

Installation Procedure Title:

STABILIZER TUBE ENDMILLING - 'A' & 'B' OTSG's

Page 1 of 22

## LIST OF EFFECTIVE PAGES

<u>PAGE</u>	<u>REV.</u>	<u>EFFECTIVE DATE</u>	<u>EXHIBIT</u>	<u>PAGE</u>	<u>REV.</u>	<u>EFFECTIVE DATE</u>
1.0	1	03/12/83	7.1	1.0	0	02/17/83
2.0	1	03/12/83	7.2	1.0	1	03/12/83
3.0	0	02/17/83		2.0	1	03/12/83
4.0	0	02/17/83		3.0	1	03/12/83
5.0	0	02/17/83		4.0	1	03/12/83
6.0	0	02/17/83		5.0	1	03/12/83
7.0	0	02/17/83		6.0	1	03/12/83
8.0	0	02/17/83		7.0	1	03/12/83
				8.0	1	03/12/83
				9.0	1	03/12/83
				10.0	1	03/12/83
			7.3	1.0	0	02/17/83
			7.4	1.0	0	02/17/83
			7.5	1.0	0	02/17/83

**RECEIVED**

MAR 16 1983

G. KULL

WA-ADL # 23-1  
Page / Sheet 1 OF 22  
WA # A25K-51512

	SIGNATURE	TITLE/DIVISION/DEPARTMENT	DATE
Originator	<i>[Signature]</i>	Job Planner	3/15/83
Concurrence	<i>[Signature]</i>	Technical Support (ISR)	3/15/83
Reviewed By	<i>[Signature]</i>	Responsible Technical Reviewer	3/12/83
	<i>[Signature]</i>	Plant Review Group	3/15/83
	<i>[Signature]</i>	Rad Con	3/15/83
	8506140202 850125 PDR FOIA DETJEN84-897 PDR		
Approved By	<i>[Signature]</i>	P&S Manager	3-14-83
	<i>[Signature]</i>	O&M Director or N/A	3-15-83
	<i>[Signature]</i>	Mod/Ops Manager or N/A	3/15/83

Revision 106

**1.0 INTRODUCTION AND SCOPE**

- 1.1 The purpose of this Installation Procedure is to machine the upper tube ends of those tubes selected for plugging and stabilizing to within no less than 30 mils above the upper tubesheet clad surface.
- 1.2 This Installation Procedure covers tube end milling only. Actual insertion of stabilizer and welding in the OTSG will be performed under separate Installation Procedure.

**2.0 REFERENCES**

- 2.1 SP 1101-12-030, Rev. 8 OTSG Tube Plugging with Welded Caps and Stabilizers
- 2.2 AP 1020
- 2.3 AP 1030
- 2.4 AP 1042
- 2.5 GPUN Spec. SP 1101-12-039, Rev. 6
- 2.6 B&W Procedure 1140231, Rev. 0 (Individual Tube End Milling, Tool Operation and Maintenance)
- 2.7 DRF 8758
- 2.8 DRF 8784
- 2.9 A25J-51512-IP1, Rev. 1 (Single Tube Endmilling)

RECEIVED

MAR 16 1983

G. KULL

**3.0 RESPONSIBILITIES**

- 3.1 M&C Department is responsible for all aspects of this work.
- 3.2 Plant Engineering will provide assistance as required.

**4.0 PREREQUISITES**

- 4.1 OTSG Primary side drained and manways removed.
- 4.2 Tubes to be stabilized have been identified with hairpin markers..
- 4.3 Specific training on tube endmilling equipment must be accomplished prior to stabilizing tubes.

W.A. #	23-1
Page / Sheet	2 OF 22
W.A. #	A25K-51512

- 4.4 ALARA and RWP requirements have been satisfied.
- 4.5 The Reactor must be in cold shutdown and depressurized.
- 4.6 Adequate lighting is available inside the upper head and tent and an air supply of 80 psi minimum is available.
- 4.7 All tools and materials necessary to perform the machining are available with the tooling assembled and in proper working order.
- 4.8 Class C cleanliness is to be maintained. All necessary training is complete with sufficient manpower available to perform the required functions.

RECEIVED

FEB 17 1983

5.0 SAFETY PRECAUTIONS

G. KULL

- 5.1 All personnel performing the actual work described in this procedure, and related ones, should be thoroughly familiar with the procedures, the handling and operation of all special tools and materials, and all applicable safety precautions. *B&W tube end mill tool shall be demonstrated to preclude the potential of stalling*
- 5.2 Detailed handling, placement, operation and manner of use of all special tools and material shall be per the direction of the B&W supervisor.
- 5.3 Assure that lower head cold leg plugs and lower dome drain plug are installed prior to any work commencing in the OTSG concerning tube end removal.
- 5.4 An enclosure shall be provided around the opening to the steam generator to ensure that any contaminated air is contained. This area shall be free from oil, scale, chips, wire, grease, chemicals and other foreign materials which may be detrimental to the primary system.

PLANNER  
COPY

- 5.5 During work performed in accordance with this procedure, proper control and inventory of all tools, equipment, materials and supplies shall be maintained to prevent their loss and/or inadvertent introduction into a system.
- 5.6 Adequate protection to personnel extremities is to be provided to prevent injury and allow mobility over milled tube ends.
- 5.7 If tube end does not permit entry of pilot, tube end should be opened using a manual reamer.
- 5.8 Lubricated tools will either exhaust outside the OTSG or use an approved lubricant, per Ref. 2.5.
- 5.9 Report the following to the Procedure Controller if they occur:
- (A) Any tube end, other than those identified, which are accidentally machined. *NOTE ON ATT. 7.3. JLF 2/17/83*
  - (B) Any weld from an adjacent plugged tube which is machined during end milling. *NOTE ON ATT. 7.3. JLF 2/17/83*

## 6.0 INSTALLATION REQUIREMENTS

### 6.1 Initial Conditions

6.1.1 A respiratory system capable of providing breathing air for tube end milling personnel is available at each OTSG manway opening.

6.1.2 Access tents are erected around each manway.

6.1.3 Exhaust system must be installed and operating on the primary side of the OTSG.

6.1.4 Two (2) each 115-volt 15 amp electrical receptacles for 3-prong, grounded plugs with ground fault shall be available at each OTSG head.

PLANNER  
COPY

RECEIVED

FEB 17 1983

G. KULL

WA-ADL #	<u>23-1</u>
Page / Sheet	<u>4 of 22</u>
WA #	<u>A25K-51512</u>



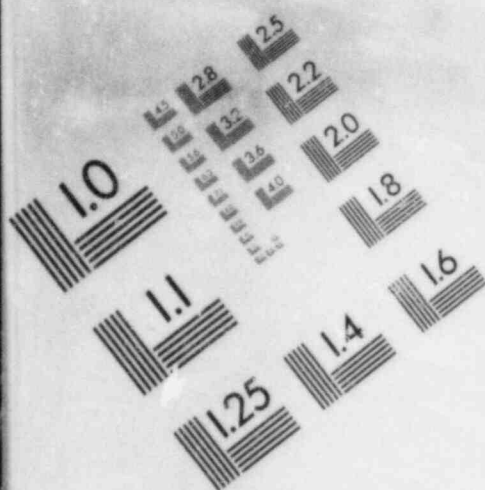
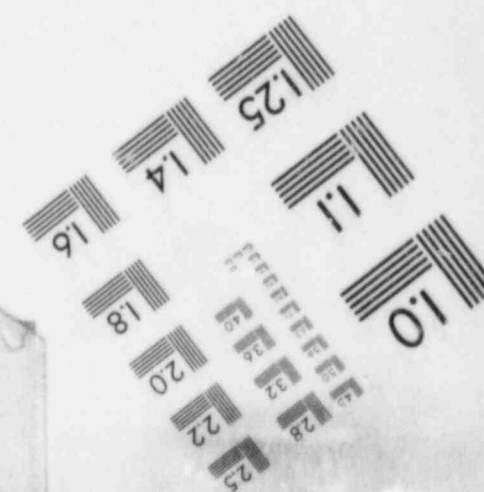
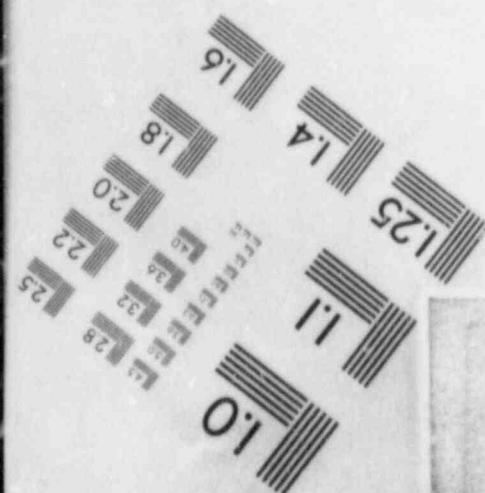
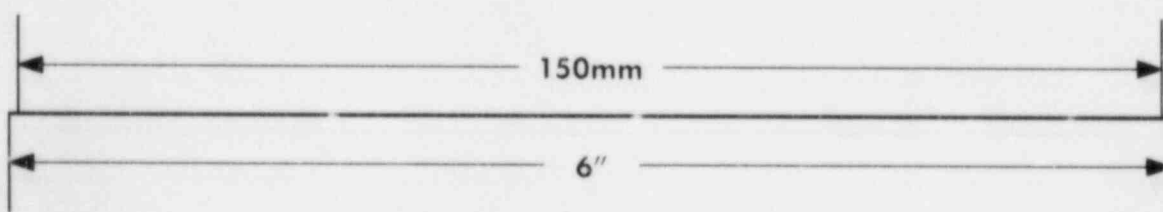
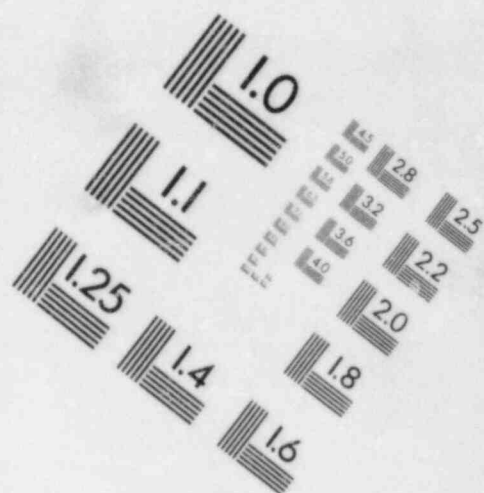


IMAGE EVALUATION  
TEST TARGET (MT-3)



- 6.1.5 Sufficient lighting shall be located inside each access tent with power cords of sufficient length to position the lights inside the OTSG head. (No unsecured electrical connections in OTSG head.)
- 6.1.6 Communications and video have been established and tested to ensure voice and visual contact between the supervisory station(s) and inside the OTSG head.
- 6.1.7 Tooling process area is set up and all milling units have been set up, adjusted, tested and recorded on the Single Tube Milling Tool Checklist (See Sample -- Attachment 7.1).
- 6.1.8 Tubes to be milled are identified on a marked tubesheet map.
- 6.1.9 Vacuum system available for cleaning upper and lower heads.

## 6.2 Tool Checkout During Production

PLANNER  
COPY

- 6.2.1 Set up a process tent (controlled contaminated area) with a work area, plant air regulated 80-100 psi, depth calibration block.
- 6.2.2 Place calibration block on work table and install an MK1 insert to establish the desired .030" depth of cut.
- 6.2.3 Thread nuts onto hardstops and thread hardstops completely into the four locations on the underside of the fixture.
- 6.2.4 Assemble stabilizer legs and torque until snug. Thread stabilizer legs into underside of fixture until the shoulder contacts and torque until snug.

RECEIVED

FEB 17 1993

G. KULL

- 6.2.5 Orient hex collar on drive unit with hex cut out on fixture until the long axis of drive unit is perpendicular to fixture handle. (Different orientations may be required for some OTSG tubes.)
- 6.2.6 Thread clamp onto drive head and secure drive into position.
- 6.2.7 Place four fluted end mill on drive stock. Insure detent pin is positioned properly using T-shaped tool that is supplied.
- 6.2.8 Orient stabilizer legs to the holes in the calibration blocks and fully insert.
- 6.2.9 Apply approximately 20 lbs force down on handle to insure that the float in drive unit is taken-up.
- 6.2.10 Look closely at the surface of the cal block and insure that the four fluted end mill is contacting the cal insert and that the hardstops are not contacting the cal block surface.
- 6.2.11 Adjust each of the four hardstops so that they are just resting on cal block surface and not lifting the end mill out of contact with cal insert.

NOTE: At least two opposite hardstops are required if recommended 4 hardstops can't be used due to OTSG interferences.

- 6.2.12 Carefully remove tool from cal block and snug nuts on hardstops to lock them in position. Insure that hardstops do not rotate with locknuts.
- 6.2.13 Remove cal insert from cal block. Place tool once again in cal block. Note any "rocking" on four hardstops. If so, repeat 6.2.8 through 6.2.13.
- 6.2.14 Re-calibrate tool after every cutter change-out or when operator believes to have lost its calibration.

RECEIVED

FEB 17 1983

G. KULL

PLANNER  
COPY

WA-ADL #	23-1
Page / Sheet	6 of 22
WA #	A25K-51512

### 6.3 Milling Process

6.3.1 Insure that all requirements of Section 6.2 have been met.

6.3.2 Locate tube end to be milled.

6.3.3 Locate milling unit directly over the hairpin marker.

Push hairpin marker down into the tube.

NOTE

:

If a plugged tube obstructs the insertion of the stabilizer legs, one or two legs may be removed in order to mill that tube. A minimum of one leg MUST be in place at all times.

6.3.4 Place one hand on handle and the other on the drive trigger.

6.3.5 Start drive with end mill not contacting tube end. Once it is up to full speed, gradually make contact with tube and ease up to a full feed force of approximately 50 lbs.

6.3.6 If considerable chattering is experienced, more feed is required.

6.3.7 Mill down tube end until all four hardstops rest flat on tubesheet (a pronounced lack of chattering will indicate this).

NOTE: As tubes are milled, Procedure Controller to indicate same on Attachment 7.3.

NOTE: For special situations, up to two hardstops may be removed, as long as the two remaining hardstops are opposite (180°) one another. After special situation milling is complete, the hardstops are to be reinstalled and the fixture is to be recalibrated.

FLANNER  
COPY

RECEIVED

FEB 17 1983

G. KULL



- 6.3.8 Remove tool from tubesheet and repeat 6.3.2 through 6.3.8 until all tube endmilling is complete.

NOTE: After milling is completed, pull hairpin marker back up (not out). Also, any hairpin markers that were pushed down by the milling unit legs shall be pulled up at this time.

- 6.3.9 If adjacent plugged tubes make it impossible to position end milling tool over required tube end, use Single Tube Endmilling Tool to machine tube ends to 0.030 inches. Ensure tool is set up properly per Attachment 7.4.
- 6.3.10 Upon completion of all endmilling, each tube shall be checked with a GO-NO-GO Gage to verify that a sufficient amount of seal weld has been removed. The gage should rest on the tube's seal weld with a small amount of the original weld showing outside the gage. Identify any tube which does not meet this criteria on Attachment 7.5.
- 6.3.11 After the tube is satisfactorily gaged, remove the hairpin marker from the tube. Record on Attachment 7.5.

RECEIVED

FEB 17 1983

G. KULL

6.4 Final Conditions

- 6.4.1 The OTSG has been cleaned of the debris caused by milling in both upper and lower heads and all tooling and material have been removed from OTSGs.
- 6.4.2 All tubes listed on Attachment 7.2 have been milled to no less than a minimum of 0.030 inches above the tubesheet clad surface and satisfactorily gaged and/or

discrepancies recorded and evaluated.

7.0 ATTACHMENTS

- 7.1 Single Tube Milling - Tool Checklist (SAMPLE)
- 7.2 List of Tubes to be Milled in 'A' and 'B' OTSGs
- 7.3 Tube Endmilling Tracking Sheet (SAMPLE)
- 7.4 Directions for Set-Up/Operation of Single Tube Endmilling Tool
- 7.5 GO-NO-GO Gage Test Results Sheet (SAMPLE)

PLANNER  
COPY

WA-ADL #	23-1
Page / Sheet	8 OF 22
WA #	A25K-51512

SINGLE TUBE MILLING - TOOL CHECKLIST

Tool Number \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Calibration Block Serial Number \_\_\_\_\_

1. Post Cutting Depth. Stop Set at \_\_\_\_\_.
2. Used Cutter Removed.
3. Tooling Cleaned and Lubricated.
4. New Cutter Installed. Ensure Cutter is Tightened in Place and Tool Holder is Tightened in Chuck.
5. Cutting Depth set at \_\_\_\_\_.
6. Operation Tested.
7. Remarks. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Verified by Procedure Controller

RECEIVED

FEB 17 1993

G. KULL

PLANNER  
COPY

WA-ADL #	<u>23-1</u>
Page / Sheet	<u>9 OF 22</u>
WA #	<u>A25K-51512</u>

## ATTACHMENT 1

ATT. 7.2

PART I. OTSG A

Pg. 1 - REV. 1

LIST OF TUBES TO BE STABILIZED AND PLUGGED

RECEIVED

EC INDICATIONS FROM US + 04\* THRU 15TH TSP

MAR 16 1983

G. KULL

Row	Tube	Row	Tube	Row	Tube			
1.	1	9	25.	11	68	49.	24	95
2.	1	10	26.	13	3	50.	25	4
3.	2	10	27.	13	7	51.	25	95
4.	2	12	<del>28. 14 60 Deleted</del>			52.	25	96
5.	2	23	29.	13	72	53.	25	97
6.	3	30	30.	13	73	54.	26	97
7.	4	2	31.	13	74	55.	27	98
8.	4	3	32.	14	2	56.	28	100
9.	4	5	33.	14	72	57.	28	101
10.	4	36	34.	14	74	58.	29	93
11.	4	40	35.	18	82	59.	29	98
12.	5	4	36.	18	85	60.	29	102
13.	6	49	37.	19	86	61.	29	103
14.	6	50	38.	20	79	62.	29	104
15.	7	43	39.	20	80	63.	30	19
16.	7	34	40.	21	1	64.	30	96
17.	8	3	41.	21	89	65.	30	103
18.	8	57	42.	22	86	66.	30	104
19.	9	60	43.	23	1	67.	31	68
20.	9	61	44.	23	88	68.	31	89
21.	10	23	45.	23	89	69.	31	104
22.	10	27	46.	24	14	70.	32	105
23.	10	64	47.	24	91	71.	32	106
24.	10	65	48.	24	93	72.	33	106

WA-ADL #

23-1

Page / Sheet

10 OF 22

WA #

A25K-51512

WA-ADL # 23-1  
Page / Sheet 10 OF 22  
WA # A25K-51512

\* 8x1 EC data at US + 05 less than 270°.

ATT. 7.2

Pg. 2 - Rev. 1  
RECEIVEDOTSC ALIST OF TUBES TO BE STABILIZED AND PLUGGEDEC INDICATIONS FROM US + 04\* THRU 15TH TSP

MAR 16 1983

G. KULL

<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>			
73.	33	107	98.	41	113	123.	50	121
74.	34	100	99.	41	114	124.	50	122
75.	34	104	100.	42	113	125.	51	113
76.	34	105	101.	42	115	126.	51	119
77.	34	106	102.	42	116	127.	51	120
78.	35	87	103.	43	114	128.	51	123
79.	36	104	104.	43	115	129.	52	2
80.	36	108	105.	43	117	130.	53	125
81.	36	112	106.	44	116	131.	53	126
82.	37	111	107.	45	115	132.	54	123
83.	37	112	108.	45	116	133.	54	124
84.	37	114	109.	45	120	134.	54	125
85.	38	110	110.	46	115	135.	54	127
86.	38	111	111.	46	116	136.	55	32
87.	38	113	112.	46	118	137.	55	121
88.	39	115	113.	47	106	138.	55	126
89.	39	111	114.	47	119	139.	56	126
90.	39	112	115.	47	120	140.	56	127
91.	39	116	116.	47	122	141.	57	127
92.	40	13	117.	48	2	142.	58	126
93.	40	112	118.	48	77	143.	58	128
94.	40	114	119.	49	121	144.	59	32
95.	40	115	120.	49	122	145.	59	123
96.	40	116	121.	49	123	146.	60	17
97.	41	1	122.	49	124	147.	60	127

WA-ADL # 23-1  
Page 1 Sheet 11 of 22  
WA # A25K-51512

\* Excl EC data at US + 05 less than 270°.



OTSG A

LIST OF TUBES TO BE STABILIZED AND PLUGGED

EC INDICATIONS FROM US + 04\* THRU 15TH TSP

ATT. 7.2

PG. 3 - REV. 1  
RECEIVED

MAR 16 1983

G. KULL

<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>
148.	62	126	173.	71	127
149.	62	127	174.	73	124
150.	62	128	175.	73	125
151.	64	125	176.	73	127
152.	65	128	177.	74	118
153.	65	129	178.	74	122
154.	66	10	179.	75	120
155.	66	124	180.	76	117
156.	66	128	181.	76	120
157.	66	130	182.	78	21
158.	67	124	183.	78	120
159.	67	125	184.	79	3
160.	67	127	185.	79	125
161.	67	128	186.	79	127
162.	68	126	187.	79	128
163.	68	130	188.	79	129
164.	68	131	189.	80	123
165.	69	125	190.	80	129
166.	69	126	191.	81	125
167.	69	127	192.	81	126
168.	69	128	193.	81	128
169.	69	129	194.	82	114
170.	70	125	195.	82	123
171.	70	127	196.	82	129
172.	70	130	197.	82	130
			198.	83	129
			199.	84	125
			200.	84	128
			201.	84	129
			202.	85	126
			203.	85	128
			204.	85	130
			205.	86	124
			206.	86	129
			207.	87	125
			208.	87	126
			209.	87	130
			210.	88	126
			211.	89	126
			212.	90	124
			213.	90	125
			214.	91	70
			215.	91	121
			216.	91	123
			217.	91	124
			218.	91	125
			219.	92	93
			220.	92	94
			221.	92	126
			222.	92	127

WA-ADL # 23-1  
Page / Sheet 12 OF 22  
WA # A25K-51512

OTEC A

LIST OF TUBES TO BE STABILIZED AND PLUGGED

EC INDICATIONS FROM US + 04\* THRU 15TH TSP

ATT. 7.2

PG 4 - REV. 1  
RECEIVED

MAR 16 1983

G. KULL

<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>	<u>Row</u>	<u>Tube</u>
223.	92	128	249.	109	110
224.	92	129	250.	109	116
225.	93	18	251.	110	1
226.	95	125	252.	112	99
227.	96	80	253.	112	107
228.	96	124	254.	113	3
229.	96	126	255.	113	106
230.	97	78	256.	113	110
231.	97	123	257.	114	106
232.	97	125	258.	114	109
233.	98	60	259.	116	24
234.	98	123	260.	116	49
235.	98	127	261.	116	107
236.	99	123	262.	116	110
237.	100	123	263.	117	99
238.	100	124	264.	119	100
239.	100	125	265.	119	103
240.	101	121	266.	120	99
241.	101	123	267.	121	95
242.	101	124	268.	121	97
243.	102	91	269.	122	98
244.	102	122	270.	122	99
245.	103	122	271.	123	94
246.	105	122	272.	123	98
247.	106	117	273.	124	90
275.	124	93			
276.	125	91			
277.	125	94			
278.	126	81			
279.	126	88			
280.	127	86			
281.	128	69			
<del>282.</del>	<del>128</del>	<del>85</del>			
283.	128	83			
284.	128	89			
<del>285.</del>	<del>128</del>	<del>91</del>			
286.	129	2			
287.	129	84			
288.	129	85			
289.	130	85			
290.	130	86			
291.	130	90			
292.	131	83			
293.	131	87			
294.	131	88			
295.	132	78			
296.	132	80			
297.	132	81			
298.	132	84			
299.	133	82			

WA-ADL # 23-1  
Page / Sheet 13 of 22  
WA # A25K-51512

MAR 16 1983

OTSG A

G. KULL

ATT. 7.2  
Pg. 5 - REV. 1LIST OF TUBES TO BE STABILIZED AND PLUGGEDEC INDICATIONS FROM US + 04\* THRU 15TH TSP

Row	Tube	Row	Tube	Row	Tube
301.	134 69	326.	138 71	351.	144 55
302.	134 79	327.	138 72	352.	144 57
303.	134 80	328.	138 73	353.	145 44
304.	134 84	329.	139 3	354.	145 45
305.	135 73	330.	139 72	355.	146 5
306.	135 75	331.	139 74	356.	146 24
307.	135 76	332.	140 2	357.	146 46
308.	135 77	333.	140 63	358.	147 21
309.	135 79	334.	141 52	359.	147 22
310.	135 80	335.	141 61	360.	148 5
311.	135 82	336.	141 63	361.	148 28
312.	136 68	337.	141 67	362.	148 38
313.	136 70	338.	141 68	363.	148 40
314.	136 72	339.	142 3	364.	149 4
315.	136 74	340.	142 56	365.	150 7
316.	136 75	341.	142 59	366.	150 12
317.	136 78	342.	142 60	367.	150 14
318.	136 79	343.	142 62	368.	150 26
319.	137 74	344.	142 64	369.	150 27
320.	137 75	345.	142 65	370.	151 6
321.	137 77	346.	143 45	371.	151 7
322.	138 5	347.	143 60	372.	151 13
323.	138 57	348.	143 62	373.	37 113
324.	138 67	349.	144 9	374.	49 2
325.	138 69	350.	144 46	375.	143 59

WA-ADL # 23-1  
Page / Sheet 14 of 22  
WA # A25K-51512

OTSC A

ATT. 7.2  
PG. 6 - REV. 1

LIST OF TUBES TO BE STABILIZED AND PLUGGED

EC INDICATIONS FROM US + 04\* THRU 15TH TSP

Row	Tube
376.	42 (See Note 1)
377.	73 (See Note 1)
378.	99 (See Note 2)
379.	143 (See Note 2)
380.	35 (See Note 2)
381.	26 (See Note 3)
382.	90 (See Note 4)
<del>383.</del>	<del>116 (See Note 5) deleted</del>
384.	79 36 (See Note 5)
385.	23 93 (See Note 7)
<del>386.</del>	<del>60 37 (See Note 6)</del>
387.	109 100 ( " )
<del>388.</del>	<del>127 98 (See Note 6)</del>
<del>389.</del>	<del>149 7 ( " )</del>
390.	30 95

RECEIVED

MAR 16 1983

G. KULL

Delete DOB 3/15/83

NEW ADDITIONS  
TO LIST

Delete DOB 3/15/83

WA-ADL # 23-1  
Page / Sheet 15 OF 22  
WA # A25K-51512



OTSG A

ATT. 7.2  
Pg. 7 - Rev. 1

LIST OF TUBES TO BE STABILIZED AND PLUGGED  
EC INDICATIONS FROM US + 04\* THRU 15TH TSP

NOTES

- Note 1: 0.540 and 8x1 EC data is not in agreement for stabilization criteria.
- Note 2: 8x1 EC data has an additional indication that requires these tubes to be stabilized.
- Note 3: Defect on 0.540 unable to be confirmed on 8x1.
- Note 4: Multiple defects in 16<sup>th</sup> span of < 40% TW. 1 failed multiple 1 wall.
- Note 5: < 20% TW. in 16<sup>th</sup> span, 1 failed & 1 wall on 8x1 data.
- Note 6: Plants Engineering reviewed the EC data and determined these tubes should be added to the list to satisfy the revised stabilizing criteria (per R.O. Barley 3-11-83 telecon).
- Note 7: 95% TW. at 15 TSP + 18". Remove Tapered Plug & REPLUG with Stabilizer.

RECEIVED

MAR 16 1983

G. KULL

Deletions = 4

Grand Total = 389 - 4 = 385

note

\* 8x1 EC data at US + 05 is less than 270°.

VIA #	23-1
Page / Sheet	16 OF 22
VIA #	A25K-51512

A-T. 7. 2  
Pg. 8 - REV. 1

PART II. OTSG B  
LIST OF TUBES TO BE STABILIZED AND PLUGGED  
(TO BE DETERMINED LATER)

RECEIVED

MAR 16 1983

G. KULL

WA-ADL # 23-1  
Page / Sheet 17 of 22  
A # A25K-51512

ATT. 7.2  
Pg. 9 - REV. 1

RECEIVED

ATTACHMENT 1

MAR 16 1983

PART VI

G. KULL

LIST OF TUBES TO BE STABILIZED AND PLUGGED

TUBES LOCATED IN LANE OR LANE WEDGE AREA

<u>OTSG</u>	<u>ROW-TUBE</u>	<u>DEFECT LOCATION</u>
A	75 - 1	Non-Crossflow Area
A	75 - 2	" " "
A	77 - 36	" " "
A	77 - 46	" " "
A	77 - 52	" " "
A	77 - 3	" " "
A	81 - 3	" " "
A	82 - 1	" " "
A	85 - 1	" " "
A	86 - 1	" " "

VIA-ADL # 23-1  
Page / Sheet 18 OF 22  
VIA # A25K-51512

ATTACHMENT 1

PART VII

LIST OF TUBES TO BE STABILIZED AND PLUGGED  
WITH LONG STABILIZERS

RECEIVED

MAR 16 1983

G. KULL

DTSG A

	<u>Row</u>	<u>Tube</u>	<u>Defect Location</u>	
1.	A3	32	14 thru 15-06	DELETE <sup>DOB</sup> 3/15/83
2.	A27	100	14-01 thru 15-07	} Deleted
3.	A196	3	14 TSP thru 15-07	
4.	A31	106	10 TSP-0	
5.	A145	17	14 TSP-0	
6.	B118	106	15-17 thru 15-24	} TED
7.	B34	221	8 TSP +10 thru 10 TSP-20	
1.	A84	127	STABILIZE TO 12 <sup>th</sup> TSP	} <sup>DOB</sup> 3/15/83
2.	A96	79	STABILIZE TO 10 <sup>th</sup> TSP	
3.	A9	22	STABILIZE TO 12 <sup>th</sup> TSP	

NEW ADDITIONS  
TO LIST.

W. 23-1  
Page 1 Sheet 19 OF 22  
WA # A25K-51512



SHIFT \_\_\_\_\_ DATE \_\_\_\_\_ OTSG \_\_\_\_\_

PLANNER  
COPY

WA-ADL # 23-1  
Page / Sheet 20 OF 22  
WA # A25K-51512

Directions For Set-Up/Operation of Single Tube Endmilling Tool

1. Adjust the UTS hardstop utilizing calibration block to a cutting depth of 0.030 inches. DO NOT MACHINE BELOW 30 MILS above the clad surface.
2. Put 3-4 drops of lubricant into air inlet of motor. Turn on air motor and observe proper rotation and operation of cutting tool assembly. Turn off motor.
3. Enter OTSG upper head and locate tube to be milled.
4. Insert pilot of cutting tool into tube to be milled.
5. Turn on air motor prior to contact with tube end. Mill until visual verification of hardstop contact is made with clad surface of UTS. Allow Air Motor to run until all cutting action has stopped. Shut off Air Motor. Remove from tube.

RECEIVED

FEB 17 1983

G. KULL

PLANNER  
COPY

WA-ADL #	<u>23-1</u>
Page / Sheet	<u>21 OF 22</u>
WA #	<u>A25K-51512</u>

