	MUON POWER SUPPLY SCHEDULE		
	DATE 1/29/02		
Yearly quarters	***1 Design & Development***	***2 Fabrication***	***3 Installation/commissioning***
1	Design for case 1 ps	Procurement	
2		Fabrication of case 1 ps	
3			Installation of case 1 ps
4			Commissioning of case 1 ps
5	Design for case 2,3 ps		
6		Fabrication of case 2,3 ps	
7			Installation of case 2,3 ps
8			Commissioning of case 2,3 ps

Muon Power Supplies				Duration (man days)			
Description	**$ Labor**	**$ DTS**	**$ Purch**	**Engr**	**Dsgn**	**Tech**	**$ DTS**
MUON PS– 1 Design & Development	**33469**						
Case1 PS 3600A, +/–150V	19461	0	0	13	8	4	0
Case 2,3 PS 7200A, +/–300V	14008	0	0	8	8	3	0
Muon PS – 2 Fabrication	**82353**		**145383**				
Case1 PS 3600A, +/–150V	45369		145383	31	0	25	0
Case2,3 PS 7200A, +/–300V	36983		0	15	0	32.5	0
Muon PS– 3 Installation	**84116**	**4034**					
Case1 PS 3600A, +/–150V	29557	1009	0	10	0	29	2
Case 2,3 PS 7200A, +/–300V	54558	3026	0	15	0	57	5
AMOUNT FOR CASE1 IN $	94388	1009	145383				
TOTAL CASE1 $	**240780**						
TOTAL WITH 20% CONTINGENCY $	**###**						
AMOUNT FOR CASES 2,3 IN $	105550	3026	0				
TOTAL CASES 2,3 $	**108575**						
TOTAL WITH 20% CONTINGENCY $	**###**						
TOTAL AMOUNT IN $$$	199938	4034	145383				
TOTAL NO CONTINGENCY $	**349355**						
TOTAL WITH 20% CONTINGENCY $	**###**						

1.3.4 Power Supplies										
MUON PS– 1 Design & Development							*Equation*			*Equation*
							0			0
10/22/2001			**Labor ($/hr)**				Org Burd	**DTS ($/hrs)**		
			79.3	60.85	47.90	47.90	& G&A	81.45	64.90	G&A
			Labor (hrs)				1.87	**DTS (hrs)**		1.3
WBS	**Description**	**Resource**	**Scnt**	**Engr**	**Dsgn**	**Tech**	**$ Labor**	**C.S.**	**Trds**	**$ DTS**
1.3.4	Muon Power Supplies	Marneris	0	160	120	50	33469			0
1.3.4.1	**Case1 PS 3600A, +/–150V**			**100**	**60**	**30**	**19461**			
	Detailed Design/drawings			**80**	**40**	**30**	15390	**0**	**0**	**0**
	2 inch Water cool buss 50 feet , times 4/drawings			20	20		4072			
1.3.4.2	**Case 2,3 PS 7200A, +/–300V**			**60**	**60**	**20**	**14008**			
	Detailed Design/Drawings			**40**	**40**	**20**	9937	**0**	**0**	**0**
	2 inch Water cool buss 50 feet , times 4/drawings			20	20		4072			

Muon PS – 2 Fabrication							*Equation*			*Equation*						0
							0			0	**Purchases**					
10/22/2001			**Labor ($/hr)**				Org Burd	**DTS ($/hrs)**							> $600k	$104,820
			79.3	60.85	47.90	47.90	& G&A	81.45	64.90	G&A					> $25k	1.18
			Labor (hrs)				1.87	**DTS (hrs)**		1.3					< $25k	1.47
WBS	**Description**	**Resource**	**Scnt**	**Engr**	**Dsgn**	**Tech**	**$ Labor**	**C.S.**	**Trds**	**$ DTS**	**Vendor**	**P/N**	**Quan.**	**Units**	**$/unit**	**$ Purch**
2.3.4	Muon Power Supplies	Marneris		364	0	456	82353			0						145383
2.3.4.1	**Case1 PS 3600A, +/–150V**			**244**		**196**	**45369**								**84900**	**145383**
	CONSTRUCT A CONTROLS RACK					60	5380									
	MODIFY 1 PS INTERLOCKS WIRE TO PLC					40	3587									
	WIRING LIST					40	3587									
	AC/DC CABLES												1	AC CABLES	5000	7350
	PLC PROGRAMMING			80			9113						1	DC BUSS 4X 50 FEET@ $100/FOOT	20000	29400
	1. 19 inch equipment rack												1	19 inch equipment rack	1000	1470
	2. PLC chassis, modules												2	PLC chassis, modules	10000	29400
	connectors and power supplies													**connectors and power supplies**		
	3. Panel view													and 1 Panel view terminal		0
	4. Local control panel												1	Local control panel	200	294
	5. Control cables and fiber optic cables												1	Control cables and fiber optic cables	1500	2205
	6. Crow bar												1	Crow bar	5000	7350
	7. 2 DCPT's												1	**2 DCPT's 400 volts each**	12000	17640
	10.1 DCCT													**1 DCCT 7500 A**		
	11. 2 Voltage and 1 current regulator					40	3587						1	2 Voltage and 1 current regulator	5000	7350
	12. Miscellaneous parts												1	Miscellaneous parts	10,000	14700
	VME chassis and modules												1	VME chassis and modules	13,200	19404
	2. VME labor					16	1435									
	3. VME software			24			2734									
	4. Hi level program			140			15948									
	5. 3 PSI modules												3	3 PSI modules	2000	8820
2.3.4.1	**Case2,3 PS 7200A, +/–300V**			**120**		**260**	**36983**									
	CONSTRUCT A CONTROLS RACK					50										
	MODIFY 4 PS INTERLOCKS WIRE TO PLC					180										
	WIRING LIST					10										
	AC/DC CABLES					20										
	PLC PROGRAMMING			120												

3.3.4 Power Supplies

Muon PS– 3 Installation

							Equation			*Equation*
							0			0
10/22/2001			**Labor ($/hr)**				Org Burd	**DTS ($/hrs)**		
			79.3	60.85	47.90	47.90	& G&A	81.45	64.90	G&A
			Labor (hrs)				1.87	**DTS (hrs)**		1.3
WBS	**Description**	**Resource**	**Scnt**	**Engr**	**Dsgn**	**Tech**	**$ Labor**	**C.S.**	**Trds**	**$ DTS**
3.3.4	Muon Power Supplies	Marneris		200	0	684	84116		48	4034
3.3.4.1	**Case1 PS 3600A, +/–150V**			**80**	**0**	**228**	**29557**		**12**	**1009**
	Rig Power Supplies in place								12	1009
	PSI Control cables hookup					4	359			
	Connect ac cables to power supply and disconnect switch					12	1076			
	Connect magnet to dc cables and power supply					12	1076			
	Connect magnet interlocks and control cables to magnets and power supplies					12	1076			
	Power Supplies (grounding)					8	717			
	PS controls/magnet interlock testing			20		40	5865			
	PS System Test			40		40	8143			
	Water cool buss 2X50 feet buss installation			10		80	8313			
	RUN AC CABLES			10		20	2932			
3.3.4.1	**Case 2,3 PS 7200A, +/–300V**			**120**	**0**	**456**	**54558**		**36**	**3026**
	Rig Power Supplies in place								36	3026
	PSI Control cables hookup					8	717			
	Connect ac cables to power supply and disconnect switch					36	3228			
	Connect magnet to dc cables and power supply					36	3228			
	Connect magnet interlocks and control cables to magnets and power supplies					12	1076			
	Power Supplies (grounding)					24	2152			
	PS controls/magnet interlock testing			20		40	5865			
	PS System Test			80		120	19873			
	Water cool buss 2X50 feet buss installation			10		120	11899			
	RUN AC CABLES			10		60	6519			