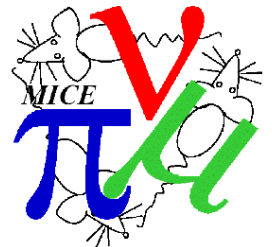




Project Managers Report

CM39 Collaboration Board – Oxford

Roy Preece
27th June 2014



Content



- Common Fund Calculation
- Equipment



Original Calculation



	Running Cost	Host Cost			
Administration					
Total:	29	0			
			SY	£k/SY	
	14		0.4	36	User Support
	14		0.4	36	Project Office
Accommodation					
Total:	1				
					Offices
					Fax
					Phone
	1				office consumables
					Network
	1				Meeting support costs
Experiment Consumables					
Total:	250				
	5				LN2
	5				LHe
	5				LH2
	230				Electricity
	5				Stores
Project Engineering Support					
Total:	111				
	17		0.2	84	Programme supervision
	28		0.4	70	Project engineer
	14		0.2	70	Elec supervision
	14		0.25	57	Elec tech
	14		0.2	70	Mech supervision
	14		0.25	57	Mech tech
	9		0.2	45	Riggers
Computing					
	20				Nominal storage costs
Facility Costs					
Total:		183			
			% pulse		Facility Running Cost
		13	2%	33,000	Protons at 2% of 1 in 50 Hz
		170			Nominal equivalent Hall cost
Unplanned Costs					
	10				Nominal Budget
Total	420	183			



New Calculation

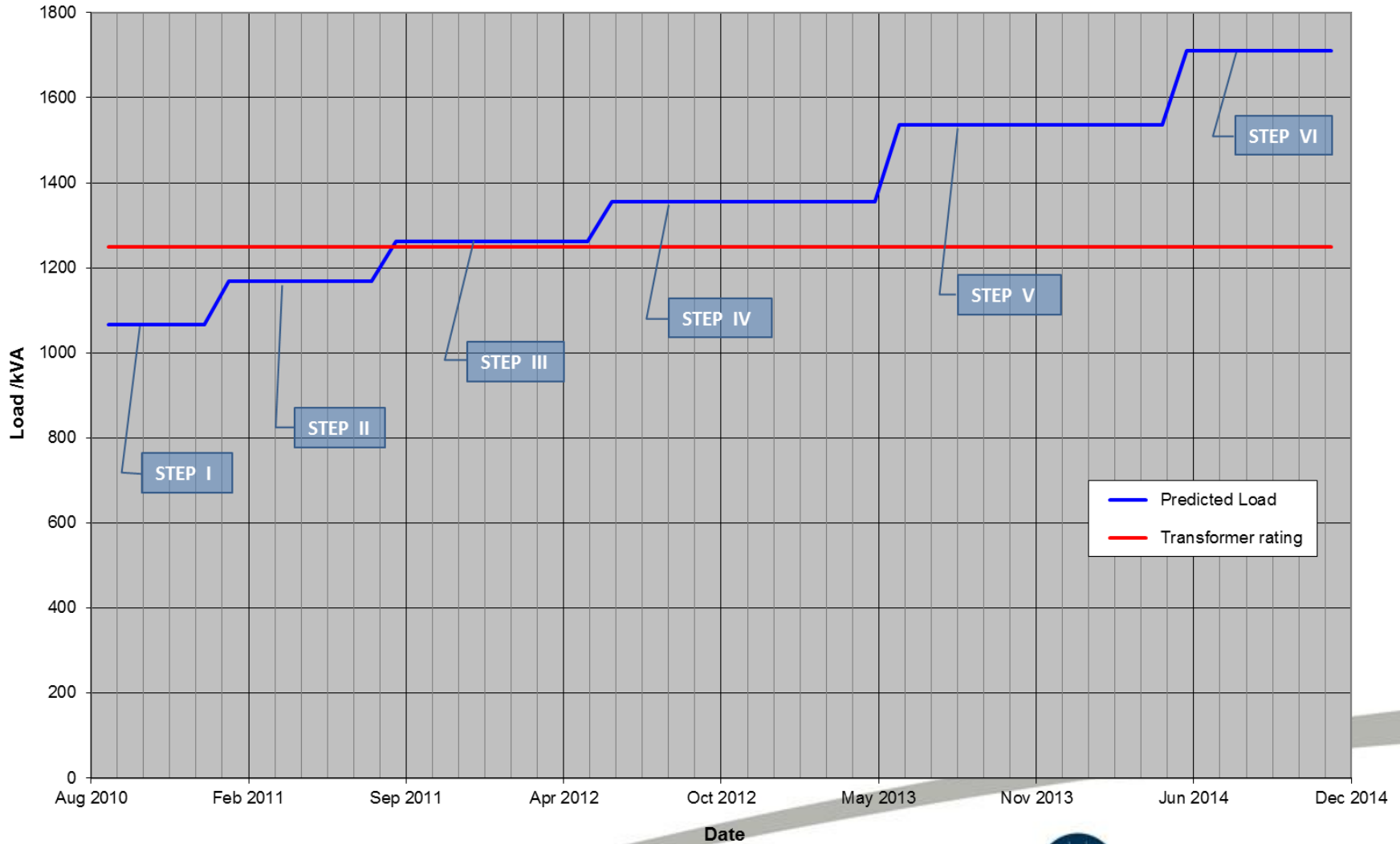


	Running Cost (£k)	Host Cost (£k)	FTE	£k/FTE	£/L	Litres	£/kWH	Estimated Power (kW)	% Pulse	ISIS Running Cost	Comments
Administration - Totals	37.92										
	18.96		0.4	47.4							User Support
	18.96		0.4	47.4							Project Office
Accomodation - Totals	2										
											Offices
											Fax
											Phone
	1										Office Consumables
											Network
	1										Meeting Support Costs
Experiment Consumables - Totals	274.08										
	0.5				0.25	2000					LN2 (Need during operations??)
	18				6	3000					LHe - Based on 5 quenches per year (Not room temp recovery)
	0.3				10	30					LH2 - Doubling in Step V
	116.51						0.07	190			Electricity - Compressors - 19 x 10kW (100%)
	30.66						0.07	50			Electricity - Air Conditioning - 5 x 10kW (100%)
	55.19						0.07	90			Electricity - Conventional Power magnets - 9 x 20kW - 50% duty cycle
	42.92						0.07	70			Electricity - Rack Room 2 - 50% duty cycle - For Step IV
	10										Stores
Project Engineering Support- Totals	152.74										
	23.98		0.2	119.9							Programme Supervision
	39.04		0.4	97.6							Project Engineer
	19.52		0.2	97.6							Electrical Supervision
	19.3		0.25	77.2							Electrical Technical
	19.52		0.2	97.6							Mechanical Supervision
	19.3		0.25	77.2							Mechanical Technician
	12.08		0.2	60.4							Riggers
Computing - Totals	20										
	20										Storage Costs
Facility Costs - Totals		830									
		660							0.02	33000	Protons at 2% of 1 in 50 Hz
		170									Nominal equipvalent Hall cost
Un-planned Costs - Totals	10										
	10										
Total Cost	496.74	830									





MICE Electrical Load Forecast





COOLING CHANNEL EQUIPMENT	QUANTITY	POWER (Kw)	EFFICIENCY (%)		HEAT GENERATION	
SPECTROMETER SOLENOID 1 PSU RACK						
TDK LAMBDA 20/500 - PSU	1	5.00	0.85		5.75	
XANTRAX XPR 20V/300A - PSU	2	6.00	0.85		13.8	
LAKE SHORE 625 - PSU	2	0.30	0.85		0.69	
AMI 420 - PSU CONTROLLER	3	0.05	0.85		0.1725	
CONTACTORS [IEEC225]	5	0.06	0.22		0.4895	
CONTACTORS [IEEC65]	2	0.03	0.22		0.09256	
THERMOSTAT	1	0.01	0.85		0.00575	
COOLING FANS	2	0.01	0.85		0.0253	
				ESTIMATED	21.03	Kw
				USE	21.00	Kw
SPECTROMETER SOLENOID 1/2 DUMP RACK						
COOLING FANS	3	0.01	0.85		0.03795	
				ESTIMATED	0.04	Kw
				USE	0.50	Kw
SPECTROMETER SOLENOID 2 PSU RACK						
TDK LAMBDA 20/500 - PSU	1	5.00	0.85		5.75	
XANTRAX XPR 20V/300A - PSU	2	6.00	0.85		13.8	
LAKE SHORE 625 - PSU	2	0.30	0.85		0.69	
AMI 420 - PSU CONTROLLER	3	0.05	0.85		0.1725	
CONTACTORS [IEEC225]	5	0.06	0.22		0.4895	
CONTACTORS [IEEC65]	2	0.03	0.22		0.09256	
THERMOSTAT	1	0.01	0.85		0.00575	
COOLING FANS	2	0.01	0.85		0.0253	
				ESTIMATED	21.03	Kw
				USE	21.00	Kw
AFC 1/2 MAGNET PSU RACK						
SORENSEN SGA 5KW - PSU	2	5.00	0.85		11.5	
AMI 430 - PSU CONTROLLER	2	0.05	0.85		0.115	
AMI 600 - ENERGY ABSORBER	6	0.38	0.00		2.25	
CONTACTORS	2	0.12	0.22		0.43076	
THERMOSTAT	1	0.01	0.85		0.00575	
COOLING FANS	9	0.01	0.85		0.11385	
				ESTIMATED	14.42	Kw
				USE	15.00	Kw
AFC 3 MAGNET PSU RACK						
SORENSEN SGA 5KW - PSU	1	5.00	0.85		5.75	
AMI 430 - PSU CONTROLLER	1	0.05	0.85		0.0575	
AMI 600 - ENERGY ABSORBER	3	0.38	0.00		1.125	
CONTACTORS	1	0.12	0.40		0.1936	
THERMOSTAT	1	0.01	0.85		0.00575	
COOLING FANS	5	0.01	0.85		0.06325	
				ESTIMATED	7.20	Kw
				USE	8.00	Kw
RFCC MAGNET PSU RACK						
SORENSEN SGA 5KW - PSU	2	5.00	0.85		11.5	
AMI 430 - PSU CONTROLLER	2	0.05	0.85		0.115	
AMI 600 - ENERGY ABSORBER	6	0.38	0.00		4.5	
CONTACTORS	2	0.12	0.40		0.3872	
THERMOSTAT	1	0.01	0.85		0.00575	
COOLING FANS	2	0.01	0.85		0.0253	
				ESTIMATED	16.53	Kw
				USE	17.00	Kw
UPS RACK(S)						
UPS PER MAGNET CONTROL RACK	25	1.00	0.97		30	
				ESTIMATED	30.00	Kw
				USE	30.00	Kw
208V TRANSFORMER						
TRANSFORMER	1	40.00	0.98		40	
				ESTIMATED	40.00	Kw
				USE	40.00	Kw



Control Room Equipment



- Update the control room equipment
- Would like to spend around £10k- £12k

Sheet1

Description

Intel NUC
Kingston 30GB SSD – mSATA
UK Plug
4GB SODIMM DDR3 RAM
HDMI to DVI cable
Mouse
Keyboard

22in 1080p Monitor
Monitor mounts – Through desk design
Monitor mount – wall
DVI over Ethernet extender (miceecserv machines)

1400mm Desk
1600mm Desk

Part Num

BOXDCCP847DYE
SMS200S3/30G
RB-290AB1
CMSO4GX3M1A1333C9

HRG26
7D0KG

Estimated
B-Tech BT7371
B-Tech BT7511
IOGear DVI-D CAT5E/6 MiniExtender

Estimated
Estimated

