U.S. ATLAS M&O Estimate
Cost Book

Funding Source: All **Funding Type:** All

Institutions: All

U.S. ATLAS M&&O Estimate Cost 1/24/2005 10:29:06 AM

WBS Number: 3 **Description:** U.S. ATLAS M&O Estimate

Institution : **Contact:**

U.S. ATLAS Maintenance and Operations (M&O) includes detector specific costs allocated to subsystems and Common Fund cost related to overall experimental operations.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	10600	0	0	10600	9601	0	116	882	82.4	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	7040	7040	7040	7040	7040	7040	7040	49280
	0	0	0	304.017	304.017	304.017	304.017	304.017	304.017	304.017	2128.119
Sr Research Scientist B/I	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
B/I Total	0	0	0	9680	9680	9680	9680	9680	9680	9680	67760
	0	0	0	504.298	504.298	504.298	504.298	504.298	504.298	504.298	3530.086
Computer Professional MR	0	0	2880	3212	1299	6904	0	0	0	0	14295
	0	0	234.418	241.573	102.34	523.442	0	0	0	0	1101.773
Electrical Engineer MR	0	0	640	2603	2823	2596	0	0	0	0	8662
	0	0	36.288	200.185	212.659	199.788	0	0	0	0	648.920
MR Total	0	0	3520	5815	4122	9500	0	0	0	0	22957
	0	0	270.706	441.758	314.999	723.23	0	0	0	0	1750.693
Computer Professional R	0	0	348	9261	11174	6595	4268	4268	4268	4268	44450
	0	0	35.608	769.885	909.118	541.957	342.688	342.688	342.688	342.688	3627.320
Electrical Engineer R	0	0	528	1819	1599	1232	1012	1012	1012	1012	9226
	0	0	45.814	125.902	113.428	85.913	73.439	73.439	73.439	73.439	664.813
R Total	0	0	876	11080	12773	7827	5280	5280	5280	5280	53676
	0	0	81.422	895.787	1022.546	627.87	416.127	416.127	416.127	416.127	4292.133
Total	0	0	4396	26575	26575	27007	14960	14960	14960	14960	144393
	0	0	352.128	1841.843	1841.843	1855.398	920.425	920.425	920.425	920.425	9572.912

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800

B/I Total	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
Other MR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.528
Travel MR	0.0	0.0	0.0	10.0	24.0	0.0	0.0	0.0	0.0	0.0	43.170
MR Total	0.0	0.0	0.0	13.0	24.0	0.0	0.0	0.0	0.0	0.0	46.698
Other R	0.0	0.0	28.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	229.320
Travel R	0.0	0.0	0.0	66.0	112.0	56.0	56.0	56.0	56.0	56.0	579.750
R Total	0.0	0.0	28.0	90.0	136.0	80.0	80.0	80.0	80.0	80.0	809.070
Total	0.0	0.0	28.0	119.0	176.0	96.0	96.0	96.0	96.0	96.0	998.568

PROFILE SUMMARY:	**FY 03 (k$)**	**FY 04 (k$)**	**FY 05 (k$)**	**FY 06 (k$)**	**FY 07 (k$)**	**FY 08 (k$)**	**FY 09 (k$)**	**FY 10 (k$)**	**FY 11 (k$)**	**FY 12 (k$)**	**Total (k$)**
	0	0	385	1990	2063	1975	1040	1040	1040	1040	10571

WBS Number: 3.6 **Description:** Trigger/DAQ

Institution : **Contact:**

The US ATLAS M&O estimate for the Trigger DAQ (TDAQ) includes costs for Pre-operations, Operations, Maintenance, and CERN common costs. The Maintenance Costs are included in the CERN common costs.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	10600	0	0	10600	9601	0	116	882	82.4	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	7040	7040	7040	7040	7040	7040	7040	49280
	0	0	0	304.017	304.017	304.017	304.017	304.017	304.017	304.017	2128.119
Sr Research Scientist B/I	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
B/I Total	0	0	0	9680	9680	9680	9680	9680	9680	9680	67760
	0	0	0	504.298	504.298	504.298	504.298	504.298	504.298	504.298	3530.086
Computer Professional MR	0	0	2880	3212	1299	6904	0	0	0	0	14295
	0	0	234.418	241.573	102.34	523.442	0	0	0	0	1101.773
Electrical Engineer MR	0	0	640	2603	2823	2596	0	0	0	0	8662
	0	0	36.288	200.185	212.659	199.788	0	0	0	0	648.920
MR Total	0	0	3520	5815	4122	9500	0	0	0	0	22957
	0	0	270.706	441.758	314.999	723.23	0	0	0	0	1750.693
Computer Professional R	0	0	348	9261	11174	6595	4268	4268	4268	4268	44450
	0	0	35.608	769.885	909.118	541.957	342.688	342.688	342.688	342.688	3627.320
Electrical Engineer R	0	0	528	1819	1599	1232	1012	1012	1012	1012	9226
	0	0	45.814	125.902	113.428	85.913	73.439	73.439	73.439	73.439	664.813
R Total	0	0	876	11080	12773	7827	5280	5280	5280	5280	53676
	0	0	81.422	895.787	1022.546	627.87	416.127	416.127	416.127	416.127	4292.133
Total	0	0	4396	26575	26575	27007	14960	14960	14960	14960	144393
	0	0	352.128	1841.843	1841.843	1855.398	920.425	920.425	920.425	920.425	9572.912

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
B/I Total	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
Other MR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.528
Travel MR	0.0	0.0	0.0	10.0	24.0	0.0	0.0	0.0	0.0	0.0	43.170
MR Total	0.0	0.0	0.0	13.0	24.0	0.0	0.0	0.0	0.0	0.0	46.698
Other R	0.0	0.0	28.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	229.320

Travel R	0.0	0.0	0.0	66.0	112.0	56.0	56.0	56.0	56.0	56.0	579.750
R Total	0.0	0.0	28.0	90.0	136.0	80.0	80.0	80.0	80.0	80.0	809.070
Total	0.0	0.0	28.0	119.0	176.0	96.0	96.0	96.0	96.0	96.0	998.568

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	385	1990	2063	1975	1040	1040	1040	1040	10571

WBS Number: 3.6.1 **Description:** Pre Operations

Institution : **Contact:**

Pre operations test beam TDAQ shall include:
1. Updating the user documentation to include latest software and hardware descriptions and practices
2. Electronic and software integration of test beam systems prior to test beam data taking.
3. On-call support and maintenance of running test beam systems.
4. Archival storage of software and configuration information.
5. Support of reference and distribution systems for TDAQ software.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	1180	0	0	1180	1140	0	0	41	8.5	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional MR	0	0	2200	1833	1173	1386	0	0	0	0	6592
	0	0	175.917	140.342	92.051	102.085	0	0	0	0	510.395
Electrical Engineer MR	0	0	440	843	1063	836	0	0	0	0	3182
	0	0	24.948	60.321	72.795	59.924	0	0	0	0	217.988
MR Total	0	0	2640	2676	2236	2222	0	0	0	0	9774
	0	0	200.865	200.663	164.846	162.009	0	0	0	0	728.383
Computer Professional R	0	0	348	733	1393	396	0	0	0	0	2870
	0	0	35.608	64.965	113.256	40.52	0	0	0	0	254.349
Electrical Engineer R	0	0	528	807	587	330	0	0	0	0	2252
	0	0	45.814	52.463	39.989	18.711	0	0	0	0	156.977
R Total	0	0	876	1540	1980	726	0	0	0	0	5122
	0	0	81.422	117.428	153.245	59.231	0	0	0	0	411.326
Total	0	0	3516	4216	4216	2948	0	0	0	0	14896
	0	0	282.287	318.091	318.091	221.24	0	0	0	0	1139.709

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other MR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.528
Travel MR	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750
MR Total	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	16.278
Other R	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.760
Travel R	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750
R Total	0.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	24.510
Total	0.0	0.0	10.0	23.0	0.0	0.0	0.0	0.0	0.0	0.0	40.788

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	294	347	318	221	0	0	0	0	1180

WBS Number: 3.6.1.1 **Description:** Supervisor RoI Builder

Institution : **Contact:** Not available

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	101	0	0	101	101	0	0	0	0.7	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Electrical Engineer MR	0	0	0	0	220	0	0	0	0	0	220
	0	0	0	0	12.474	0	0	0	0	0	12.474
MR Total	0	0	0	0	220	0	0	0	0	0	220
	0	0	0	0	12.474	0	0	0	0	0	12.474
Electrical Engineer R	0	0	528	367	147	0	0	0	0	0	1042
	0	0	45.814	27.515	15.041	0	0	0	0	0	88.370
R Total	0	0	528	367	147	0	0	0	0	0	1042
	0	0	45.814	27.515	15.041	0	0	0	0	0	88.370
Total	0	0	528	367	367	0	0	0	0	0	1262
	0	0	45.814	27.515	27.515	0	0	0	0	0	100.844

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	46	28	28	0	0	0	0	0	101

WBS Number: 3.6.1.1.1 **Description:** Supervisor RoI Builder - ANL

Institution : ANL-TDAQ **Contact:** Not available

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	66	0	0	66	66	0	0	0	0.4	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Electrical Engineer R	0	0	348	147	147	0	0	0	0	0	642
	0	0	35.608	15.041	15.041	0	0	0	0	0	65.690
R Total	0	0	348	147	147	0	0	0	0	0	642
	0	0	35.608	15.041	15.041	0	0	0	0	0	65.690
Total	0	0	348	147	147	0	0	0	0	0	642
	0	0	35.608	15.041	15.041	0	0	0	0	0	65.690

CONTINGENCY FACTORS:	*Risk* Technical	*Risk* C o s t	*Risk* Schedule	*Risk* Des i gn	*Weight* Technical	*Weight* C o s t	*Weight* Schedule	Cont %
	0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	36	15	15	0	0	0	0	0	66

WBS Number: 3.6.1.1.2 **Description:** Supervisor RoI Builder - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
35	0	0	35	35	0	0	0	0.4	0.0

MANPOWER SUMMARY:

	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Electrical Engineer MR	0	0	0	0	220	0	0	0	0	0	220
	0	0	0	0	12.474	0	0	0	0	0	12.474
MR Total	0	0	0	0	220	0	0	0	0	0	220
	0	0	0	0	12.474	0	0	0	0	0	12.474
Electrical Engineer R	0	0	180	220	0	0	0	0	0	0	400
	0	0	10.206	12.474	0	0	0	0	0	0	22.680
R Total	0	0	180	220	0	0	0	0	0	0	400
	0	0	10.206	12.474	0	0	0	0	0	0	22.680
Total	0	0	180	220	220	0	0	0	0	0	620
	0	0	10.206	12.474	12.474	0	0	0	0	0	35.154

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	10	12	12	0	0	0	0	0	35

WBS Number: 3.6.1.2 **Description:** Communications and Travel

Institution : **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the test beam TDAQ role during pre operations.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	16	0	0	16	0	0	0	16	0.0	0.0

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other MR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.528
Travel MR	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750
MR Total	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	16.278
Total	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	16.278

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	0	16	0	0	0	0	0	0	16

WBS Number: 3.6.1.2.1 **Description:** Communications and Travel

Institution : ANL-TDAQ **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the test beam TDAQ role during pre operations.

This includes 1 trip to CERN per year in ’03 and 2 in ’04 and ’06 for an EE or CS at 2.5k$ per trip plus 1.5k$**Details of Estimate:**
per year in support of video conferencing and phone communications

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
8	0	0	8	0	0	0	8	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other MR	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.638
Travel MR	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.450
MR Total	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	8.088
Total	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	8.088

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	8	0	0	0	0	0	0	8

WBS Number: 3.6.1.2.2 **Description:** Communications and Travel

Institution : Michigan State University-tdaq **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the test beam TDAQ role during pre operations.

This includes 1 trip to CERN per year in ’03 and 2 in ’04 and ’06 for an EE or CS at 2.5k$ per trip plus 1.5k$ **Details of Estimate:**
per year in support of video conferencing and phone communications

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
8	0	0	8	0	0	0	8	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other MR	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.890
Travel MR	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300
MR Total	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	8.190
Total	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	8.190

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	8	0	0	0	0	0	0	8

WBS Number: 3.6.1.3 **Description:** Programming Support

Institution : **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	1052	0	0	1052	1039	0	0	13	7.7	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional MR	0	0	2200	1833	1173	1386	0	0	0	0	6592
	0	0	175.917	140.342	92.051	102.085	0	0	0	0	510.395
Electrical Engineer MR	0	0	440	843	843	836	0	0	0	0	2962
	0	0	24.948	60.321	60.321	59.924	0	0	0	0	205.514
MR Total	0	0	2640	2676	2016	2222	0	0	0	0	9554
	0	0	200.865	200.663	152.372	162.009	0	0	0	0	715.909
Computer Professional R	0	0	348	733	1393	396	0	0	0	0	2870
	0	0	35.608	64.965	113.256	40.52	0	0	0	0	254.349
Electrical Engineer R	0	0	0	440	440	330	0	0	0	0	1210
	0	0	0	24.948	24.948	18.711	0	0	0	0	68.607
R Total	0	0	348	1173	1833	726	0	0	0	0	4080
	0	0	35.608	89.913	138.204	59.231	0	0	0	0	322.956
Total	0	0	2988	3849	3849	2948	0	0	0	0	13634
	0	0	236.473	290.576	290.576	221.24	0	0	0	0	1038.865

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel R	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750
R Total	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750
Total	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.750

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	236	303	291	221	0	0	0	0	1052

WBS Number: 3.6.1.3.1 **Description:** Programming Support - ANL

Institution : ANL-TDAQ **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date. This also includes some added level of support for the cosmic ray run in 2006.

Details of Estimate:

In support of test beam operations ANL will provide approximately .1 CS and .1 EE in FY 04, .05 in FY05 (no TB) and 0.125 in FY 06 plus 2 trips

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	188	0	0	188	181	0	0	6	1.0	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional R	0	0	348	513	513	396	0	0	0	0	1770
	0	0	35.608	52.491	52.491	40.52	0	0	0	0	181.110
R Total	0	0	348	513	513	396	0	0	0	0	1770
	0	0	35.608	52.491	52.491	40.52	0	0	0	0	181.110
Total	0	0	348	513	513	396	0	0	0	0	1770
	0	0	35.608	52.491	52.491	40.52	0	0	0	0	181.110

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel R	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.450
R Total	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.450
Total	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.450

CONTINGENCY FACTORS:	*Risk* Technical	Cost	Schedule	Design	*Weight* Technical	Cost	Schedule	Cont %
	0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	36	59	52	41	0	0	0	0	188

WBS Number: 3.6.1.3.2 **Description:** Programming Support - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date. This includes some additional support for the cosmic ray run in 2006.

In support of test beam operations MSU will provide approximately .1 CS and .1 EE in FY 04, .05 in FY05

Details of Estimate:

(no TB) and 0.125 in 06 plus one trip.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	187	0	0	187	180	0	0	6	1.8	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional MR	0	0	0	0	0	220	0	0	0	0	220
	0	0	0	0	0	12.474	0	0	0	0	12.474
Electrical Engineer MR	0	0	440	293	293	286	0	0	0	0	1312
	0	0	24.948	16.613	16.613	16.216	0	0	0	0	74.390
MR Total	0	0	440	293	293	506	0	0	0	0	1532
	0	0	24.948	16.613	16.613	28.69	0	0	0	0	86.864
Computer Professional R	0	0	0	220	220	0	0	0	0	0	440
	0	0	0	12.474	12.474	0	0	0	0	0	24.948
Electrical Engineer R	0	0	0	440	440	330	0	0	0	0	1210
	0	0	0	24.948	24.948	18.711	0	0	0	0	68.607
R Total	0	0	0	660	660	330	0	0	0	0	1650
	0	0	0	37.422	37.422	18.711	0	0	0	0	93.555
Total	0	0	440	953	953	836	0	0	0	0	3182
	0	0	24.948	54.035	54.035	47.401	0	0	0	0	180.419

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel R	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300
R Total	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300
Total	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300

CONTINGENCY FACTORS:	*Risk*				*Weight*			
	Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
	0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	25	60	54	47	0	0	0	0	187

WBS Number: 3.6.1.3.3 **Description:** Programming Support - UCI

Institution : U. of California, Irvine **Contact:** Not available

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
436	0	0	436	436	0	0	0	3.1	0.0

MANPOWER SUMMARY:

	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional MR	0	0	1760	733	733	506	0	0	0	0	3732
	0	0	143.723	59.857	59.857	41.32	0	0	0	0	304.757
Electrical Engineer MR	0	0	0	550	550	550	0	0	0	0	1650
	0	0	0	43.708	43.708	43.708	0	0	0	0	131.124
MR Total	0	0	1760	1283	1283	1056	0	0	0	0	5382
	0	0	143.723	103.565	103.565	85.028	0	0	0	0	435.881
Total	0	0	1760	1283	1283	1056	0	0	0	0	5382
	0	0	143.723	103.565	103.565	85.028	0	0	0	0	435.881

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	144	104	104	85	0	0	0	0	436

WBS Number: 3.6.1.3.4 **Description:** Programming Support - UW

Institution : University of Wisconsin, Madision-tdaq **Contact:** Not available

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	241	0	0	241	241	0	0	0	1.9	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Computer Professional MR	0	0	440	1100	440	660	0	0	0	0	2640
	0	0	32.194	80.485	32.194	48.291	0	0	0	0	193.164
MR Total	0	0	440	1100	440	660	0	0	0	0	2640
	0	0	32.194	80.485	32.194	48.291	0	0	0	0	193.164
Computer Professional R	0	0	0	0	660	0	0	0	0	0	660
	0	0	0	0	48.291	0	0	0	0	0	48.291
R Total	0	0	0	0	660	0	0	0	0	0	660
	0	0	0	0	48.291	0	0	0	0	0	48.291
Total	0	0	440	1100	1100	660	0	0	0	0	3300
	0	0	32.194	80.485	80.485	48.291	0	0	0	0	241.455

CONTINGENCY FACTORS:	*Risk*				*Weight*			Cont %
	Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	
	0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	32	80	80	48	0	0	0	0	241

WBS Number: 3.6.1.4 **Description:** Equipment

Institution : **Contact:** Not available

Test beam and calibration activities will require some specialized TDAQ electronics. This equipment needs to be fabricated or purchased. The equipment in this category is equipment that is not subdetector specific and thus will be used in multiple test beam setups.

Details of Estimate: Equipment required to support test beam operations. This estimate is based on the level of spending required for this activity during FY01/FY02.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
12	0	0	12	0	0	0	12	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.760
R Total	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.760
Total	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.760

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	12	0	0	0	0	0	0	0	12

WBS Number: 3.6.1.4.1 **Description:** Equipment ANL

Institution : ANL-TDAQ **Contact:** Not available

Test beam and calibration activities will require some specialized TDAQ electronics. This equipment needs to be fabricated or purchased. The equipment in this category is equipment that is not subdetector specific and thus will be used in multiple test beam setups.

Details of Estimate: Equipment required to support test beam operations. This estimate is based on the level of spending required for this activity during FY01/FY02.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
5	0	0	5	0	0	0	5	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.460
R Total	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.460
Total	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.460

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	5	0	0	0	0	0	0	0	5

WBS Number: 3.6.1.4.2 **Description:** Equipment MSU

Institution : Michigan State University-tdaq **Contact:** Not available

Test beam and calibration activities will require some specialized TDAQ electronics. This equipment needs to be fabricated or purchased. The equipment in this category is equipment that is not subdetector specific and thus will be used in multiple test beam setups.

Details of Estimate: Equipment required to support test beam operations. This estimate is based on the level of spending required for this activity during FY01/FY02.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
6	0	0	6	0	0	0	6	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300
R Total	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300
Total	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.300

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	6	0	0	0	0	0	0	0	6

WBS Number: 3.6.2 **Description:** Operations

Institution : **Contact:**

Operations shall include:
1. Updating the user documentation to include latest software and hardware descriptions and practices
2. Electronic and software integration of detector systems prior to data taking.
3. On-call support and maintenance of running detector TDAQ systems.
4. Archival storage of software and configuration information.
5. Support of reference and distribution systems for TDAQ software.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	9419	0	0	9419	8462	0	116	842	73.9	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	7040	7040	7040	7040	7040	7040	7040	49280
	0	0	0	304.017	304.017	304.017	304.017	304.017	304.017	304.017	2128.119
Sr Research Scientist B/I	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
B/I Total	0	0	0	9680	9680	9680	9680	9680	9680	9680	67760
	0	0	0	504.298	504.298	504.298	504.298	504.298	504.298	504.298	3530.086
Computer Professional MR	0	0	680	1379	126	5518	0	0	0	0	7703
	0	0	58.501	101.231	10.289	421.357	0	0	0	0	591.378
Electrical Engineer MR	0	0	200	1760	1760	1760	0	0	0	0	5480
	0	0	11.34	139.864	139.864	139.864	0	0	0	0	430.932
MR Total	0	0	880	3139	1886	7278	0	0	0	0	13183
	0	0	69.841	241.095	150.153	561.221	0	0	0	0	1022.310
Computer Professional R	0	0	0	8528	9781	6199	4268	4268	4268	4268	41580
	0	0	0	704.92	795.862	501.437	342.688	342.688	342.688	342.688	3372.971
Electrical Engineer R	0	0	0	1012	1012	902	1012	1012	1012	1012	6974
	0	0	0	73.439	73.439	67.202	73.439	73.439	73.439	73.439	507.836
R Total	0	0	0	9540	10793	7101	5280	5280	5280	5280	48554
	0	0	0	778.359	869.301	568.639	416.127	416.127	416.127	416.127	3880.807
Total	0	0	880	22359	22359	24059	14960	14960	14960	14960	129497
	0	0	69.841	1523.752	1523.752	1634.158	920.425	920.425	920.425	920.425	8433.203

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
B/I Total	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
Travel MR	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	30.420

MR Total	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	30.420
Other R	0.0	0.0	18.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	217.560
Travel R	0.0	0.0	0.0	56.0	112.0	56.0	56.0	56.0	56.0	56.0	567.000
R Total	0.0	0.0	18.0	80.0	136.0	80.0	80.0	80.0	80.0	80.0	784.560
Total	0.0	0.0	18.0	96.0	176.0	96.0	96.0	96.0	96.0	96.0	957.780

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	91	1643	1744	1753	1040	1040	1040	1040	9391

WBS Number: 3.6.2.1 **Description:** Supervisor RoI Builder

Institution : **Contact:** Not available

The Supervisor RoI Builder is the sole responsibility of US groups. Full support for the hardware, software and documentation will be required for this system from the time that this system is deployed

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	2440	0	0	2440	2392	0	0	48	17.4	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Sr Research Scientist B/I	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
B/I Total	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
Computer Professional MR	0	0	300	0	0	0	0	0	0	0	300
	0	0	30.697	0	0	0	0	0	0	0	30.697
Electrical Engineer MR	0	0	200	0	0	0	0	0	0	0	200
	0	0	11.34	0	0	0	0	0	0	0	11.340
MR Total	0	0	500	0	0	0	0	0	0	0	500
	0	0	42.037	0	0	0	0	0	0	0	42.037
Computer Professional R	0	0	0	557	557	586	748	748	748	748	4692
	0	0	0	56.993	56.993	59.961	66.5	66.5	66.5	66.5	439.947
Electrical Engineer R	0	0	0	1012	1012	902	1012	1012	1012	1012	6974
	0	0	0	73.439	73.439	67.202	73.439	73.439	73.439	73.439	507.836
R Total	0	0	0	1569	1569	1488	1760	1760	1760	1760	11666
	0	0	0	130.432	130.432	127.163	139.939	139.939	139.939	139.939	947.783
Total	0	0	500	4209	4209	4128	4400	4400	4400	4400	30646
	0	0	42.037	330.713	330.713	327.444	340.22	340.22	340.22	340.22	2391.787

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	48.216
R Total	0.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	48.216
Total	0.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	48.216

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	42	338	338	334	347	347	347	347	2440

WBS Number: 3.6.2.1.1 **Description:** Supervisor RoI Builder - ANL

Institution : ANL-TDAQ **Contact:** Not available

The Supervisor RoI Builder is the sole responsibility of US groups. Full support for the hardware, software and documentation will be required for this system from the time that this system is deployed

This includes 50% of a CS starting in '06 with slightly more labor during initial beam startup (06-08). It also**Details of Estimate:**
includes material costs of $600 in '04, 4k$ in '05 and beyond.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	2105	0	0	2105	2075	0	0	31	14.2	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Sr Research Scientist B/I	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
B/I Total	0	0	0	2640	2640	2640	2640	2640	2640	2640	18480
	0	0	0	200.281	200.281	200.281	200.281	200.281	200.281	200.281	1401.967
Computer Professional MR	0	0	300	0	0	0	0	0	0	0	300
	0	0	30.697	0	0	0	0	0	0	0	30.697
MR Total	0	0	300	0	0	0	0	0	0	0	300
	0	0	30.697	0	0	0	0	0	0	0	30.697
Computer Professional R	0	0	0	557	557	586	528	528	528	528	3812
	0	0	0	56.993	56.993	59.961	54.026	54.026	54.026	54.026	390.051
Electrical Engineer R	0	0	0	352	352	352	352	352	352	352	2464
	0	0	0	36.017	36.017	36.017	36.017	36.017	36.017	36.017	252.119
R Total	0	0	0	909	909	938	880	880	880	880	6276
	0	0	0	93.01	93.01	95.978	90.043	90.043	90.043	90.043	642.170
Total	0	0	300	3549	3549	3578	3520	3520	3520	3520	25056
	0	0	30.697	293.291	293.291	296.259	290.324	290.324	290.324	290.324	2074.834

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	30.576
R Total	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	30.576
Total	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	30.576

CONTINGENCY FACTORS:	*Risk*				*Weight*			Cont %
	Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	
	0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	31	298	298	301	295	295	295	295	2105

WBS Number: 3.6.2.1.2 **Description:** Supervisor RoI Builder - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

The Supervisor RoI Builder is the sole responsibility of US groups. Full support for the hardware, software and documentation will be required for this system from the time that this system is deployed

Details of Estimate: This includes 50% of a EE starting in '06. It also includes material costs of $2000 in '05 to 12.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
335	0	0	335	317	0	0	18	3.2	0.0

MANPOWER SUMMARY:

	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Electrical Engineer MR	0	0	200	0	0	0	0	0	0	0	200
	0	0	11.34	0	0	0	0	0	0	0	11.340
MR Total	0	0	200	0	0	0	0	0	0	0	200
	0	0	11.34	0	0	0	0	0	0	0	11.340
Computer Professional R	0	0	0	0	0	0	220	220	220	220	880
	0	0	0	0	0	0	12.474	12.474	12.474	12.474	49.896
Electrical Engineer R	0	0	0	660	660	550	660	660	660	660	4510
	0	0	0	37.422	37.422	31.185	37.422	37.422	37.422	37.422	255.717
R Total	0	0	0	660	660	550	880	880	880	880	5390
	0	0	0	37.422	37.422	31.185	49.896	49.896	49.896	49.896	305.613
Total	0	0	200	660	660	550	880	880	880	880	5590
	0	0	11.34	37.422	37.422	31.185	49.896	49.896	49.896	49.896	316.953

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	17.640
R Total	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	17.640
Total	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	17.640

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	Cost	Schedule	Design	Technical	Cost	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	11	40	40	34	52	52	52	52	335

WBS Number: 3.6.2.2 **Description:** Communications and Travel

Institution : **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the detector TDAQ system during operations

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	456	0	0	456	0	0	116	340	0.0	0.0

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel MR	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	30.420
MR Total	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	30.420
Travel R	0.0	0.0	0.0	40.0	96.0	40.0	40.0	40.0	40.0	40.0	425.880
R Total	0.0	0.0	0.0	40.0	96.0	40.0	40.0	40.0	40.0	40.0	425.880
Total	0.0	0.0	0.0	40.0	120.0	40.0	40.0	40.0	40.0	40.0	456.300

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	0	51	152	51	51	51	51	51	456

WBS Number: 3.6.2.2.1 **Description:** Communications and Travel - ANL

Institution : ANL-TDAQ **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the detector TDAQ system during operations

Details of Estimate:

Travel (this represents 4 trips to CERN at 2.5k$ per trip) for the CS involved in support (in '07 a 30k residency cost is assumed).

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
116	0	0	116	0	0	116	0	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel MR	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.740
MR Total	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.740
Travel R	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	108.360
R Total	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	108.360
Total	0.0	0.0	0.0	10.0	30.0	10.0	10.0	10.0	10.0	10.0	116.100

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	13	39	13	13	13	13	13	116

WBS Number: 3.6.2.2.2 **Description:** Communications and Travel - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the detector TDAQ system during operations

Details of Estimate: Travel (this represents 4 trips to CERN at 2.5k$ per trip) for the EE involved (in '07 a 30k residency cost is assumed).

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
113	0	0	113	0	0	0	113	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel MR	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
MR Total	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
Travel R	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
R Total	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
Total	0.0	0.0	0.0	10.0	30.0	10.0	10.0	10.0	10.0	10.0	113.400

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	13	38	13	13	13	13	13	113

WBS Number: 3.6.2.2.3 **Description:** Communications and Travel - UCI

Institution : U. of California, Irvine **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the detector TDAQ system during operations

Details of Estimate: Travel (this represents 4 trips to CERN at 2.5k$ per trip) for the CS involved (in '07 a 30k residency cost is assumed).

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
113	0	0	113	0	0	0	113	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel MR	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
MR Total	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
Travel R	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
R Total	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
Total	0.0	0.0	0.0	10.0	30.0	10.0	10.0	10.0	10.0	10.0	113.400

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	13	38	13	13	13	13	13	113

WBS Number: 3.6.2.2.4 **Description:** Communications and Travel - UW

Institution : University of Wisconsin, Madision-tdaq **Contact:** Not available

Consultation and effective interaction with the system designers will require both travel and phone or video conferencing. This area includes videoconferencing and travel in support of the detector TDAQ system during operations

Details of Estimate: Travel (this represents 4 trips to CERN at 2.5k$ per trip) for the CS involved (in '07 a 30k residency cost is assumed)

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
113	0	0	113	0	0	0	113	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel MR	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
MR Total	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	7.560
Travel R	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
R Total	0.0	0.0	0.0	10.0	24.0	10.0	10.0	10.0	10.0	10.0	105.840
Total	0.0	0.0	0.0	10.0	30.0	10.0	10.0	10.0	10.0	10.0	113.400

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	0	13	38	13	13	13	13	13	113

WBS Number: 3.6.2.3 **Description:** Programming Support

Institution : **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	6354	0	0	6354	6070	0	0	284	56.5	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	7040	7040	7040	7040	7040	7040	7040	49280
	0	0	0	304.017	304.017	304.017	304.017	304.017	304.017	304.017	2128.119
B/I Total	0	0	0	7040	7040	7040	7040	7040	7040	7040	49280
	0	0	0	304.017	304.017	304.017	304.017	304.017	304.017	304.017	2128.119
Computer Professional MR	0	0	380	1379	126	5518	0	0	0	0	7403
	0	0	27.804	101.231	10.289	421.357	0	0	0	0	560.681
Electrical Engineer MR	0	0	0	1760	1760	1760	0	0	0	0	5280
	0	0	0	139.864	139.864	139.864	0	0	0	0	419.592
MR Total	0	0	380	3139	1886	7278	0	0	0	0	12683
	0	0	27.804	241.095	150.153	561.221	0	0	0	0	980.273
Computer Professional R	0	0	0	7971	9224	5613	3520	3520	3520	3520	36888
	0	0	0	647.927	738.869	441.476	276.188	276.188	276.188	276.188	2933.024
R Total	0	0	0	7971	9224	5613	3520	3520	3520	3520	36888
	0	0	0	647.927	738.869	441.476	276.188	276.188	276.188	276.188	2933.024
Total	0	0	380	18150	18150	19931	10560	10560	10560	10560	98851
	0	0	27.804	1193.039	1193.039	1306.714	580.205	580.205	580.205	580.205	6041.416

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
B/I Total	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	142.800
Travel R	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	141.120
R Total	0.0	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	141.120
Total	0.0	0.0	0.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	283.920

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	28	1234	1234	1347	621	621	621	621	6325

WBS Number: 3.6.2.3.1 **Description:** Programming Support - ANL

Institution : ANL-TDAQ **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Details of Estimate:

The support for the LVL2 software will involve 50% of a CS per year. A slightly higher level is required before and during initial running.

Base & infrastructure
1 Post Doc for programming support in 2006 to 2012.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	1698	0	0	1698	1626	0	0	72	13.0	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	77.887	77.887	77.887	77.887	77.887	77.887	77.887	545.209
B/I Total	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	77.887	77.887	77.887	77.887	77.887	77.887	77.887	545.209
Computer Professional MR	0	0	0	0	0	880	0	0	0	0	880
	0	0	0	0	0	90.043	0	0	0	0	90.043
MR Total	0	0	0	0	0	880	0	0	0	0	880
	0	0	0	0	0	90.043	0	0	0	0	90.043
Computer Professional R	0	0	0	2420	2420	1320	880	880	880	880	9680
	0	0	0	247.619	247.619	135.065	90.043	90.043	90.043	90.043	990.475
R Total	0	0	0	2420	2420	1320	880	880	880	880	9680
	0	0	0	247.619	247.619	135.065	90.043	90.043	90.043	90.043	990.475
Total	0	0	0	4180	4180	3960	2640	2640	2640	2640	22880
	0	0	0	325.506	325.506	302.995	167.93	167.93	167.93	167.93	1625.727

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	72.240
B/I Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	72.240
Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	72.240

CONTINGENCY FACTORS:	*Risk* Technical	Cost	Schedule	Design	*Weight* Technical	Cost	Schedule	Cont %

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	0	336	336	313	178	178	178	178	1698

WBS Number: 3.6.2.3.2 **Description:** Programming Support - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Details of Estimate:

The support for the LVL2 software will involve 50% of a CS per year. A slightly higher level is required before and during initial running.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
1246	0	0	1246	1175	0	0	71	12.8	0.0

MANPOWER SUMMARY:

	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	84.89	84.89	84.89	84.89	84.89	84.89	84.89	594.230
B/I Total	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	84.89	84.89	84.89	84.89	84.89	84.89	84.89	594.230
Computer Professional MR	0	0	0	396	0	1451	0	0	0	0	1847
	0	0	0	22.453	0	82.272	0	0	0	0	104.725
MR Total	0	0	0	396	0	1451	0	0	0	0	1847
	0	0	0	22.453	0	82.272	0	0	0	0	104.725
Computer Professional R	0	0	0	1584	1980	1320	880	880	880	880	8404
	0	0	0	89.813	112.266	74.844	49.896	49.896	49.896	49.896	476.507
R Total	0	0	0	1584	1980	1320	880	880	880	880	8404
	0	0	0	89.813	112.266	74.844	49.896	49.896	49.896	49.896	476.507
Total	0	0	0	3740	3740	4531	2640	2640	2640	2640	22571
	0	0	0	197.156	197.156	242.006	134.786	134.786	134.786	134.786	1175.462

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel B/I	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
B/I Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	0	207	207	252	145	145	145	145	1246

WBS Number: 3.6.2.3.3 **Description:** Programming Support - UCI

Institution : U. of California, Irvine **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Details of Estimate:

The support for the LVL2 software will involve 50% of a CS per year. A slightly higher level is required before and during initial running.

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	2000	0	0	2000	1929	0	0	71	17.9	0.0

MANPOWER SUMMARY:	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	55	55	55	55	55	55	55	385.000
B/I Total	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	55	55	55	55	55	55	55	385.000
Computer Professional MR	0	0	0	807	126	1867	0	0	0	0	2800
	0	0	0	65.9	10.289	152.46	0	0	0	0	228.649
Electrical Engineer MR	0	0	0	1760	1760	1760	0	0	0	0	5280
	0	0	0	139.864	139.864	139.864	0	0	0	0	419.592
MR Total	0	0	0	2567	1886	3627	0	0	0	0	8080
	0	0	0	205.764	150.153	292.324	0	0	0	0	648.241
Computer Professional R	0	0	0	2383	3064	1653	880	880	880	880	10620
	0	0	0	194.597	250.208	134.985	71.861	71.861	71.861	71.861	867.234
R Total	0	0	0	2383	3064	1653	880	880	880	880	10620
	0	0	0	194.597	250.208	134.985	71.861	71.861	71.861	71.861	867.234
Total	0	0	0	6710	6710	7040	2640	2640	2640	2640	31020
	0	0	0	455.361	455.361	482.309	126.861	126.861	126.861	126.861	1900.475

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel R	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
R Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560

CONTINGENCY FACTORS:	*Risk* Technical	Cost	Schedule	Design	*Weight* Technical	Cost	Schedule	Cont %

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	0	465	465	492	137	137	137	137	1971

WBS Number: 3.6.2.3.4 **Description:** Programming Support - UW

Institution : University of Wisconsin, Madision-tdaq **Contact:** Not available

The TDAQ software is primarily written by the members of the TDAQ team. As hardware, network technology and operating systems and capabilities evolve so too will the software. This requires a dedicated effort from within ATLAS to support software and to keep the documentation up to date.

Details of Estimate:

The support for the LVL2 software will involve 50% of a CS per year. A slightly higher level is required before and during initial running.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
1410	0	0	1410	1340	0	0	71	12.7	0.0

MANPOWER SUMMARY:

	FY 03 (hrs) (k$)	FY 04 (hrs) (k$)	FY 05 (hrs) (k$)	FY 06 (hrs) (k$)	FY 07 (hrs) (k$)	FY 08 (hrs) (k$)	FY 09 (hrs) (k$)	FY 10 (hrs) (k$)	FY 11 (hrs) (k$)	FY 12 (hrs) (k$)	Total (hrs) (k$)
Post Doc B/I	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	86.24	86.24	86.24	86.24	86.24	86.24	86.24	603.680
B/I Total	0	0	0	1760	1760	1760	1760	1760	1760	1760	12320
	0	0	0	86.24	86.24	86.24	86.24	86.24	86.24	86.24	603.680
Computer Professional MR	0	0	380	176	0	1320	0	0	0	0	1876
	0	0	27.804	12.878	0	96.582	0	0	0	0	137.264
MR Total	0	0	380	176	0	1320	0	0	0	0	1876
	0	0	27.804	12.878	0	96.582	0	0	0	0	137.264
Computer Professional R	0	0	0	1584	1760	1320	880	880	880	880	8184
	0	0	0	115.898	128.776	96.582	64.388	64.388	64.388	64.388	598.808
R Total	0	0	0	1584	1760	1320	880	880	880	880	8184
	0	0	0	115.898	128.776	96.582	64.388	64.388	64.388	64.388	598.808
Total	0	0	380	3520	3520	4400	2640	2640	2640	2640	22380
	0	0	27.804	215.016	215.016	279.404	150.628	150.628	150.628	150.628	1339.752

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Travel R	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
R Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560
Total	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	70.560

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	28	225	225	289	161	161	161	161	1410

WBS Number: 3.6.2.4 **Description:** Test facilities

Institution : **Contact:** Not available

TDAQ hardware used in the ATLAS experiment will be need to be checked and evaluated in a test lab periodically. Such a facility will require computers, network equipment, etc. This equipment needs to be supported and replaced on an as needed basis. This item includes support for such a test lab and necessary equipment

Cost Summary: (All)	Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
	169	0	0	169	0	0	0	169	0.0	0.0

MATERIAL SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	169.344
R Total	0.0	0.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	169.344
Total	0.0	0.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	169.344

PROFILE SUMMARY:	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
	0	0	21	21	21	21	21	21	21	21	169

WBS Number: 3.6.2.4.1 **Description:** Test Facilities - ANL

Institution : ANL-TDAQ **Contact:** Not available

TDAQ hardware used in the ATLAS experiment will need to be checked and evaluated in a test lab periodically. Such a facility will require computers, network equipment, etc. This equipment needs to be supported and replaced on an as needed basis. This item includes support for such a test lab and necessary equipment

Details of Estimate:

The ATLAS wide cost for support of test facilities is expected to be 60k$ in 2005 and beyond. ANL will need to support some additional equipment in support of the SRB system which is the sole responsibility of the US groups.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
79	0	0	79	0	0	0	79	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	78.624
R Total	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	78.624
Total	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	78.624

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	10	10	10	10	10	10	10	10	79

WBS Number: 3.6.2.4.2 **Description:** Test Facilities - MSU

Institution : Michigan State University-tdaq **Contact:** Not available

TDAQ hardware used in the ATLAS experiment will need to be checked and evaluated in a test lab periodically. Such a facility will require computers, network equipment, etc. This equipment needs to be supported and replaced on an as needed basis. This item includes support for such a test lab and necessary equipment

Details of Estimate:

The ATLAS wide cost for support of test facilities is expected to be 60k$ in 2005 and beyond. MSU will provide some hardware in support of the SRB which is the sole responsibility of US groups.

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
91	0	0	91	0	0	0	91	0.0	0.0

MATERIAL SUMMARY:

	FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total w/ overhead (k$)
Other R	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	90.720
R Total	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	90.720
Total	0.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	90.720

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	Cost	Schedule	Design	Technical	Cost	Schedule	Cont %
0	0	0	0	0	0	0	0

PROFILE SUMMARY:

FY 03 (k$)	FY 04 (k$)	FY 05 (k$)	FY 06 (k$)	FY 07 (k$)	FY 08 (k$)	FY 09 (k$)	FY 10 (k$)	FY 11 (k$)	FY 12 (k$)	Total (k$)
0	0	11	11	11	11	11	11	11	11	91

WBS Number: 3.6.3 **Description:** CERN Common Costs

Institution : BNL-common **Contact:** Not available

CERN Common costs for TDAQ

Details of Estimate:
The costs for Maintenance/Repairs, Operations, and Consumables at a US Share of 15.9% are included in the common costs in WBS3.7

U.S. ATLAS % share of activity: 15.90%

Cost Summary: (All)

Base Cost (k$)	Cont Cost (k$)	Cont %	Total Cost (k$)	EDIA Labor (k$)	Mfg Labor (k$)	EDIA Matls (k$)	Mfg Matls (k$)	FTEs All	FTEs Other
0	0	0	0	0	0	0	0	0.0	0.0

CONTINGENCY FACTORS:

Risk				*Weight*			
Technical	C o s t	Schedule	Des i gn	Technical	C o s t	Schedule	Cont %
0	0	0	0	0	0	0	0