



Commonwealth Edison
72 West Adams Street, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690 - 0767

October 22, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Unit 3
Recirculation System Piping
Replacement Program Cumulative
Radiation Exposure Total
NRC Docket No. 50-249

- References (a): D. G. Eisenhut letter to All Licensees
of BWRs dated March 14, 1984 (G.L. 84-07).
- (b): B. Rybak letter to H. R. Denton dated
June 13, 1985.
- (c): J. R. Wojnarowski letter to H. R. Denton
dated March 13, 1986.

Dear Mr. Denton:

The referenced (b) and (c) letters transmitted Commonwealth Edison's Radiation Protection Summary Report and a revision to the report for the Dresden Station Unit 3 Recirculation Pipe Replacement (RPR). That report described the ALARA program to be implemented for the RPR and provided the total cumulative radiation exposure estimate (1906 man-rem) and a revision (2057 man-rem) to that estimate. This letter provides a general description of the radiation exposure tracking program and the final total cumulative radiation exposure. It also describes adjustments made to the raw number in order to increase the accuracy of the final total.

The final adjusted total cumulative radiation exposure for the RPR project is 1899 man-rem. This was accrued by RPR personnel during 231404 man-hours of effort. This breaks down to an adjusted exposure rate of 0.008 man-rem per Radiation Work Permit (RWP) hour.

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Attachment A to this letter contains the raw data, 2242 man-rem, 244104 man-hours and 0.009 man-rem per RWP hour, used to produce the totals above. It also provides the detailed, task specific breakdown of the radiation exposure accrued during the project. Attachment B provides a detailed breakdown of hours and exposure for work performed for the station under RPR RWPs. Exposure and man-hour corrections calculated under Attachment B will be removed from the radiation exposure and man-hour totals contained in Attachment A.

Dose Tracking System Description:

The source of all radiation exposure data used to generate Attachment A is self reading dosimeters (SRD) from the dose tracking system. The RPR dose tracking system was based on the installer's division of the outage into five phases which were then further divided into specific tasks. The execution of engineering aspects of the tasks were controlled by Task Work Packages (TWP). Radiological aspects of the tasks were controlled by correspondingly numbered Radiation Work Permits. Support and supplemental services work was performed under stand-alone RWPs. All exposure was tracked by dose accountability cards which contained the individual's RWP number, time in the area, exposure by SRD, craft, security badge number and name. Dose accountability cards were collected and entered in the dose tracking system on a shiftly basis.

Intrinsic to the system were three types of errors which impacted the radiation exposure numbers: (1) loss or failure to turn in the dose accountability card (Result: loss of exposure from the project total), (2) crediting dose to the wrong RWP number (Result: no loss of exposure from project total), and (3) crediting dose to a TWP number for which no RWP exists (Result: no loss of exposure from the project total). Correction to the total cumulative radiation exposure for the first type of error will be addressed in the adjustment section.

Adjustments:

Adjustments to correct for both intrinsic and extrinsic errors were made to the raw SRD exposure total derived from the addition of radiation exposure outlined in Attachment A. A statement of account for these correction adjustments follows with further details provided in Attachment B.

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Item	Adjust (Man-Hr)	Total (Man-Hr)	Adjust (Man-Rem)	Total (Man-Rem)
Dose tracking system total project exposure	0	244104	N/A	2242.399
An 11.6% reduction based on the analysis of 9000 TLD vs SRD readings	0	244104	-260.118	1982.281
Preoutage walkdowns	+793	244897	+47.76	2030.041
Allocation of 25% of insulation removal to the station (to cover removal from steam lines and other non RPR pipe)	-116	244781	-3.119	2026.922
Allocation of 25% of drywell decon to station (would have been done to support routine maintenance)	-97	244684	-2.977	2023.945
Allocation of 25% of asbestos removal to the station (steam lines and non RPR pipe)	-64	244620	-2.107	2021.838
InvesSEL diver dose from multi badges	0	244620	+2.41	2024.248
Loss or failure to turn in the dose accountability card	0	244620	+3.521	2027.769
Non RPR work performed on RPR RWPs, see Att. B (13,000 hr @ .009 rem/RWP hr)	-13000	231620	-122.4	1905.369
Remove 15% of the CRD penetration work (repair/ mod to penetration not RPR related)	-216	231404	-6.742	1898.627

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The final adjusted cumulative radiation exposure total represents Commonwealth Edison's careful assessment of the actual man-rem associated with the replacement of the recirculation piping, the reactor water clean-up piping, the shutdown cooling piping, the isolation condensor piping and the core spray piping. This also includes work on the associated pumps and valves, all N1, N2, core spray, JPI, and CRD safe end and nozzle work. This includes all support work, pre and post outage, such as decontamination and walkdowns.

If you have any questions regarding any aspect of the exposure tracking, the final assessment or any adjustment made thereto, please contact this office.

Very truly yours,



J. R. Wojnarowski
Nuclear Licensing Administrator

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Attachments

cc: J. Stang - NRR
Region III Inspector - Dresden
D. Miller - RIII

ATTACHMENT A

JOB SUMMARY REPORT
 DRESDEN STATION
 ALL RPR JOBS
 08/29/86

JOB CODE	DESCRIPTION	PERCENT COMPLETE	CURRENT	CURRENT	ACTUAL HOURS
			ESTIMATED EXPOSURE	ACTUAL EXPOSURE	
R001	RECIRC PIPE REPLACEMENT PROJECT GENERAL TASKS	60.00	309600	775785	27000.00
R002	PHASE I - INTERFERENCE AND PIPE REMOVAL	95.00	178600	179175	12377.00
R003	RECIRC PIPE REPLACEMENT PROJECT - REMOVAL/REINSTALLATION OF SSAFE ENDS AND FLUED HEADS	70.00	137200	280824	17307.00
R004	RECIRC PIPE REPLACEMENT PROJECT - PIPE INSTALLATION	0.00	0	278691	28056.00
R005	RECIRC PIPE REPLACEMENT PROJECT - RESTORATION	0.00	0	204705	26376.00
R006	RECIRC PIPE REPLACEMENT PROJECT - ELECTRICAL	0.00	0	36559	3593.00
R007	RECIRC PIPE REPLACEMENT PROJECT - NON-DRYWELL ACTIVITIES	0.00	0	282296	28290.00
R008	RECIRC PIPE REPLACEMENT PROJECT - SYSTEM DECON WITH LOMI	0.00	0	10556	1107.00
R009	SURFACE DECONTAMINATION OF DRYWELL AND OTHER RPR-RELATED WORK AREAS BY BARTLETT NUCLEAR	100.00	0	11740	388.00
R010	REGIRCULATION PIPE REPLACEMENT PROJECT - NON-CBI ACTIVITIES, MISC.	60.00	0	178972	24324.00
R011	NON-RPR TASKS COMPLETED UNDER RPR PROJECT AUTHORITY	0.00	0	140032	20434.00
R012	IN-SERVICE INSPECTION, D-3, 1985-86 OUTAGE (COMBUSTION ENGINEERING)	0.00	0	5151	102.00
R013	MISCELLANEOUS RWP ENTRY ERRORS	0.00	0	3096	0.00

NOTE: Categories R011 and R012 were tracked under RPR,
 but were not counted for final man-rem total.

SELECTED JOBS - TABLE 1
JOB CODE: R001
RECIRC PIPE REPLACEMENT PROJECT GENERAL TASKS

RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
A1 - SR1001	266.000	312.598	38000	52062		SUPERVISION SUPPORT
B1 - SR1002	57.800	89.360	3400	8223		ENGINEERING SUPPORT
C1 - SR1003	77.200	101.904	5600	10888		INSTALL AND REMOVE SCAFFOLDING
D1 - SR1004	19.120	14.840	1275	1204		INSTALL RIGGING - LOOP A
E1 - SR1005	19.120	10.410	1275	864		INSTALL RIGGING - LOOP B
F1 - SR1006	10.450	16.116	520	1942		INSTALL, MAINTAIN AND REMOVE PRIMARY VENTILATION SYSTEM
G1 - SR1007	15.000	12.520	600	463		INSULATION REMOVAL ALL ELEVATIONS DRYWELL
H1 - SR1008	36.900	29.034	4100	4177		FIREWATCH
I1 - SR1009	71.500	85.552	6500	11099		LOCAL AREA DECON
J1 - SR1010	16.000	19.815	1600	2442		INSTALL, MAINTAIN AND REMOVE CONTAINMENT STRUCTURES AND PORTABLE VENTILATION UNITS
K1 - SR1011	5.900	3.080	180	126		INSTALL, MAINTAIN AND REMOVE CAT. II SHIELDING
L1 - SR1012	1.900	0.640	63	24		DRILL DECON HOLES IN N-2 ELBOWS N-2A,N-2B,N-2C,N-2E,N-2F ,N-2H 545 ELEVATION
M1 - SR1013	7.650	9.115	255	385		LAY-OUT AND DRILL PILOT HOLES FOR REMOVAL OF SYSTEM
N1 - SR1014	15.300	11.390	340	624		OPEN AND CLOSE BIOSHIELD DOORS. REMOVE/INSTALL NEUTRON SHIELD
O1 - SR1015	1.200	0.065	60	6		CUT PIPE COUPONS
P1 - SR1016	2.600	2.658	175	179		OPEN AND CLOSE SPARE PENETRATIONS
Q1 - SR1017	6.000	7.035	200	183		PIN RWCU HANGER
R1 - SR1261	37.500	24.988	1500	2528		REINSTALLATION OF INSULATION
S1 - SR4501	0.000	21.035		3738		WORK IN CHANGE OUT AREA
T1 - SR4530	3.000	3.630	100	393		INSTALL AND REMOVE HYDRAULIC AND ELECTRIC CABLES AND ASSOCIATED EQUIPMENT
TOTALS:	670.140	775.785	65743	101550		

NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

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SELECTED JOBS - TABLE 1

JOB CODE: R002

PHASE I - INTERFERENCE AND PIPE REMOVAL

	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
11	A1 - 5R1020	5.500	0.715	275	71		REMOVE MOTOR OPERATED VALVE MOTORS
13	B1 - 5R1021	2.500	2.235	50	127		REMOVAL OF MISCELLANEOUS PIPE SUPPORTS (MOD 16)
15	C1 - 5R1022	5.000	0.115	250	23		REMOVE B LOOP RECIRC MOTOR
17	D1 - 5R1023	2.500	1.810	100	133		REMOVE SMALL BORE LINES
19	E1 - 5R1024	1.250	0.865	50	103		REMOVAL OF MISCELLANEOUS PIPE SUPPORTS (MOD 17 & 26)
22	F1 - 5R1025	35.000	6.795	1500	435		PROTECT SYSTEMS
25	G1 - 5R1028	18.750	10.860	750	668		REMOVE DUCT WORK INTERFERENCES
28	H1 - 5R1029	1.600	1.350	60	67		INSTALL AND REMOVE CATEGORY I SHIELDING N1 NOZZLE AREA LOOPS A AND B
30	I1 - 5R1030	11.600	14.135	900	1428		INSTALL AND REMOVE N2 SHIELDING LOOP A&B
32	J1 - 5R1031	14.000	4.160	280	140		INSTALL AND REMOVE CATEGORY I SHIELDING CORE SPRAY N19 NOZZLE AREA LOOPS A AND B
34	K1 - 5R1032	0.800	0.350	80	36		INSTALL AND REMOVE CATEGORY I SHIELDING JPI N20 NOZZLE AREA LOOPS A AND B
37	L1 - 5R1033	0.200	0.035	20	3		INSTALL AND REMOVE CATEGORY I SHIELDING CRD RETURN N9 NOZZLE AREA
40	M1 - 5R1034	1.400	1.005	40	33		INSTALL AND REMOVE CATEGORY I SHIELDING ON RECIRC PUMPS, LOOPS A AND B
43	N1 - 5R1035	30.000	8.850	1500	1141		REMOVE STRUCTURAL INTERFERENCES, LOOP A (MOD 17) TAG 233 ELEVATION 515
45	O1 - 5R1036	30.000	7.015	1500	955		REMOVE STRUCTURAL INTERFERENCES, LOOP B (MOD 17)
48	P1 - 5R1037	3.150	2.970	350	323		REMOVE WHIP RESTRAINTS, LOOP A
50	Q1 - 5R1038	3.800	3.195	350	309		REMOVE WHIP RESTRAINTS, LOOP B
52	R1 - 5R1039	10.500	10.235	350	611		REMOVE SMALL BORE LINES, LOOP A (MOD 16)
54	S1 - 5R1040	10.500	8.045	350	436		REMOVE SMALL BORE LINES, LOOP B (MOD 16)
56	T1 - 5R1041	5.000	0.200	250	20		REMOVE INSTRUMENTATION AND MISC. INTERFERENCES, LOOPS A AND B
58	U1 - 5R1042	18.000	8.290	450	326		SUPPORT RECIRC VALVES AND PUMP, LOOP A

1	V1 - SR1043	18.000	6.768	450	253	SUPPORT OF RECIRC PUMP AND VALVES, LOOP B
2	W1 - SR1044	12.000	6.535	400	395	TEMPORARY SUPPORT OF RECIRC PIPE AND REMOVAL OF SUPPORTS, LOOP A(MOD 16)
3	X1 - SR1045	12.000	4.560	400	321	TEMPORARILY SUPPORT RECIRCULATION PIPE AND REMOVE SUPPORTS, LOOP B (MOD 16)
4	Y1 - SR1046	1.200	1.225	70	81	TEMPORARILY SUPPORT LPC1 PIPE AND REMOVE SUPPORTS, LOOPS A AND B (MOD 16)
5	Z1 - SR1047	4.000	1.145	100	154	TEMPORARILY SUPPORT RWC1 PIPE AND REMOVE SUPPORTS (MOD 16)
6	A2 - SR1048	4.000	0.735	100	33	TEMPORARILY SUPPORT SDC PIPE AND REMOVE SUPPORTS, LOOPS A AND B (MOD 16)
7	B2 - SR1049	4.000	0.245	100	18	REMOVE ISOC PIPE SUPPORTS
8	C2 - SR1050	6.250	5.595	125	311	TEMPORARILY SUPPORT CORE SPRAY PIPE AND REMOVE SUPPORTS, LOOPS A AND B (MOD 16)
9	D2 - SR1051	5.000	0.670	250	72	CUT AND REMOVE SUCTION VALVE MOV-4A AND LOWER SUCTION ELBOW, LOOP A
10	E2 - SR1052	15.000	2.295	1000	110	CUT AND REMOVE SUCTION RISER TO N1-A
11	F2 - SR1053	8.000	1.290	400	194	CUT AND REMOVE DISCHARGE VALVE MOV-5A AND PUMP D DISCHARGE SPOOL PIECE, LOOP A
12	G2 - SR1054	5.000	2.360	250	172	CUT AND REMOVE DISCHARGE RISER, LOOP A
13	H2 - SR1055	20.000	1.845	120	95	CUT AND REMOVE HEADER, LOOP A
14	I2 - SR1056	4.200	0.275	210	12	CUT AND REMOVE 5 DEGREE RISER, LOOP A
15	J2 - SR1057	4.200	0.945	210	49	CUT AND REMOVE 35 DEGREE RISER, LOOP A
16	K2 - SR1058	4.200	1.810	210	83	CUT AND REMOVE 65 DEGREE RISER, LOOP A
17	L2 - SR1059	4.200	0.550	210	35	CUT AND REMOVE 95 DEGREE RISER, LOOP A
18	M2 - SR1060	4.200	0.235	210	19	CUT AND REMOVE 125 DEGREE RISER, LOOP A
19	N2 - SR1061	9.000	1.740	300	179	CUT AND REMOVE HEADER CROSS-OVER AND CROSS-OVER VALVES
20	O2 - SR1062	5.000	0.395	250	28	CUT AND REMOVE SUCTION VALVE MOV-4B AND LOWER SUCTION ELBOW, LOOP B
21	P2 - SR1063	15.000	1.830	1000	175	CUT AND REMOVE SUCTION RISER TO N1-B
22	Q2 - SR1064	8.000	0.360	400	31	CUT AND REMOVE DISCHARGE VALVE MOV-5B AND PUMP D DISCHARGE SPOOL PIECE, LOOP B
23	R2 - SR1065	5.000	2.510	250	167	CUT AND REMOVE DISCHARGE RISER, LOOP B
24	S2 - SR1066	20.000	1.545	1000	196	CUT AND REMOVE HEADER, LOOP B

1	T2 - SR1067	4.200	1.050	210	54	CUT AND REMOVE 185 DEGREE RISER, LOOP B
2	U2 - SR1068	4.200	1.535	210	45	CUT AND REMOVE 215 DEGREE RISER, LOOP B
3	V2 - SR1069	4.200	1.380	210	51	CUT AND REMOVE 245 DEGREE RISER, LOOP B
4	W2 - SR1070	4.200	0.605	210	24	CUT AND REMOVE 275 DEGREE RISER, LOOP B
5	X2 - SR1071	4.200	0.545	210	32	CUT AND REMOVE 305 DEGREE RISER, LOOP B
6	Y2 - SR1072	6.250	5.820	250	131	CUT AND REMOVE CORE SPRAY LINE, LOOP A
7	Z2 - SR1073	7.500	3.630	12	49	CUT REMAINING B LOOP CORE SPRAY PIPE
8	A3 - SR1074	3.500	3.545	350	106	CUT AND REMOVE LPCI LINE, LOOP A
9	B3 - SR1075	3.500	1.695	350	69	CUT AND REMOVE LPCI LINE, LOOP B
10	C3 - SR1076	6.750	1.700	225	50	CUT AND REMOVE SCD LINE, LOOP A
11	D3 - SR1077	6.000	2.895	200	49	CUT AND REMOVE ISOC LINE, LOOP A
12	E3 - SR1078	3.750	2.400	125	42	CUT AND REMOVE CRD RETURN LINE
13	F3 - SR1079	15.000	0.565	500	43	CUT AND REMOVE RWCU LINE
14	G3 - SR1080	5.500	4.710	780	656	LOAD OUT, INSPECT AND STORE INTERFERENCES
15	H3 - SR1081	7.000	5.467	640	495	LOAD OUT REMOVED PIPE INTO CONTAINERS
16	I3 - SR1464	0.600	0.375	60	50	REMOVAL/REINSTALLATION 'B' PUMP MOTOR SNUBBER INTERFERENCE
17	J3 - SR1465	5.200	0.565	522	40	ELECTRICAL INTERFERENCE/REMOVE & REINSTALL
18	TOTALS:	500.050	179.175	22534	12377	

NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

SELECTED JOBS - TABLE 1

JOB CODE: R003

RECIRC PIPE REPLACEMENT PROJECT - REMOVAL/REINSTALLATION OF
SSAFE ENDS AND FLUED HEADS

	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
11	A1 - 5R1100	25.800	11.835	1720	869		REMOVE AND REINSTALL 155 DEGREE SAFE END N1-A
13	B1 - 5R1101	25.800	12.686	1720	981		REMOVE AND REINSTALL 335 DEGREE SAFE END N1-B
15	C1 - 5R1102	29.300	10.507	1465	713		REMOVE AND REINSTALL 5 DEGREE SAFE END N2-A, LOOP A
18	D1 - 5R1103	29.300	10.905	1465	847		REMOVE AND REINSTALL 35 DEGREE SAFE END N2-B, LOOP A
21	E1 - 5R1104	29.300	16.275	1465	925		REMOVE AND REINSTALL 65 DEGREE SAFE END N2-C, LOOP A
24	F1 - 5R1105	29.300	16.615	1465	1016		REMOVE AND REINSTALL 95 DEGREE SAFE END N2-D, LOOP A
27	G1 - 5R1106	29.300	11.300	1465	664		REMOVE AND REINSTALL 125 DEGREE SAFE END N2-E, LOOP A
30	H1 - 5R1107	29.300	9.165	1465	645		REMOVE AND REINSTALL 185 DEGREE SAFE END N2-F, LOOP B
33	I1 - 5R1108	29.300	13.893	1465	817		REMOVE AND REINSTALL 215 DEGREE SAFE END N2-G, LOOP B
35	J1 - 5R1109	29.300	10.800	1465	619		REMOVE AND REINSTALL 245 DEGREE SAFE END N2-H, LOOP B
38	K1 - 5R1110	29.300	12.420	1465	766		REMOVE AND REINSTALL 275 DEGREE SAFE END N2-J, LOOP B
42	L1 - 5R1111	29.300	10.794	1465	642		REMOVE AND REINSTALL 305 DEGREE SAFE END N2-K, LOOP B
45	M1 - 5R1112	21.600	28.747	1200	2288		REMOVE AND REINSTALL CORE SPRAY SAFE END N19-A
47	N1 - 5R1113	31.200	34.976	1200	1832		REMOVE AND REINSTALL CORE SPRAY SAFE END N19-A
49	O1 - 5R1114	13.700	10.005	1200	1080		REMOVE AND REINSTALL JPI SAFE END N20-A
51	P1 - 5R1115	14.600	13.325	1200	1098		REMOVE AND REINSTALL JPI SAFE END N20-B
53	Q1 - 5R1116	32.000	45.426	800	1442		REMOVE AND REINSTALL CRD RETURN SAFE END N-5 AND CAP THE SAFE END AND THE PENETRATION
55	R1 - 5R1117	5.250	0.135	175	8		REMOVE AND REINSTALL RWCU FLUED HEAD, X-113
57	S1 - 5R1118	1.750	0.060	175	12		REMOVE AND REINSTALL LPCI FLUED HEAD, X-116A

1	T1 - SR1119	1.750	0.145	175	12	REMOVE AND REINSTALL LPCI FLUED HEAD, X-116B
2	U1 - SR1120	3.500	0.075	175	10	REMOVE AND REINSTALL ISOC FLUED HEAD, X-109A
3	V1 - SR1121	5.250	0.005	350	2	REMOVE AND REINSTALL ANCHOR BOLTS
4	W1 - SR1512	17.500	0.690	50	16	MISC PREPS ON CORE SPRAY A & B
5	X1 - SR2507	5.000	0.040	20	3	INSPECT FLUED HEAD SUPPORT IN TORUS
6	TOTALS:	497.700	280.824	24810	17307	

13 NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

SELECTED JOBS - TABLE 1						
		JOB CODE: R004 RECIRC PIPE REPLACEMENT PROJECT - PIPE INSTALLATION				
	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS DESCRIPTION
A1 -	5R1150	8.750	4.905	350	481	MACHINE SUCTION AND DISCHARGE OF PUMP LOOP A
B1 -	5R1151	8.750	9.012	350	836	MACHINE DISCHARGE SIDE OF B PUMP
C1 -	5R1152	3.750	6.991	150	362	MACHINE IN PLACE SDC VALVE, LOOP A
D1 -	5R1153	3.750	1.855	150	139	MACHINE IN PLACE SDC VALVE, LOOP B
E1 -	5R1154	2.000	0.100	100	3	MACHINE IN PLACE ISOC VALVE (OUTSIDE DRYWELL)
F1 -	5R1155	2.500	0.050	250	8	MACHINE IN PLACE LPCI VALVES, LOOP A (OUTSIDE DR YWELL)
G1 -	5R1156	2.500	0.075	250	10	MACHINE IN PLACE LPCI VALVES, LOOP B (OUTSIDE DR YWELL)
H1 -	5R1157	3.000	0.010	150	11	MACHINE IN PLACE RWCH VALVES (OUTSIDE DRYWELL)
I1 -	5R1158	1.500	1.565	150	143	MACHINE IN PLACE CORE SPRAY CHECK VALVE, LOOP A
J1 -	5R1159	1.500	1.100	150	87	MACHINE IN PLACE CORE SPRAY CHECK VALVE, LOOP B
K1 -	5R1160	17.800	10.075	1274	1364	FIT AND WELD LOWER SUCTION ELBOW, SUCTION VALVE (MOV-4A) AND SUCTION RISER SPOOL TO VALVE, LOOP A
L1 -	5R1161	2.100	2.110	175	307	FIT AND WELD UPPER SUCTION ELBOW, LOOP A
M1 -	5R1162	11.400	13.700	1274	1224	FIT AND WELD DISCHARGE LINE FROM PUMP DISCHARGE TO HEADER CROSS, INCLUDING DISCHARGE VALVE (MOV-5A), LOOP A
N1 -	5R1163	15.300	11.577	1274	1222	FIT AND WELD HEADER CROSS AND HEADER, INCLUDING LOWER RISER ELBOWS, LOOP A
O1 -	5R1164	24.000	26.261	2000	2641	FIT AND WELD N-2 DISCHARGE RISERS
P1 -	5R1165	2.400		200		FIT AND WELD 35 DEGREES RISER, LOOP A
Q1 -	5R1166	2.400	0.115	200	11	FIT AND WELD 65 DEGREES RISER, LOOP A
R1 -	5R1167	2.400	0.095	200	10	FIT AND WELD 95 DEGREES RISER, LOOP A
S1 -	5R1168	2.400	0.040	200	5	FIT AND WELD 125 DEGREES RISER, LOOP A
T1 -	5R1169	6.200	9.025	515	1059	FIT AND WELD LOWER SUCTION ELBOW AND SUCTION VAL VE (MOV-4B) LOOP B
U1 -	5R1170	1.500	15.864	3	1124	R/R INTERNALS FROM VALVE LOOP B, SUCTION REPAIR

Image 4761-1

						WELD JOINT RRB54F
1	V1 -	5R1171	17.800	16.715	1271	1445
2						FIT AND WELD DISCHARGE LINE FROM PUMP DISCHARGE TO HEADER CROSS, INCLUDING DISCHARGE VALVE (MOV-SB), LOOP B
3	W1 -	5R1172	15.300	9.738	1271	1143
4						FIT AND WELD HEADER CROSS AND HEADER, INCLUDING LOWER RISER ELBOWS, LOOP B
5	X1 -	5R1173	2.400	0.125	200	24
6						FIT AND WELD 185 DEGREES RISER, LOOP B
7	Y1 -	5R1174	2.400	0.015	200	2
8						FIT AND WELD 215 DEGREES RISER, LOOP B
9	Z1 -	5R1175	2.400	0.070	200	5
10						FIT AND WELD 245 DEGREES RISER, LOOP B
11	A2 -	5R1176	2.400	0.085	200	9
12						FIT AND WELD 275 DEGREES RISER, LOOP B
13	B2 -	5R1177	2.400	0.100	200	10
14						FIT AND WELD 305 DEGREES RISER, LOOP B
15	C2 -	5R1178	20.700	11.065	1381	1003
16						FIT AND WELD SDC LINE, LOOP A
17	D2 -	5R1179	12.700	15.910	1274	1158
18						FIT AND WELD LPCI LINE FROM RECIRC DISCHARGE TO FLUED HEAD, LOOP A
19	E2 -	5R1180	1.600	0.170	200	5
20						FIT AND WELD LPCI PIECE OUTSIDE DRYWELL FROM FLUED HEAD TO VALVES, LOOP A
21	F2 -	5R1181	12.700	12.730	1274	1086
22						FIT AND WELD LPCI LINE FROM RECIRC DISCHARGE TO FLUED HEAD, LOOP A
23	G2 -	5R1182	1.600	0.020	200	2
24						FIT AND WELD LPCI PIECE OUTSIDE DRYWELL FROM FLUED HEAD TO VALVES, LOOP B
25	H2 -	5R1183	14.500	6.180	1400	904
26						FIT AND WELD RWCU LINE FROM SDC TEE TO FLUED HEAD
27	I2 -	5R1184	4.000	0.035	200	2
28						FIT AND WELD RWCU LINE OUT SIDE DRYWELL, FROM FLUED HEAD TO VALVES
29	J2 -	5R1185	15.000	8.365	500	590
30						FIT AND WELD CORE SPRAY LINE, LOOP A
31	K2 -	5R1186	10.000	11.815	500	617
32						FIT AND WELD CORE SPRAY LINE, LOOP B
33	L2 -	5R1187	12.000	4.365	1200	526
34						FIT AND WELD ISOC LINE FROM SDC TEE TO FLUED HEAD, LOOP A
35	M2 -	5R1188	6.000		300	
36						FIT AND WELD ISOC PIECE OUTSIDE DRYWELL, FROM FLUED HEAD TO VALVE
37	N2 -	5R1189	34.750	53.587	3475	6275
38						RIGGING AND SETTING VALVES IN PIT
39	O2 -	5R4547	6.000	11.705	300	1567
40						INSTALLATION OF PURGE DAMS AND F.T. EXAMINATION S
41	P2 -	5R4548	0.100	1.171	350	634
42						WELDING ROD ISSUE CAGE
43	TOTALS:		322.650	278.691	25461	28056

NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

SELECTED JOBS - TABLE 1						
		JOB CODE: R005 RECIRC PIPE REPLACEMENT PROJECT - RESTORATION				
	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS
	A1 - SR1220	5.500	0.900	275	110	REINSTALL MOV VALVES OPERATORS
	B1 - SR1221	2.500	0.025	50	6	REINSTALL MISCELLANEOUS PIPE SUPPORTS (MOD 16)
	C1 - SR1222	3.800	0.070	250	5	REINSTALL 'B' LOOP MOTOR
	D1 - SR1223	10.000	2.245	500	371	RECONNECT SMALL BORE PIPING, MISCELLANEOUS (MOD 17)
	E1 - SR1224	1.250	4.089	50	361	INSTALL MISCELLANEOUS PIPE SUPPORTS (MOD 17 & 26)
	F1 - SR1225	8.000	0.005	800	2	FABRICATION, MODIFY OR REPAIR INTERFERENCES PRIOR TO REINSTALLATION
	G1 - SR1226	6.400	17.285	800	2141	INSTALL AND MODIFY RECIRC PIPE SUPPORTS, LOOP A
	H1 - SR1227	8.000	17.902	800	2199	INSTALL AND MODIFY RECIRC PIPE SUPPORTS, LOOP B
	I1 - SR1228	3.000	1.386	300	187	INSTALL AND MODIFY LPCI PIPE SUPPORTS, LOOPS A & B
	J1 - SR1229	2.200	2.555	225	268	INSTALL AND MODIFY SDC PIPE SUPPORTS, LOOPS A & B
	K1 - SR1230	0.750	1.690	75	234	INSTALL AND MODIFY ISOC PIPE SUPPORTS
	L1 - SR1231	2.800	3.951	350	553	INSTALL AND MODIFY RWCU PIPE SUPPORTS
	M1 - SR1232	2.200	6.155	275	605	INSTALL AND MODIFY CORE SPRAY PIPE SUPPORTS, LOOPS A & B
	N1 - SR1233	17.500	31.110	1750	3740	RECONNECT SMALL BORE PIPING, LOOP A (MOD 16)
	O1 - SR1234	17.500	30.386	1750	3330	RECONNECT SMALL BORE PIPING, LOOP B (MOD 16)
	P1 - SR1235	13.600	4.580	1700	586	REINSTALL DUCT WORK, INTERFERENCES
	Q1 - SR1236	10.000	20.768	1250	3318	REINSTALL STRUCTURAL INTERFERENCES, LOOP A (MOD 17)
	R1 - SR1237	10.000	25.437	1250	3903	REINSTALL STRUCTURAL INTERFERENCES, LOOP B (MOD 17)
	S1 - SR1238	11.800	10.895	1180	1486	REINSTALL WHIP RESTRAINTS, LOOP A
	T1 - SR1239	11.800	15.145	1180	2088	REINSTALL WHIP RESTRAINTS, LOOP B
	U1 - SR1240	4.800	0.520	600	81	REINSTALL INSTRUMENTATION AND MISC. INTERFERENCE

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						S, LOOPS A & B
2	V1 - SR1241	2.400		300		REMOVE SYSTEM PROTECTION ALL ELEVATIONS
3	W1 - SR1247	4.000	1.175	500	105	REMOVE RIGGING, LOOP A
4	X1 - SR1248	4.000	0.410	500	46	REMOVE RIGGING, LOOP B
5	Y1 - SR1249	1.200		150		REMOVE WELDING/MACHINING EQUIPMENT AND TOOLS
6	Z1 - SR1250	2.360		2360		DECON TOOLS AND EQUIPMENT
7	A2 - SR1251	4.400	2.330	400	362	QA WALKDOWN
8	B2 - SR1253	4.900		450		REMOVE RECIRC. PUMP AND VALVES TEMPORARY SUPPORT AND TRANSFER LOADING, LOOP A
9	C2 - SR1254	4.000		330		REMOVE RECIRC. PUMP AND VALVES TEMPORARY SUPPORT AND TRANSFER LOADING, LOOP B
10	D2 - SR1255	0.600		50		REMOVE SUPPORTS AND TRANSFER LOADING, LPCI
11	E2 - SR1256	0.500	0.010	50	1	REMOVE SUPPORTS AND TRANSFER LOADING, SDC
12	F2 - SR1257	1.500		30		REMOVE SUPPORTS AND TRANSFER LOADING, CORE SPRAY
13	G2 - SR1258	0.600		75		REMOVE SUPPORTS AND TRANSFER LOADING, RWCU
14	H2 - SR1259	0.560		70		REMOVE SUPPORTS AND TRANSFER LOADING, ISOC
15	I2 - SR1260	2.000	0.020	200	1	TOUCH UP PAINTING
16	J2 - SR1467	2.400	0.225	240	21	ELECTRICAL INTERFERENCES ON DISCHARGE VALVE A&B
17	K2 - SR1514	4.000	0.160	42	32	CHIPPING CONCRETE BEHIND ACCUMULATORS
18	L2 - SR2508	0.040	0.010	2	0	SDC HX ROOM INSPECTION, 545'
19	M2 - SR4550	0.640	0.355	16	26	MEASURE FOR MIRROR INSULATION
20	N2 - SR4556	2.000		100		CLEAN IN AND AROUND ACCUMULATORS
21	O2 - SR4559	0.100		4		PULL ANNULUS PUMP OUT OF RX CAVITY
22	P2 - SR4560	6.110		530		REMOVE AND REINSTALL RECIRC PUMP SUPPORTS, TRANSFER LOAD
23	Q2 - SR4564	2.450	0.305	30	19	REMOVE AND REINSTALL PIPE HANGER SUPPORTS
24	R2 - SR4566	1.600	0.095	4	14	SHIELD LINES ADJACENT TO VENTILATION PENETRATION
25	S2 - SR4567	0.250	0.174	25	30	CRD ACCUMULATORS, DW CATWALK
26	T2 - SR4570	0.240	0.130	24	11	REMOVE LEAD FROM DRAIN LINE
27	U2 - SR4571	0.400	0.000	200	3	WORK INSIDE THE SEA VANS MOVING RAD BAGS AND MATERIAL
	V2 - SR4576	0.750	0.620	30	69	RPR CLOSE OUT PUNCH LIST

1	W2 -	SR4582	0.500		10		HAULING TRASH FROM D-3 LPCI
2	X2 -	SR4583	0.640	0.053	16	6	GENERAL CLEAN-UP, DECON AND HOSE REMOVAL
3	Y2 -	SR4590	2.000	0.040	10	3	POWER ENTRY SUPPORT
4	Z2 -	SR4591	3.500		70		POWER ENTRY ENGINEERING AND SUPPORT
5	A3 -	SR4592	6.600	1.494	22	53	POWER ENTRY ENGINEERING AND SUPPORT
6	TOTALS:		220.640	204.705	22250	26376	

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14 NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.
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SELECTED JOBS - TABLE 1
JOB CODE: R096
RECIRC PIPE REPLACEMENT PROJECT - ELECTRICAL

	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
8	A1 - SR1401	1.500	0.510	150	65		REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE 3159-001 ('A' LOOP SUCTION)
9	B1 - SR1402	4.300	1.365	240	107		REMOVAL AND REINSTALLATION OF ELECTRICAL INTERFERENCES CECO PACKAGE 3159-002
10	C1 - SR1403	1.600	2.800	160	333		REMOVE/REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE 3159-003 AND 3159-008
11	D1 - SR1404	1.500	0.210	100	9		REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CECO WORK PACKAGE 3159-004
12	E1 - SR1405	3.600	1.986	180	315		REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE 3159-005
13	F1 - SR1406	4.800	0.055	240	2		REACTOR WATER CLEAN-UP OUTSIDE DRYWELL (TAG 485, 486, 487, 488, 489)
14	G1 - SR1407	3.000	0.495	100	35		'B' LOOP CORE SPRAY (TAG 406, 407, & 433)
15	H1 - SR1408	1.800	0.000	180	2		'A' LOOP LPCI (TAG 402, 403, 416)
16	I1 - SR1409	0.800		80			'A' LOOP LPCI/SHUT DOWN COOLING OUTSIDE DRYWELL (TAG 434 & 435)
17	J1 - SR1410	3.450	0.360	230	23		REMOVE AND REINSTALL ELECTRICAL INTERFERENCE CECO WORK PACKAGE 3159-010
18	K1 - SR1411	3.600	3.005	240	362		'A' LOOP HEADER (TAG 423, 424, 426 & 427)
19	L1 - SR1412	2.300	3.215	100	220		ISO CONDENSER (TAG 404, 422 & 438) AND SDC REINSTALL/REMOVE INTERFERENCES INSIDE DRYWELL
20	M1 - SR1413	1.800	0.770	140	85		DISCONNECT CHILLERS IN DRYWELL
21	N1 - SR1414	2.600	1.500	260	145		REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE 3159-014 (ALSO COVERED TWP 1471 AND 1472)
22	O1 - SR1415	1.200		120			LIGHTING INTERFERENCE, OUTSIDE DRYWELL (TAG 436 & 484)
23	P1 - SR1416	1.100	0.230	75	29		ISO CONDENSER (TAG 437)
24	Q1 - SR1417	2.200	1.205	200	124		REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE 3159-017 'B' LOOP DISCHARGE
25	R1 - SR1418	2.800	0.860	240	60		LOOP 'B' DISCHARGE (TAG 451, 459, 477, 478 & 479)

							REMOVE ICAL INTERFERENCE	REINSTALL ELECTR ICAL INTERFERENCE
1	S1 -	SR1419	2.700	0.800	180	18	'B' LOOP CROSS TIE (TAG 455 & 456)	REMOVE/REINSTA LL ELECTRICAL INTERFERENCE
2	T1 -	SR1420	2.000	4.685	200	692	'B' LOOP RECIRC MOTOR (TAG 461)	
3	U1 -	SR1421	2.400	0.245	160	18	REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CE CO PACKAGE	3159-021
4	V1 -	SR1422	3.500	0.010	100	4	'A' LOOP CORE SPRAY (TAG 454, 473 & 481)	
5	W1 -	SR1423	1.300	1.380	100	98	REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CE CO PACKAGE	3159-023 B LPCI
6	X1 -	SR1424	0.800		80		'B' LOOP LPCI/SCD (TAG 482 & 483)	
7	Y1 -	SR1425	2.400	0.250	120	9	REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CE CO PACKAGE	3159-025
8	Z1 -	SR1426	3.500	5.220	350	369	TEMPORARY POWER AND LIGHTING IN DRYWELL	
9	A2 -	SR1427	0.800	0.100	80	6	TEMP. POWER & LIGHTING COND. ROOM	
10	B2 -	SR1428	0.600	0.380	40	8	TEMP. POWER & LIGHTING RWCU ROOM	
11	C2 -	SR1429	0.700	1.189	100	108	TEMPORARY LIGHTING ON TORUS CATWALK FOR WORK ON LPCI PENETRATION	
12	D2 -	SR1430	0.800	0.005	125	3	TEMP. POWER & LIGHTING RX BUILDING	
13	E2 -	SR1431	0.800	0.430	75	62	THERMOCOUPLE CABLE TRAY REMOVAL/REINSTALLATION (TAG 420)	
14	F2 -	SR1432	2.000		150		R.P.I.S. CABLE TRAY REMOVAL/REINSTALLATION (TAG 425)	
15	G2 -	SR1433	2.000		150		R.P.I.S. CABLE TRAY REMOVAL/REINSTALLATION @ PEN ET. X202BB (TAG 474)	
16	H2 -	SR1434	0.650		50		MISC. INTERFERENCES OUTSIDE DRYWELL (TAG 428 & 4 29)	
17	I2 -	SR1435	0.650	0.325	50	21	REMOVAL/REINSTALL ELECTRICAL INTERFERENCE TE 3-5 741-12B 9-035	CECO PACKAGE 315
18	J2 -	SR1437	1.700	0.930	50	52	REMOVAL/REINSTALL 'B' LOOP CORE SPRAY GATE VALVE LIMIT SWITCHES	
19	K2 -	SR1438	0.750	0.080	50	6	REMOVE AND REINSTALL ELECTRICAL INTERFERENCES CE CO	PACKAGE 3159-038
20	L2 -	SR1439	0.800		50		REMOVAL (TAG 477)	
21	M2 -	SR1440	0.500		50		REMOVAL/REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE	3159-041
22	N2 -	SR1441	1.200	1.155	80	139	REMOVAL/REINSTALL ELECTRICAL INTERFERENCES CECO PACKAGE	

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2	O2 -	SR1442	1.100		75		
3	P2 -	SR1443	0.020	0.044	1200	22	REMOVE JUNCTION BOX, CONDUIT, AND RELATED ELECTRICAL EQUIPMENT
4	Q2 -	SR1446	0.800	0.020	40	2	LIGHTING INTERFERENCES SKT 49
5	R2 -	SR1447	1.200	0.050	60	4	REMOVE AND REINSTALL LIGHTING INTERFERENCES
6	S2 -	SR1460	20.000	0.060	100	1	INSPECT AND REMOVE ELECTRICAL INTERFERENCES
7	T2 -	SR1463	1.500	0.270	60	13	R/R ELECTRICAL INTERFERENCE AT 240 DEGREES
8	U2 -	SR4505	0.016	0.030	16	5	SPICE CABLE FOR 400 AMP FEEDER
9	V2 -	SR4514	0.020		20		REMOVE JUNCTION BOX, CONDUIT, AND RELATED ELECTRICAL EQUIPMENT
10	W2 -	SR4557	0.200	0.065	4	13	LIFT LEADS FOR MO-3-1301-4
11	X2 -	SR4558	0.240	0.070	8	4	MT AND UT OF WEED #12-107A
12	TOTALS:		101.596	36.559	7008	3593	
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26	NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.						
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SELECTED JOBS - TABLE 1
JOB CODE: R007
RECIRC PIPE REPLACEMENT PROJECT - NON-DRYWELL ACTIVITIES

	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
A1 -	SR1500	71.000	62.779	1775	8597		SUPERVISION, ENGINEERING, SCAFFOLDING, FIREWATCH, DECON AND RIGGING SUPPORT FOR ALL LPC1 WORK
B1 -	SR1501	71.000	73.434	2275	10797		REMOVAL AND REINSTALLATION OF LPC1 PIPE, PENETRATION WORK, INTERFERENCES AND RIGGING ATTACHMENTS /VALVE MACHINING
C1 -	SR1502	15.000	11.275	750	873		SUPERVISION, RIGGING; DECON, VALVE MACHINING, FIREWATCH AND INTERFERENCE STO RAGE
D1 -	SR1504	0.600	0.440	10	21		HYDROLAZE ISCO LINE
E1 -	SR1505	1.000	0.045	50	3		INSPECTION, GRINDING AND WELDING OF LUG-INSTALLATION OF RIGGING- REMOVAL OF INTERFERENCE AND BUILD SCAFFLING
F1 -	SR1506	0.420	0.116	14	10		SHIELDING AREA TO RE-ROUTE TORUS EXIT
G1 -	SR1507	12.000	36.203	200	3171		SUPERVISION DECON, FIREWATCH, RIGGING LIGHTING, INSTALL INSULATION
H1 -	SR1508	35.000	92.483	175	3586		SUPERVISION DECON FIREWATCH RIGGING LIGHTING AND SCAFFOLDING INSTALL INSULATION
I1 -	SR1509	0.200	0.015	20	1		CORE DRILL HOLES IN REACTOR FLOOR ELEVATION 517-516 LOCATED BY WEST ACCUMULATORS
J1 -	SR1510	0.200	0.285	20	45		CORE DRILL HOLES IN REACTOR FLOOR EAST BANK ACCUMULATORS
K1 -	SR1515	0.600	0.210	200	53		REPLACE DP CELL, OTHER MISC WORK
L1 -	SR4500	0.175	3.755	35	948		CARPENTER WORK INSIDE BULLPEN, OUTSIDE EQUIPMENT HATCH AND OTHER BULLPEN WORK (NO ENTRY INTO DRY WELL)
M1 -	SR4504	0.180		2			HANG LEAD
N1 -	SR4515	0.000		5000			MOCK-UP TRAINING IN THE RPR FAB SHOP THIS RWP FOR CONTROL OF USED PROTECTIVE CLOTHING
O1 -	SR4536	8.000	0.420	200	47		UNIT 2 QUADREX BOX LOADING
P1 -	SR4545	0.900	0.196	50	26		LOAD TRASH INTO HI-RAD LINER IN U-1 REACTOR TANK FARM
Q1 -	SR4549	0.600	0.200	60	38		LOAD QUADREX BOX

1	R1 -	SR4552	0.100	0.145	4	46	OPEN RAD TRASH BAGS FROM SEA VAN, INSPECT CONTENTS AND RE-BAG
2	S1 -	SR4553	0.500	0.285	10	19	LOWER EQUIP & INSTRUMENTATION INTO D/W THRU SVAN DOLLIES
3	T1 -	SR4561	0.500	0.010	500	9	DECON OF EQUIPMENT
4	TOTALS:		217.975	282.296	11350	28290	
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NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

SELECTED JOBS - TABLE 1
JOB CODE: R008
RECIRC PIPE REPLACEMENT PROJECT - SYSTEM DECON WITH LOMI

RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
A1 - SR4508	1.500	5.870	500	859		UNPACK, ASSEMBLE, INSPECT AND TEST LONDON NUCLEAR EQUIPMENT FOR DECON
B1 - SR4509	1.000	1.400	10	46		PREPARATION, PERFORMANCE, DECONTAMINATION PROJECT
C1 - SR4510	6.000	0.950	30	51		PREPARATION AND PERFORMANCE OF RECIRC PIPE DECON
D1 - SR4511	0.100	0.065	5	12		PREPARATION, PERFORMANCE, AND DISASSEMBLE OF RECIRC PIPE DECON
E1 - SR4512	6.000	1.637	30	34		PREPARATION AND PERFORMANCE OF RECIRC PIPE DECON
F1 - SR4513	0.390	0.092	3	3		PREPARATION, PERFORMANCE AND DISASSEMBLE OF RECIRC
G1 - SR4516	0.500	0.210	10	15		INERT RX VESSEL WITH NITROGEN, SAMPLE AND DEINERT (FOR DECON)
H1 - SR4517	0.300	0.095	1	1		PREPERATION INSPECTION PERFORMANCE OF DECON
I1 - SR4518	0.150	0.068	1	1		PREPARATION, INSPECTION, AND PERFORMANCE OF SYSTEM DECON
J1 - SR4519	0.800	0.169	4	85		SLURRY RESINS FROM LONDON TO CNSI CASK
TOTALS:	16.740	10.556	594	1107		

NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

SELECTED JOBS - TABLE I							
JOB CODE: R009							
SURFACE DECONTAMINATION OF DRYWELL AND OTHER RPR-RELATED WORK AREAS BY BARTLETT NUCLEAR							
	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
A1 -	SR4521	0.240	0.020	6	2		SURFACE DECONTAMINATING
B1 -	SR4522	0.400	0.030	6	3		SURFACE DECONTAMINATION
C1 -	SR4523	0.120	0.048	12	15		SURFACE DECONTAMINATING
D1 -	SR4524	2.400	1.075	24	51		SURFACE DECONTAMINATING
E1 -	SR4525	4.800	0.230	16	8		SURFACE DECONTAMINATING
F1 -	SR4526	14.400	8.497	288	261		SURFACE DECONTAMINATING (HYDROLAZING/BRUSHING)
G1 -	SR4527	9.600	1.830	96	47		SURFACE DECONTAMINATION (HAND WIPING)
H1 -	SR4531	8.000	0.010	40	1		GENERAL CLEAN-UP OF THE HEAT EXCHANGER ROOMS A AND B USING HIGH PRESSURE STEAM CLEANING
TOTALS:		39.960	11.740	488	388		
NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.							

SELECTED JOBS - TABLE 1

JOB CODE: R610

RECIRCULATION PIPE REPLACEMENT PROJECT - NON-CBI ACTIVITIES,
MISC.

	RMP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
	A1 - 5R1513	0.050	0.190	2	48		OPEN RAD TRASH BAGS FROM CONTENTS OF SEA VANS
	B1 - 5R2501	8.000	2.740	40	51		IMPELL INSPECTIONS
	C1 - 5R2502	10.400	24.700	52	1448		IMPELL INSPECTIONS
	D1 - 5R2504	10.000	1.257	20	45		INSPECT FLUID HEAD SUPPORTS IN U-3 RX BUILDING I INCLUDING TORUS
	E1 - 5R2505	0.100	0.135	2	3		INSPECTION OF SDC FLUED HEAD ANCHORE AT PEN. 11 A & B
	F1 - 5R2506	1.500	0.015	10	1		VISUAL INSPECTIONS OF PLATES ON FLOOR
	G1 - 5R3000	135.000	103.754		13010		RCT COVERAGE
	H1 - 5R3001	0.000	0.045		97		CLEAN AND REPAIR RESPIRATORS
	I1 - 5R3002	0.000	3.751		1569		CONTROL POINT MONITORING
	J1 - 5R3004	0.000	28.956		6977		RCT COVERAGE AND SURVEYS, OUTSIDE OF DRYWELL
	K1 - 5R3005	0.000	0.015		14		COUNT ROOM
	L1 - 5R4502	0.025	0.025	1	4		HANGING LEAD BLANKETS
	M1 - 5R4503	6.000	8.427	100	254		ASBESTOS REMOVAL-REMOVAL OF PUMP BOWL, SUCTION AND DISCHARGE VALVE INSULATION
	N1 - 5R4506	0.500	0.386	50	176		SUPPORT WORK FOR DIVERS IN POOL
	O1 - 5R4507	3.960	0.085	18	21		DIVERS IN VESSEL TO HYDROCLASE N1 & N2 NOZZLES
	P1 - 5R4528	7.500	2.315	1500	152		INSTALL, MOVE, SUPPORT, REMOVE AUDIO VISUAL EQUIPMENT
	Q1 - 5R4532	18.750	0.758	750	254		INSPECT INTERFERENCE PRIOR TO MOVING INTO C-VANS
	R1 - 5R4542	2.000	0.780	40	56		TRANSPORT SAFE ENDS FROM SUBFILE ROOM TO CNSI CASK, SET UP CASK IN MATERIAL INTERLOCK
	S1 - 5R4562	1.800	0.638	360	144		BREAK OUT CONCRETE AROUND REBAR IN 36" HOLE AND REPAIR WITH NEW REBAR
	TOTALS:	205.585	178.972	2945	24324		

NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

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 8 SELECTED JOBS - TABLE 1
 9 JOB CODE: R013
 10 MISCELLANEOUS RWP ENTRY ERRORS

	RWP NUMBER	ESTIMATED MAN-REM	ACTUAL MAN-REM	ESTIMATED HOURS	ACTUAL HOURS	DOCUMENTED SAVINGS	DESCRIPTION
11	A1 - SR001	0.000	0.005		3		
12	B1 - SR1000	0.000	0.520		202		
13	C1 - SR1019	0.000	0.030		5		
14	D1 - SR107	0.000	0.005		1		
15	E1 - SR1082	0.000	0.005		2		
16	F1 - SR1090	0.000	0.020		5		
17	G1 - SR1092	0.000	0.100		4		
18	H1 - SR1098	0.000	0.005		3		
19	I1 - SR1122	0.000	0.020		3		
20	J1 - SR1126	0.000	0.035		5		
21	K1 - SR1128	0.000	0.000		1		
22	L1 - SR1129	0.000	0.010		2		
23	M1 - SR1130	0.000	0.020		2		
24	N1 - SR1131	0.000	0.065		3		
25	O1 - SR1134	0.000	0.020		2		
26	P1 - SR1141	0.000	0.015		3		
27	Q1 - SR1190	0.000	0.020		2		
28	R1 - SR1194	0.000	0.045		2		
29	S1 - SR1195	0.000	0.010		2		
30	T1 - SR1200	0.000	0.005		0		
31	U1 - SR1209	0.000	0.055		2		
32	V1 - SR1252	0.000	0.175		16		
33	W1 - SR1275	0.000	0.005		0		
34	X1 - SR1279	0.000	0.000		1		
35	Y1 - SR1282	0.000	0.070		4		

1	D3 -	SR4239	0.000	0.000	1
2	E3 -	SR4447	0.000	0.005	3
3	F3 -	SR4634	0.000	0.010	8
4	G3 -	SR4735	0.000	0.010	9
5	H3 -	SR5000	0.000	0.090	4
6	I3 -	SR5001	0.000	0.100	12
7	J3 -	SR502	0.000	0.005	1
8	K3 -	SR5100	0.000	0.393	171
9	L3 -	SR5101	0.000	0.070	6
10	M3 -	SR5150	0.000	0.010	1
11	N3 -	SR5400	0.000	0.050	2
12	O3 -	SR5445	0.000	0.010	1
13	P3 -	SR5534	0.000	0.000	1
14	Q3 -	SR6010	0.000	0.030	11
15	R3 -	SR6100	0.000	0.160	103
16	S3 -	SR6101	0.000	0.010	11
17	T3 -	SR7009	0.000	0.020	2
18	U3 -	SR7030	0.000	0.005	2
19	V3 -	SR9206	0.000	0.018	1
20	TOTALS:		0.000	3.096	0 736

42 NOTE: ALL ACTUAL MAN-REM AND MAN-HOUR TOTALS ARE BASED ON EXPOSURE CARD RESULTS, NOT FILM BADGE.

ATTACHMENT B

ADJUSTMENTS

<u>ITEM</u>	<u>ADJUSTMENT (REM)</u>
Remove CAD/CAM line work (400 hr @ .009 R/hr)	-3.6
Remove beam mod work (9000 hr @ .009 R/hr)	-81.0
Remove pump snubber work (1500 hr @ .009 R/hr)	-13.5
Remove jet pump support work (300 hr @ .009 R/hr)	-2.7
Remove RWCU drain line work (300 hr @ .009 R/hr)	-2.7
Remove annubar line work (200 hr @ .009 R/hr)	-1.8
Remove core spray support work (300 hr @ .009 R/hr)	-2.7
Remove RWCU support work (400 hr @ .009 R/hr)	-3.6
Remove whip restraint work (500 hr @ .009 R/hr)	-4.5
Remove pump flow splitter work (200 hr @ .009 R/hr)	-1.8
Remove vent fan removal work (100 hr @ .009 R/hr)	-0.9
Remove grating removal/replacement work (300 hr @ .009 R/hr)	-2.7
Remove snubber rebuild work (100 hr @ .009 R/hr)	-0.9
TOTAL	-122.4