

MPR ASSOCIATES, INC.

October 24, 1989

Ms. Joyce Fields
Contract Administrator
U.S. Nuclear Regulatory Commission
Contract Number: NRC-04-88-086
Division of Contracts
Contract Administration Branch
Mail Stop: AR-2223
Washington, D.C. 20545

Subject: NRC Contract NRC-04-88-086, Test Specimens from the
Damaged TMI-2 Reactor Bottom Head

Enclosure: Purchase Order Modification

Dear Ms. Fields:

This letter proposes a modification to MPR's subcontract with PCI Energy Services to purchase tools and spare parts necessary for use in vessel sampling at TMI-2. The proposed modification would increase the purchase order amount by \$35,743 from the \$817,428 currently authorized. We feel these parts and tools are necessary for the project. Also, it is important that we authorize PCI to begin ordering these items now to support the scheduled start of vessel sampling in November, 1989.

The basic contract with PCI covered spare parts for the MDM (Metal Discharge Machining) Head, but not for the cables, electrical interface circuits, pumps, valves, and control console providing power to the head. At the time the basic contract was placed, these components were not designed. Accordingly, PCI was unwilling to quote a spare parts list (or price) and we felt it unwise to press for a price since it would likely be a high estimate. We feel the price provided in the enclosure is fair and reasonable and based on a realistic number of appropriate spare parts. We deleted one part recommended by PCI (spare flush exhaust pump, \$1,942.68) since an equivalent spare is available at TMI-2. We have increased the number of spare umbilicals (i.e., the assembly of hoses and wires feeding the MDM head) from one to two based on much experience at TMI-2 with damage to this type of component. Although the spare parts listed should be adequate, it is possible that unforeseen circumstances during actual lower head sampling will cause hardware failures and require additional spare parts later.

MPR ASSOCIATES, INC.

Ms. J. Fields

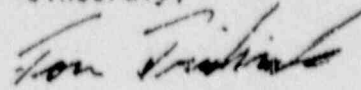
- 2 -

October 24, 1989

Enclosure (1) to this letter summarizes the effect of this proposed modification on MPR's contract with the NRC. Enclosure (2) is the Purchase Order Modification we propose to issue to our subcontractor, PCI Energy Services.

Please call me if you have any questions or comments.

Sincerely,



Tom Friderichs

cc: Mr. R. VanHouten (USNRC)

Enclosure (1) to
MPR Letter Dated
October 24, 1989

Section 4

SUMMARY OF ADDITIONAL COSTS AND TOTAL REVISED CONTRACT COST ESTIMATE

The attached table summarizes the revised contract costs. The three columns in this table cover the following:

- Column A - Current Contract Estimate as of October 23, 1989 (including contract revisions proposed in our September 25, 1989 letter),
- Column B - Additional Estimated Costs from Enclosure (2),
- Column C - Total Revised Contract Cost Estimate (Column A and Column B).

REVISED CONTRACT COST ESTIMATE

Nuclear Regulatory Commission
 NRC-04-88-086
 October 24, 1989

Direct Labor Category	- A - Current Cost Estimate - September 25, 1989 -		- B - Additional Cost Estimate - October 24, 1989 -		- C - Total Revised Contract Cost Estimate - October 24, 1989 -	
	Man-Hours	Rate * Direct Cost	Man-Hours	Rate * (FY 1989) Direct Cost	Man-Hours	Rate * Direct Cost
Associates	1,520				1,520	
Executive Engineers	990				990	
Supervisory Engineers	1,048				1,048	
Lead Engineers	4,454				4,454	
Senior Engineers	2,181				2,181	
Engineers II	3,569				3,569	
Engineers I	1,285				1,285	
Draftsman	922				922	
	<u>15,969</u>	<u>454,618</u>			<u>15,969</u>	<u>454,618</u>
Overhead Percent of Direct Labor	*	361,164			*	361,164
Direct Expenses						
Subcontractor Effort -						
1. GPU Nuclear						
- Sampling Program		827,120				827,120
- Guide Tubes		218,500				218,500
- Periphery Nozzles		96,450				96,450
2. Power Cutting, Inc. (PCI)						
- Tool Development		817,428**	35,743			853,171
- Fabrication and Testing						
- On-Site Operations		342,868**				342,868
- Spare MDM Power Supply		17,500				17,500
- Rental						
3. Fabrication Costs for Tools and Equipment		576,500				576,500
4. Shipping Costs to Ship Tools to Site		4,000				4,000
Computer Costs		2,375				2,375
Contract Services		2,600				2,600
Delivery Services		1,600				1,600
Meetings		515				515
Long Distance Telephone		1,600				1,600
Travel and Meals		46,505				46,505
		<u>3,771,343</u>	<u>35,743</u>			<u>3,807,086</u>
Escalation Phase 4 1989 - 4.5X		22,244				22,244
		<u>3,793,587</u>	<u>35,743</u>			<u>3,829,330</u>
Profit - 10X		379,359		3,571		382,933
		<u>4,172,946</u>	<u>39,317</u>			<u>4,212,263</u>

* Combination of 1988 and 1989 rates.

** For consistency with PCI subcontract, moved \$43,850 cost for mobilization/demobilization/training from "Tool Development" to "On-Site Operations".

OCT 25 '89 09:48

MPR WASH D. C.

694 PDS

OCT 25 '89 09:49

MPR WASH D. C.

694 P05

MPR ASSOCIATES, INC.

Enclosure (2) to
MPR Letter Dated
October 24, 1989

PROPOSED PURCHASE ORDER MODIFICATION
TO ORDER TOOLS AND SPARE PARTS
FROM PCI ENERGY SERVICES

PURCHASE ORDER MODIFICATION

To: Power Cutting Inc.
One Energy Drive
P.O. Box 3000
Lake Bluff, Illinois 60044

Purchase Order No: NRC-04-88-0085-PCI
Modification No. 2

Issue Date: October 24, 1989

DESCRIPTION OF WORK:

1. Provide tools and spare parts as listed in the PCI letter dated October 17, 1989 and its attachments, including all changes marked and initialed "TF."

The above addition increases the purchase order amount by a combined total of \$35,743.00 from the \$817,428.00 previously authorized to \$853,171.00.

Power Cutting Inc.

Date

MPR Associates, Inc.

Date

Name: _____

Name: Douglas M. Chapin

Title: _____

Title: Principal Officer



FIELD MACHINING, WELDING,
TOOL DESIGN & ENGINEERING

October 17, 1989

Mr. Tom Friderichs
MFR Associates
1050 Connecticut Avenue
Washington, D.C. 20036

SUBJECT: SWACEN Spare Parts - PCI Proposal #92248

Dear Tom:

PCI Energy Services is pleased to offer this proposal for spare parts and hand tools for use in support of the TMI-2 reactor vessel sampling program. This pricing is provided in three parts.

Part 1 is a list of hand tools which we feel should be on-hand for maintenance of the sampling system during DTA operations. It is understood that GPU/MFR will provide all such tools for in-vessel activities. The delivery for these tools is two (2) weeks after receipt of an acceptable P.O. by PCI.

Part 2 is the electronics spare parts list. The asterisk items in Section A will be provided by PCI. The asterisk items in Section C are recommended by PCI and delivery time is one (1) week. All asterisk items in Section D are recommended spares with lead times given in the left hand column.

Part 3 lists mechanical spare parts. Those items listed with a price of 0.00 are to be provided by PCI as part of the base contract.

Lead times quoted for all spares are F.O.B. Lake Bluff, Illinois.

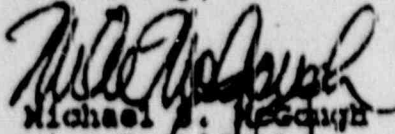
This offer shall remain valid until January 17, 1990 unless otherwise extended, modified, or withdrawn in writing by PCI. We propose that any resulting purchase order be in accordance with the terms and conditions of our original contract.



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Mr. Friderichs
October 17, 1989

If we may provide any further information, please don't hesitate to call.

Sincerely,


Michael J. McCaughey
Vice President
Sales & Marketing

MSK/kmf

cc: H. Kwech
T. J. Litka
P. J. Kreitzman

Attachments

-

-

PART 1
HAND TOOL LIST FOR DTA USE

PRICE(\$)

8.95	Face Pin Spanner Wrench-3/16 Pin Dia. x 1 Ctr. Distance
247.59	Arbor Press - 1/2 Ton
49.32	Bearing Separator ~ 2-3/8 Diameter Capacity
16.78	Pick Set
2.19	Wire Brush
16.05	Hex Wrench Set, L - .050 to 3/8
60.41	Hex Wrench Set, Tee Handle - 3/32 to 3/8
135.67	Combination Wrench Set, standard Length - 1/4 to 1-1/4
20.29	Combination Wrench, Short - 9/16
43.83	Socket Set - 1/4 & 3/8 Drive - 26 Piece
9.37	Extension - 3/8 Drive x 6 Long
67.18	Socket Set - 1/2 Drive 1/2 to 1-1/4
25.48	Ratchet - 1/2 Drive
10.32	Extension - 1/2 Drive x 6 Long
30.21	Nut Driver Set - 3/16 to 1/2
22.64	Screwdriver Set - 3 Pcs. Phillips
	Screwdriver Set - 5 Pcs. Slot Tip
8.91	Pliers, Combination Slip Joint - 6-3/4"
16.42	Pliers, Diagonal Cutter - 7"
27.21	Wrench, Adjustable - 12"
40.96	Wrench, Adjustable - 15"
24.76	Side Jaw Pincers - Oetiker #1099
218.70	Multi-Meter Fluke 77
177.44	Soldering Iron 50W Isolated
576.33	Jensen JTK-17 Tool Kit
507.56	Tool Box
154.06	Master Heat Gun
7.89	Extension - 1/2 Drive x 3 Long
15.05	Pliers Arc Joint - 9-1/2

subtotal \$2571.57

Project No. 7588
 Rev. 0
 9/22/89
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PART 2

ELECTRONICS SPARE PARTS LIST
FOR SHACES

A. POWER SUPPLY

(All to be supplied by PCI, with *, as part of base contract)

<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>
*DIODE	4	POWEREX R7001205
*DIODE	4	POWEREX R7011205
*+/- 12V P.S.	1	CONDOR HCC-15-3.0-A
*30A FUSES	10	30A 600 VAC
*2A FUSES (110V)	6	BUSS 2AG
*RELAY SPST 30A 120VAC	2	MAGNECRAFT W199ADK-4
*RELAY OCTAL 120VAC	2	MAGNECRAFT W88ANCPX-2
X-FORMER (CUTTING)	1	OLSUN 13110 S-39260
CURRENT SHUNT	1	
*CONTROL TRANSFORMER	1	GIS 1000 ETNCOR
*CONTACTOR	1	ALLEN-BRADLEY 500F-BOD930

B. AUXILIARY TRANSFORMER BOX

<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>
X-FORMER (CUTTING)	1	OLSUN 13110 S-39260

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C. MAIN CONTROL CONSOLE

(All *'d items we recommend MPR purchase)

<u>Lead Time</u>	<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>	<u>Unit Price</u>	<u>Lot Price</u>
1 wk	*+/- 12V P.S.	1	CONDOR HCC-15-3.0-A	118.29	118.29
1 wk	*5V P.S.	1	CONDOR HB85-3.0-OV-A	42.64	42.64
1 wk	*2A FUSES (110V)	6	BUSS 2AG	0.41	2.46
1 wk	*A/D BOARD	1	ED000400	68.27	68.27
1 wk	*DEMUX BOARD	1	ED000100	177.80	177.80
1 wk	*DEMUXA BOARD	1	ED000200	137.04	137.04
1 wk	METER (DIGITAL)	2	TRIPLETT AP-501-13	92.16	184.32
1 wk	METER (BAR)	2	TRIPLETT 420-E/LC	176.06	352.12
1 wk	POT (10K)	2	CLAROSTAT 73JA SK 10T	12.86	25.72
1 wk	ROTARY SWITCH	2	GRAYHILL 44030-02-1-AJN	44.92	89.84
1 wk	TOGGLE SWITCH	1	C&K 7203J2ZQH	10.60	10.60
1 wk	*X-MITTER	1	ANALITE STAR-101	412.64	412.64
1 wk	*X-MITTER EXPDF.	1	ANALITE STAR-102	206.32	206.32
1 wk	*RCVR	1	ANALITE STAR-103	474.54	474.54
1 wk	*RCVR EXP	1	ANALITE STAR-104	240.71	240.71
1 wk	*INTERFACE BOARD	1	ED000300	165.06	165.06
1 wk	*OP AMP LM324	4	NATIONAL LM324N	0.66	2.64
1 wk	*A/D CONV	2	NATIONAL ADC 0808CCN	7.29	14.58
1 wk	*D/A CONV	2	NATIONAL DAC0808LCN	11.51	23.02
1 wk	*3:8 DECODER	2	NATIONAL DM74LS138N	0.62	1.24
1 wk	*QUAD AND	2	NATIONAL MM74HC08N	0.39	0.78
1 wk	*QUAD NOR	2	NATIONAL MM74HC02N	0.39	0.78
1 wk	*DUAL D-FLOP	2	NATIONAL 74HC74AN	0.56	1.12

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C. MAIN CONTROL CONSOLE (CONT'D)

(All *'d items we recommend MPR purchase)

<u>Lead Time</u>	<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>	<u>Unit Price</u>	<u>Lot Price</u>
1 wk	*FLUSH PORTS ON SPARE ELECTRODES	25		148.63	3715.75
1 wk	*COUNTER BW	2	NATIONAL MM74HC193N	0.88	1.76
1 wk	*QUAD LATCH	2	NATIONAL MN 74HC175	0.88	1.76
2 wks	*RESISTOR NETWORKS	2	DALH 4114R-002-113	1.69	3.38
1 wk	*QUAD NAND	2	NATIONAL MM74HC00N	0.39	0.78
2 wks	*TRANSISTOR NETWORKS	2	MOTOROLA MPQ2222	3.15	6.30
1 wk	TOGGLE SWITCH	2	CKK 7201J22QE	9.63	19.26
2 wks	*LED DRIVERS	4	NATIONAL MM74HC367N	0.62	2.48

D. CONTAINMENT CONTROL BOX

<u>Lead Time</u>	<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>	<u>Unit Price</u>	<u>Lot Price</u>
1 wk	*+/- 12V P.S.	1	CONDOR HCC 15-3.0-A	118.29	118.29
1 wk	*5V P.S.	1	CONDOR HB5-3.0-OV-A	42.64	42.64
1 wk	*2A FUSES (110V)	6	BUSS 2AG	0.41	2.46
1 wk	*A/D BOARD	1	ED000400	68.27	68.27
1 wk	*DENUX BOARD	1	ED000100	177.80	177.80
1 wk	*DENUXA BOARD	1	ED000200	137.04	137.04
1 wk	*PENDANT BOARD	1	D-SWA-250	143.42	143.42
3 wks	*GF BOARD	1	ED000600	155.66	155.66
1 wk	*RELAY 4PDT 12V	2	MAGNECRAFT W78CSX-2	10.85	21.70
1 wk	*OPTICAL RELAY (120VAC)	3	IDEC RSSD-10A	24.76	74.28
1 wk	*X-MITTER	1	ANALITE STAR-101	112.64	112.64

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D. CONTAINMENT CONTROL BOX (CONT'D)
 (All *'d items we recommend MPR purchase)

<u>Lead Time</u>	<u>Item</u>	<u>Qty</u>	<u>Mfr. & P/N</u>	<u>Unit Price</u>	<u>Lot Price</u>
1 wk	*X-MITTER EXPDR	1	ANALITE STAR-102	206.32	206.32
1 wk	*RCVR	1	ANALITE STAR-103	474.54	474.54
1 wk	*RCVR EXP	1	ANALITE STAR-104	240.71	240.71
1 wk	*INTERFACE BOARD	1	TD000300	165.06	165.06
1 wk	*OP AMP LM324	4	NATIONAL LM324N	0.66	2.64
2 wks	*OP AMP OP1A	2	APEX OP1A	37.14	74.28
1 wk	*A/D CONV	2	NATIONAL ADC 0808CCN	7.29	14.58
1 wk	*D/A CONV	2	NATIONAL DAC0808LCN	11.51	23.02
1 wk	*3:8 DECODER	2	NATIONAL DM74LS138N	0.62	1.24
1 wk	*QUAD AND	2	NATIONAL MM74HC08N	0.39	0.78
1 wk	*QUAD NOR	2	NATIONAL MM74HC02N	0.39	0.78
1 wk	*DUAL D-FLOP	2	NATIONAL 74HC74AN	0.56	1.12
1 wk	*COUNTER BW	2	NATIONAL MM74HC193N	0.88	1.76
1 wk	*QUAD LATCH	2	NATIONAL MN 74HC175	0.88	1.76
2 wks	*RESISTOR NETWORKS	2	DALE 4114R-002-113	1.69	3.38
1 wk	*QUAD NAND	2	NATIONAL MM74HC00N	0.39	0.78
2 wks	*TRANSISTOR NETWORKS	2	MOTOROLA MPQ2222	3.15	6.30
3 wks	*FLOW SIGNAL CONDITIONER	1	DATA INDUSTRIAL 750M	598.33	598.33
1 wk	TOGGL SWITCH	2	CRK 7201J22QE	9.63	19.26
2 wks	*LED DRIVERS	4	NATIONAL MM74HC367N	0.62	2.48
3 wks	*POWER CABLES, 75/EA, 4/0, W/CONNECTORS		N/A	353.00	353.00 1412.00

CALL TOTAL \$ 3251.12

PCI ENERGY SERVICES
 SPARES PROJECT - 7500 SPARE PARTS
 (MECHANICAL) - ALL ARE RECOMMENDED
 MFR ASSOCIATES/THI-2

Page NO. 1
 10/20/89

VENOR CODE	PART NAME	MATERIAL	PARENT ASST	ITEM	ASST SPARES	QTY PER	RECD QTY	UNIT	PRICE	LEADTIME
* 85A0037	HOSE ASST, FLUSH RETURN LINE	N/A	85A0037	000	2	TF 4 2	2	547.77	2 WEEKS	\$ 2191.08
* 85A0041	HOSE ASST, FLUSH SUPPLY LINE	N/A	85A0041	000	2	TF 4 2	2	437.73	2 WEEKS	1750.92
* 85A0043	HOSE ASST, BTD CONTROL BOX/MOVIEE	N/A	85A0043	000	4	TF 8 2	4	323.99	1 WEEK	2591.92
* 85A0122	HOSE ASST, VIBRATOR AIR SUPPLY LINE	N/A	85A0122	000	2	TF 4 2	2	244.31	2 WEEKS	977.74
* 85A0123	HOSE ASST, VIBRATOR AIR RETURN LINE	N/A	85A0123	000	1	TF 2 1	1	362.88	1 WEEK	725.76
* 85A0120	FLUSH EXHAUST PUMP	N/A	85A0120	000	1	TF 0 1	1	1942.68		0
* 85A0100	FLUSH CONTROL BOX	SST	85A0100	001	1		1	97.22	ON-HAND	97.22
PK-383-3006-5V	1/4" DIA X .035 WT	N/A	85A0100	000	1		1	309.49	3-4 WKS	309.49
1/2" DIA X .049 WT	1/2" DIA X .049 WT	N/A	85A0100	012	1		1	392.02	3-4 WKS	392.02
08F23G16-001F-0005	VALVE, 2-WAY, SOLENOID	SAE J525 S11	85A0100	017	1		1	12.65	ON-HAND	12.65
55-062-01-010	QUICK CONNECT BODY	SAE J525 STL	85A0100	019	1		1	12.38	ON-HAND	12.38
08F20C211-00C	VALVE, 2-WAY, SOLENOID	N/A	85A0100	021	2		4	71.66	2-3 WKS	286.64
55-008-0-8M	QUICK CONNECT BODY	316 SST	85A0100	023	2		4	71.53	1 WEEK	286.12
A21251201-508	VALVE, 2-WAY, SOLENOID	N/A	85A0100	025	1		1	63.96	2-3 WKS	63.96
	QUICK CONNECT BODY	316 SST	85A0100	026	1		1	70.42	ON-HAND	70.42
	VALVE, 2-WAY, SOLENOID	N/A	85A0100	029	2		4	41.26	1-2 WKS	165.04

Subtotal \$9,932.86

PCI ENERGY SERVICES
 SUBMIT PRODUCT - 7508 SPARE PARTS
 (MECHANICAL) - ALL ARE RECOMMENDED
 MFR ASSOCIATES/INT-2

PART NUMBER	YEAR	CODE	PART NAME	MATERIAL	ASST	ITEM	ASST	SPARES	UNIT	PRICE	LEADTIME	
650-120-A	1011	1002	CONNECTOR, SOLENOID	N/A	DSM0100	030	2	4	22.03	1-2 WKS	88.04	
55-004-B-4PM	1002		QUICK CONNECT BODY	316 SST	DSM0100	034	2	4	29.99	1 WEEK		119.96
** DSM0121												
150-75-B1	1021		HYDRAULIC CONTROL BOX	N/A	DSM0121	001	2	2	2805.98	3-4 WKS	5611.96	
150-75-B3	1021		SERVOVALVE	STL	DSM0121	002	2	4	146.63	3-4 WKS	586.52	
CSM0468	1000		SUBPLATE, SERVOVALVE	N/A	DSM0121	003	2	4	104.69	ON-HAND	418.76	
778-14	1006		CYLINDER, MODIFIED	18-8 SST	DSM0121	004	2	4	4.96	ON-HAND	19.84	
55-006-B-4PFA	1002		WJT, MTS	316 SST	DSM0121	006	4	16	40.16	1 WEEK	642.56	
55-4414-A	1002		QUICK CONNECT BODY	316 SST	DSM0121	007	2	4	133.15	1 WEEK	532.60	
PH30-10CSX3-B-S-05	1022		BALL VALVE	N/A	DSM0121	020	1	1	262.72	ON-HAND	262.72	
1/4" DIA X .028 WT	1017		FILTER, HIGH PRESSURE	SAE J525	DSM0121	021	1	1	12.65	ON-HAND	12.65	
1/2" DIA X .041 WT	1017		TUBING, HYDRAULIC X 10'	SAE J525	DSM0121	022	1	1	12.38	ON-HAND	12.38	
P1613-6-103	1024		TUBING, HYDRAULIC X 10'	N/A	DSM0121	024	2	4	349.24	3-4 WKS	1360.96	
FD45-3001-08-10	1012		POTENTIOMETER	SST	DSM0121	027	2	4	61.98	ON-HAND	247.92	
** DSM0130												
DSM0130	1000		FLUSH INJECTION PUMP	N/A	DSM0130	000	1	3	747.46	ON-HAND	2242.38	
** DSM0451												
DSM0451	1000		GENERAL ASSEMBLY	N/A	DSM0451	005	2	2	0.00	PCI	Sub Total 12,159.25	
404-5161	1000		BRC SUPPORT FRAME ASSY	DELPHI 500, BLACK	DSM0451	006	14	28	0.00	PCI		
DSM0451	1000		BLOCK, LINEAR BEARING	18-8 SST	DSM0451	007	2	4	0.00	PCI		
DSM0451	1000		PIPE PLUG, SOC HD, 1/8 NPT	6061-T6 AL	DSM0451	009	4	8	0.00	PCI		
DSM0451	1000		BRACKET, MTS, ROD CLEVIS	DELPHI 500, BLACK	DSM0451	014	2	2	0.00	PCI		
DSM0451	1000		STRIP, COVER, LINEAR BEARING	6061-T6 AL	DSM0451	015	2	8	0.00	PCI		
DSM0451	1000		END CAP, TURBINE VIBRATOR	N/A	DSM0451	015	2	8	0.00	PCI		
1-50/HP	1010		TURBINE VIBRATOR	N/A	DSM0451	015	2	8	0.00	PCI		
** DSM0400												
DSM0400	1000		GENERAL ASSEMBLY	N/A	DSM0400	000	1	1	0.00	PCI		

PCI ENERGY SERVICES
 SWACES PROJECT - 7500 SPARE PARTS
 (MECHANICAL) - ALL ARE RECOMMENDED
 JWB ASSOCIATES/INTL-2

PART NUMBER	VEHICLE	PART NAME	MATERIAL	PARENT ASSY	ITEM	QTY PER ASST	RECD CITY OF SPARES	UNIT	PRICE LEADTIME
922100242	1001	FISKS 1/4-26 x 1/2 LONG	18-8 SST	ESW00400 002		12	24	0.00 PCI	
922100194	1001	FISKS B-32 x 1/2 LONG	18-8 SST	ESW00400 004		20	40	0.00 PCI	
B-2493-23	1000	INSPECTION PANEL, UPPER	LEXAN	ESW00400 005		2	2	0.00 PCI	
ESW00322	1000	PANEL, SIDE	LEXAN	ESW00400 006		2	2	0.00 PCI	
55-018-5-8PI	1002	1/2 QUICK CONNECT STER-1/2 NPTN	316 SST	ESW00400 007		2	4	0.00 PCI	
55-012-8-12PI	1002	3/4 QUICK CONNECT STER-3/4 NPTF	316 SST	ESW00400 008		2	4	0.00 PCI	
922002433	1001	NUT, 1/2-13	BRASS	ESW00400 009		4	12	0.00 PCI	
BSW00444	1008	WASHER, POWER TERMINAL	BRASS	ESW00400 010		4	12	0.00 PCI	
BSW00456	1008	BUSHING, INSULATING, POWER TERMINAL	DELRIE 500, BLACK	ESW00400 011		2	6	0.00 PCI	
BSW00457	1008	WASHER, INSULATING, POWER TERMINAL	DELRIE 500, BLACK	ESW00400 012		2	6	0.00 PCI	
CSW00455	1000	STUD, POWER TERMINAL	YELLOWIUM COPPER	ESW00400 013		2	6	0.00 PCI	
55-DC6-6-AP FRA	1002	3/8 QUICK CONNECT BODY-1/4 NPTF	316 SST	ESW00400 015		4	8	0.00 PCI	
55-406-11-4	1002	BULKHEAD FITTING, 1/4 TUBE-1/4 NPTN	316 SST	ESW00400 016		4	8	0.00 PCI	
ESW00443	1000	PIN, CLEVIS	PH 17-4 SST	ESW00400 018		2	4	0.00 PCI	
923010244	1001	CENTER, HARPIP	18-8 SST	ESW00400 019		2	4	0.00 PCI	
42454201	1001	PIPE PLUG, SOC HD, 1/8 NPT	18-8 SST	ESW00400 020		8	16	0.00 PCI	
NT-400-1-2	1002	TUBE FITTING, 1/4 TUBE-1/8 NPTN	NYLON	ESW00400 021		10	20	0.00 PCI	
55-400-1-2	1002	TUBE FITTING, 90, 1/4 TUBE-1/8 NPTN	316 SST	ESW00400 023		8	16	0.00 PCI	
55-400-2-4	1002	TUBE FITTING, 90, 1/4 TUBE-1/4 NPTN	316 SST	ESW00400 024		4	8	0.00 PCI	
82-11-400-20	1005	STUD, 1/4 TURN FASTENER	18-8 SST	ESW00400 025		40	40	0.00 PCI	
82-32-201-20	1005	RETAINER, 1/4 TURN FASTENER	18-8 SST	ESW00400 026		40	40	0.00 PCI	
82-35-308-55	1005	RECEPTACLE, 1/4 TURN FASTENER	STEEL, PLATED	ESW00400 027		40	40	0.00 PCI	
82-0-22542-11	1005	INSTALLATION TOOL	N/A	ESW00400 028		1	1	0.00 PCI	
922100244	1001	FMS, 10-24 x 5/8 LONG	18-8 SST	ESW00400 030		4	8	0.00 PCI	
55-4414	1002	BALL VALVE, 1/4 NPTF	316 SST	ESW00400 031		2	4	0.00 PCI	
CSW00445	1006	CYLINDER, MODIFIED	316 SST	ESW00400 033		2	4	0.00 PCI	
CSW00456	1008	TUBE, FLUSH EXHAUST	6061-16 AL	ESW00400 034		2	4	0.00 PCI	
35312	1006	CLEVIS, ROD	304 SST	ESW00400 037		2	4	0.00 PCI	
BSW00449	1000	PIN, CLEVIS	PH 17-4 SST	ESW00400 038		2	4	0.00 PCI	

PCI ENERGY SERVICES
 SOURCES PROJECT - 7500B SPARE PARTS
 (MECHANICAL) - ALL ARE RECOMMENDED
 MPR ASSOCIATES/TRI-2

VEHICLE	PART NUMBER	DESCRIPTION	MATERIAL	PROBENT ASSY	ITEM	ASST	SPARES	UNIT	PRICE	LEAD/TIME
92291A004	1001	CUTTER, METRIC	10-0 SST	ESUB0400 059		2	4	0.00	PCI	
NT-400-2-2	1002	TUBE FITTING, 90, 1/4 TUBE-1/8 NPTN	NYLON	ESUB0400 040		2	4	0.00	PCI	
9219A196	1001	SHCS 8-32 x 5/8 LONG	18-8 SST	ESUB0400 042		1	2	0.00	PCI	
9219A194	1001	SHCS 8-32 x 1/2 LONG	18-8 SST	ESUB0400 043		4	8	0.00	PCI	
9221B245	1001	FRSCS 10-26 x 3/4 LONG	18-8 SST	ESUB0400 047		12	24	0.00	PCI	
ESUB0446	1000	BRACKET, RTG, FLUSH EXHAUST TUBE	DELRIE 500, BLACK	ESUB0400 048		2	4	0.00	PCI	
ESUB0447	1000	CRP, RTG, FLUSH EXHAUST TUBE	DELRIE 500, BLACK	ESUB0400 049		2	4	0.00	PCI	
9165A003	1001	SCREW, FLT HD, SLOTTED 8-32 x 1 1/2 LG	16-8 SST	ESUB0400 050		8	16	0.00	PCI	
05UM0432	1000	M* ELECTRODE ASSEMBLY	N/A	ESUB0400 051		1	25	0.00	PCI	
925K9619	1001	SHCS, 3/8-16 x 1/2 LONG	18-8 SST	ESUB0400 052		2	4	0.00	PCI	
90217A208	1001	WASHER, FLAT, 3/8 DIA	18-8 SST	ESUB0400 053		2	4	0.00	PCI	
9221C247	1001	FRSCS, 10-26 x 1" LONG	18-8 SST	ESUB0400 054		12	24	0.00	PCI	
05UM0424	1000	INSPECTION PANEL, LOWER	LEKAR	ESUB0400 055		2	2	0.00	PCI	
9219A192	1001	SHCS, 8-32 x 3/8 LONG	18-8 SST	ESUB0400 058		4	8	0.00	PCI	
05UM0434	1000	MANIFOLD, FLUSH EXHAUST	6061-T6 AL	ESUB0400 059		1	2	0.00	PCI	
ESUB0442	1000	SEAL SKIRT ASSEMBLY	N/A	ESUB0400 060		1	2	0.00	PCI	
85UM0433	1000	CONTACT PAD, ADJUSTABLE	PR 17-4 SST	ESUB0400 061		1	2	0.00	PCI	
9400A033	1001	NUT, 1/2-13	18-8 SST	ESUB0400 062		1	2	0.00	PCI	
05UM0432	1000	CONTACT PAD, FIXED	PR 17-4 SST	ESUB0400 063		2	4	0.00	PCI	
SS-2-A	1002	PIPE FITTING	316 SST	ESUB0400 064		2	4	0.00	PCI	
SS-008-01-64M	1002	QUICK-CONNECT BODY	316 SS	ESUB0400 066		1	2	0.00	PCI	
SS-0-1	1002	PIPE FITTING, TEE	316 SST	ESUB0400 067		1	2	0.00	PCI	
SS-400-2-6	1002	TUBE FITTING, 1/4 TUBE-3/8 NPTN 90	316 SST	ESUB0400 068		2	4	0.00	PCI	
SS-004-5-4PF	1002	QUICK-CONNECT STEM	316 SST	ESUB0400 069		2	4	0.00	PCI	
N/A	1009	FRSCS, 8-32 x 5/8 LNG	18-8 SST	ESUB0400 070		8	16	0.00	PCI	
05UM0402	1000	M* ELECTRODE ASSY	N/A	ESUB0400 071		1	25	0.00	PCI	
05UM0403	1000	ELECTRODE BOLDER ASSY	N/A	ESUB0400 072		2	4	0.00	PCI	