TMI DOCUMENTS

DOCUMENT NO: TMI-0648

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Supervisor, Document Control, NRC

7906180685

229 002

DATE PRINTED 03/03/79 — SURVEILLANCE PERFORMANCE FORM — MET-ED T M I UNIT 2 — EARLY DATE 03-18-79 — **SCHED DATE 03-25-79** — LATE DATE 03-30-79

PROCEDURE NO: 2303-M 1

TECH/SPEC REF: 4.0.5, 4.1.2.3, 4.1.2.4

DEPT RESP - OPERATIONS

TASK NO - 2303-M1R

MU-P1A/B/C PUMP TESTING

DEPENDENT TASK

ASSIST DEPT

WORK ORDER NO. - 036000326
ACCOUNT NO. - 520.1
GC CODE - 20
COMPONENT NO - TMI-2303-M 1-
COMPONENT DESC - STANDARD TECH SPEC ITEM
COMP LOCATION - BDG LVL GRID

SPECIAL COMMENT - MODE 4/5:RC PRS REQD

PLANT CONDITION 1-1-1-1-0-1-1

FREQUENCY M QUALITY CONTROL 1

SPECIFIC DAY

CONTRACTOR 0 INTERFERENCE 0

PRIORITY 1 COMPONENT STATUS 1

** ** ** ** ** ** ** ** ** ** COMPLETE THIS SECTION ** ** ** ** ** ** ** ** ** **

(1) (5) (38)
401CTMI2303M 1 036002TS2303-M1R790840
+ COMP NO ++ CSU+ + TASK ++SCHD+

RESULTS(51)

( ) PERFORMED OK

CHECK ONE ONLY — EXCEPTIONS

( )3 DEFICIENCIES

( )4 BOTH F S AND D S

( )5 NOT PERFORMED

DATE PERFORMED(39) [0 1 3] MONTH [2 3] DAY [7 9] YEAR

ACTUAL MANHOURS(45) [0 0 0 0 8 1.0]

ACTION TAKEN CODE(52) L L I

REASON NOT PERFORMED(54) L L I

ABNORMAL OCC REPT(56) L L L L L I

PERFORMED BY EMPLOYEE NUMBER(60) [0 6 4 1 3] SIGNATURE- Ron Fountain

APPROVED BY EMPLOYEE NUMBER(65) [0 5 4 9 8] SIGNATURE- KR Hoyt

WITNESSED BY EMPLOYEE NUMBER(70) L L L L L I SIGNATURE-

CORRECTIVE MAINTENANCE JOB TICKET NUMBER(75) L L L L L I

403A (1) DUPLICATE AS ABOVE (5-38)

402A (1) DUPLICATE AS ABOVE (5-38)

RESULTS DESCRIPTION

L 0 1 1 L L L L L L L L L L L L L L L L L L I(39)
L L L L L L L L L L L L L L L L L L L L L I(61)

ASSISTING DEPARTMENTS

CODE(39) L L L L L I

HOURS(44) L L L L L I.L I

404A (1) DUPLICATE AS ABOVE (5-38)

CODE(50) L L L L L I

L 0 1 1 L L L L L L L L L L L L L L L L L L I(39)
L L L L L L L L L L L L L L L L L L L L L I(61)

HOURS(55) L L L L L I.L I

DATA SHEET "A"
"A" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 32 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 28 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1574) 0 inches H_2O
   0 " H_2O x 0.0361 = 0 psig.
4. Pump Running Inlet Pressure (#2-#3) 0 psig.
5. Pump Outlet Pressure (MU-22-PI1) 25 psig.
6. Pump Differential Pressure (#5-#4) 3000 psig.
   2922 psi.
7. Lube Oil Level (Initial if satisfactory) RF.
8. Pump inboard bearing vibration (mils) H .7
   V 1.5

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS.(Psig)	32	>0	NA	NA	≤0	NA	40
PUMP RUNNING INLET PRESS (Psig)	28	>0	NA	NA	≤0	NA	28
PUMP RUNNING DISCHARGE PRESS. (PSIG)	3000	≥1125	NA	NA	<1125	NA	2900
Δ PRESS. (PSIG)	2972	≥2401	2329 to 2401	NA	<2329	NA	2872
RADIAL BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	141.0
THRUST BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	141.0
MAX. VIBRATION (mils)	1.5 V	0 to 3.4	NA	3.4 to 5.1	NA	>5.1	1.7v

*Only measured once per year.

DATA SHEET "B"
"B" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 32 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 28 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1575) 0 in H_2O
   0 in H_2O x 0.0361 = 0 psig 0 psig.
4. Pump Running Inlet Pressure (#2 - #3) 28 psig.
5. Pump Outlet Pressure (MU-22-PI2) 2750 psig.
6. Pump Differential Pressure (#5 - #4) 2722 psi.
7. Lube Oil Level (Initial if satisfactory) 27
8. Pump inboard bearing vibration H .5
   V 1.5

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	32	>0	NA	NA	≤0	NA	39
PUMP RUNNING INLET PRESS (Psig)	28	>0	NA	NA	≤0	NA	32
PUMP RUNNING DISCHARGE PRESS. (Psig)	2750	≥1125	NA	NA	≤1125	NA	2750
Δ PRESS (Psi)	2722	≥2401	2329 to 2401	NA	[illegible]	NA	2718
RADIAL BGR. TEMP (^{o}F)*	NA	<180	NA	NA	NA	≥180	135.4
THRUST BGR. TEMP (^{o}F)*	NA	<180	NA	NA	NA	≥180	146.1
Max Vibration (mils)	1.5 V	0 to 2.5	NA	2.5 to 3.75	NA	>3.75	1.25

*Only measured once per year.

229 005

DATA SHEET "C"
"C" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 30 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 28 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1576) 0 in H_2O
   0 " H_2O x 0.0361 = 0 psi . 0 psi.
4. Pump Running Inlet Pressure (#2 - #3) 28 psig.
5. Pump Outlet Pressure (MU-22-PI3) 3000 psig.
6. Pump Differential Pressure (#5 - #4) 2972 psi.
7. Lube Oil Level (Initial if satisfactory) RF
8. Pump inboard bearing vibration H .6
   V 2.5

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	30	>0	NA	NA	≤0	NA	29
PUMP RUNNING INLET PRESS (Psig)	28	>0	NA	NA	≤0	NA	30
PUMP RUNNING DISCHARGE PRESS. (Psig)	3000	≥1125	NA	NA	<1125	NA	2900
Δ PRESS (Psi)	2972	≥2401	2329 to 2401	NA	<2329	NA	2870
RADIAL BGR. TEMP (°F)*	N/A	<180	NA	NA	NA	≥180	123.5
THRUST BGR. TEMP (°F)*	N/A	<180	NA	NA	NA	≥180	160.5
MAX VIBRATION (Mils)	2.5V	0 to 1.8	NA	1.8 to 2.7	NA	>2.7	0.9H

*To be measured yearly.

229 006

Performed by: Ron Fountain Date 3/23/79 Time 0900

Approved by: K R Hunt Date 3/23/79

ANALYSIS:

all data fall in acceptable range
all three pumps ok

Analysis by: K R Hunt Date 3/23/79 Time 1200

227 006
007

DATE PRINTED 02/07/79

SURVEILLANCE PERFORMANCE FORM
MEI-ED T M I UNIT 2

EARLY DATE 02-18-79
SCHED DATE 02-25-79
LATE DATE 03-04-79

PROCEDURE NO — TECH/SPEC REF

2303-M 1 — 4.0.5, 4.1.2.3, 4.1.2.4

DEPT RESP - OPERATIONS

TASK NO - 2303-M1B
MU-P1A/B/C PUMP TESTING

WORK ORDER NO. - 036000326
ACCOUNT NO. - 520.1
GC CODE - 20
COMPONENT NO - TMI-2303-M 1-
COMPONENT DESC - STANDARD TECH SPEC ITEM
COMP LOCATION - BDG LVL GRID

DEPENDENT TASK

SPECIAL COMMENT - MODE 4/5:RC PRS REQD

PLANT CONDITION 1-1-1-1-0-1-1

ASSIST DEPT

FREQUENCY M — QUALITY CONTROL 1

SPECIFIC DAY

CONTRACTOR 0 — INTERFERENCE 0

PRIORITY 1 — COMPONENT STATUS 1

** ** ** ** ** ** ** ** ** ** COMPLETE THIS SECTION ** ** ** ** ** ** ** ** ** **

(1) (5) (38)
401CTMI2303M 1 036002TS2303-M1B790560
+ COMP NO ++ CSU+ + TASK ++SCHD+

RESULTS(51)

CHECK ONE ONLY
( )1 PERFORMED OK
( )2 EXCEPTIONS
( )3 DEFICIENCIES
( )4 BOTH E S AND D S
( )5 NOT PERFORMED

DATE PERFORMED(39) 02 / 23 / 79 (MONTH / DAY / YEAR)

ACTUAL MANHOURS(45) 0004/21.0

ACTION TAKEN CODE(52)

REASON NOT PERFORMED(54)

ABNORMAL OCC REPT(56)

PERFORMED BY EMPLOYEE NUMBER(60) 06368 SIGNATURE- Dale Vanderwill

APPROVED BY EMPLOYEE NUMBER(65) 05844 SIGNATURE- J Schumann

WITNESSED BY EMPLOYEE NUMBER(70) SIGNATURE-

CORRECTIVE MAINTENANCE JOB TICKET NUMBER(75)

403A (1) DUPLICATE AS ABOVE (5-38)

402A (1) DUPLICATE AS ABOVE (5-38)

RESULTS DESCRIPTION

ASSISTING DEPARTMENTS

CODE(39)

HOURS(44)

404A (1) DUPLICATE AS ABOVE (5-38)

CODE(50)

HOURS(55)

229 008

DATA SHEET "A"
"A" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 27 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 25 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1574) 1 ~~inches H_2O~~
   1 " H_2O x 0.0361 = 0.036 psig.
4. Pump Running Inlet Pressure (#2-#3) 0.0 psig.
5. Pump Outlet Pressure (MU-22-PI1) 2950 psig.
6. Pump Differential Pressure (#5-#4) 2925.036 psi.
7. Lube Oil Level (Initial if satisfactory) OK
8. Pump inboard bearing vibration (mils) H 1.0 V 1.8

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS.(Psig)	27	>0	NA	NA	≤0	NA	40
PUMP RUNNING INLET PRESS (Psig)	25	>0	NA	NA	≤0	NA	28
PUMP RUNNING DISCHARGE PRESS. (PSIG)	2950	≥1125	NA	NA	<11[illegible]		900
Δ PRESS. (PSIG)	2925	≥2401	2329 to 2401	NA	<2329	NA	2872
RADIAL BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	141.0
THRUST BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	141.0
MAX. VIBRATION (mils)	1.8 V	0 to 3.4	NA	3.4 to 5.1	NA	>5.1	1.7v

*Only measured once per year.

229 009

DATA SHEET "B"
"B" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 25 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 22 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1575) 1 in H_2O
   1 in H_2O x 0.0361 = 0.036 psig 0.036 psig.
4. Pump Running Inlet Pressure (#2 - #3) 21.964 psig.
5. Pump Outlet Pressure (MU-22-PI2) 2750 psig.
6. Pump Differential Pressure (#5 - #4) 2728.036 psi.
7. Lube Oil Level (Initial if satisfactory) DK
8. Pump inboard bearing vibration H 0.7
   V 0.5

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	25	>0	NA	NA	≤0	NA	39
PUMP RUNNING INLET PRESS (Psig)	21.964	>0	NA	NA	≤0	NA	32
PUMP RUNNING DISCHARGE PRESS. (Psig)	2750	≥1125	NA	NA	≤1125	NA	2750
Δ PRESS (Psi)	2728.036	≥2401	2329 to 2401	NA	<2329	NA	2718
RADIAL BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	135.4
THRUST BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	146.1
Max Vibration (mils)	0.7H	0 to 2.5	NA	2.5 to 3.75	NA	>3.75	1.25

*Only measured once per year.

DATA SHEET "C"
"C" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 22 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 21 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1576) 0 in H_2O
   0 " H_2O x 0.0361 = 0 psi . 0 psi.
4. Pump Running Inlet Pressure (#2 - #3) 21 psig.
5. Pump Outlet Pressure (MU-22-PI3) 2950 psig.
6. Pump Differential Pressure (#5 - #4) 2929 psi.
7. Lube Oil Level (Initial if satisfactory)
8. Pump inboard bearing vibration H 0.8
   V 1.0

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	22	>0	NA	NA	≤0	NA	29
PUMP RUNNING INLET PRESS (Psig)	21	>0	NA	NA	≤0	NA	30
PUMP RUNNING DISCHARGE PRESS. (Psig)	2950	125	NA	NA	<1125	NA	2900
Δ PRESS (Psi)	2929	≥2401	2329 to 2401	NA	<2329	NA	2870
RADIAL BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	123.5
THRUST BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	160.5
MAX VIBRATION (Mils)	1.0 V	0 to 1.8	NA	1.8 to 2.7	NA	>2.7	0.9H

*To be measured yearly.

229 011

Performed by: [signature] Date 2/23/79 Time 1455

Approved by: F J Schemann Date 2/23/79

ANALYSIS:

APPEARS TO MEET ALL ACCEPTANCE DATA

Analysis by: C Guthrie Date 2/23/79 Time 1800

229 012

DATE PRINTED 01/17/79

SURVEILLANCE PERFORMANCE FORM
MET-ED T M I UNIT 2

EARLY DATE 01-22-79
SCHED DATE 02-13-79
LATE DATE 03-06-79

PROCEDURE NO: 2303-M 1

TECH/SPEC REF: 4.0.5, 4.1.2.3, 4.1.2.4

DEPT RESP - OPERATIONS

TASK NO - 2303-M1A
MU-P1A/B/C PUMP & VALVE TESTING

WORK ORDER NO. - 036000326
ACCOUNT NO. - 520.1
GC CODE - 20
COMPONENT NO - TMI-2303-M 1-
COMPONENT DESC - STANDARD TECH SPEC ITEM
COMP LOCATION - BDG LVL GRID

DEPENDENT TASK

ISI DATA

SPECIAL COMMENT - MODE 4/5:RC PRS REQD

PLANT CONDITION 1-1-1-1-0-1-1

EVALUATION REQUIRED
ASSIST DEPT
BY 1840 / 2-18-79
TIME/DATE

FREQUENCY 0 QUALITY CONTROL 1

SPECIFIC DAY

CONTRACTOR 0 INTERFERENCE 0

PRIORITY 1 COMPONENT STATUS 1

** ** ** ** ** ** ** ** ** ** COMPLETE THIS SECTION ** ** ** ** ** ** ** ** ** **

(1) (5) (38)
401CTMI2303M 1 036002TS2303-M1A790440
+ COMP NO ++ CSU+ + TASK ++SCHD+

RESULTS(51)

CHECK ONE ONLY
(X) 1 PERFORMED OK
( ) 2 EXCEPTIONS
( ) 3 DEFICIENCIES
( ) 4 BOTH E S AND D S
( ) 5 NOT PERFORMED

DATE PERFORMED(39) 02 14 79
MONTH DAY YEAR

ACTUAL MANHOURS(45) 0081.0

ACTION TAKEN CODE(52)

REASON NOT PERFORMED(54)

ABNORMAL OCC REPT(56)

PERFORMED BY EMPLOYEE NUMBER(60) 05496 SIGNATURE- J Outwater

APPROVED BY EMPLOYEE NUMBER(65) 05873 SIGNATURE- A Miller

WITNESSED BY EMPLOYEE NUMBER(70) SIGNATURE-

CORRECTIVE MAINTENANCE JOB TICKET NUMBER(75)

403A (1) DUPLICATE AS ABOVE (5-38)

RESULTS DESCRIPTION

L0L1L I(39)

I(61)

404A (1) DUPLICATE AS ABOVE (5-38)

L0L1L I(39)

I(61)

402A (1) DUPLICATE AS ABOVE (5-38)

ASSISTING DEPARTMENTS

CODE(39)

HOURS(44) I.L I

CODE(50)

HOURS(55) I.L I

229 013

CONTROLLED COPY
CONTROL ROOM
WORKING COPY

THREE MILE ISLAND NUCLEAR STATION
UNIT #2 SURVEILLANCE PROCEDURE 2303-M1A/B
MAKEUP PUMP AND VALVE FUNCTIONAL TEST

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22.0			47.0			72.0		
23.0			48.0			73.0		
24.0			49.0			74.0		
25.0			50.0			75.0		

Unit 1 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 1 PORC Recommends Approval

N/A Date —
Chairman of PORC

Unit 2 PORC Recommends Approval

[signature] Date 9/22/78
Chairman of PORC

Unit 1 Superintendent Approval

N/A Date —

Unit 2 Superintendent Approval

[signature] Date 9/22/78

Manager Generation Quality Assurance Approval N/A Date —

DATA SHEET "A"
"A" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 32 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 28 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1574) 0 inches H_2O
   0 " H_2O x 0.0361 = 0 psig.
4. Pump Running Inlet Pressure (#2-#3) 0 psig.
5. Pump Outlet Pressure (MU-22-PI1) 28 psig.
6. Pump Differential Pressure (#5-#4) 3000 psig.
   2972 psi.
7. Lube Oil Level (Initial if satisfactory) ✓
8. Pump inboard bearing vibration (mils) H .5
   V .7

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS.(Psig)	32	>0	NA	NA	≤0	NA	40
PUMP RUNNING INLET PRESS (Psig)	28	>0	NA	NA	≤0	NA	28
PUMP RUNNING DISCHARGE PRESS. (PSIG)	3000	≥1125	NA	NA	<1125	NA	2900
Δ PRESS. (PSIG)	2972	[illegible]	2329 to 2401	NA	<2329	NA	2872
RADIAL BGR. TEMP (°F)*	130.1 ~~142.9~~ N/A	<180	NA	NA	NA	≥180	141.0
THRUST BGR. TEMP (°F)*	147.9	<180	NA	NA	NA	≥180	141.0
MAX. VIBRATION (mils)	.7	0 to 3.4	NA	3.4 to 5.1	NA	>5.1	1.7v

*Only measured once per year.

DATA SHEET "B"
"B" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 34 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 30 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1575) 0 in H_2O
   0 in H_2O x 0.0361 = 0 psig 0 psig.
4. Pump Running Inlet Pressure (#2 - #3) 30 psig.
5. Pump Outlet Pressure (MU-22-PI2) 2900 psig.
6. Pump Differential Pressure (#5 - #4) 2870 psi.
7. Lube Oil Level (Initial if satisfactory) RM
8. Pump inboard bearing vibration H .6 V 1.7

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	34	>0	NA	NA	≤0	NA	39
PUMP RUNNING INLET PRESS (Psig)	30	>0	NA	NA	≤0	NA	32
PUMP RUNNING DISCHARGE PRESS. (Psig)	2900	≥1125	NA	NA	≤1125	NA	2750
Δ PRESS (P	2870	≥2401	2329 to 2401	NA	<2329	NA	2718
RADIAL BGR. TEMP (°F)*	N/A	<180	NA	NA	NA	≥180	135.4
THRUST BGR. TEMP (°F)*	N/A	<180	NA	NA	NA	≥180	146.1
Max Vibration (mils)	1.7	0 to 2.5	NA	2.5 to 3.75	NA	>3.75	1.25

*Only measured once per year.

229 016

DATA SHEET "C"
"C" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 32 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 25 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1576) 0 in H_2O
   0 " H_2O x 0.0361 = 0 psi . 0 psi.
4. Pump Running Inlet Pressure (#2 - #3) 25 psig.
5. Pump Outlet Pressure (MU-22-PI3) 2950 psig.
6. Pump Differential Pressure (#5 - #4) . 2925 psi.
7. Lube Oil Level (Initial if satisfactory) ok
8. Pump inboard bearing vibration H .5
   V .8

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	32	>0	NA	NA	≤0	NA	29
PUMP RUNNING INLET PRESS (Psig)	25	>0	NA	NA	≤0	NA	30
PUMP RUNNING DISCHARGE PRESS. (Psig)	2950	≥1125	NA	NA	<1125	NA	2900
Δ PRESS (Psi)	2925	≥2401	2329 to 2401	NA	<2329	NA	2870
RADIAL BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	123.5
THRUST BGR. TEMP (°F)*	NA	<180	NA	NA	NA	≥180	160.5
MAX VIBRATION (Mils)	.8	0 to 1.8	NA	1.8 to 2.7	NA	>2.7	0.9H

*To be measured yearly.

229 017

DATA SHEET "D"
MAKEUP SYSTEM
VALVE OPERABILITY TEST

Valve No.	Functional Requirement	Initial/Date
MU-V143 A	(Check valve) Open	
MU-V143 A	(Check valve) Close	
MU-V143 B	(Check valve) Open	
MU-V143 B	(Check valve) Close	
MU-V143C	(Check valve) Open	
MU-V143C	(Check valve) Close	
MU-V161 A	(Stop check valve) Open	
MU-V161 B	(Stop check valve) Open	
MU-V161 C	(Stop check valve) Open	
MU-V161 D	(Stop check valve) Open	

Valve No.		Acceptable Time Limit
MU-V439	Closes In 14.3	19 sec.

Performed by: _____ Date 2-14-79 Time 1829

Approved by: _____ Date 2-14-79

ANALYSIS: The above valves have meet their acceptance criteria & therefore are operational

Analysis by: Joseph Barbuto Date 2/15/79 Time 0900

Performed by: [signature] Date 2-14-79 Time 1800

Approved by: [signature] Date 2-14-79

ANALYSIS:

The valves on Page 20.0 have meet their acceptance criteria & therefore are operational.

Analysis by: Joseph Barbieri Date 2/15/79 Time 0900

[signature] 2-79

DATE PRINTED 01/10/79

SURVEILLANCE PERFORMANCE FORM
MET-ED T M I UNIT 2

EARLY DATE 01-18-79
SCHED DATE 01-25-79
LATE DATE 02-01-79

PROCEDURE NO 2303-M 1

TECH/SPEC REF
4.0.5
4.1.2.3
4.1.2.4

DEPT RESP - OPERATIONS

TASK NO - 2303-M1A
MU-P1A/B/C PUMP TESTING

DEPENDENT TASK

WORK ORDER NO. - 036000325
ACCOUNT NO. - 520.1
GC CODE - 20
COMPONENT NO - T-1-2303-M 1-
COMPONENT DESC - STANDARD TECH SPEC ITEM
COMP LOCATION - BDG LVL GRID

SPECIAL COMMENT - MODE 4/5:RC PRS REQD

PLANT CONDITION 1-1-1-1-0-1-1

ASSIST DEPT

FREQUENCY M QUALITY CONTROL 1

SPECIFIC DAY

CONTRACTOR 0 INTERFERENCE 0

PRIORITY 1 COMPONENT STATUS 1

** ** ** ** ** ** ** ** ** COMPLETE THIS SECTION ** ** ** ** ** ** ** ** ** **

(1) (5) (38)
401C I 2303M 1 036002 S 2303-M1A 790250
+ COMP NO ++ CSU+ + TASK ++SCHD+

RESULTS(51)

CHECK ONE ONLY
( ) 1 READY FOR OPS
( ) 2 FACE PLATE
( ) 3 DEFICIENCIES
( ) 4 BOTH E S AND O S
( ) 5 NOT PERFORMED

DATE PERFORMED(39) L0L1 I L2L9 I L7L9 I
/ MONTH DAY YEAR

ACTUAL MANHOURS(45) L L L U L2 I.0 I

ACTION TAKEN CODE(52) L L I

REASON NOT PERFORMED(54) L I

ABNORMAL OCC RPT(56) L L L L I

PERFORMED BY EMPLOYEE NUMBER(60) L0L5L4L7L9I SIGNATURE- Dennis Olsen

APPROVED BY EMPLOYEE NUMBER(65) L0L5L8L7L3I SIGNATURE- A Miller

WITNESSED BY EMPLOYEE NUMBER(70) L L L L L I SIGNATURE-

CORRECTIVE MAINTENANCE JOB TICKET NUMBER(75) L L L L L I

403A (1) DUPLICATE AS ABOVE (5-38)

RESULTS DESCRIPTION

L0L1L L L L L L L L L L L L L L L L L L I(39)
L L L L L L L L L L L L I L L L L L L L I(61)

404A (1) DUPLICATE AS ABOVE (5-38)

L0L1L L L L L L L L L L L L L L L L L L I(39)
L L L L L L L L L L L L L L L L L L L L I(61)

402A (1) DUPLICATE AS ABOVE (5-38)

ASSISTING DEPARTMENTS

CODE(39) L L L L L I
HOURS(44) L L L L L I.L I

CODE(50) L L L L L I
HOURS(55) L L L L L I.L I

229 020

CONTROLLED COPY
CONTROL ROOM
WORKING COPY

2303-M1 A/B
Revision 5
09/22/78

THREE MILE ISLAND NUCLEAR STATION
UNIT #2 SURVEILLANCE PROCEDURE 2303-M1A/B
MAKEUP PUMP AND VALVE FUNCTIONAL TEST

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18.0	09/22/78	5	43.0			68.0		
19.0	09/22/78	5	44.0			69.0		
20.0	09/22/78	5	45.0			70.0		
[illegible]	09/22/78	5	46.0			71.0		
22			47.0			72.0		
23.0			48.0			73.0		
24.0			49.0			74.0		
25.0			50.0			75.0		

Unit 1 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 1 PORC Recommends Approval

N/A Date —
Chairman of PORC

Unit 2 PORC Recommends Approval

[signature] Date 9/22/78
Chairman of PORC

Unit 1 Superintendent Approval

N/A Date —

Unit 2 Superintendent Approval

[signature] Date 9/22/78

Manager Generation Quality Assurance Approval N/A Date —

DATA SHEET "A"
"A" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 40 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 40 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1574) 0 inches H_2O
4. Pump Running Inlet Pressure (#2-#3) 0 " H_2O x 0.0361 = 0 psig. 0 psig.
5. Pump Outlet Pressure (MU-22-PI1) 40 psig.
6. Pump Differential Pressure (#5-#4) 2950 psig.
7. Lube Oil Level (Initial if satisfactory) 2910 psi.
8. Pump inboard bearing vibration (mils) H 1.0 V 0.7

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS.(Psig)	40	>0	NA	NA	≤0	NA	40
PUMP RUNNING INLET PRESS (Psig)	40	>0	NA	NA	≤0	NA	28
PUMP RUNNING DISCHARGE PRESS. (PSIG)	2950	≥1125	NA	NA	<1125	NA	2900
Δ PRESS. (PSIG)	2910	≥2401	2329 to 2401	NA	<2329	NA	28[illegible]
RADIAL BGR. TEMP (°F)*	T_1 = 118.7 T_2 = 120.6 T_3 = 121.8	<180	NA	NA	NA	≥180	141.0
THRUST BGR. TEMP (°F)*	T_1 = 139.9 T_2 = 141.9 T_3 = 143.4	<180	NA	NA	NA	≥180	141.0
MAX. VIBRATION (mils)	1.0 (H)	0 to 3.4	NA	3.4 to 5.1	NA	>5.1	1.7v

*Only measured once per year.

229 022

Revision 5
09/22/73

DATA SHEET "B"
"B" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 40 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 40 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1575) 1" in H_2O
   1 in H_2O x 0.0361 = .0361 psig .0361 psig.
4. Pump Running Inlet Pressure (#2 - #3) 39.96 psig.
5. Pump Outlet Pressure (MU-22-PI2) 2850 psig.
6. Pump Differential Pressure (#5 - #4) 2810 psi.
7. Lube Oil Level (Initial if satisfactory) Yes
8. Pump inboard bearing vibration H .9
   V .3

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	40	>0	NA	NA	≤0	NA	39
PUMP RUNNING INLET PRESS (Psig)	39.96	>0	NA	NA	≤0	NA	32
PUMP RUNNING DISCHARGE PRESS. (Psig)	2850	≥1125	NA	NA	≤1125	NA	2750
Δ PRESS (Psi)	2810	≥2401	2329 to 2401			NA	2718
RADIAL BGR. TEMP (°F)*	T_1=128.5 T_2 128.5 T_3 128.5	<180	NA	NA	NA	≥180	135.4
THRUST BGR. TEMP (°F)*	T_1 = 145.4 T_2 = 145.2 T_3 = 145.2	<180	NA	NA	NA	≥180	146.1
Max Vibration (mils)	.9 (H)	0 to 2.5	NA	2.5 to 3.75	NA	>3.75	1.25

*Only measured once per year.

229 023

DATA SHEET "C"
"C" MAKEUP PUMP RECIRC OPERATING TEST

1. Pump Idle Suction Pressure (MU-PI-0732) 40 psig.
2. Pump Running Suction Header Pressure (MU-PI-0732) 40 psig.
3. Pump Running Strainer Differential Pressure (MU-DPI-1576) 2" in H_2O
   2" H_2O x 0.0361 = .072 psi . .072 psi.
4. Pump Running Inlet Pressure (#2 - #3) 39.92 psig.
5. Pump Outlet Pressure (MU-22-PI3) 2950 psig.
6. Pump Differential Pressure (#5 - #4) 2910 psi.
7. Lube Oil Level (Initial if satisfactory) Yes
8. Pump inboard bearing vibration H .75
   V .6

QUANTITY	MEASURED VALUE	ACCEPTABLE RANGE	ALERT RANGE LOW	ALERT RANGE HIGH	REQUIRED ACTION RANGE LOW	REQUIRED ACTION RANGE HIGH	REFERENCE VALUES
PUMP IDLE INLET PRESS. (Psig)	40	>0	NA	NA	≤0	NA	29
PUMP RUNNING INLET PRESS (Psig)	39.92	>0	NA	NA	≤0	NA	30
PUMP RUNNING DISCHARGE PRESS. (Psig)	2950	≥1125	NA	NA	<1125	NA	2900
Δ PRESS (Psi)	2910	>2401	2329 to 2401	NA	<2329	NA	2870
RADIAL BGR. TEMP (°F)*	T_1 = 112.2 T_2 = 113.4 T_3 = 115.3	<180	NA	NA	NA	≥180	123.5
THRUST BGR. TEMP (°F)*	T_1 = 159.1 T_2 = 159.2 T_3 = 159.4	<180	NA	NA	NA	≥180	160.5
MAX VIBRATION (Mils)	.75 (H)	0 to 1.8	NA	1.8 to 2.7	NA	>2.7	0.9H

*To be measured yearly.

229 024

Performed by: Dennis Olson Date 1-29-79 Time 1340

Approved by: A. Mills Date 1-29-79

ANALYSIS:

Data is satisfactory

Analysis by: A. Mills Date 1-29-79 Time 1835