

Estimated ATLAS Supplementary Construction and C&I Expenses in 2003

Supplementary Construction Costs (Commitments 34.5 MCHF, Payments 22.1 MCHF)

New commitments, over and above the authorized 475 MCHF CORE construction ceiling need to be made in 2003 for 34.5 MCHF, 25.5 MCHF of which are for common items. The present planning assumes that the initial detector is ready for a pilot run in April 2006 and low luminosity physics in Autumn 2006. The planned annual commitment and payment profiles will be adjusted accordingly when the new machine construction schedule is approved in June, taking also into account certain expected reductions in infrastructure costs to the Collaboration as well as a possible extension of the member fee up to 2006. The new contractual commitments will cover the remaining items and work packages in the engineering work for both the BT and ECT and in particular the completion of BT coil casings, warm structure, cryoring, tie rods and integration work.

Table 1 shows the distribution of proposed new commitments per Funding Agency, based on present CORE contributions.

Payments for items associated with cost over runs amount to 22.1 MCHF, most of which (9.7 MCHF) are for the above magnet items. The remaining 10.4 MCHF is for covering the initial funding shortfall in the LAr system (electronics, EM end cap components) and for tooling as well as assembly tasks for the systems (ID, LAr, TileCal, Muons).

Table 2 shows the distribution of proposed payments per Funding Agency, based on present CORE contributions. Contributions for common items will be requested mainly in cash, partial in-kind contributions can be negotiated.

C&I (Commitments 6.0 MCHF, Payments 5.7 MCHF)

The C&I (A) activities in the year 2003 comprise general integration tasks carried out by the Technical Coordination both in Building 180 for the magnets and LAr cryostat systems. The commissioning of the cryogenics plant in Pit 1 starts in 2003

requiring a team of five operators, over and above the installation teams. Heavy handling and cranes operation services are provided to the systems.

The C&I (B) tasks consist of necessary handling instrumentation for integration of the ID, LAr, Tiles and the Muon systems. System integration work heavily relies on special laboratory and test facilities outside the Pit area run by LAr, Tiles and the Muons. The ID is refurbishing its SR-building clean room facility in the Pit surface area for the assembly of the ID system.

More details on planned payments are provided in Table 3.

The proposed sharing per Funding Agency, is provided in Tables 4 and 5. The sharing of both C&I (A) and (B) are based on CORE contributions.

**Estimated Supplementary Commitments
Proposed for ATLAS Detector Construction
during 2003 by Funding Agency
(kCHF)**

4/4/2002

Funding Agency	System-specific (RRB for IB)			Common items (for RRB)			GRAND TOTAL (kCHF)
	Infrastr; add. CORE (excl. TCn)	Non-covered CORE (excl. CI)	TOTAL (kCHF)	Infra- structure (TCn part)	Missing CORE CI (over costs, non-covered)	TOTAL (kCHF)	
Armenia	9	0	9	3	9	12	21
Australia	36	5	41	38	99	137	178
Austria	0	0	0	10	27	37	37
Azerbaijan	0	0	0	3	9	12	12
Belarus	0	0	0	3	9	12	12
Brazil	8	0	8	3	9	12	20
Canada	187	57	244	225	595	821	1065
China NSFC+MSTC	22	2	24	14	36	50	74
Czech Republic	71	2	73	20	54	75	148
Denmark	38	3	41	48	126	174	215
Finland	0	0	0	0	0	0	0
France IN2P3	733	0	733	580	1533	2114	2847
France CEA	237	39	276	198	523	721	997
Georgia	0	0	0	3	9	12	12
Germany BMBF	599	50	649	485	1281	1765	2414
Germany MPI	167	17	184	113	298	410	594
Greece	50	0	50	24	63	87	137
Israel	130	0	130	72	189	261	391
Italy	1070	33	1103	676	1786	2462	3565
Japan	519	24	543	478	1263	1741	2284
Morocco	5	2	7	3	9	12	19
Netherlands	213	6	219	229	604	833	1052
Norway	54	8	62	61	162	224	286
Poland	13	1	14	14	36	50	64
Portugal	94	0	94	31	81	112	206
Romania	28	0	28	10	27	37	65
Russia	512	44	556	273	722	995	1551
JINR	156	8	164	78	207	286	450
Slovak Republic	7	2	9	7	18	25	34
Slovenia	21	3	24	24	63	87	111
Spain	219	0	219	147	388	535	754
Sweden	222	21	243	160	424	584	827
Switzerland	149	24	173	290	767	1057	1230
Taipei	41	9	50	44	117	162	212
Turkey	0	0	0	7	18	25	25
United Kingdom	321	46	367	512	1353	1865	2232
US DOE + NSF	1702	157	1859	1212	3202	4414	6273
CERN	787	17	804	901	2381	3282	4086
total	8420	580	9000	7000	18500	25500	34500

Notes

1. IB refers to Institute Boards where system-specific decisions are to be made
2. CI refers to Common items (mostly Common Projects related)
3. TCn refers to common items under the responsibility of Technical Coordination

Table 1

**Estimated Supplementary Payments
Proposed for ATLAS Detector Construction
during 2003 by Funding Agency (kCHF)**

4/4/2002

Funding Agency	System-specific (RRB for IB)			Common items (for RRB)			GRAND TOTAL (kCHF)
	Infrastr; add. CORE (excl. TCn)	Non-covered CORE (excl. CI)	TOTAL (kCHF)	Infra- structure (TCn part)	Missing CORE CI (over costs, non-covered)	TOTAL (kCHF)	
Armenia	4	0	4	1	8	9	13
Australia	26	3	29	13	86	99	129
Austria	0	0	0	4	23	27	27
Azerbaijan	0	0	0	1	8	9	9
Belarus	0	0	0	1	8	9	9
Brazil	4	0	4	1	8	9	13
Canada	20	33	53	80	516	597	650
China NSFC+MSTC	2	1	3	5	31	36	39
Czech Republic	37	1	38	7	47	54	92
Denmark	25	2	27	17	110	127	154
Finland	0	0	0	0	0	0	0
France IN2P3	223	74	297	207	1330	1538	1835
France CEA	23	22	45	71	454	525	569
Georgia	0	0	0	1	8	9	9
Germany BMBF	240	32	272	173	1111	1284	1557
Germany MPI	55	10	66	40	258	298	364
Greece	4	0	4	9	55	63	68
Israel	11	0	11	26	164	190	201
Italy	305	27	332	241	1549	1791	2122
Japan	156	17	173	171	1096	1266	1439
Morocco	0	1	1	1	8	9	10
Netherlands	51	5	56	82	524	606	662
Norway	40	6	45	22	141	163	208
Poland	9	1	10	5	31	36	47
Portugal	47	0	47	11	70	81	128
Romania	14	0	14	4	23	27	41
Russia	164	26	190	98	626	724	914
JINR	52	4	57	28	180	208	265
Slovak Republic	1	1	2	2	16	18	20
Slovenia	15	2	18	9	55	63	81
Spain	119	12	131	52	336	389	520
Sweden	117	14	131	57	368	425	556
Switzerland	93	16	110	104	665	769	879
Taipei	20	5	25	16	102	118	143
Turkey	0	0	0	2	16	18	18
United Kingdom	233	33	266	183	1174	1357	1623
US DOE + NSF	571	95	666	433	2778	3211	3876
CERN		6	443	322	2066	2388	2831
total	3070	500	3570	2500	16050	18550	22120

Notes

1. IB refers to Institute Boards where system-specific decisions are to be made
2. CI refers to Common items (mostly Common Projects related)
3. TCn refers to common items under the responsibility of Technical Coordination

Table 2

ATLAS C&I (A) and (B) Budget Estimates for 2003 (kCHF)

Item & Cost Driver	Category A	Category B	Item & Cost Driver
	C&I	C&I	
Detector related costs Magnet operation in B180 (gas, controls) General integration tasks (TCn) Gen. Technical support Integration and survey	1,870	410	Mechanics & Gas & Cooling & Cryogenics Gases (ID, Tiles, Muons)
Secretariat	0	170	Standard electronics FE electronics (Muons)
Communications	0	75	Detector controls DCS replacements for ID
On-line computing	30	495	Areas SR-building operation (D)
Test beams Magnet Cryo consumables	485	20	Communications GSM phones
Laboratory operations	0	210	Store items Store materials (metal sheet, cables, connectors, components) for LAr and ID
General services Heavy transport, crane operations	390	0	Sub-detector spares
TOTAL	2,775	1,380	(Excluding hired manpower for Category B)
Hired manpower at CERN (in kCHF)	incl. above	1060	
Institute manpower to be credited (in kCHF)		450	5 FTE's @ 90 kCHF/y
Institute manpower (in FTE)	0	48	
TOTAL C&I FOR A	2,775	2,890	TOTAL C&I FOR B

Notes:

1. Category A is charged to the entire Collaboration, B to the respective systems.

Table 3

**Estimated C+I Commitments
Proposed for ATLAS
During 2003 by Funding Agency (kCHF)**

Funding Agency	Category A	Category B	TOTAL kCHF
Armenia	1	4	5
Australia	16	18	34
Austria	4	0	4
Azerbaijan	1	0	1
Belarus	1	0	1
Brazil	1	3	5
Canada	97	72	169
China NSFC+MSTC	6	6	12
Czech Republic	9	26	34
Denmark	20	19	39
Finland	0	0	0
France IN2P3	249	260	508
France CEA	85	76	160
Georgia	1	0	1
Germany BMBF	208	160	367
Germany MPI	48	46	94
Greece	10	12	23
Israel	31	32	63
Italy	290	262	552
Japan	205	172	377
Morocco	1	2	3
Netherlands	98	61	159
Norway	26	30	56
Poland	6	7	13
Portugal	13	38	52
Romania	4	12	16
Russia	117	192	309
JINR	34	58	92
Slovak Republic	3	3	6
Slovenia	10	11	21
Spain	63	111	174
Sweden	69	99	168
Switzerland	124	72	197
Taipei	19	19	38
Turkey	3	0	3
United Kingdom	219	169	388
US DOE + NSF	519	575	1094
CERN	386	375	761
total	3,000	3,000	6,000

Note: C&I is shared proportionally to CORE

Table 4

Estimated C+I Payments Proposed for ATLAS During 2003 by Funding Agency (kCHF)

Funding Agency	Category A	Category B	TOTAL kCHF
	C&I	C&I	
Armenia	1	4	5
Australia	15	17	32
Austria	4	0	4
Azerbaijan	1	0	1
Belarus	1	0	1
Brazil	1	3	5
Canada	89	70	159
China NSFC+MSTC	5	6	11
Czech Republic	8	25	33
Denmark	19	18	37
Finland	0	0	0
France IN2P3	230	250	480
France CEA	78	73	151
Georgia	1	0	1
Germany BMBF	192	154	346
Germany MPI	45	45	89
Greece	9	12	21
Israel	28	31	59
Italy	268	253	521
Japan	189	166	355
Morocco	1	2	3
Netherlands	91	59	150
Norway	24	29	53
Poland	5	7	12
Portugal	12	37	49
Romania	4	11	15
Russia	108	185	293
JINR	31	56	87
Slovak Republic	3	2	5
Slovenia	9	10	20
Spain	58	107	165
Sweden	64	96	159
Switzerland	115	70	185
Taipei	18	18	36
Turkey	3	0	3
United Kingdom	203	162	365
US DOE + NSF	480	553	1034
CERN	357	361	719
total	2,775	2,890	5,665

Note: C&I is shared proportionally to CORE

Table 5