Point Beach Nuclear Plant

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Procedure Number IT 300B Unit PB 1 Revision Number 10

Procedure Title S/G 'B' MF LINE CHECK VALVES (CSD) UNIT 1 Revision Date 8 22 2002

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A/252

IT 300B

STEAM GENERATOR B
MAIN FEED LINE CHECK VALVES
(COLD SHUTDOWN)
UNIT 1

DOCUMENT TYPE: Technical

CLASSIFICATION: Safety Related

REVISION: 10

EFFECTIVE DATE: August 22, 2002

REVIEWER: Qualified Reviewer

APPROVAL AUTHORITY: Department Manager

PROCEDURE OWNER (title): Group Head

OWNER GROUP: Operations

Verified Current Copy: _____ _____ _____
Signature Date Time

List pages used for Partial Performance

Controlling Work Document Numbers

9943725

1.0 PURPOSE

1.1 This procedure partially satisfies TS 5.5.7, by conducting Inservice Testing (IST) Program bi-directional exercise tests of the "B" S/G Main Feed Line check valves, in accordance with the ASME OM Code 95Ed./96A. Exercising to the closed safety position is demonstrated by the quantifying seat leakage past the check valve, confirming disc closure. Exercising to the open (non-safety) position is demonstrated by normal unit power operations.

1CS-476AA, 1HX-1B SG Check
1CS-476BB, 1HX-1B SG Check

1.2 To provide conditions for blowdown of "B" S/G instrumentation, in Mode 5 conditions.

2.0 PREREQUISITES

2.1 Special test rig, Omega flowmeter, Model No. FL-7325, as shown in Attachment B is available.(Stored in U2 TH El. 26' south).

2.2 Test rig pressure indicator (PI's) AND flow cal dates have been checked current.

Test rig:
PI No # 1CT1 725 Cal Date 12/1/2
FI No # E33233 Cal Date 11/14/2

2.3 Handheld Pyrometer AND Adapter Cable. (C-59)
FI No # OPS-01-001 Cal Date 9/3/02

2.4 I&C Instrument Technicians available to blow down S/G level instrumentation, if required.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 A 20 psig minimum backpressure should be maintained at the test rig to prevent gravity draining of the main feed line.

3.2 The test manifold drain hose should be routed to a local floor drain AND secured to prevent end whip, for personnel safety. These hose shall be rated for greater than OR equal to 500 psig at 250 °F., to minimize risk of injury due to hose rupture.

3.3 "B" S/G metal temperature must be greater than OR equal to 70°F before pressurization greater than 200 psig per TRM 3.7.3.

3.4 Do NOT exceed 840 psig in "B" S/G.

3.5 Do NOT OPEN 1MS-2015, 1HX-1B SG Hdr Atmospheric Steam Dump Control, when steam lines are filled except to avoid exceeding 840 psig.

3.6 Do NOT use, 1MS-2015, 1HX-1B SG Hdr Atmospheric Steam Dump Control, as a vent path while filling "B" S/G.

INITIALS

4.0 INITIAL CONDITIONS

4.1 This test is being done to satisfy:

✓ The normally scheduled callup.
Work Order No. 9943725

NOTE: **If this test is being performed to satisfy PMT or off-normal frequency requirements, Shift Management may N/A those portions of the procedure that are NOT applicable for the performance of the PMT. The use of N/A is NOT acceptable for Initial Conditions, Precautions and Limitations, or procedure steps that pertain to the equipment requiring PMT, nor is it acceptable for restoration of equipment/components unless the component has been declared inoperable.**

_____ Post-maintenance operability test for:
Equipment ID _____
WO No(s). _____

_____ Special test - no numbers
Explain: _____

4.2 OI 150, Heating the Condensate Storage Tanks, has been implemented to split CST's AND heat T-24A, South CST to 80-110°F.

4.3 At least 1 "B" S/G main steam safety valve must be operable.
(Circle operable 1HX-1B SG Header Safety valves).

- 1MS-2005
- 1MS-2006
- 1MS-2007
- 1MS-2008

DW FOR JK
MTN

4.4 Any safety valve removed must have full pressure blank flange installed.

DW FOR JK
MTN

4.5 "B" S/G hand hole covers installed.

DW FOR CR
MTN

4.6 "B" S/G secondary manways installed.

DW FOR CR
MTN

INITIALS

4.7 "B" S/G feed line intact FROM main and bypass feedwater reg. valves inlet isolation TO "B" S/G. — for JK — MTN

4.8 All "B" S/G tubes that require plugging are plugged on BOTH ends. (N/A if primary manways are installed) — ISI

4.9 Chemistry notified

- To determine discharge permit requirements to utilize steam generator blowdown system.
- To determine chemical addition requirements AND to have required chemicals available at P-38B Chemical Addition Pot.

4.10 Unit 1 in MODE 5, 6, OR Defueled.

4.11 "B" S/G Wide Range Level, LT-470A OR LT-470B, operable. — for J.H — I&C

4.12 PBF-2051, "B" S/ Blowdown Flow Rate Log Sheet, is available if required.

4.13 P-38B, Aux Feedwater Motor-Driven Pump AND flow path to "B" S/G is available with no outstanding clearances OR associated work is in progress. — WCC

4.14 "B" S/G Blowdown system has no outstanding clearances, no associated work in progress AND is available to receive drains from steam line B AND "B" S/G blowdown. — WCC

4.15 **Permission to Perform Test**

The conditions required by this test are consistent with required plant conditions including equipment operability. Permission is granted to perform this test.

DSS J. Williams Time 0740 Date 10/1/2

INITIALS

5.0 PROCEDURE

5.1 PT-478, 1HX-1B Steam Pressure Channel in service.

5.1.1 1MS-478, 1HX-1B SG Header PT-478 Root. OPEN

5.1.2 1MS-478A, 1HX-1B SG Header PT-478 2nd Off Isolation. OPEN

5.1.3 PT-478, 1HX-1B Steam Pressure Channel. OPERABLE JH For I&C

5.2 Ensure one OR both SG Steam Pressure Channels in service PT-479 OR PT-483 (Mark unused channel as N/A).

5.2.1 1MS-479, 1HX-1B SG Header PT-479 Root OPEN

5.2.2 1MS-479A, 1HX-1B SG Header PT-479 2nd Off Isolation. OPEN

5.2.3 PT-479, 1HX-1B Steam Pressure Channel. OPERABLE JH For I&C

OR

5.2.4 1MS-483, 1HX-1B SG Header PT-483 Root. OPEN

5.2.5 1MS-483A, 1HX-1B SG Header PT-483 2nd Off Isolation OPEN

5.2.6 PT-483, 1HX-1B Steam Pressure Channel. OPERABLE JH For I&C

5.3 IF feed line has been drained since shutdown,
THEN perform Main Feed Line fill per Attachment A, step 1.0. MC

INITIALS

5.4 Obtain "B" S/G metal temperatures by performing steps 5.4.1 OR 5.4.2. (N/A the one NOT used)

5.4.1 Using hand held pyrometer AND adapter cable located at C-59, plug adapter cable into thermocouple junction box located on "B" S/G missile shield wall AND record readings:

a. TE-2022A, 1HX-1B SG Shell Temperature Thermocouple
Above feedwater inlet 95 °F

b. TE-2022B, 1HX-1B SG Shell Temperature Thermocouple
Below transition cone 89 °F

c. TE-2022C, 1HX-1B SG Shell Temperature Thermocouple
Above tubesheet 92 °F JSB

5.4.2 Using hand held pyrometer, obtain metal temperatures at "B" S/G upper manway OR upper level tap penetration.
_____ °F NA JSB

CAUTION

A minimum 70° F test temperature is required to pressurize SG greater than 200 psig.

5.5 IF "B" S/G temperatures less than 70°F,
THEN establish "B" S/G level less than OR equal to 360 inches. NA JSB

5.6 WHEN "B" S/G pressurized greater than 50 psig but less than OR equal to 100 psig,
THEN arrange with I&C to blow down "B" S/G level transmitters, if required.

INITIALS

5.7 Record as found positions AND align "B" S/G for filling:.

Valve	Component Description	As Found Position	Required Position	Initials
1MS-2017	1HX-1B SG Header Main Steam Stop Control valve	DT SHUT	SHUT	
1MS-236	1HX-1B SG Header MS-2017 Main Steam Stop Bypass	DT SHUT	SHUT	
1MS-241	1HX-1B SG Header ST-2028 Inlet	DT SHUT	SHUT	
1MS-242	1HX-1B SG Header ST-2028 Bypass	DT SHUT	SHUT	
1MS-239	1HX-1B SG Drain to 1T-26 Blowdown Tank	SHUT	SHUT	
1MS-237	P-29 AFP/Radwaste Steam Isolation	DT SHUT	UNLOCKED & SHUT	
1MS-35	HX-1B SG Header ST-2036 First Off Isolation	Open	OPEN	
1MS-36	HX-1B SG Header ST-2036 Second Off Isolation	Open	OPEN	
1MS-120A	HX-1B SG Header ST-2036 Bypass Drain	uncapped / open	UNCAPPED & OPEN	
	Note:1MS-212 is on top of "B" S/G AND will be left in LO position with red lock and chain			
1MS-212	1HX-1B SG Vent	capped open	LOCKED OPEN	
	Note:1MS-214 is inaccessible. Visual verification from remote area to check rising stem AND red lock is sufficient to satisfy position check.			
1MS-214	1HX-1B SG Vent Line Vent Penetration IVTC	capped shut & capped	SHUT & CAPPED	
1MS-248	1HX-1B SG Vent	capped shut	OPEN	
1MS-217A	1HX-1B SG Blowdown Line Drain, inside containment	shut & capped	SHUT & CAPPED	
1MS-218	1HX-1B SG Blowdown Line Manual Isolation	OPEN	OPEN	
1MS-5959	1HX-1B SG Blowdown Isolation, inside containment	SHUT	AIR ON & SHUT	
1MS-2045	1HX-1B SG Header Blowdown Control	Air on / SHUT	AIR ON & OPEN	
1MS-266	1HX-1B SG Blowdown Isolation,	OPEN	OPEN	
1MS-272	1HX-1B SG Blowdown to 1T-26 SGBD Tank	SHUT	OPEN	
1MS-274	1HX-1B SG Blowdown to 1T-26 SGBD Tank Outlet,	1/4 turn open	1/4 turn OPEN	
1MS-282	1HX-1B SG Blowdown to 1HX-18B1/2	SHUT	SHUT	

INITIALS

Valve	Component Description	As Found Position	Required Position	Initials
1MS-286	1T-26 SGBD Tank Outlet	OPEN	OPEN	JSB
1MS-288	1T-26 SGBD Tank Outlet MS-2040 Inlet	OPEN	OPEN	JSB
1MS-2040	1T-26 SGBD Tank Outlet Control	SHUT	SHUT	JSB
1MS-296	P-49 Blowdown Pump Suction	OPEN	OPEN	JSB
1MS-300	P-49 Blowdown Pump Discharge	OPEN	OPEN	JSB
	Note: Align at least one blowdown filter F-64A OR F-64B (N/A filter not selected)			
	F-64A blowdown filter			
1MS-302	F-64A Blowdown Filter Inlet Line Drain	SHUT	SHUT	JSB
1MS-303	F-64A Blowdown Filter Outlet Line Drain	SHUT	SHUT	JSB
1MS-301	F-64A Blowdown Filter Inlet	OPEN	OPEN	JSB
1MS-304	F-64A Blowdown Filter Outlet	OPEN	OPEN	JSB
	F-64B blowdown filter			
1MS-306	F-64B Blowdown Filter Inlet Line Drain	SHUT	SHUT	JSB
1MS-307	F-64B Blowdown Filter Outlet Line Drain	SHUT	SHUT	JSB
1MS-305	F-64B Blowdown Filter Inlet	OPEN	OPEN	JSB
1MS-308	F-64B Blowdown Filter Outlet	OPEN	OPEN	JSB
1MS-2099	Blowdown Filter System Outlet Control	AIR ON	AIR ON	JSB
1MS-5954	BD Filter System to Condensate Demin Flow Ctl, aligned to service water return header	AIR OFF OPEN	AIR OFF & OPEN	JSB
1MS-311	BD Filter Sys Outlet to Service Water Return Hdr	OPEN	OPEN	JSB

5.8 Discharge permit to utilize "B" S/G Blowdown flow path for pressure control obtained from Chemistry.

Required _____ NOT Required X CBS

5.9 SHUT 1MS-2084, 1HX-1B SG Sample Isolation Control. CBS for SAP

5.10 Set 1MS-2015, 1HX-1B SG Hdr Atmospheric Steam Dump Control to 840 psig AND place controller in AUTO. CBS for SAP

5.11 Ensure T-24A, South CST, temperature 80-110°F. CBS

INITIALS

CAUTION

Maintain 13,000 gallons of usable volume in T-24A, South CST. Ensures ability to maintain operating unit in hot shutdown condition for at least one hour. (Reference tank level book).

NOTE: **The T-24A, South CST may be refilled per OI 150, Heating the Condensate Storage Tanks, via transfer hose as necessary.**

5.12 Fill "B" S/G

5.12.1 IF Attachment A has NOT been performed, THEN record As found position AND align valves per required position:

Valve	Description	As Found Position	Required Position	Initials
1CS-147	1HX-1B SG 1CS-476 Regulator Inlet	SHUT	SHUT	TSB
1CS-148	1HX-1B SG 1CS-147 Regulator Inlet Bypass	SHUT	SHUT	TSB
1CS-145	1HX-1B SG 1CS-476 Regulator Outlet	OPEN	OPEN	[illegible]
1CS-144	1HX-1B SG 1CS-481 Regulator Bypass Inlet	OPEN	SHUT	[illegible]
1CS-144A	1HX-1B SG 1CS-481 Regulator Bypass Line Drain	SHUT & CAPPED	SHUT & CAPPED	TSB
1CS-143	1HX-1B SG 1CS-481 Regulator Bypass Outlet	OPEN	OPEN	[illegible]
1CS-481	1HX-1B SG 1CS-476 FW Regulator Bypass Control	UNGAGGED / SHUT	GAGGED OPEN	[illegible]
1CS-145A	1HX-21A/B HP FWH 5A/5B Out SG FW Sample Root Isol	OPEN	OPEN	TSB
1CS-145B	1HX-21A/B HP FWH 5A/5B Outlet SG FW Sample	OPEN	SHUT	[illegible]
1CS-145C	1HX-21A/B HP FWH 5A/5B Header Drain	SHUT & CAPPED	SHUT & CAPPED	TSB
1CS-145E	1C-198 Corrosion Product Monitor Panel FW Sample Isolation	OPEN	OPEN	TSB
1CS-180A	1HX-1B SG Chemical Injection Second Off Isol.	[illegible] SHUT, CAPPED	SHUT	TSB
1CS-178A	1HX-1B SG Sampling Second Off Isolation	SHUT & CAPPED.	SHUT & CAPPED	TSB
1CS-220	Feedwater Leakage Check Test Line	LOCKED SHUT	UNLOCKED & SHUT	TSB
1CS-221	Feedwater Leakage Check Test Line	LOCKED SHUT	UNLOCKED & SHUT	TSB

INITIALS

5.12.2 Isolate 1C-198, Corrosion Product Monitor Panel by:

a. Notify Chemistry 1SS-208, 1C-198 Corrosion Product Monitor Panel FW Sample Inlet will be SHUT for IT-300B. CBS

b. Record as found position of 1SS-208. (SHUT) CBS for RSB

c. SHUT 1SS-208. CBS for RSB

5.12.3 Ensure the following valves are locked SHUT

AF-30, P-38A/B AFP Discharge Crossconnect. CBS for RSB

AF-43, P-38A/B AFP Discharge Crossconnect. CBS for RSB

5.12.4 Start P-38B, Aux Feedwater Motor-Driven Pump, using OI-62A, Motor-Driven Auxiliary Feedwater System (P-38A & P-38B). CBS for SAP

CAUTION
To prevent motor breaker trip on overload, P-38B flow rate should NOT exceed 240 gpm. Minimum recirculation flow is 70 gpm

5.12.5 Establish a 175-200 gpm fill rate to "B" S/G. CBS for SAP

NOTE: At 510 inches wide range level, remaining "B" S/G AND Main Steam header volume is 12,200 gal. This equates to 61 minutes of run time @ 200 gpm.

5.12.6 WHEN "B" S/G wide range level at 510 inches, THEN record times below AND continue (175-200 gpm fill rate) filling for additional 40 minutes.

Time at 510 in 1044
Time at 510 in + 40 min 1124
Time at 510 in + 50 min 1134

CBS

INITIALS

5.12.7 WHEN at Time at 510 in + 40, THEN THROTTLE fill rate to approximately 100 gpm AND establish communication with operator at "B" S/G manual vent within Time at 510 in + 50 min

CBS for SAP

CAUTION

Ensure AF-4014, P-38B AFP Mini Recirc Control, opens when feedflow to "B" S/G is less than OR equal to 75 gpm.

NOTE: The "B" S/G pressure on PPCS will show an increase when almost solid.

NOTE: Individual stationed at vent will have indication (change in sound) coming from vent just prior to "B" S/G going solid.

5.12.8 Continue filling "B" S/G AND steam line. CBS for SAP

a. Just prior to going solid, minimize auxiliary feed flow. CBS for SAP

b. WHEN water observed from vent, THEN STOP P-38B, Aux Feedwater Motor-Driven Pump. CBS for SAP

5.12.9 SHUT 1MS-248, 1HX-1B SG Vent. CBS

5.13 Ensure "B" S/G Metal Temperature Greater Than OR Equal to 70°F.

5.13.1 Obtain hand held pyrometer / adapter cable from C-59. CBS

5.13.2 Perform either 5.13.3 OR 5.13.4. (Mark steps NOT used as N/A) CBS

5.13.3 Plug in adapter cable at thermocouple junction box located on "B" S/G missile shield wall AND record readings:

a. TE-2022A, 1HX-1B SG Shell Temperature Thermocouple Above feedwater inlet 98 °F

INITIALS

b. TE-2022B, 1HX-1B SG Shell Temperature Thermocouple Below transition cone 89 °F

c. TE-2022C, 1HX-1B SG Shell Temperature Thermocouple Above tubesheet 93 °F

5.13.4 Using hand held pyrometer, obtain metal temperature at "B" S/G upper manway OR upper level tap penetration. (NA location not used.)

Upper manway Reading _____ °F

Upper level tap penetration Reading _____ °F N/A

5.14 Pressurize "B" S/G to 500 psig.

5.14.1 Place AF-4019, P-38B AFP Discharge Control, in MANUAL AND SHUT. for SAP

CAUTION

To prevent motor breaker trip on overload, P-38B flow rate should NOT exceed 240 gpm AND the minimum recirculation flow is 70 gpm

5.14.2 START P-38B, Aux Feedwater Motor-Driven Pump AND ensure AF-4014, P-38B AFP Mini Recirc Control, OPENS. for SAP

5.14.3 IF blowdown of "B" S/G instrumentation is NOT required OR is to be performed AFTER main feed check valve leak test, THEN N/A steps 5.14.4, 5.14.5, 5.14.7 & 5.14.8, otherwise continue. N/A

5.14.4 Slowly raise "B" S/G pressure to between 75 AND 100 psig by throttling OPEN AF-4019 to as low a flow as practicable in MANUAL. for SAP

INITIALS

5.14.5 Stabilize "B" S/G pressure between 75 AND 100 psig using AFW flow.

a. Throttle AFW flow as required, using AF-4019.

b. IF required to hold "B" S/G pressure, THEN establish "B" S/G blowdown flow as follows. (N/A steps not used).

1. OPEN 1MS-5959, 1HX-1B SG Blowdown Isolation.

2. OPEN 1MS-2040, 1T-26 SGBD Tank Outlet Control.

3. Throttle 1MS-274, 1HX-1B SG Blowdown to 1T-26 SGBD Tank Throttle.

4. IF required, THEN start P-49 Blowdown Tank Pump.

5.14.6 IF blowdown flow is established to stabilize "B" S/G pressure, THEN record flow rate AND time on PBF-2051.

5.14.7 Notify I&C to blowdown "B" S/G instrumentation.

5.14.8 Hold until notified by I&C of task completion above.

5.14.9 Slowly raise "B" S/G pressure between 500 AND 520 psig by throttling AF-4019 to as low a flow as practicable in MANUAL.

5.14.10 Stabilize "B" S/G pressure between 500 AND 520 psig using AFW flow

a. Throttle AFW flow as required, using AF-4019

b. IF required to hold "B" S/G pressure, THEN establish "B" S/G blowdown flow as follows. (N/A steps not used).

1. OPEN 1MS-5959, 1HX-1B SG Blowdown Isolation

2. OPEN 1MS-2040, 1T-26 SGBD Tank Outlet Control.

INITIALS

3. Throttle 1MS-274, 1HX-1B SG Blowdown to 1T-26 SGBD Tank Throttle. CS

4. IF required,
THEN start P-49 Blowdown Tank Pump. CS

5.15 Check Flow Indicator Test Rig connected to 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain, CS

5.15.1 IF NOT connected,
THEN connect test rig per Attachment A, step 2.0. B

5.16 Check effluent hose attached to 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain. B

5.16.1 IF NOT connected,
THEN remove cap AND attach hose to 1CS-144A B

a. Route hose to a local floor drain.

b. Secure to prevent end whip. B

5.17 Seat Leakage Test of 1CS-476AA, 1HX-1B SG Feedwater Check

CAUTION

System is pressurized to 500 psig. All drain hoses must be restrained to prevent end whip AND personnel injury.

5.17.1 Ensure OPEN 1CS-221, Feedwater Leakage Check Test Line. CS

5.17.2 OPEN the following valves:

a. 1CS-145A, 1HX-21A/B HP FWH 5A/5B Outlet Sample. CS for RSB

b. 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain. CS for RSB

c. Record test manifold pressure. 540 psig. CS for RSB

INITIALS

5.17.3 While observing test manifold pressure perform the following:

a. Throttle OPEN manifold outlet valve until pressure drops rapidly to less than 100 psig, indicating 1CS-476AA seated. RSB

b. SHUT OR Throttle manifold outlet valve as required to maintain 20 to 25 psig backpressure on manifold pressure gauge. RSB

c. IF 1CS-476AA backpressure is less than 20 psig OR pressure drops to less than 20 psig (as a result of trying to seat check valve) AND does NOT recover to 20 psig (due to check valve leakage), THEN momentarily Throttle OPEN 1CS-220 to restore backpressure to 20-25 psig BEFORE recording data. RSB

d. IF test manifold flow is less than 25 gpm, THEN continue with step 5.17.3.e while marking step 5.17.4 as N/A. (Otherwise mark Step 5.17.3.e as N/A) RSB

e. WHEN a stable backpressure AND stable "B" S/G test pressure is achieved, THEN record on Attachment C:

- Test rig pressure
- SG B Pressure
- Measured Leakage
- Calculated expected valve leakage. RSB

5.17.4 With test manifold flow of approximately 25 gpm AND while observing test manifold pressure perform the following:

a. Throttle OPEN 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain, UNTIL manifold pressure drops rapidly to less than 100 psig, indicating 1CS-476AA, has seated. N/A

b. SHUT 1CS-144A N/A

c. IF full flow established through 1CS-144A AND manifold pressure remains greater than 100 psig, THEN Throttle OPEN manifold outlet valve until 1CS-476AA seats. N/A

INITIALS

d. WHEN 1CS-476AA has seated,
THEN rapidly SHUT 1CS-144A AND Throttle with manifold outlet valve, as required, to maintain 20 to 25 psig backpressure on manifold pressure gauge. N/A

e. IF 1CS-476AA backpressure is found less than 20 psig OR pressure drops to less than 20 psig (as a result of trying to seat check valve) AND does NOT recover to 20 psig (due to check valve leakage),
THEN momentarily Throttle OPEN 1CS-220 to restore backpressure to 20-25 psig BEFORE recording data. N/A

f. WHEN a stable backpressure AND stable "B" S/G test pressure achieved, THEN record on Attachment C

- Test Rig Pressure.
- SG B Pressure
- Measured Leakage
- Calculated expected valve leakage. N/A

g. IF check valve does NOT seat,
THEN SHUT 1CS-144A AND manifold outlet valve
THEN repeat steps 5.17.3 and / or 5.17.4, as required.
(Provide a set of initials for applicable steps performed on Attachment D.) N/A

h. IF after second attempt check valve has NOT seated,
THEN perform Attachment E. N/A

- IF after a third attempt check valve has NOT seated,
THEN contact test coordinator (for further direction).
In interim, continue test. N/A

5.17.5 SHUT test manifold outlet valve. for RSB

5.17.6 Ensure SHUT 1CS-221.

5.17.7 Ensure SHUT 1CS-220.

INITIALS

5.17.8 IF seat leakage test of 1CS-476BB, 1HX-1B SG Feedwater Check is NOT to be performed, THEN restore Feed Line Drain Valves as follows.

a. SHUT 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain. N/A

b. Disconnect test manifold at 1CS-145C AND install cap. N/A

c. Ensure SHUT 1CS-144A remove hose AND install cap. N/A

d. OPEN 1CS-145B. N/A

e. Ungag 1CS-481, 1HX-1B SG 1CS-476 FW Regulator Bypass Control as follows:

1. While depressing 1CS-481 Bypass Reset, start ungagging 1CS-481. N/A

2. Once started, release 1CS-481 reset switch AND fully ungag 1CS-481. N/A

3. Ensure 1CS-481 is ungagged with a locked handwheel. N/A N/A IV

f. Restore 1C-198, Corrosion Product Monitor Panel FW Sample, alignment as follows:

1. Notify Chemistry 1SS-208, 1C-198 Corrosion Product Monitor Panel FW Sample Inlet will be returned to "As found" position. N/A

2. Restore 1SS-208 to "As found" position recorded in step 5.12.2 OR Attachment A as applicable. N/A

INITIALS

5.18 Seat leakage Test of 1CS-476BB, 1HX-1B SG Feedwater Check

CAUTION

System is pressurized to 500 psig. All drain hoses must be restrained to prevent end whip AND personnel injury.

5.18.1 Ensure OPEN 1CS-220, Feedwater Leakage Check Test Line. CBS

5.18.2 OPEN the following valves:

a. 1CS-145A, 1HX-21A/B HP FWH 5A/5B Outlet Sample. CBS for RSB

b. 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain. CBS for RSB

c. Record test manifold pressure. 503 psig. CBS for RSB

5.18.3 While observing test manifold pressure perform the following:

a. Throttle OPEN manifold outlet valve until pressure drops rapidly to less than 100 psig, indicating 1CS-476BB, has seated. CBS for RSB

b. SHUT OR Throttle manifold outlet valve as required to maintain 20 to 25 psig backpressure on manifold pressure gage. CBS for RSB

INITIALS

c. IF 1CS-476BB backpressure is found to be less than 20 psig OR pressure drops to less than 20 psig (as a result of trying to seat check valve) AND does NOT recover to 20 psig (due to check valve leakage), THEN momentarily Throttle OPEN 1CS-221 to restore backpressure to 20-25 psig BEFORE recording data. CSS for RSB

d. IF test manifold flow is less than 25 gpm THEN continue with step 5.18.3.e while marking step 5.18.4 as N/A. (Otherwise mark Step 5.18.3.e as N/A) CSS for RSB

e. WHEN a stable backpressure AND stable "B" S/G test pressure is achieved, THEN record on Attachment C :

- Test Rig Pressure,
- SG B Pressure
- Measured Leakage
- Calculated expected valve leakage. CSS for RSB

5.18.4 With test manifold flow of approximately 25 gpm AND while observing test manifold pressure perform the following:

a. Throttle OPEN 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain until manifold pressure drops rapidly to less than 100 psig, indicating 1CS-476BB has seated, N/A CSS

b. SHUT 1CS-144A. N/A CSS

c. IF full flow is established through 1CS-144A AND manifold pressure remains greater than 100 psig, THEN Throttle OPEN manifold outlet valve until 1CS-476BB seats. N/A CSS

d. WHEN 1CS-476BB has seated, THEN rapidly SHUT 1CS-144A AND Throttle with manifold outlet valve, as required, to maintain 20 to 25 psig backpressure on manifold pressure gauge. N/A CSS

INITIALS

e. IF 1CS-476BB backpressure is found to be less than 20 psig OR pressure drops to less than 20 psig (as a result of trying to seat check valve) AND does NOT recover to 20 psig (due to check valve leakage), THEN momentarily Throttle OPEN 1CS-221 to restore backpressure to 20-25 psig BEFORE recording data. N/A

f. WHEN a stable backpressure AND stable "B" S/G test pressure is achieved, THEN record on Attachment C :

- Test Rig Pressure
- SG B Pressure
- Measured Leakage
- Calculated expected valve leakage. N/A

g. IF check valve does NOT seat, THEN shut 1CS-144A AND manifold valve AND repeat steps 5.18.3 and / or 5.18.4, as required. (Provide a set of initials for applicable steps performed on Attachment D.) N/A

h. IF after second attempt check valve has NOT seated THEN perform Attachment F. N/A

- IF after third attempt check valve has NOT seated, THEN contact test coordinator for further direction. (In interim, continue with test). N/A

5.18.5 SHUT test manifold outlet valve. for RSB

5.18.6 Ensure SHUT 1CS-220.

5.18.7 Ensure SHUT 1CS-221.

INITIALS

5.18.8 IF seat leakage test of 1CS-476AA is NOT to be performed, THEN restore Feed Line Drain Valves.

a. Shut 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain.

b. Disconnect test manifold at 1CS-145C AND install cap.

c. Ensure SHUT 1CS-144A remove hose AND install cap.

d. OPEN 1CS-145B, 1HX-21A/B HP FWH 5A/5B Outlet Sample.

e. Ungag 1CS-481, 1HX-1B SG 1CS-476 FW Regulator Bypass Control.

1. While depressing 1CS-481 reset, start ungagging 1CS-481.

2. Once started, release 1CS-481 reset switch AND fully ungag 1CS-481.

3. Ensure 1CS-481 is ungagged with a locked handwheel.

CRS for DKJ
IV

f. Restore 1C-198, Corrosion Product Monitor Panel FW Sample alignment as follows:

- Notify Chemistry 1SS-208, 1C-198 Corrosion Product Manual Panel FW Sample Inlet will be returned to the "As found" position.

CRS for RSB

- Restore 1SS-208, to "As found" position recorded in step 5.12.2 OR Attachment A as applicable.

CRS for RSB

5.19 When Testing is Complete

5.19.1 IF "B" S/G instrumentation blowdown is NOT required OR previously performed, THEN N/A step 5.19.2

N/A

INITIALS

5.19.2 IF required for I&C "B" S/G instrumentation blowdown, THEN perform the following:

a. Slowly lower "B" S/G pressure to between 75 AND 100 psig by throttling AF-4019 in MANUAL. N/A

b. Stabilize "B" S/G pressure between 75 AND 100 psig using AFW flow.

- Throttle AFW flow as required, using AF-4019. N/A
- IF required to hold "B" S/G pressure, THEN establish "B" S/G blowdown flow as follows. (N/A steps not used). N/A

(a) OPEN 1MS-5959, 1HX-1B SG Blowdown Isolation. N/A

(b) OPEN 1MS-2040, 1T-26 SGBD Tank Outlet Control. N/A

(c) Throttle 1MS-274, 1HX-1B SG Blowdown to 1T-26 SGBD Tank Throttle. N/A

(d) IF required, THEN start P-49 Blowdown Tank Pump. N/A

c. Place 1MS-2015, 1HX-1B SG Hdr Atmospheric Steam Dump Control, to MANUAL. N/A

d. Notify I&C to blowdown "B" S/G instrumentation. N/A

e. Hold until notified by I&C of task completion. N/A

f. Place 1MS-2015, 1HX-1B SG Hdr Atmospheric Steam Dump Control, to AUTO. N/A

5.19.3 WHEN the test is complete, THEN reduce flow AND STOP P-38B, Aux Feedwater Motor-Driven Pump using OI 62A. for DCP

INITIALS

5.19.4 WHEN test is complete,
THEN secure "B" S/G Blowdown.
(N/A if NOT used for pressure control).

a. SHUT 1MS-5959, 1HX-1B SG Blowdown Isolation. for DLP

b. Stop P-49 Blowdown Tank Pump.

c. SHUT 1MS-2040, 1T-26 SGBD Tank Outlet Control. for DLP

d. Position 1MS-274, 1HX-1B SG Blowdown to 1T-26 SGBD Tank Throttle valve to 1/4 turn OPEN.

5.19.5 IF condensate transfer hose is no longer required,
THEN perform restoration steps of OI 150.

5.20 Recovery From Leak Check

5.20.1 Contact Chemistry to determine if discharge permit required for draining steam line AND "B" S/G.

Required _____ NOT Required X PER T. KLAUS

5.20.2 IF required,
THEN drain "B" S/G to desired level using OI-124, Draining "B" S/Gs, U1.

INITIALS

CAUTION

Do NOT open 1MS-2015, 1HX-1B SG HDR atmospheric steam dump control, until steam lines have been drained.

5.20.3 Drain "B" S/G steam line to blowdown tank as follows:

a. 1MS-276, 1HX-1B SG Header Drain to 1T-26 SGBD Tank Throttle. OPEN K

b. 1MS-239, 1HX-1B SG Drain to 1T-26 Blowdown Tank. OPEN K

c. 1MS-238, 1HX-1B SG Header Drain and Trap isolation. OPEN K

d. 1MS-248, 1HX-1B SG Vent, outside containment. OPEN K

e. Operate the following as required to maintain SGBD Level. (N/A steps NOT used).

1. 1MS-2040, 1T-26 SGBD Tank Outlet Control. K

2. P-49 Blowdown Tank Pump. K

INITIALS

5.20.4 WHEN steam line has been drained to Blowdown Tank, THEN, realign valves.

Valve	Description	Restoration position	Initials	IV Initials
1MS-248	1HX-1B SG Vent	LOCKED SHUT	X	
1MS-276	1HX-1B SG Header Drain to 1T-26 SGBD Tank Throttle	One Turn OPEN	X	
1MS-239	1HX-1B SG Header Drain to 1T-26 SGBD Tank	SHUT	X	

5.20.5 Perform the following valve restoration alignment.

Valve	Description	Restoration position	Initials (2)	IV Initials
1CS-144	1HX-1B SG 1CS-481 Regulator Bypass Inlet	OPEN	(1)	
1CS-147	1HX-1B SG 1CS-476 Regulator Inlet	OPEN	(1)	
1MS-272	1HX-1B SG Blowdown to 1T-26 SGBD Tank	SHUT	X	
1CS-220	Feedwater Leakage Check Test Line	SHUT & LOCKED		
1CS-221	Feedwater Leakage Check Test Line.	SHUT & LOCKED		
1MS-237	P-29, AFP/Radwaste Steam Isolation (B-1)	LOCKED OPEN	(3)	(4)

5.20.6 Maintain pressure / temperature per Shift Management.

5.20.7 Special test rig(s), as shown in Attachment B removed AND stored in U2 TH El. 26' South.

5.20.8 Ensure PI's in step 2.2 are removed AND returned to I&C MTE room.

5.21 SRO to record TIME/DATE test was completed at step 6.1.1.

INITIALS

6.0 ANALYSIS

6.1 Operations

6.1.1 Comparisons with allowable ranges of acceptance criteria test values complete AND all Attachments are complete.

[signature] SRO — 10/8/02 1508 Date/Time

6.1.2 Forward completed procedure to IST Coordinator/Cognizant Engineer via Operations Specialist. [signature]

NOTE: To be completed within 96 hours of test completion by IST coordinator or his representative.

6.2 IST Coordinator

6.2.1 Ensure all acceptance criteria comparisons are made AND all attachments are complete. [signature]

6.2.2 Any requirements for corrective action?
(IF yes, THEN give details in the IST Remarks section.) [signature]

(Circle one) YES (NO)

6.2.3 IF acceptance criteria needs updating, THEN initiate a procedure revision. N/A

David Hobson — Data Analyzed By — 10.08.02 2200 Date/Time

IST Remarks:

Ops Remarks:

(1) Left shut per DOS Jim Wilson

(2) VALVE DANGER TAGGED SHUT.

(3) VALVES RESTORED TO OPEN 10/8/02

(4) Danger Tagged Shut: Will be Repositioned per Tag Series

Lee Poplitz 10-8-02/1530

Performed By: Terry Fischer 10-8-02/1000

JOHN BALMA Performer (Print and Sign)	10/20/02 / 2115 Date Time	 Initials
SKY Brink Performer (Print and Sign)	10-6-2 / 0430 Date Time	JSB Initials
C Storm Performer (Print and Sign)	10/6/2 / 0615 Date Time	 Initials
Charles Storm Performer (Print and Sign)	10/6/02 1035 Date Time	 Initials
Bob Li Performer (Print and Sign)	10 Oct 02 1735 Date Time	 Initials
S RUESCH Boyd Beltz Performer (Print and Sign)	10/6/021 1945 10/6/02 1940 Date Time	 Initials
KURT TALEF / Kurt Talef Performer (Print and Sign)	10/6/2 / 2100 Date Time	K Initials
JEFF BAGNICI Reviewed By: Boyd Beltz Reviewer (Print and Sign)	10/07/02 / 0215 10/8/02 / 1511 Date Time	 Initials

7.0 REFERENCES

7.1 WEP-91-102, Attachment, "Point Beach Units 1& 2 Safety Evaluation and Report Consolidation" Minimum Temperature for Pressurization.

7.2 Technical Specifications and FSAR figures.

7.2.1 TRM 3.7.3. Steam Generator Pressure and Temperature (P/T) Limits

7.2.2 TS 3.6.3, Containment Isolation Valves

7.2.3 TS 3.7.6, Condensate Storage Tank

7.2.4 TS 5.5.7, Inservice Testing Program.

7.2.5 FSAR Figures 5.2-3 and 5.2-4

7.3 ASME OM Code 95Ed. /96A, Code for Operation and Maintenance of Nuclear Power Plants.

7.4 Procedures.

7.4.1 OI-62A, Motor-Driven Auxiliary Feedwater System (P-38A & P-38B).

7.4.2 OI-150, Heating the Condensate Storage Tanks.

7.4.3 OI-124, Draining Steam Generators, Unit 1.

7.5 Drawings

7.5.1 M-201 Sheet 1, Main and Reheat System.

7.5.2 M-201 Sheet 3, S.G. Blowdown System.

7.5.3 M-202 Sheet 2, Feedwater System.

7.5.4 M-217, Sheet 1, Auxiliary Feedwater System, Unit 1.

7.5.5 M-222, Sheet 1, Secondary sample system

7.6 Miscellaneous procedures and forms

7.6.1 CL-13A, Main Steam Valve Lineup Unit 1

7.6.2 PBF-2051, Steam Generator Blowdown Flow Rate Log Sheet.

7.6.3 TLB-34, T-24A/T-24B Condensate Storage Tanks

8.0 BASES

B-1, SCR 99-1106, Administrative Red Locks of closed system boundary valves.

ATTACHMENT A
Main Feed Line Fill And Flow Indicator Installation

1.0 Fill of Main Feed Line B:

1.1 Record As Found Position AND align the following valves:

Valve	Component Description	As Found Position	Required Position	INITIALS
1CS-147	1HX-1B SG 1CS-476 Regulator Inlet		SHUT	N/A
1CS-148	1HX-1B SG 1CS-147 Regulator Inlet Bypass		SHUT	N/A
1CS-145	1HX-1B SG 1CS-476 Regulator Outlet		OPEN	N/A
1CS-144	1HX-1B SG 1CS-481 Regulator Bypass Inlet		SHUT	N/A
1CS-144A	1HX-1B SG 1CS-481 Regulator Bypass Line Drain		SHUT & CAPPED	N/A
1CS-143	1HX-1B SG 1CS-481 Regulator Bypass Outlet		OPEN	N/A
1CS-481	1HX-1B SG 1CS-476 FW Regulator Bypass Control		GAGGED OPEN	N/A
1CS-145A	1HX-21A/B HP FWH 5A/5B Out SG FW Sample Root Isol		OPEN	N/A
1CS-145B	1HX-21A/B HP FWH 5A/5B Outlet SG FW Sample		SHUT	N/A
1CS-145C	1HX-21A/B HP FWH 5A/5B Header Drain		SHUT & CAPPED	N/A
1CS-145E	1C-198 Corrosion Product Monitor Panel FW Sample Isolation		OPEN	N/A
1CS-180A	1HX-1B SG Chemical Injection Second Off Isolation		SHUT	N/A
1CS-178A	1HX-1B SG Sampling Second Off Isolation		SHUT & CAPPED	N/A
1CS-220	Feedwater Leakage Check Test Line		UNLOCKED & OPEN	N/A
1CS-221	Feedwater Leakage Check Test Line		UNLOCKED & OPEN	N/A

ATTACHMENT A
MAIN FEED LINE FILL AND FLOW INDICATOR INSTALLATION (Cont.)

INITIALS

1.2 Isolate 1C-198, Corrosion Product Monitor Panel by:

1.2.1 Notify Chemistry 1SS-208, 1C-198 Corrosion Product Monitor Panel FW Sample Inlet will be shut for IT-300B. N/A JP

1.2.2 Record as found position of 1SS-208 (_____) N/A JP

1.2.3 SHUT 1SS-208. N/A JP

1.3 Perform the following:

1.3.1 Remove cap from 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain. N/A JP

1.3.2 Connect a DI water hose between DI-91, Demineralized Water Hose Connection AND 1CS-144A. N/A JP

1.4 To commence fill of Main Feed Line B OPEN DI-91 AND 1CS-144A N/A JP

1.5 WHEN level increase indicated on 1LT-470A OR 1LT-470B, THEN SHUT following valves: (To partially stroke open 1CS-476AA, AND 1CS-476BB)

- 1CS-220, Feedwater Leakage Check Test Line N/A JP
- 1CS-221, Feedwater Leakage Check Test Line N/A JP

1.6 WHEN second level increase "B' S/G is indicated on 1LT-470A OR 1LT-470B,
THEN SHUT the following valves:

- DI-91 N/A JP
- 1CS-144A. N/A JP

ATTACHMENT A
MAIN FEED LINE FILL AND FLOW INDICATOR INSTALLATION (Cont.)

INITIALS

1.7 Disconnect hose at DI-91 AND route to local floor drain AND secure to prevent end whip. BJS 10

NOTE: **Step 2.0 may be performed concurrently if desired.**

1.8 Return to step 5.4. BJS 10

NOTE: **Same test manifold to be used on each feed line and feed lines to be tested sequentially.**

2.0 Attach Flow Indicator Test Manifold

2.1 Remove cap from 1CS-145C, 1HX-21A/B HP FWH 5A/5B Header Drain

2.2 Attach flow indicator test manifold to 1CS-145C using Attachment B as a guide.

2.3 Route test manifold effluent hose to a local floor drain AND secure to prevent end whip.

2.4 Ensure test manifold outlet throttle valve SHUT.

ATTACHMENT B
FLOW INDICATOR TEST RIG

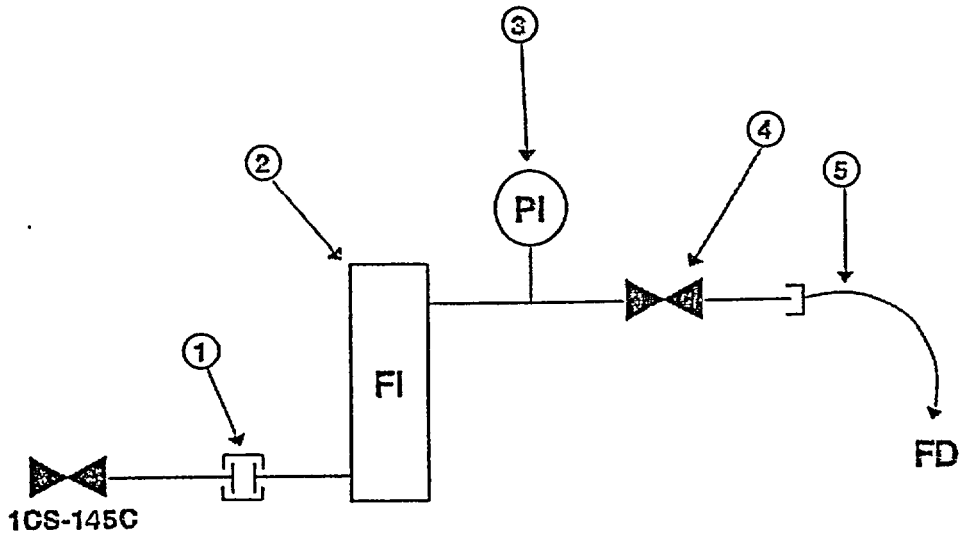
1.0 3/4 inch 1CS Union

2.0 Omega flow meter, Model No. FL-7325; Max pressure: 3000 psig; Max temperature: 240°F; Flow range: 2.0-25 gpm (water)

3.0 Pressure gauge, 0-600 psig

4.0 3/4 inch Throttle valve

5.0 Drain hose rated for greater than OR equal to 500 psig at 250 °F.



INITIALS

ATTACHMENT C
TEST DATA SHEET

1.0 Record measured valve leakage at test ΔP from sections 5.17 & 5.18. 5.17/5.18

2.0 Calculate valve leakage expected at 1000 psid by dividing normal operating pressure by test pressure differential pressure (ΔP) and multiplying square root of value times measured leakage value at test ΔP. 5.17/5.18

2.1 Record test data AND calculations results in table below: 5.17/5.18

NOTE: **DP="B" S/G pressure minus Test Rig Pressure.**

$$\sqrt{\frac{1000\ \text{psig}}{DP}} \times \text{Measured leakage value} = \text{Leakage at 1000 psid}$$

NOTE: **A leak rate of about 3.5 gpm at 500 psid will calculate out to about 5 gpm at 1000 psid**

3.0 IF calculated leakage rate of any check valve at 1000 psid exceeds administrative limit of 5 gpm,
THEN declare applicable valve inoperable AND notify engineering. N/A/N/A 5.17/5.18

Steps	Valve No.	Test Rig Pressure	"B" "B" S/G Pressure (psig)	Measured Leakage (gpm)	Calculated Leakage (1000 psid) (gpm)	≤ 5gpm (circle one)
5.17.3.e OR 5.17.4.f	1CS-476AA	25	507	0	0	(Sat)/Unsat
5.18.3.e OR 5.18.4.f	1CS-476BB	25	516	0	0	(Sat)/Unsat

ATTACHMENT D
MULTIPLE STEP PERFORMANCE

1.0 This attachment shall be completed to document multiple step performance. A separate copy of this attachment shall be prepared for each step series requiring multiple performance. All copies of this attachment shall be attached to this procedure when the procedure is complete.

2.0 Refer to procedure steps when performing this attachment.

3.0 List procedure steps by number, including adequate spaces to record initials, as appropriate. For components requiring independent verification or concurrent checks, provide for such checks on the attachment.

4.0 Complete the attachment by performing the procedure steps and recording the required data.

Valve Number/Step sequence:_____Date:__

Step	Initials	Initials	Initials	Initials	Initials	Initials	Initials

INITIALS

ATTACHMENT E
1CS-476AA D/P Reestablishment

1.0 SHUT 1CS-143, 1HX-1B SG 1CS-481 Regulator Bypass Outlet. _____

2.0 OPEN 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain, to drain line between 1CS-143 AND 1CS-144, 1HX-1B SG 1CS-481 Regulator Bypass Inlet. _____

3.0 SHUT 1 CS-144A. _____

4.0 Rapidly OPEN 1CS-143 to seat check valve. _____

5.0 Repeat steps 5.17.3 and / or 5.17.4, as required.
(Provide a set of initials for applicable steps performed on Attachment D.) _____

INITIALS

ATTACHMENT F
1CS-476BB D/P Reestablishment

1.0 SHUT 1CS-143, 1HX-1B SG 1CS-481 Regulator Bypass Outlet. _____

2.0 OPEN 1CS-144A, 1HX-1B SG 1CS-481 Regulator Bypass Line Drain, to drain line between 1CS-143 AND 1CS-144, 1HX-1B SG 1CS-481 Regulator Bypass Inlet. _____

3.0 SHUT 1CS-144A. _____

4.0 Rapidly OPEN 1CS-143 to seat check valve. _____

5.0 Repeat steps 5.18.3 and / or 5.18.4, as required.
(Provide a set of initials for applicable steps performed on Attachment D.) _____

Wisconsin Electric Company
Point Beach Unit 1
Speed Load Report For
IT-300

10/ 8/2002 21:52:16

VALVEID	TEST	DIR	DATE	LOWER	VALUE	DB	UPPER	LAST	%	PASS
1CS-00476AA	CV-C	C	10/ 8/2002				5.00	1.430	N/A	Yes
1CS-00476BB	CV-C	C	10/ 8/2002				5.00	1.430	N/A	Yes

David Hoban 10.08.02 2155