within 2% of optimum during placement and compaction. However, this property of the soil is not necessarily a measure of its adequacy after compaction.

The primary goal is to obtain the specified dry density. In order to achieve this end, certain means are prescribed; e.g., maximum lift thickness, specified compactive effort and controlled moisture content.

Soil which has been tested a few days following compaction and found to have suitable dry density should not be rejected solely on the basis that its moisture content is not within 2% of optimum.

for J. E. Hink
R. L. Castleberry

GAT/sg
12/15/5

TRAINING RECORD
GROUP INSTRUCTION

Project or Location 7220 Midland Units 1 & 2

Instructor John Speltz Date 12-14-77

Subject Correct Soil Testing Data

Description of Training:

- - - The selection of proper lab data for the calculation of soil compaction is a prerequisite to reporting accurate results

- - - The use of the attached lab data summary chart will aid in preventing erroneous data selection.

- - - If identification is doubtful a sample should be procurred for laboratory testing.

ATTENDEES:

B. Thompson
W. Johnroe
R. Smith
N. McClintock
R. Lubbers

Telephone call

cc: ~~W.~~ Barclay
F. Teague
~~XXXXXX~~ A. Boos
S. Rao
G. Tuveson
G. Richardson
File: 2400

BY Jon G. Hook OF Site QA

TO S. Rao OF AAO

DATE Dec. 14 19 77 TIME 1:45

SUBJECT Dispositioning of NCR-1004 JOB NO. 7220

HOOK: What is the status of NCR-1004?

RAO: We received the needed additional information requested from J. F. Newgen via TWX that our response be delayed until Jan. 15, 1978. (NOTE: This TWX has not yet been sent)

HOOK:: So you feel that you need until Jan. 15, 1978 to disposition NCR-1004.

RAO: Yes.

ROUTE QC 07220 INIT

- PFQCE
- A. PFQCE
- CIVIL
- ELECT.
- PIPING
- MECH.
- WELDING
- QQC.
- RECEIVING
- ADM ASST

OPEN LOOP
☐ YES ☐ NO
DATE_____

RECEIVED
DEC 16 1977
QUALITY CONTROL
BECHTEL JOB 7220
SIGNATURE

0046 (12-67)

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

November 23, 1977

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR QF-199
GLR-11-77-482

Dear Mr. Corley:

In response to the above subject nonconformance the following is offered.

Bechtel Quality Control is still evaluating the condition and has not yet proposed the required corrective actions. It is anticipated that the corrective actions will be taken by the required date.

Should you desire additional information at this time, do not hesitate to bring it to my attention.

Very truly yours,

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/JGH/sw

cc: W. Barclay
J. Klacking
J. Milandin
J. Newgen
P. Martinez

JLC	
DRK	
RGW	
PRK	
QE	
FILE	

TELECOPY

Bechtel Power Corporation

Interoffice Memorandum

To R. L. Castleberry

File No.

Subject Job 7220 Midland Project
Backfill Moisture Requirement
Spec. C-210
BCDE-1669R

Date November 18, 1977

From J. F. Newgen

Of Construction

Copies to G. Richardson
B. Cheek
G. Tuveson
J. Dean

At Midland, MI Ext.

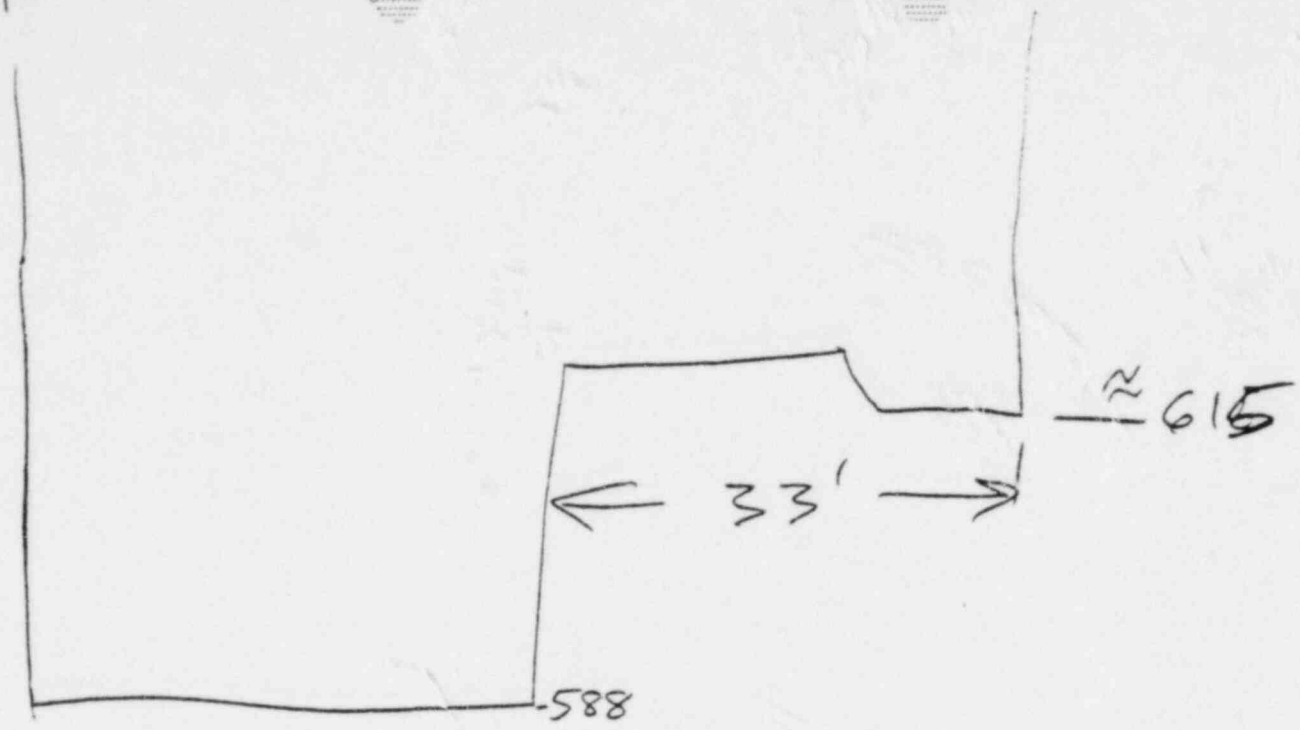
Confirming verbal requests; please provide written clarification of the 2% tolerence on backfill moisture content during compaction. Although moisture tests are taken both during and sometimes after compaction we have been verbally informed that for Zone I material moisture tests taken within a few days after compaction which do not fall within 2% of optimum moisture shall be cause for rejection of the fill, even though proper compaction is achieved. Information moisture tests taken more than a week after Zone I fill has been properly compacted are not so limited. For Zone II materials these limits can also be extended in accordance with previous written direction.

Your response is required by 11/30/77 in order to process documentation of backfill which was not placed in accordance with the verbal information above, if necessary.

J. F. Newgen

JFN/FGT/jae

from A-525



13×8=104
2'
106'

4×8=32'
1'=1'

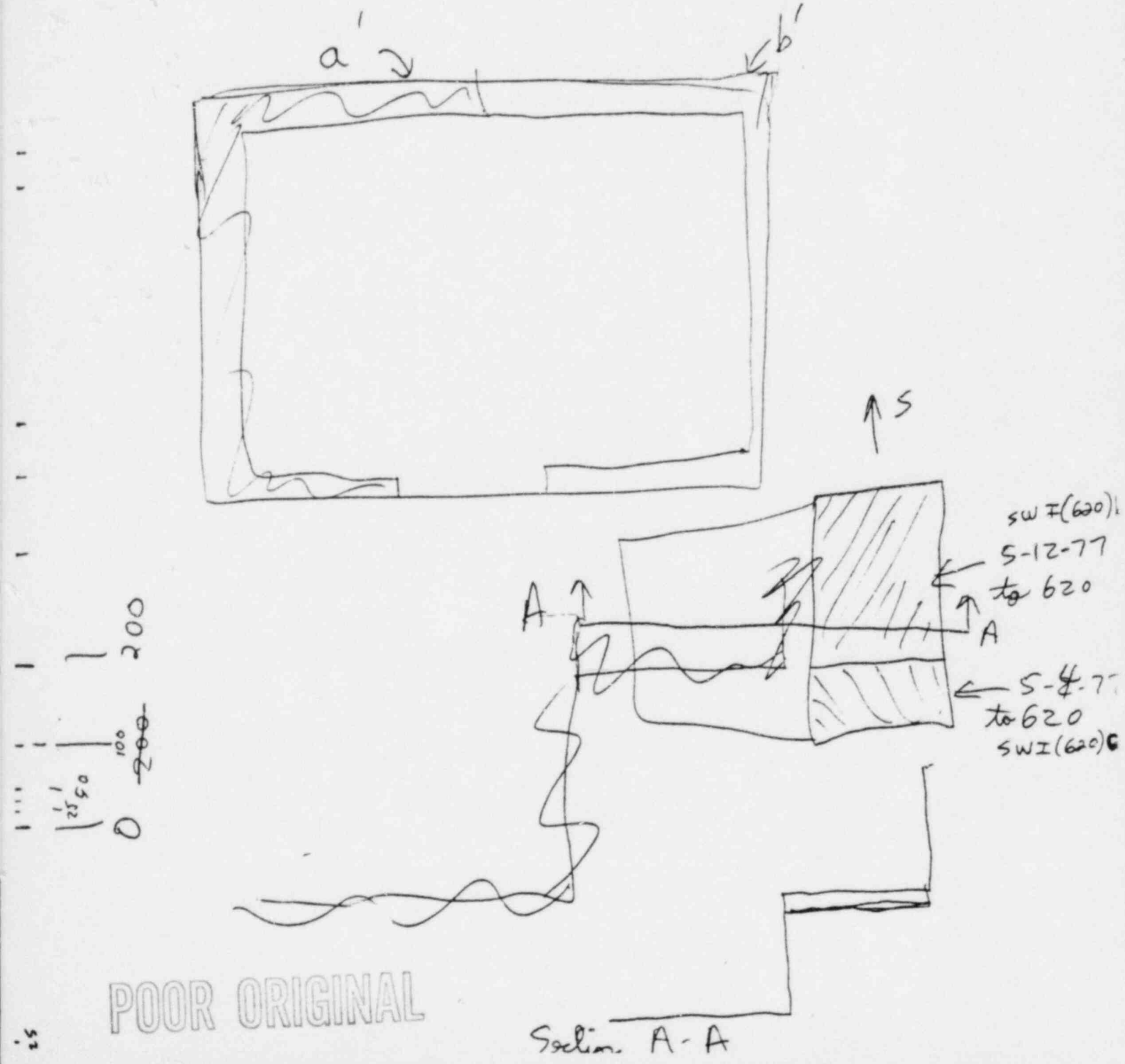
SWI (592.0)a – Nov. 17, 1976

SWI (609.0)b' – Jan. 3, 1977

SWI (609.0)a' – Dec. 22, 1976

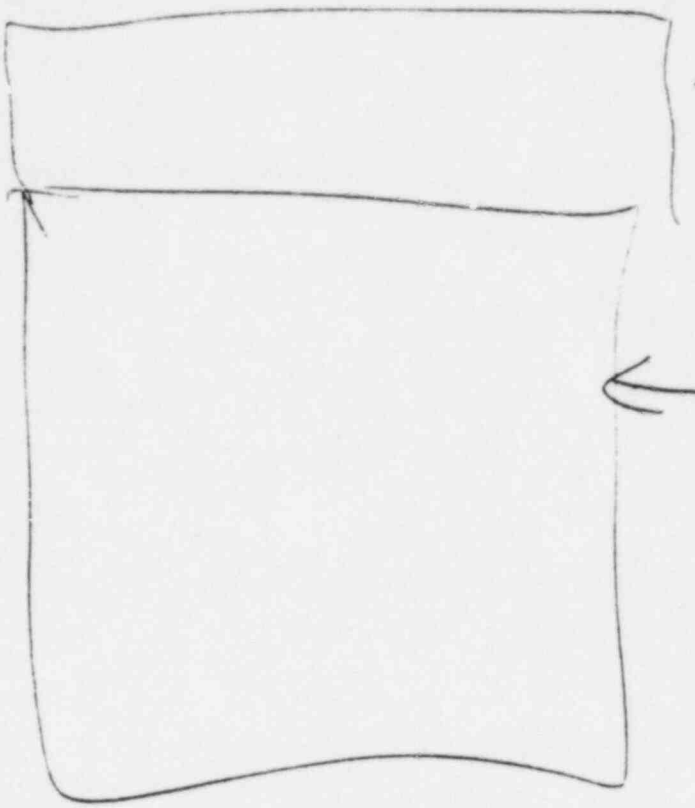
SWI (620)a' – 1-26-77

SWI (620)b' – 2-~~4~~-77



From Chuck Wilson Surveyor 11/5/79

SWI



Attachment A

Route To	This Copy For
WRBird (last)	WLBarclay
BWMarguglio (first)	TCCooke
DATaggart (second)	RHermeston
	SHHowell
	DRJohnson
	GSKeeley
	JMKlacking
	PAMartinez
	JMMandin
	JWeigen

Consumers Power

Nonconformance Report No 77-199

File 16 3 4 & 16 3 6
Issue Date November 4, 1977
Project Midland 1 & 2

File Title NCR's on Bechtel Construction and Quality Control

This Nonconformance Report is Issued To:

G. L. Richardson
Bechtel Lead QAE

who is responsible for corrective action.

Prepared By Donald E. Horn Date 11-4-77
Approved By [signature] Date 11/4/77
Written Reply Requested By Date 11-23-77
Corrective Action Requested By Date 12-15-77

Nonconformance Description and Supporting Details:

See attachment.

AEC Reportable Yes ☐ No ☒ See Procedure 9 (For Nuclear Projects Only)

Stop Work Necessary Yes ☐ No ☒ See Procedure 16 - Stop Work No _____
No Hold Tags Applied

Recommended Corrective Action:

See attachment.

[1]Corrective Action Taken:

See attachment.

[1]Verification of Corrective Action Required Yes ☐ No ☐

[1]Method of Verification:

[1]Nonconformance Closure Confirmed By _____
Date _____

[1]To be completed at time of closure by Consumers Power QA Services.

Attachment to NCR QF-199

Nonconformance Description and Supporting Details:

Specification C-210, Revision 5 Section 12.6.1 states in part, "The water content during compaction shall not be more than 2 percentage points below optimum moisture content and shall not be more than 2 percentage points above moisture content..."

Specification C-210, Revision 5 Section 13.7.1 states, "All cohesive backfill in the plant area and the berm shall be compacted to not less than 95 percent of maximum density as determined by ASTM D 1557, Method D".

Specification C-210, Revision 5 Section 13.7.2 states in part, "All cohesionless backfill in the plant area and the berm shall be compacted to not less than 80 percent of relative density as determined by ASTM D 2049..."

Part 1

Contrary to these requirements, the following tests had been passed using incorrect testing data. Using the correct testing data, the tests fail.

North Plant Dike

MD 290 (sampled 7-16-74) shows optimum moisture content 11.6. It should have been 9.5. Using the correct optimum moisture content of 9.5%, the actual moisture content is 2.2% above optimum moisture content.

MD 360 (sampled 7-31-74) shows optimum moisture content as 21.4. It should have been 15.2. This also shows maximum lab dry density as 103.2. It should have been 115.1. Using the correct optimum moisture content of 15.2%, the actual moisture content is 5.4% above optimum moisture content. Also using the correct maximum lab dry density of 115.1, the correct percent of maximum density is 86.4%.

MD 377 (sampled 8-6-74) shows optimum moisture content as 18.0. It should have been 15.2. Using the correct optimum moisture content of 15.2%, the actual moisture content is 4.5% above optimum moisture content.

Structural Backfill

MDR 621 (sampled 10-14-76) shows minimum dry lab density as 94.2. It should have been 112.2. Using the correct minimum dry lab density of 112.2, the correct percent of relative density is 41.5.

Part 2

Also contrary to these requirements, the following tests had failing results and did not indicate being cleared by passing tests or had been marked passing.

Attachment to NCR QF-199

Nonconformance Description and Supporting Details:

Part 2 (Contd)

North Plant Dike

MD 142 (sampled 5-30-74) shows optimum moisture content 8.0, moisture content 10.3. This test failed but it is shown as passing.

MD 143 (sampled 5-30-74) shows optimum moisture content 13.8, moisture content 11.4. This failed but it is shown as passing.

West Plant Dike

MD 227 (sampled 10-6-75) failed moisture but has not been cleared.

Plant Area Fill

Test No.	Date Sampled	Compaction	Moisture Actual	Moisture Optimum
MD 1311	5-03-77	61.6% of Relative Density		
1326	5-10-77		18.5%	15.2%
1328	5-10-77		12.2%	15.2%
1412	6-07-77		10.4%	15.2%

Structural Backfill

MDR 621	10-14-76	78.0% of Relative Density
671	11-12-76	74.8% of Relative Density
672	11-23-76	75.4% of Relative Density
685	11-24-76	56.2% of Relative Density
686	11-24-76	70.9% of Relative Density
691	11-24-76	62.0% of Relative Density

Recommended Corrective Action:

(1) Determine if there are passing tests in the same area to clear these failing tests.

(2) If these failing tests cannot be cleared by passing tests in the same area, present these findings to Bechtel Project Engineering so Project Engineering can determine what additional tests, reviews, etc. are needed to justify the material these tests represent. Have Project Engineering justify the material these failing tests represent.

(3) Determine the underlying cause(s) and take corrective action to preclude repetition.

Attachment to NCR QF-199
(Contd)

1 Corrective Action Taken:

Part 1

(1) Bechtel QC has determined that none of the above failing tests have passing tests in the same area to clear them.

(2) North Plant Dike MD 290 and MD 377 have been identified on Bechtel NCR 1005. North Plant Dike MD 360 and Structural Backfill MDR 621 density problems have been identified on Bechtel NCR 1004. North Plant Dike MD 360 moisture problem has been identified on revised NCR 1005.

Part 2

(1) Bechtel QC has determined that none of the above failing tests have passing tests in the same area to clear them.

(2) North Plant Dike MD 142 and MD 143, West Plant Dike MD 227 and Plant Area Fill MD 1326, 1328 and 1412 have been identified on Bechtel NCR 1005. Structural Backfill MDR 621, 671, 672, 685, and 686 have been identified on Bechtel NCR 1004. Plant Area Fill MD 1311 has been identified on revised NCR 1004.

(3) Corrective action has been taken as of the last of July 1977 by Bechtel QC and U.S. Testing to more adequately clear failing tests. Therefore, the corrective action to preclude repetition for not clearing failing tests need not be addressed.

Attachment to NCR Number OF-199
or Audit Report _____

CHECKLIST FOR SIGNIFICANT FINDINGS OR NONCONFORMANCES ON NUCLEAR PROJECTS

		YES	NO
1.	Does the finding or nonconformance concern?:		
	a. Design	___	X
	b. Manufacture	___	X
	c. Fabrication	___	X
	d. Installation	___	X
	e. Construction	___	X
	f. Testing	X	___
	g. Inspection	X	___
2.	If it were to remain uncorrected, could it have adversely affected the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant?	___	X
3.	Does the nonconformance represent?:		
	a. A significant breakdown in any portion of the Quality Assurance Program?	___	X
	b. A significant deficiency in final designs approved and released for construction?	___	X
	c. A significant deficiency in the construction of, or significant damage to, a structure, system, or component requiring corrective action involving extensive effort?	___	X
	d. A significant deviation from performance specifications requiring corrective action involving extensive effort?	___	X
4.	If "Yes" to any part of Item 1 and "Yes" to Item 2 and "Yes" to any part of Item 3, report as a significant nonconformance, otherwise do not. (If you are unsure, proceed as for a significant nonconformance.)		
5.	Reported significant nonconformance to:		

	NAME	TITLE	METHOD	DATE	NOTES
1		Director QAS EPP			
2		*Plant Superintendent EPO *Director QAS BPO *Nuclear Licensing Admin BPO			
3		GO QA Admin Project QA Admin			
4		Project Mgr			
5		NRC Principal Inspector			
6					

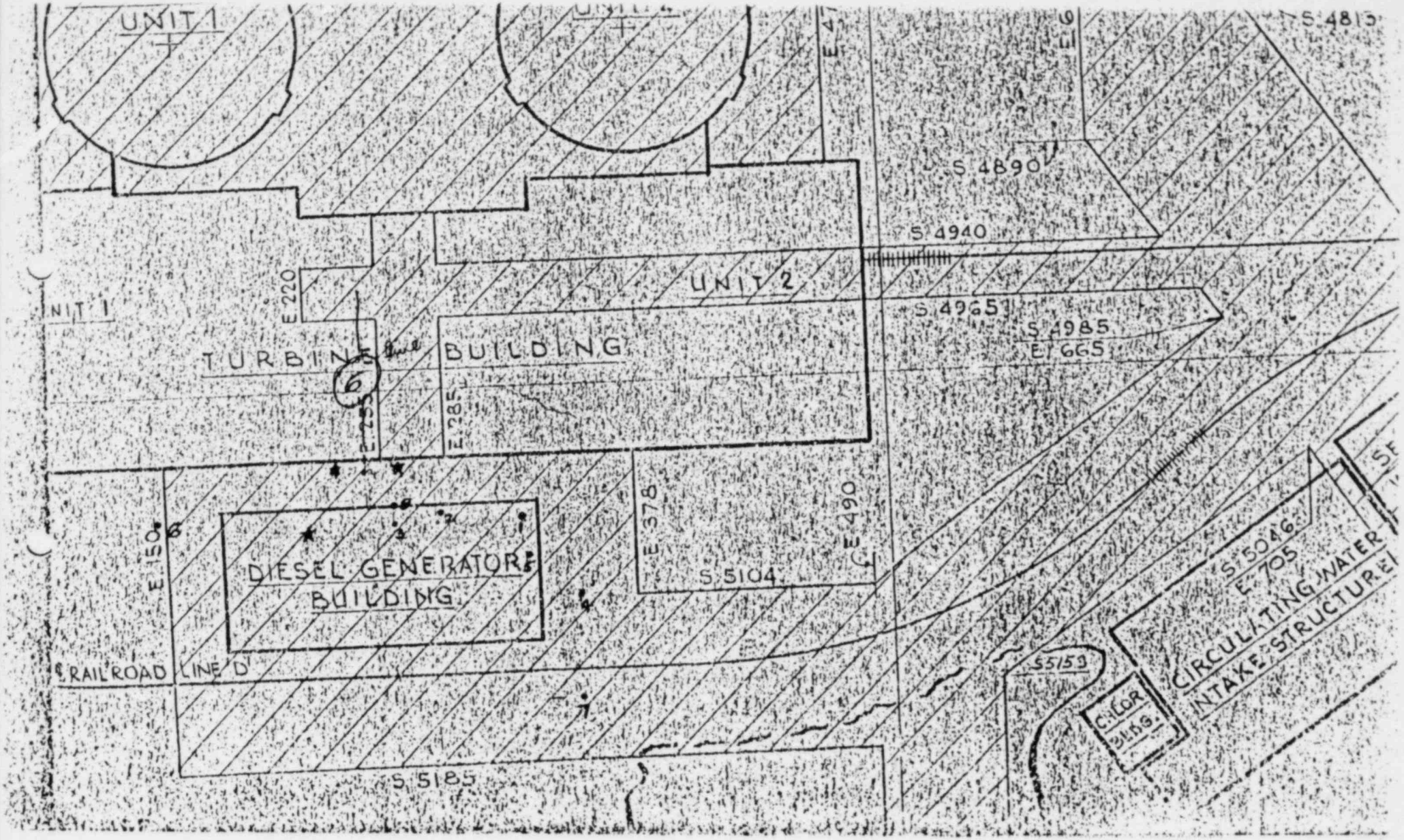
6. If nonreportable, provide discussion on why if it were to have remained uncorrected, it would not have adversely affected the safety of the plant throughout its lifetime.

No "Q" structures are located on material represented by MDR 621, MDR 672, MDR 685, MDR 686, MDR 691 and MD 360. MD 142, MD 143, MD 227, MD 1326, MD 1328, MD 1412, MD 290 and MD 377 have passing density results even though the moisture contents are not within the specification limits. The main reason for moisture limits is to minimize compactive effort in obtaining the required density. MD 1311 (elevation 613') and MDR 671 (elevation 613') under and near the Diesel Generator Building, respectively, are isolated failures. This can be justified by passing tests MD 1280 (elevation 613'), MD 1297 (elevation 612'), MD 1310 (elevation 613'), MD 1342 (elevation 612'), MD 1343 (elevation 612'), MD 1416 (elevation 612'), MD 1551 (elevation 613.5') and MD 1603 (elevation 614') generally in the same area.

Prepared By Donald E. Horn
11-3-77

Approved By [signature]

*Only for generating plant modifications on plants that have operating licenses.



~~MDR 696~~ 612 - 614

~~698~~

Elev.	Date	Test No. Plant Area	Location	
~~613~~ (1)	4-19-77	MD 1280	51 W. of 8.0 30' S. of Q S. of Turb. 2	P-10.1.2
~~612~~ (2)	4-29-77	MD 1297	27' S. of Q S of Turb. 1 37' E. of 6.0	P-93
~~613~~ (3)	5-3-77	MD 1310	32' S of Q 14' E. of 6.0 S. of Turb.	P-117.1
~~612~~ (4)	5-19-77	MD 1342	2' W of E. 96" Pipe 70' S of Q S. of TT	P-95
~~612~~ (5)	5-19-77	MD 1343	50' S of Q on 8.0 line S. of TT	P-8C
~~612~~	~~6-9-77~~	~~MD 1430~~	~~78' W of Retaining Wall~~ ~~90' S. of S end retaining Wall~~	~~P-95~~
~~612.5~~	~~6-9-77~~	~~MD 1433~~	~~S 5400~~ ~~E 140~~	~~P-103.2~~
~~613~~	~~6-9-77~~	~~MD 1434~~	~~S 5225~~ ~~E 135~~	~~P-102.5~~
~~613~~	~~6-9-77~~	~~MD 1444~~	~~30' S of SW Retaining Wall~~ ~~78' W. of Retaining Wall~~	~~P-102~~
~~613.5~~	~~6-10-77~~	~~S 5310 E 95~~	~~MD 1453~~	~~P-99.4~~
~~614~~	~~6-10-77~~	~~S 5400 E 100~~	~~MD 1458~~	~~P 102.3~~
612 (6)	6-7-77	MD 1416	28' S. of "Q" & between 72" discharge	P 117.1
~~613.5~~	~~6-20-77~~	~~MD 1537~~	~~S 5220~~ ~~E 228~~	~~P. 101.5~~
613.5 (7)	6-22-77	MD 1551	S 5155 E 350	P. 95.1
~~613~~	~~7-1-77~~	~~MD 1594~~	~~S 5315~~ ~~E 300~~	~~P 109.3~~
~~613.5~~	~~6-29-77~~	~~MD 1581~~		
~~614~~	~~7-6-77~~	~~MD 1606~~	~~S 5250 E 385~~	~~P 97.0~~
614 (8)	7-5-77	MD 1603	22' S of "Q" 27' W. of 7.0	P-106
~~614~~	~~7-20-77~~	~~MD 1689~~	~~S 5360~~ ~~E 310~~	~~P 102.3~~

Date Taken	Test No.	Elev	Location	
11-23-76	MDR 672	582.5	11' S. of N. Wall 3' off W. Wall	F
"	" 673	593	42' E. of W. Wall 9' off S. Wall	F Clean by 684
11-22-76	" 676	589	8' E of W/Wall 30" off S/Wall	P
"	" 677	591	42' E of W/Wall 30" off S/Wall	P
11-23-76	" 679	593	42' E of W/Wall 7' S of S/Wall	F Cleaned by 684
11-24-76	" 684	593	"	P
11-24-76	" 685	589	13' W. of E/Wall 30" off N/Wall	F
11-24-76	" 686	596	13' N. of N/Wall 30" E. of E/Wall	F
"	689	591	21' W of E/Wall 30" off N/Wall	P
"				
"	690	589	12' W of E/Wall 30" off N/Wall	P
"				
"	691	595	2' W. of E/Wall 9' off N/Wall	F
"				
"	692	593	18' N. of E/Wall 7' off N/Wall	P
12-28-76	693	598	7' N. off S. Wall 30" off W. Wall	P
11-9-76	MD155	588.5	15' W of E-Wall 30" off S. Wall	P
"	MD156	590	12' E. of W-Wall 30" off S-Wall	P
11-30-76	" 157	594	9' E. of W/Wall 8' S. of S/Wall	P
"	" 158	596	3' S of N/Wall 30" off E. Wall	
"	" 159	594	14' W of E/Wall, 30" off S. Wall	
11-29-76	" 160	592	4' W of E/End 6' S of S/Wall	F
"	161	593	6' E of W/Wall, 2' N of N/Wall	F
"	162	593	5' E of W/Wall, 2' N of ~~S/Wall~~ N/Wall	
"	163	595	6' W of E/Wall 13' N. N/Wall	OLC-9

BLOCK #16 CONTINUED: NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 1004

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	METHOD OF TEST
STR. BACKFILL					
No Q Struct 35' E of Wall Line	582.7'	10/14/76	MDR-621	42%	R.D.
~~no Q Struct~~ 15' off "6.0" 30" South of "Q"	613'	11/12/76	MDR-671	74.8%	R.D.
~~No Q Struct~~ SWPS-11' S of N. Wall, 3' off W Wall	582.5'	11/23/76	MDR-672	75.4%	R.D.
No Q Struct SWPS-13' W of E. Wall, 30" off N Wall	589'	11/24/76	MDR-685	56.2%	R.D.
No Q Struct SWPS-13' N of N. Wall, 30" E of E Wall	596'	11/24/76	MDR-686	70.9%	R.D.
No Q Struct SWPS-2' W of E. Wall, 9' off N. Wall	595'	11/24/76	MDR-691	62.0%	R.D.
NORTH DIKE					
No Q Struct 0 + 80 180' L Center Line	629'	7/31/74	MD-360	86.4%	B.M.P.
S 4641 +130 = 4771 E 941.03 +141 = 800					
Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002 & 1.004.					
D.G. Plant Area 35' S. of Q 28' W. of G.O S. of Turb.	613	5-3-77	MD1311	61.6%	R.D.

4 line - 8 line Begins 15' from Q line
Ends 105' from Q line

4 4.5 5 525 5.5 6 7 7.5 8

20' 20' 10'-9" 9'-8" 20' 40' 20' 20'

BLOCK #16 CONTINUED: NONCONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 1005

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	MOISTURE CONTENT	OPTIMUM MOISTURE CONTENT	
West Plant Dike							
7 + 00 37' L Center Line	622'	10/6/75	MD-227	99%	10.2	8.1	O.K. +2.1
North Plant Dike							
1 + 00 40' R Center Line	625'	5/30/74	MD-142	95.2%	10.3	8.0	O.K. +2.3
North Plant Dike							
3 + 00 40' R Center Line	625'	5/30/74	MD-143	95.7%	11.4	13.8	O.K. -2.4
Plant Area							
183' S of S. Wall -- SWI							
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1326	96.3%	18.5	15.2	+3.3
Plant Area							
183' S of S. Wall -- SWI							
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1328	103.3%	12.2	15.2	-3.0
Plant Area							
30' East of 12.0							
90' South of Q	622'	6/7/77	MD-1412	106.4%	10.4	15.2	-4.8
North Plant Dike							
1 + 25 100' L Center Line	626'	7/16/74	MD-290	96.3%	11.7	9.5	O.K. +2.2
North Plant Dike							
3 + 50 130' L Center Line	630.5	7/16/74	MD-377	95.4%	19.7	15.2	+4.5
No Q Stand 0+80 180'L Center Line	629'	7/31/74	MD-360	86.4%	20.6	15.2	+5.4

Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002.

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

December 16, 1977

JLC	
DRK	
RGW	
PRK	
GE	
FILE	

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: J. L. Corley

Job 7220 Midland Project
CPCo NCR QF-199 Response
GLR-12-77-510

Dear Mr. Corley:

In response to the subject nonconformance report, the following actions have been taken.

NCR-1004 is currently being evaluated by Project Engineering; this delay was brought upon by the need for additional information supplied by the field. Project Engineering has indicated that the disposition will be completed on or before January 15, 1978.

NCR-1005 has been dispositioned by Field Engineering. This NCR is awaiting Project Engineering input before being accepted by Quality Control. It is expected that this NCR will be closed by December 30, 1977.

The underlying causes for this condition occurring were human error and lack of attention to detail. The actions taken to prevent this condition from recurring were taken in the form of a training session held on 12/14/77 for U.S. Testing personnel. In conjunction with this training session a list of all applicable proctors were developed to aid the inspector in obtaining correct values for density and moisture. It is felt that no additional corrective actions be taken in density tests MD-142 and MD-143 in which failing tests were marked passing since it occurred only in May of 1974 and has not been a recurring problem.

Because of the above two NCRs not being dispositioned, it is requested that the due date indicated on this nonconformance report be extended to Jan. 20, 1978. Should you desire additional information do not hesitate to bring it to my attention.

Very truly yours,

G. L. Richardson

G. L. Richardson
LEAD QUALITY ASSURANCE ENGINEER

GLR/JGH/sw

BLOCK #16 CONTINUED: NONCONFORMANCE REPORT (CONT'D) PAGE 2 OF 2 NCR NO 1004

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	METHOD OF TEST
STR. BACKFILL					
No Q Struct 35' E of Wall Line	582.7'	10/14/76	✓MDR-621	42%	R.D.
~~No Q Struct~~ 15' off "6.0" 30" South of "Q"	613'	11/12/76	✓MDR-671	74.8%	R.D.
No Q Struct SWPS-11' S of N. Wall, 3' off W Wall	582.5'	11/23/76	✓MDR-672	75.4%	R.D.
No Q Struct SWPS-13' W of E. Wall, 30" off N Wall	589'	11/24/76	✓MDR-685	56.2%	R.D.
No Q Struct SWPS-13' N of N. Wall, 30" E of E Wall	596'	11/24/76	✓MDR-686	70.9%	R.D.
No Q Struct SWPS-2' W of E. Wall, 9' off N. Wall	595'	11/24/76	✓MDR-691	62.0%	R.D.
NORTH DIKE					
No Q Struct 0 + 80 180' L Center Line	629'	7/31/74	✓MD-360	86.4%	B.M.P.
S 4641 + 130 = 4771 E 991.03 + 149 = 800					
Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002 & 1.004.					
D.G. Plant Area 35' S. of Q 23' W. of C.O S. of Tank.	613	5-3-77	✓MD1311	61.6%	R.D.

4 two - 8 line Begins 15' from Q line
Ends 105' from Q line

4 4.5 5 5.25 5.5 6 7 7.5 8

←20'→←20'→←10'-9"→←9'-8"→←20'→←40'→←20'→←20'→

BLOCK #16 CONTINUED: NON CONFORMANCE REPORT (CONT'D) 20PAGE 2 OF 2 19NCR NO 1005

AREA	ELEV.	DATE OF TEST	DENSITY TEST NO.	PERCENT COMPACTION	MOISTURE CONTENT	OPTIMUM MOISTURE CONTENT	
West Plant Dike							
7 + 00 37' L Center Line	622'	10/6/75	MD-227	99%	10.2	8.1	O.K. +2.1
North Plant Dike							
1 + 00 40' R Center Line	625'	5/30/74	MD-142	95.2%	10.3	8.0	O.K. +2.3
North Plant Dike							
3 + 00 40' R Center Line	625'	5/30/74	MD-143	95.7%	11.4	13.8	O.K. -2.4
Plant Area							
183' S of S. Wall -- SWI							
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1326	96.3%	18.5	15.2	+3.3
Plant Area							
183' S of S. Wall -- SWI							
53' W of "A" Line -- SWI	613.5'	5/10/77	MD-1328	103.3%	12.2	15.2	-3.0
Plant Area							
30' East of 12.0							
90' South of Q	622'	6/7/77	MD-1412	106.4%	10.4	15.2	-4.8
North Plant Dike							
1 + 25 100' L Center Line	626'	7/16/74	MD-290	96.3%	11.7	9.5	O.K. +2.2
North Plant Dike							
3 + 50 130' L Center Line	630.5	7/16/74	MD-377	95.4%	19.7	15.2	+4.5
Q+80 19.0' L Center Line	629'	7/31/74	MD-360	86.4%	20.6	15.2	+5.4
Hold for Engineering Disposition. No Hold Tags Applied. "Q"-List #1.002.							

ALL O

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI S-421

"AS IS" CONDITION VERSUS "AS REQUIRED"/"AS WELDED" CONDITION WITH REFERENCES:

Specification 7220-C-305 Rev 12 Sec 5.0 states in part, "Each expansion anchor shall be inspected and/or tested for proper installation by one of the following methods:

5.1 Method 1 - Each anchor shall be inspected at the time of installation in accordance with the requirements of Section 4.0..

5.2 Method 2 - A minimum of 10% of the anchors shall be inspected at the time of installation in accordance with the requirements of Section 4.0."

Section 4.0 Para 4.8 states in part, "Expansion anchors shall be seated and expanded by applying the installation torque as presented in Table 4.1."

Contrary to the above, PQCI C-1.50 Inspection Records do not provide objective evidence that installation torque was witnessed by Quality Control at the frequency specified by Sec 5.0 of Spec C-305 Rev 12.

AFR SEQ NO: M-01-22-0-01

PROJ/DEPT AUDITED: Quality Control

DATE OF ORIGINATION: 10/20/80

FILE NUMBER: 18.4.3.4 & 18.4.3.6

DISTRIBUTION:

WRBird	RESevo
JWCook	ESmith
TCCooke	DATaggart
JWCroy	JLWood
LHCurtis	REDavis
LEDavis	LRHowell
LADreisbach	
DRKeating	
GSKeeley	
HPLeonard	
BWMarguglio	
REMcCue	
DBMiller	
JARutgers	

RECOMMENDED CORRECTIVE ACTION:

Revise PQCI C-1.50 Inspection Records to provide objective evidence that installation torque is witnessed by Quality Control at the frequency specified by Sec 5.0 of Spec C-305 Rev 12.

Assess impact on Inspection Records of inspections performed after the effective date of the requirement in Para 5.0.

CORRECTIVE ACTION COMMITMENT:

Quality Control has committed to a response to this AFR within 30 days of report issue date.(December 12, 1980).

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A: Quality Control

PERSON MAKING C/A COMMITMENT: JRussell

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 50.55(e)? YES ☐ NO ☒

IF "YES", DATE OF REPORT TO NRC:

IF "YES", TIME OF REPORT TO NRC:

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED:

IF "YES", WHO MADE REPORT:

AFR ORIGINATOR'S SIGNATURE: John W. Croy

SUPERVISOR'S SIGNATURE: DK Keating

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI S-425

"AS IS" CONDITION VERSUS "AS REQUIRED" /"AS WELDED" CONDITION WITH REFERENCES:

Purchase Order No 7220-F-21571 Rev 1-Q dated July 6, 1977 indicates a revision to the original P.O. from Non-Q to Q-list, in addition to ordering 240 lbs of covered electrodes which require a Certificate of Compliance and a Certified Material Test Report.

However, this purchase order also indicates that it contains no Q-list material.

This places the subject P.O. in an indeterminate condition.

AFR REF NO: M-01-26-0-01

PROJ/DEPT AUDITED: Bechtel Construction

DATE OF ORIGINATION: 11/7/80

FILE NUMBER: 18.4.3.4

DISTRIBUTION:

WRBird	REMcCue
MKBoone	JMilandin
JFFirlit	DBMiller
JWCook	KORafferty
TCCooke	RLRixford
LHCurtis	JARutgers
DLDaniels	DATaggart
LEDavis	JLWood
MADietrich	JLZimmerman
PKHansen	DMTurnbull
DRKeating	
GSKeeley	
HPLeonard	
BWMarguglio	

RECOMMENDED CORRECTIVE ACTION:

Correct Purchase Order 7220-F-21571 to reflect the appropriate requirements and provide assurance that it meets the requirements.

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided by November 21, 1980.

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A: Bechtel Purchasing

PERSON MAKING C/A COMMITMENT: WBDaly

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 50.55(e)?: YES ☐ NO ☒

IF "YES", DATE OF REPORT TO NRC: N/A

IF "YES", TIME OF REPORT TO NRC: N/A

IF "YES", WHO MADE REPORT: N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISOR'S SIGNATURE: DRKeating

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI S-426

"AS IS" CONDITION VERSUS "AS REQUIRED" / "AS NEEDED" CONDITION WITH REFERENCES:

Purchase Order No 7220-F-3660 for bare wire filler material type ER-308 was unavailable for auditor review on October 29, 1980. As of November 6, 1980, this purchase order is still unavailable for auditor review.

This is contrary to the requirements of ANSI N45.2.9.

AFR LER NO: M-01-26-0-02

PROJ/DEPT AUDITED: Bechtel Construction

DATE OF ORIGINATION: 11/7/80

FILE NUMBER: 18.4.3.4

DISTRIBUTION:

WRBird	REMcCue
MKBoone	JMilandin
JFFirlit	DBMiller
JWCook	KORafferty
TCCooke	RLRixford
LHCurtis	JARutgers
DLDaniels	DATaggart
LEDavis	JLWood
MADietrich	JLZimmerman
PKHansen	DMTurnbull
DRKeating	
GSKeeley	
HPLeonard	
BWMarguglio	

RECOMMENDED CORRECTIVE ACTION:

1. A reconstructed record, using as much information as is available from other sources, should be completed. This record should be clearly marked to indicate that it is not an original, but is a reconstructed record.
2. Conduct a survey of the filler material purchase order file to identify and rectify similar problems.

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided by November 21, 1980.

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A: Bechtel Purchasing

PERSON MAKING C/A COMMITMENT: WBDaly

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 50.55(e)? YES ☐ NO ☒

IF "YES", DATE OF REPORT TO NRC: N/A

IF "YES", TIME OF REPORT TO NRC: N/A

IF "YES", WHO MADE REPORT: N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISOR'S SIGNATURE: DRKeating

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI: S-495

"AS IS" CONDITION VERSUS "AS REQUIRED" / "AS NEEDED" CONDITION WITH REFERENCES:

Paragraph 2.1.4 of Procedure ISI-81 Rev 2 and Paragraph 2.4.2 of Procedure ISI-82 Rev 2 require the Field Operations Supervisor or his designated representative (designated by written authority) to review certs and signify approval by signing and dating the certs.

Contrary to the above, Transducer #32388 does not have signature approval allowing use of equipment.

AFR SER NO: M-01-29-0-02

PROJ/DEPT AUDITED: B&W ISI

DATE OF ORIGINATION: November 12, 1980

FILE NUMBER: 18.4.6

DISTRIBUTION:

WRBird	DATaggart
JWCook	DMTurnbull
TCCooke	JLWood
LHCurtis	
MADietrich	
DRKeating	
GSKeeley	
BWMarguglio	
REMcCue	
DBMiller	
GNavratil	
JDPhinney	
JARutgers	
HSlager	

RECOMMENDED CORRECTIVE ACTION:

1. Obtain review and signature approval prior to further use or transducer.

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided 14 days after receipt of Audit Report.

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A: B&W ISI

PERSON MAKING C/A COMMITMENT: A P Peldunas

METHOD OF VERIFICATION:

IS AI REPORTABLE PER 10CFR50.55(e)? YES [X] NO [ ]

IF "YES", DATE OF REPORT TO NRC: N/A

IF "YES", TIME OF REPORT TO NRC: N/A

IF "YES", WHO MADE REPORT: N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISOR'S SIGNATURE: F W Crawford for DR Keating 12-3-80

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI: S-496

"AS IS" CONDITION VERSUS "AS REQUIRED" /"AS WELDED" CONDITION WITH REFERENCES:

Paragraph 2.4 of ISI-70 Rev 1 states in part, "Certifications of these tests (residue sulfur content (ASTM D129-64) and halogen content (ASTM D808-630)) shall be provided for each penetrant material or UT examination couplant used. There certs shall state the material type, batch number, test results and purchase order number.

Contrary to this:

a) Magnaflux penetrant SKL-HF Batch #78G140 does not indicate a purchase order number on the certification paper.

b) Sonatrace 40, UT couplant, Batch #8003 has purchase order number 036603LM indicated on the container. The certification paper does not indicate the correct purchase order number.

AFR SER NO: M-01-29-0-03

PROJ/DEPT AUDITED: B&W ISI

DATE OF ORIGINATION: November 12, 1980

FILE NUMBER: 18.4.6

DISTRIBUTION:

WRBird, JWCook, TCCooke, LHCurtis, MADietrich, DRKeating, GSKeeley, BWMarguglio, REMcCue, DBMiller, GNavratil, JDPhinney, JARutgers, HSlager, DATaggart, DMTurnbull, JLWood

RECOMMENDED CORRECTIVE ACTION:

Obtain certification papers with correct purchase-order numbers or provide documented evidence that a specific purchase order is traceable and/or related to a specific certification.

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided 14 days after receipt of Audit Report.

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A: B&W ISI

PERSON MAKING C/A COMMITMENT: A P Peldunas

METHOD OF VERIFICATION:

IS AI REPORTABLE PER 50.55(e)? YES [X] NO [ ]

IF "YES", DATE OF REPORT TO NRC: N/A

IF "YES", TIME OF REPORT TO NRC: N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

IF "YES", WHO MADE REPORT: N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISORY SIGNATURE: F C Rauwerda, Jr. D R Keating 12-3-80

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AI S-494

"AS IS" CONDITION VERSUS "AS REQUIRED" / "AS WELDED" CONDITION WITH REFERENCES:

Paragraph 4.3.2 of Procedure ISI-71, Rev 2 states in part, "A change shall take effect with approval by the Manuals and Reports Supervisor, Level III and Customer's Representative. A change may be used at the site after verbal review and approval by the Manuals and Reports Supervisor (in consultation with a Level III) and approval by the Customer's Representative."

Contrary to the above, Field Change Authorization No 192-064-004-0131 for Procedure ISI-271 does not have signatures of the Manual and Reports Supervisor and the Level III individual.

AFR SER NO: M-01-29-0-01

PROJ/DEPT AUDITED: B&W ISI

DATE OF ORIGINATION: November 12 1980

FILE NUMBER: 18.4.6

DISTRIBUTION:

WRBird	DATaggart
JWCook	DMTurnbull
TCCooke	JLWood
LHCurtis	
MADietrich	
DRKeating	
GSKeeley	
BWMarguglio	
REMcCue	
DBMiller	
GNavratil	
JDPhinney	
JARutgers	
HSlager	

RECOMMENDED CORRECTIVE ACTION:

Obtain required signatures of approval prior to further use.

CORRECTIVE ACTION COMMITMENT:

Issue closed - B&W ISI group leader will provide a corrected copy of Field Change Authorization #192-064-004-0131 containing all authorized signatures.

DATE OF C/A COMPLETION: 11/14/80

DATE OF C/A EFFECTIVENESS: 11/14/80

ORG. RESP FOR C/A: B&W ISI

PERSON MAKING C/A COMMITMENT: A P Peldunas

METHOD OF VERIFICATION:

Reviewed B&W Letter reference 599-0641-04-01 dated November 11, 1980 from A P Peldunas to TCCooke, CPCo. Reviewed copy of Field Change Authorization #192-064-004-0131 containing all authorized signatures.

IS AF REPORTABLE PER 50.55(e)? YES [X] NO [ ]

IF "YES", DATE OF REPORT TO NRC: N/A

IF "YES", TIME OF REPORT TO NRC: N/A

IF "YES", WHO MADE REPORT: N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISOR'S SIGNATURE: 12-3-80

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE: 14 November 1980

Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (804) 384-5111

November 11, 1980

Mr. T. C. Cooke
Project Superientendent
Consumers Power Company
P. O. Box 1963
Midland, Michigan 48651

Ref: 599-0641-04-01

Subject: Field Change Authorizations for Preservice Inspection for Midland Station Units #1 and 2 Vol. 3 - Procedures and Calibration Standards Rev. 2

Dear Mr. Cooke:

I am transmitting to you the "Field Change Authorization" listed below for insertion into your copy of the manual. All other manual holders as indicated in the distribution list below will likewise receive a copy of this transmittal.

Field Change Authorization	Insert After
192-064-004-0131	Page 1 of ISI-271, Rev. 1 and destroy the existing copy of FCA 192-064-004-0131 in the manual which does not have Manuals and Reports and Level III signatures.

Please note that the above Field Change Authorization was previously distributed by mistake without the proper signatures as the original was left out when the others were xeroxed.

All manual holders receiving this transmittal are asked to sign and date the attached "Receipt of Document" letter and return it to me at the following address:

Babcock & Wilcox
Inservice Inspection
P. O. Box 1260
Lynchburg, VA 24505

Sincerely yours,

A. P. Peldunas

A. P. Peldunas
Contract Manager
Inservice Inspection

APP:meh
cc: J. D. Phinney

Distribution

Manual No.	Assigned To:
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9	File
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12	P. G. Perry
13	Leo Davis (Bechtel)
14	Leo Davis (Bechtel)

FIELD CHANGE AUTHORIZATION

192-064-004-0131

CUSTOMER: Consumers Power Co.

LOCATION: Midland, MI. UNIT NO.: 1+2

(Preoperational Vol.3) Inservice Other

Current Manual Revision No.: 2 Section No.: 2

Detailed description of what is changed: ISI-271, Rev 1, page 1 change Section 1 and add item 3.4 as indicated below:

Exact wording of proposed change:

1. SCOPE: This procedure shall govern the wet and dry method of ..... and vessels in ferromagnetic materials and repairs to base material and welds. This examination .....

3.4 Repairs: The area of interest shall be the entire excavated and/or welded area plus an adjacent 1/2" band surrounding the cavity or welded area. All welded repairs to bolting materials (bolts, studs, nuts, etc.) shall not be examined and shall be reported to the Customer's representative.

Originated by Group Leader Rene Navratil Date April 2, 1980

Verbal Review and Approval by B&W Manuals and Reports

Supervisor C. R. Honeycutt Jr. Date April 2, 1980

B&W APPROVAL: To be included in Revision No. 3 of the Manual.

Manuals & Reports Supervisor C. R. Honeycutt Date May 17, 1980

Level III [signature] Date 5/17/80

CUSTOMER APPROVAL:

Name D. M. Meyer Date 4/3/80 Company CPCo

Name D. A. Kanjo Date 4-8-80 Company CPC

Comments

AFTER APPROVAL, RETURN TO B&W MANUALS AND REPORTS SUPERVISOR.

CC: WRBird
MADietrich
VManta
BWMarguglio

QUALITY ACTION REQUEST

File No: 16.10.3.2

From: DRKeating, MPQA (1)		AI: S-485
To: LHCurtis (2)	Control Document ref.: 7220-E-20 (3)	QAR Ident. No.: F-015 (4)

Action Requested: (5)

Commonwealth Edison in Electrical Penetration - 10CFR50.55(e) Interim Report. NRC Docket No 50-374 dated October 2, 1980 to Region III, Nuclear Regulatory Commission reported that, "cracks were discovered in the insulation of certain feed-through conductors as they enter or exit the epoxy module portion of the penetration." The problem definition goes on to describe that bare copper was exposed, cracks were approximately 1/4" from face of overmald portion and involved high density, small diameter wire modules. These penetrations were manufactured by Bunker Ramo Corporation, Connector Division Sams Operations.

RECOMMENDED ACTION: (See Page 2)

Signature: Edgar L Stone (6)	Date: 11/24/80 (7)	Reply Requested by: 12/11/80 (8)

Reply: (9)

Signature: (10)		Date: (11)
Action Verified: (12)		Date: (13)

8/2/74

QAR Ident No: F-015
File No: 16.10.3.2
AI: S-485

RECOMMENDED ACTION:

Midland 1 & 2 Electrical Penetrations were manufactured by Bunker Ramo Corporation. Project Engineering to determine if Midland Project has a similar problem to that reported by Commonwealth Edison. Show justification if not a concern for the Midland Project.

cc: WRBird
LHCurtis
MADietrich
BWMarguglio
ESmith
JGilmartin

QUALITY ACTION REQUEST

File 16.10.3.2 AI S-436

From: HPLeonard/JWCroy, Midland Project Quality Assurance Department (1)		
To: (2) LEDavis	Control Document ref.: Table 4.1 (3) Spec C-305 Rev 12	QAR Ident. No.: (4) F-014

Action Requested: (5)

During MPQA overinspections for installation and testing of wedge-type expansion anchors and retest verification of drop-in anchors (HDI's), it was noted that when attempting to apply an installation or test torque to drop-in or wedge-type expansion anchors located in unistrut channels, it is sometimes necessary to force the socket between the channel legs in order to seat the socket on the bolt head or nut.

There is a concern that with the socket "pinched" in the unistrut, the frictional force between the socket and unistrut will carry an unknown portion of the applied

(Continued on page 2)

Signature: (6) RSB. J.W. Croy	Date: (7) 11/12/80	Reply Requested by: (8) 12/5/80

Reply: (9)

Signature: (10)	Date: (11)
Action Verified: (12)	Date: (13)

8/2/74

QAR Ident No: F-014
File 16.10.3.2
AI S-436

ACTION REQUESTED: (Contd)

torque. Thus the actual torque applied to the anchor will be less than the torque indicated on the torque wrench. It was also noted that for some cases a special socket with a necked-down midsection was fabricated by electrical crafts and used to alleviate this problem.

Please evaluate this condition to determine if any special procedures and/or equipment (ie, "tapered" socket) is needed to correct this condition. Assess impact on expansion anchors previously installed in unistrut channels.

cc: JBetts
AJDoos
HJDesai
LADreisbach
ESmith
LEDavis
BWMarguglio
WRBird

QUALITY ACTION REQUEST

AI: S-381 011631

(1) From: H. P. Lemmond
~~RESEO~~, Midland Project Quality Assurance Department

(2) To:	(3) Control Document ref.:	(4) QAR Ident. No.:
LHCurtis	Spec C-305 Rev 12	F-003

(5) Action Requested: The attached IOM, Curtis to Dreisbach, dated August 25, 1980 has provided requested input from Engineering as to their position about the time of application of the installation torque for the installation of concrete expansion anchors (reference Para 4.8 of Spec C-305).

It is requested that this information be incorporated into Spec C-305 as it provides direction that is currently not included in Specification C-305 for time of application of installation torque and for base plates/support fixtures not to be left in place without torquing the anchors. Also, manufacturers' recommendations do not provide any direction as included in attached memo. (Contd Page 3)

(6) Signature:	(7) Date:	(8) Reply Requested by:
R.E. Sevo	9/10/80	9/24/80

(9) Reply: This is Project Engineering's complete response to QAR F-003, AI S-381, Com. No. 011631.

IOM, L. H. Curtis to L. Dreisbach dated 8/25/80 clarifies Spec. C-305 and does not provide additional information. The specification in its current form adequately spells out the installation and acceptance requirements. Therefore Project Engineering contends that the information should not be incorporated into the specification.

Field Engineering may leave base plates and support fixtures in place prior

(10) Signature:	(11) Date:
V.J. Manta for L.H. Curtis	10/30/80
(12) Action Verified: R.E. Sevo	(13) Date: 11/12/80

8/2/74

REPLY cc: L. H. CURTIS
L. A. DREISBACH
B. DHAR
M. ELGALY
V. J. MANTA
D. BORLAZA

RECEIVED
NOV 13 1980
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

011631

File 16.10.3.2
QAR Ident No F-003
AI: S-381
Page ~~3~~ 2 of ~~3~~ 2

Action Requested: (Contd)

Field Engineering has questioned whether base plates and support fixtures can be left in place but temporarily supported without application of installation torque.

Please provide response or include such direction in Spec Revision as determined necessary.

REPLY: (cont.)

to the application of the installation torque provided that the base plates and support fixtures are adequately supported. This guideline is primarily aimed at at the safety of personnel at the workplace and is not part of the subject specification.

Bechtel Associates Professional Corporatic

Inter-office Memorandum

To [redacted]

Date August 25, 1980

Subject Midland Plant Units 1 & 2
Bechtel Job 7220
Specification C-305 Installation
Torque Application

From L.H. Curtis

Of Engineering

At Ann Arbor

Copies to

J. Betts
P.J. Corcoran
L.H. Curtis
L.E. Davis
H. Desai
T.E. Johnson
E.D. Newman

File: C-305PR, C-027

8/28

Log No. 820 File No. ____

Response Req'd No Date ____

CA Action Item No. ____

Route	Ini.	Act	Comm.
FOAE	✓		
Bldg C-2300			
Elect (1)			
Elect (2)			
Civil/Arch			
Mech/Weld			
Instr.			
Tech Sys			

This memo is intended to provide an answer to Consumers Power Company's questions about the time of application of the installation torque for the installation of concrete expansion anchors. The following is project engineering's position on this subject. MCAR 31 & 3

"The expansion anchor bolt may be torqued to 100% installation torque immediately after its insertion into the hole or the installation torque may be applied at the time of attachment of base plate assembly or support fixture. The base plate or support fixture shall not be left in place without torquing the anchors. The final acceptance of the anchor bolt is dependent upon satisfying the inspection requirements of section 5.0 and test torque requirements of section 6.0. The test torque can be applied any time regardless of the time of attachment of the base plate assembly support fixture or the item being supported."

Please note that the above position is in complete agreement with the specification C-305 and no change to the specification is required. Discussions with Hilti, the manufacturer confirms this position. This will close the action item assigned to project engineering at the meeting between Project Engineering, Construction, Bechtel Quality Control and Quality Assurance and Consumers Power Company's Quality Assurance on July 31st, 1980 at Midland Jobsite.

LHCurtis for
L.H. Curtis

HD VL

BD/HD/bc
8/14/80

Written Response Requested: No

Com Log

CORRECTIVE ACTION REPORT

Page 1 of 2

(1) Unit N/3 - S/G System S,A,A - Discip I - 0,0,4

(2) Description

Wiring errors and drawing errors exist for Bailey Cabinets IC45 ~~and IC45~~. A wiring check of the Module ACI Trip Contact Buffer for each analog subsystem revealed that the as built drawing is different from hardware wiring. Additional wiring checks revealed internal wiring soldered to the wrong terminals.

☐ (✓) Contd on Attachment

(3) Recommended Corrective Action and Retest

Due Date: 0,7/0,1/8,2

Recommend that Bailey do a complete wiring check of ~~both~~ cabinets and do a functional test of the cabinets. Re-issure as built drawings.

☐ (✓) Contd on Attachment

(4) Related Documents and References

Document M1.32-86 Drawings M1.32-61-1 (A3), M1.32-63-1 (A3), M1.32-66-1 (A1), and M1.32-68-1 (A1)

(5) ☒ Deficiency ☐ Design Chg ☐ Troubleshoot ☐ Maintenance ☐ Retest Only

(6) Initial: C,T,Q

Subsequent: B,W,R

(7) Category: Q,6

Cause: 0,3

Retest Reqd ☐ Yes ☒ No

Q-Listed ☒ Yes ☐ No

(8) NRC Reportability 10 CFR50.55(e)

☐ Not Reportable

☒ Reportable; QA Notified S.W. Simms 11/7/80 1015 (Name / Time/Date)

(9) Signature		Date	Time
Orig:	R.O. Fink/ems	11/13/80	9:45
FE/TE:	S.W. Simms	11/7/80	10:15
PS/PTS:	R.M. Wheeler	11/7/80	1320

(10) Corrective Action or Response:

Action Organization Representative

Date

☐ (✓) Contd on Attachment

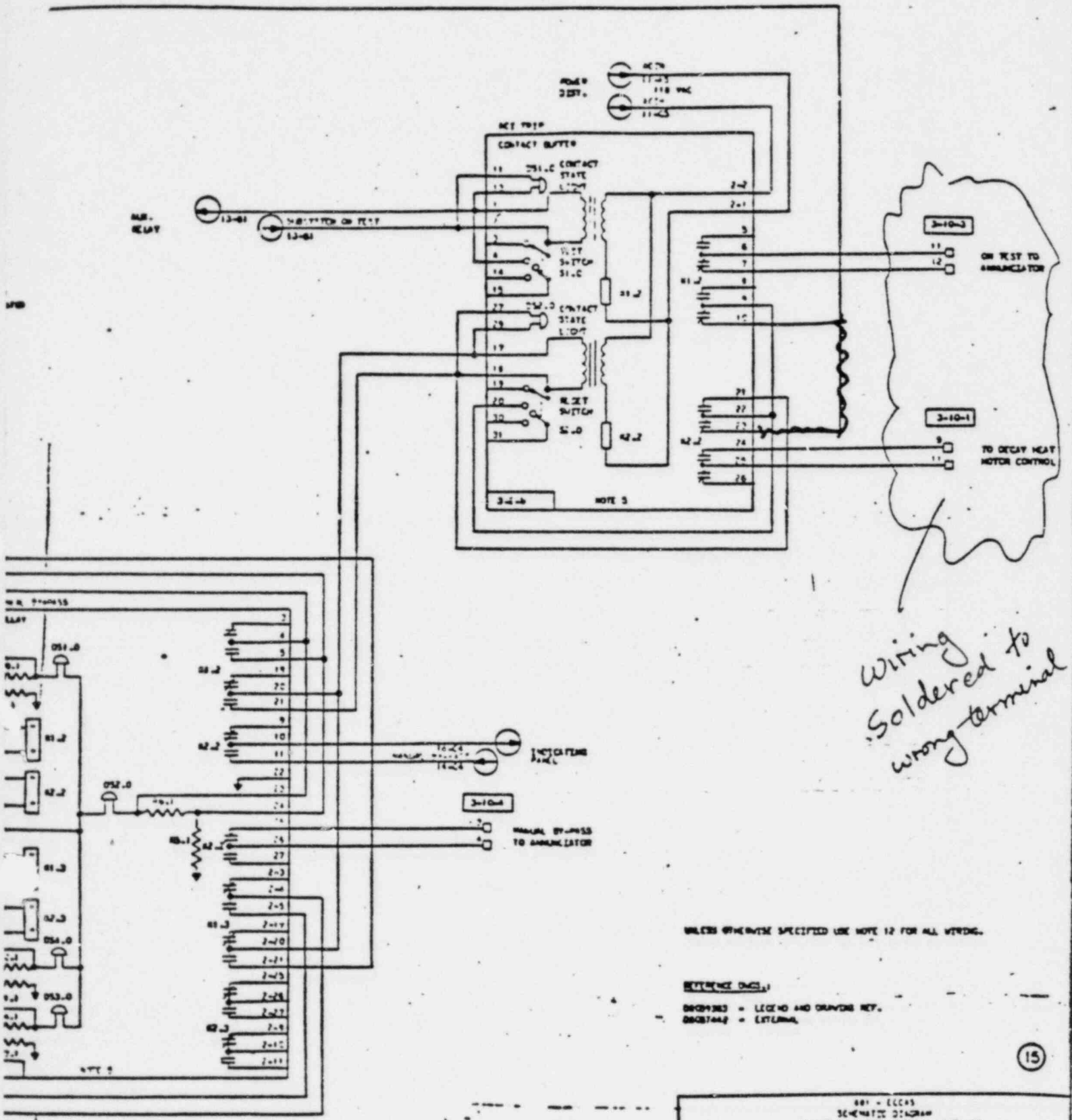
(11) Retest Complete	Date
TE:	
Completion Review Signature	Date
QA:	
FE/TE:	
PS/PTS:	

Page 12 of 12

CAR

X1 SSW 8/11/80

X3-SAA-I-004



UNLESS OTHERWISE SPECIFIED USE NOTE 12 FOR ALL WIRING.

REFERENCE DWGS.:

- = LOGIC AND DRIVING REF.
- = EXTERNAL

(15)

001 = ECCAS
SCHEMATIC DIAGRAM
ANALOG SUBSYSTEM DECAY HEAT ACT

CUSTOMER: CONSUMERS POWER COMPANY
PLANT: MIDLAND PLANT, UNITS 1 & 2
CONTRACTING ENGR.: BECHTEL CORP
BAILCO JOB NO.: [illegible] CUST. ORDER NO.: [illegible]

REV DATE CHANGE APVD

Bailey
Babcock & Wilcox, U.S.A.
BAILEY METER COMPANY

DATE [illegible]
PRODUCT LETTER CODE
D-E05-9396-D

CAT
SIZE
DWG
LTR

ACAD

CORRECTIVE ACTION REPORT

Page 1 of 2

(1) Unit 2 - S/U System S A A - Discip I - Serial 0 0 3

(2) Description

Wiring errors and drawing errors exist for the Bailey cabinet 2C45. A wiring check of the Module ΔCI Trip Contact Buffer for each analog subsystem revealed that the as built drawing is different from hardware wiring. Additional wiring checks revealed internal wiring soldered to the wrong terminals.

☐ (✓) Contd on Attachment

(3) Recommended Corrective Action and Retest

Due Date: 01 01 82

Recommend that Bailey do a complete wiring check of the cabinet and do a functional test of the cabinet. Re-issue as built drawings.

☐ (✓) Contd on Attachment

(4) Related Documents and References

Document M1.32-86 Drawings M1.32-61-1, M1.32-63-1 (A3), M1.32-66-1 (A1), and M1.32-68-1 (A1)

(5) ☒ Deficiency
☐ Design Chg
☐ Troubleshoot
☐ Maintenance
☐ Retest Only

(6) Initial: C P Q

Subsequent: P W R

ACTION

(7) Category: 0 6
Cause: 0 3
Retest Reqd ☐ Yes ☒ No
Q-Listed ☒ Yes ☐ No

(8) NRC Reportability 10 CFR50.55(e)
☐ Not Reportable
☒ Reportable; QA Notified: EM Evans 10:15 11/17
Name Time/Date

(9) Signature

	Signature	Date	Time
Orig:	R. O. Travis	11/13/80	9:45
FE/TE:	EM Evans	11/17/80	10:15
PS/PTS:	[illegible]	11/17/80	1512

(10) Corrective Action or Response:

Action Organization Representative

Date

POOR ORIGINAL

☐ (✓) Contd on Attachment

(11) Retest Complete — Date

TE:

Completion Review Signature — Date

QA:

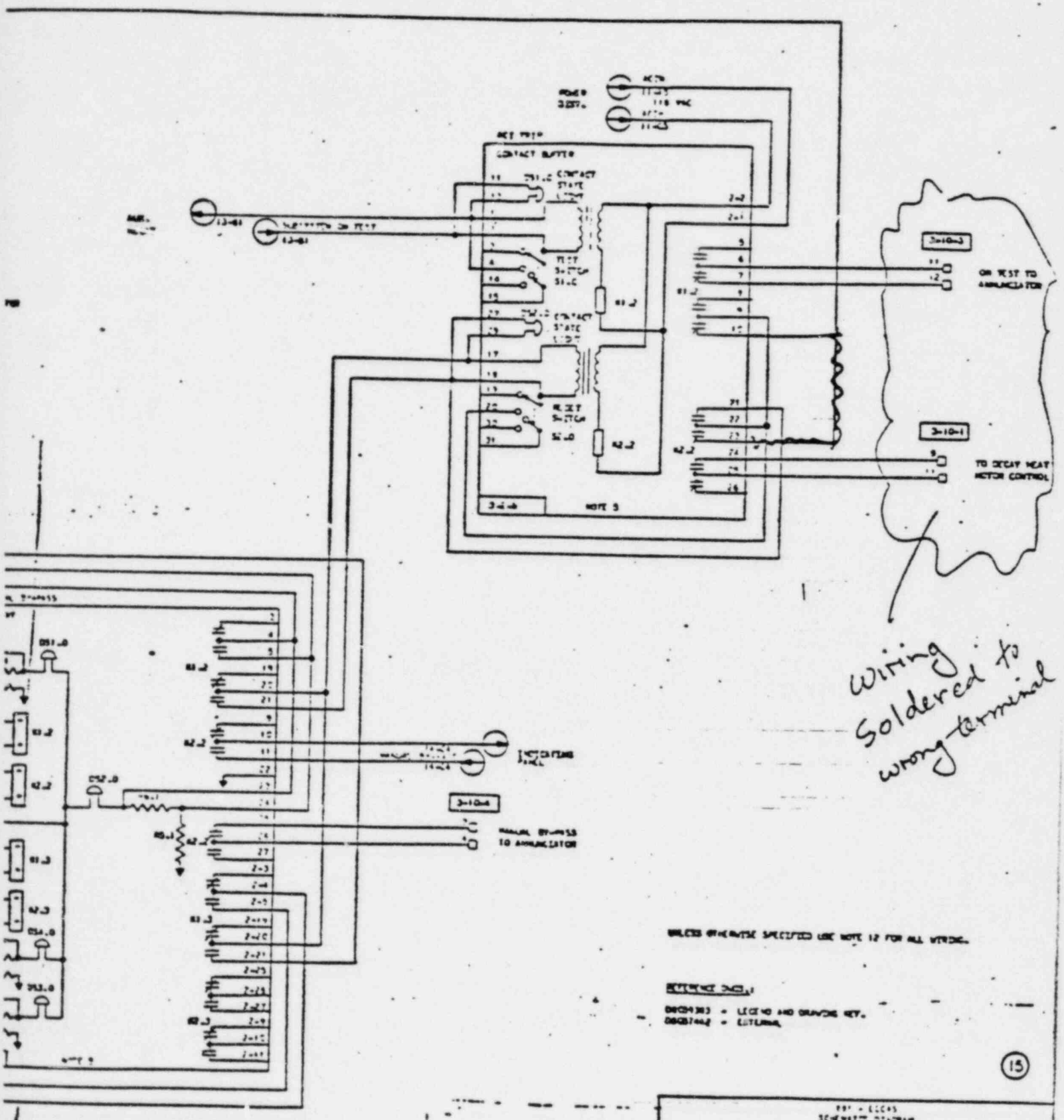
FE/TE:

PS/PTS:

Page 2 of 2

2-SAA-I-005

CAR



Wiring Soldered to wrong terminal

Babcock & Wilcox U.S.A.
BAILEY METER COMPANY

D-205-3951.

ALAB

ACTION REPORT

Page 1 of 2

(1) Unit 2 - S/U System P,K,A - Discip E - Serial C,0,7

(2) Description 2027 BATTERY CHARGER DC AMMETER DOES NOT MEET 2% ACCEPTANCE CRITERIA.

☐ (✓) Contd on Attachment

(3) Recommended Corrective Action and Retest

CALIBRATE OR REPLACE METER

Due Date 31,5810

☐ (✓) Contd on Attachment

(4) Related Documents and References

ATTACHED SHEET

TECH. SPEC. E-11 6.4.2

(5) ☒ Deficiency
☐ Design Chg
☐ Troubleshoot
☐ Maintenance
☐ Retest Only

(6) Initial B.P.C
Subsequent
ACTION

(7) Category Q,2
Cause Q,5
Retest Reqd ☐ Yes ☒ No
Q-Listed ☒ Yes ☐ No

(8) NRC Reportability 10 CFR50.55(e)
☐ Not Reportable Wm Scott Wood 11/19/80
☐ Reportable; QA Notified

(9) Signature	Name	Time/Date	Date	Time
Orig:	JR DeZone	VCV	11/18/80	1245
FE/TE:	Wm. Scott Wood	EDN	11/19/80	1350
PS/PTS:			11/19/80	1415

(10) Corrective Action or Response:

Action Organization Representative

Date

(11) Retest Complete — Date

TE:

Completion Review Signature — Date

QA:

FE/TE:

PS/PTS:

☐ (✓) Contd on Attachment

UNIT: 2

INDICATING DEVICE: DC AMMETER

RANGE: FSD 0-400 Amps
INPUT: 0-50 mV

LOCATION: 2D27 BATT. CHARGER

INSTR. MFG: GE (Pioneer) MODEL: 051415-3760[illegible] SER:

Q LISTED: YES X NO ___ SYSTEM DESIGNATOR: 2-PKA

CALIBRATION CHECK TEST RECORD

CAL.CHECK POINT		TEST		ACCEPT STATUS		REMARKS/DISPOSITION
Scale Indication	Input Value	Reading	Variance	In	Out	
0 Amps	0 DC mV	+5	+5	✓		
80	10	77	-3	✓		
160	20	150	-10		✓	
240	30	222	-18		✓	
320	40	295	-25		✓	
400	50	362	-38		✓	
						Ref. Tech Spec.
						7220-E11 6.4.2
						2% = 8A
						of FS

CALIBRATED TEST EQUIPMENT	C.P. NUMBER	CAL. DUE DATE
DMM	3742-00702	6-24-81

GPE-14

TESTED BY: B R McRae DATE: 11/18/80

APPROVED BY: DATE:

0 T. ALAB

CORRECTIVE ACTION REPORT

Page 1 of 1

(1) Unit 2 - S/U ~~BBG~~ BBG - Discip M - Serial 0,0,2

(2) Description

INCORRECT CROSS REFERENCE FROM P&ID M 404 SH1A TO P&ID M413B FOR PIPE 2"-2HCD-34: REFERENCE AT (A-3) ON M404 SH1A IS CORRECT BUT REFERENCE AT (F-E) ON P&ID M 413B SHOULD BE CHANGED

☐ (✓) Contd on Attachment

(3) Recommended Corrective Action and Retest

Due Date 0,8|0,1|8,1

CHANGE THE REFERENCE FOUND AT (F-E) ON P&ID M 413B FROM "M404 SH1B (C-2)" TO "M404 SH1A (A-3)"

☐ (✓) Contd on Attachment

(4) Related Documents and References

(5) ☒ Deficiency ☐ Design Chg ☐ Troubleshoot ☐ Maintenance ☐ Retest Only

(6) Initial B,P,D

Subsequent ACTION

(7) Category 0,2

Cause 0,1

Retest Read ☐ Yes ☒ No

Q-Listed ☒ Yes ☐ No

(8) NRC Reportability 10 CFR 50.55(e)

☒ Not Reportable [illegible] 10/30/90 0E:40

☐ Reportable; QA Notified _____ (Name) _____ (Time/Date)

(9) Signature		Date	Time
Orig:	[illegible]	10/30/90	0E:40
~~FE/TE~~:	~~[illegible]~~ A Kanjola	~~10/30/90~~ 11-21-90	~~12:45 PM~~ 13:22 PM
~~PS/PTS~~:	D M Wheeler	11-21-90	13:22 PM

(10) Corrective Action or Response:

Action Organization Representative _____ Date _____

POOR ORIGINAL

(11) Retest Complete

TE: _____ Date _____

Completion Review Signature

QA: _____ Date _____

FE/TE: _____

PS/PTS: _____

☐ (✓) Contd on Attachment

ALARS

CORRE ACTION REPORT

Page 1 of 2

(1) Unit 1 - S/U System P.K.A - Discip E - Serial 0.0.6

(2) Description 1D17 BATTERY CHARGER DC AMMETER. DOES NOT MEET 2% ACCEPTANCE CRITERIA.

☐ (✓) Contd on Attachment

(3) Recommended Corrective Action and Retest

CALIBRATE OR REPLACE METER

Due Date 31,80

☐ (✓) Contd on Attachment

(4) Related Documents and References

ATTACHED SHEET

TECH SPEC. E-11 6.4.2

(5) ☐ Deficiency
☐ Design Chg
☐ Troubleshoot
☐ Maintenance
☐ Retest Only

(6) Initial B.P.C

Subsequent ACTION

(7) Category 0.2
Cause 0.5
Retest Reqd ☐ Yes ☒ No
Q-Listed ☒ Yes ☐ No

(8) NRC Reportability 10 CFR50.55(e)
☒ Not Reportable W. [illegible] Woody 11/19/80
☐ Reportable; QA Notified _____
Name Time/Date

(9) Signature

	Signature	Date	Time
Orig:	B.R. DeFoor VDV	11/18/80	1230
FE/TE:	W. L. Woody FDS	11/19/80	1350
PS/PTS:	[illegible]	11/19/80	1410

(10) Corrective Action or Response:

Action Organization Representative

Date

(11) Retest Complete TE: _____ Date

Completion Review Signature

QA: _____ Date

FE/TE: _____

PS/PTS: _____

☐ (✓) Contd on Attachment

TEST RECORD MAR-C-0006

STATION: MIDLAND UNIT: 1

INDICATING DEVICE: DC Ammeter RANGE: 0-400 DC Amps FSD 0-50 mv RTG

LOCATION: 1D12 Batt. Charger

INSTR. MFG: GE MODEL: 30-255324EC SC. 1 JAT

Q LISTED: YES X NO ___ SYSTEM DESIGNATOR: 1-PKA

CALIBRATION CHECK TEST RECORD

CAL. CHECK POINT		TEST		ACCEPT STATUS		REMARKS/DISPOSITION
Scale Indication	Input Value	Reading	Variance	In	Out	
0 Amps	0 mV	0	0	✓		
80	10	78	-2	✓		
160	20	153	-7	✓		
240	30	231	-9		✓	
320	40	311	-9		✓	
400	50	392	-8	✓		
						Ref. Tech. Spec.
						9220-E-11 6.4.2
						2% = 8 A
						of FS

CALIBRATED TEST EQUIPMENT	C.P. NUMBER	CAL. DUE DATE
Data Precision	3742-00702	6-24-81

EPE-14

TESTED BY: B L DeTore DATE: 11/18/80

APPROVED BY: ___ DATE: ___