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ATLAS Resources Review Board, November 10, 2008

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2008 - 2009 ATLAS Baseline and Cost to Completion Budgets



## CERN-RRB-2008-120

ATLAS Resources Review Board, November 10, 2008

For RRB to take note

# Part 1 Status of the 2008 ATLAS Baseline and Cost to Completion Budgets

## Introduction

The ATLAS management, supported by the ATLAS Executive and Collaboration Boards, kindly invites the RRB to <u>take note</u> of the status of the baseline and cost to completion budgets for 2008.

he RRB approved in October 2007 the 2008 ATLAS budget for construction activities (CERN-RRB-2007-071). The baseline commitments and payments were planned at 4.8 MCHF and 3.0 MCHF, respectively. No C&I (Commissioning and Integration) or CC (Construction Completion) payments were planned at that time. An update of the budgets was presented in April 2008 (CERN-RRB-2008-033, Part 2). The present document provides a further budget status report. All cost to completion payments remain in line with the updated Completion Plan (CERN-RRB-2002-114 rev.; CERN-RRB-2007-016 Table 1).

BASELINE BUDGET
REPORT ELEMENTS

Summary Update

Table References

# 1. Baseline Budget & CC-A Status for 2008

The updated 2008 baseline commitments are estimated at 2.2 MCHF and payments at 2.4 MCHF, respectively. This represents a slight decrease in expected payments w.r.t. the April 2008 update (CERN-RRB-2008-033), due to shift in

payments in TDAQ processors as a consequence of the new machine start-up schedule (collisions in May 2009).

The status of the planned commitments and payments by system/sub-detector and Funding Agencies are presented in **Tables 1 to 3**. The column "m.s. contrib." in Table 3 shows membership fees to be paid by the end of 2008, including both due membership contributions in the baseline budget as defined in the construction MoU (RRB-D 98-44 rev.) as well as the extended membership fees as part of the CC-A. It is reminded that although there are no more Common Fund or Cost to Completion (CtC) payments, contributions remain due for some Funding Agencies. These contributions amount to ca. 10 MCHF.

C&I BUDGET	2. C&I (A and B) Status for 2008
REPORT ELEMENTS	The Commissioning and Integration (C&I) activities
Summary Update	ended in 2007. An update was provided in April 2008
Payment Plan	(CERN-RRB-2007-033, Part 2). Some commitments dating
Table References	back to 2007 or earlier remained open until 2008 and have
	by now been all settled. All payments are within the
endorsed Completion Pla	n (CERN-RRB-2002-114 rev/Annex).

**Table 4** shows the status of expected, so called Category-1 contributions for 2008 from each Funding Agency and system (Categories A and B, both based on CORE sharing) as well as the remaining payments by each system. The expected contributions amount to 63 kCHF and remaining payments 429 kCHF. The negative budget balance contributes to the global budget position shown in Table 7.

CC BUDGET	3. Construction Completion (CC-B) Status for 2008
REPORT ELEMENTS	The Commissioning and Integration (C&I) activities ended
Summary Update	in 2007. There are no outstanding commitments from past
Payment Plan	years. All payments are within the endorsed Completion
Table References	Plan (CERN-RRB-2002-114 rev/Annex). The corresponding
	expected income (so called Category-1) amounts to 312
kCHF. The positive bu	dget balance contributes to the global budget position shown
in Table 7.	

**Table 5** shows the expected contributions for 2008 for each Funding Agency (Category-B).

It should be reminded that today the deferrals scheme has not yet balanced the projected budget position shown in Table 7. The deferral scheme was accepted by the RRB in 2002 as part of the Completion Plan (CERN-RRB-2004-114 rev.) to financially bridge the gap between the planned Cost to Completion payments (68 MCHF) and pledged contributions (initially, 47 MCHF). This is achieved by staging certain baseline detector components, mostly TDAQ processors, thus redirecting originally pledged baseline CORE funds towards completing the initial detector. The staged items will then be restored centrally by the ATLAS management once the received contributions reach 68 MCHF.

The status of received deferral funds is presented in **Table 6**. These contributions are not included in the baseline contribution tables presented earlier.



# Construction during 2008 by Funding Agency

(Commitments, in kCHF)

Funding	Inner	LAr	Tile	Muon	Trigger	Common	total
Agency	Det.	Cal.	Cal.	cham.	/DAQ	Projects	
8 7		I		1		<i>J</i> <u>1</u>	
Argentina						0	0
Armenia						0	0
Australia						0	0
Austria						0	0
Azerbaijan						0	0
Belarus						0	0
Brazil						0	0
Canada						0	0
Chile					180	138	318
China NSFC+MSTC						0	0
Colombia						138	138
Czech Republic						0	0
Denmark						0	0
Finland						0	0
France IN2P3						0	0
France CEA						0	0
Georgia						0	0
Germany BMBF						0	0
Germany DESY					180	0	180
Germany MPI						0	0
Greece						0	0
Israel					40	0	40
Italy						0	0
Japan						0	0
Morocco						0	0
Netherlands						0	0
Norway						0	0
Poland						0	0
Portugal						0	0
Romania						0	0
Russia						0	0
JINR						0	0
Serbia						0	0
Slovak Republic						0	0
Slovenia					95	0	95
Spain						0	0
Sweden						0	0
Switzerland					100	0	100
Taipei						0	0
Turkey						0	0
United Kingdom						0	0
US DOE+NSF					845	0	845
CERN					525	0	525
_	_				r		
from past Common Fun	nd contrib	utions			<u> </u>	0	
441 1 1 4 4			ı	1	100	A= / II	2211
total sub-detector	-	-	-	-	1,965	276	2,241

## Construction during 2008 by Funding Agency

(Payments, in kCHF)

Funding	Inner	LAr	Tile	Muon	Trigger	Common	total
Agency	Det.	Cal.	Cal.	cham.	/DAQ	Projects	
Argentina						0	0
Armenia						29	29
Australia						350	350
Austria					135	0	135
Azerbaijan						0	0
Belarus						0	0
Brazil						63	63
Canada						1500	1500
Chile						138	138
China NSFC+MSTC						0	0
Colombia						138	138
Czech Republic						0	0
Denmark					350	0	350
Finland						0	0
France IN2P3						0	0
France CEA						0	0
Georgia						0	0
Germany BMBF						2	2
Germany DESY						0	0
Germany MPI						0	0
Greece						0	0
Israel					40	250	290
Italy					10	2288	2288
Japan						600	600
Morocco						125	125
Netherlands						0	0
Norway						0	0
Poland						0	0
Portugal						0	0
Romania						0	0
Russia						2597	2597
JINR						440	440
Serbia						0	0
Slovak Republic						0	0
Slovenia					95	0	95
Spain						0	0
Sweden						0	0
Switzerland					100	0	100
Taipei						0	0
Turkey						0	0
United Kingdom						0	0
US DOE+NSF					845	1640	2485
CERN					525	0	525
from past Common Fu			oject pay	ments	[	0 -	
total sub-detector					2,090	10,160	12,250
	-	-				, L	, ,

# Planned CORE Common Project Contributions during 2008 by Funding Agency

(Baseline+CC-A, in kCHF)

### payments

### new commitments needed

Funding	in-kind	cash	m.s.	total	in-kind	Common	total
Agency	contrib.	contrib.	contrib.	contrib.	contrib.	Fund	contrib.
rigency	contro.	contro.	contro.	contrib.	contro.	1 una	contrib.
Argentina	0	0	0	0	0	0	0
Armenia	0	0	29	29	0	0	0
Australia	0	350	0	350	0	0	0
Austria	0	0	0	0	0	0	0
Azerbaijan	0	0	0	0	0	0	0
Belarus	0	0	0	0	0	0	0
Brazil	0	0	63	63	0	0	0
Canada	0	1500	0	1500	0	0	0
Chile	0	0	138	138	0	138	138
China NSFC+MSTC	0	0	0	0	0	0	0
Colombia	0	0	138	138	0	138	138
Czech Republic	0	0	0	0	0	0	0
Denmark	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France IN2P3	0	0	0	0	0	0	0
France CEA	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0
Germany BMBF	0	2	0	2	0	0	0
Germany DESY	0	0	0	0	0	0	0
Germany MPI	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0
Israel	0	250	0	250	0	0	0
Italy	0	2288	0	2288	0	0	0
Japan	0	600	0	600	0	0	0
Morocco	0	50	75	125	0	0	0
Netherlands	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0
Poland	0	0	0	0	0	0	0
Portugal	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0
Russia	0	2247	350	2597	0	0	0
JINR	0	440	0	440	0	0	0
Serbia	0	0	0	0	0	0	0
Slovak Republic	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0	0
Taipei	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
US DOE+NSF	0	1640	0	1640	0	0	0
CERN	0	0	0	0	0	0	0
Common Fund	0	0	0	0			
missing contributions to	meet planne	d project pa	yments	-			
total	-	9,367	793	10,160	-	276	276

# Planned C+I Contributions (cash and in-kind) for ATLAS in 2008 by Funding Agency

(Categories A and B, in kCHF)

Funding Agency	Cat. A		Categ	orv B it	em conti	ribution	s	Total	Total
		Pixel	SCT T			TileC		Cat. B	A+B
	L				1				
Argentina								0	0
Armenia								0	0
Australia								0	0
Austria								0	0
Azerbaijan								0	0
Belarus								0	0
Brazil								0	0
Canada								0	0
China NSFC+MSTC								0	0
Czech Republic								0	0
Denmark			5	50				50	50
France IN2P3								0	0
France CEA	13							0	13
Georgia								0	0
Germany BMBF								0	0
Germany DESY								0	0
Germany MPI								0	0
Greece								0	0
Israel								0	0
Italy								0	0
Japan								0	0
Morocco								0	0
Netherlands								0	0
Norway								0	0
Poland								0	0
Portugal								0	0
Romania								0	0
Russia								0	0
JINR								0	0
Serbia					+			0	0
Slovak Republic					+			0	0
Slovenia						+		0	0
Spain						+		0	0
Sweden								0	0
Switzerland								0	0
Taipei								0	0
Turkey								0	0
United Kingdom								0	0
US DOE + NSF								0	0
CERN		+				1		0	0
CERIN					ı	1	l	U	U
total contributions	13	0	0 5	0 0	0	0	0	50	63
other income*								0	0
						1		u ~	
total payments				231	4		194	429	429
balance									(366)

#### Notes:

<sup>\*</sup>Funds available either in baseline or by using deferral funds or contribution advancements Cost sharing based on CORE contributions

# Planned CC-B Contributions (cash and in-kind) for ATLAS in 2008 by Funding Agency (in kCHF)

Funding Agency		Cat	tegory	B iter	n contr	ibutions	S	Total
	Pixel						Muon	Cat. B
							1	
Argentina								0
Armenia								0
Australia								0
Austria								0
Azerbaijan								0
Belarus								0
Brazil								0
Canada								0
Chile								0
China NSFC+MSTC								0
Colombia								0
Czech Republic								0
Denmark			10					10
France IN2P3								0
France CEA					213		60	273
Georgia								0
Germany BMBF								0
Germany DESY								0
Germany MPI								0
Greece								0
Israel								0
Italy								0
Japan								0
Morocco					3			3
Netherlands								0
Norway								0
Poland								0
Portugal						13		13
Romania								0
Russia								0
JINR					13			13
Serbia								0
Slovak Republic								0
Slovenia								0
Spain								0
Sweden								0
Switzerland								0
Taipei								0
Turkey								0
United Kingdom								0
US DOE + NSF								0
CERN								0
total contributions	0	0	10	0	229	13	60	312
other income*							, 	0
omei meome								
total payments								0
balance								312

## Notes:

<sup>\*</sup>Funds available either in baseline or by using deferral funds or contribution advancements

# Status of Deferral Contributions (cash and in-kind) for ATLAS by Funding Agency (in kCHF)

(August 31, 2008)

Funding Agency	Contr	ibution		Deferral o		on alloc				Tota
Pixel	Pixel	TDAQ	Magnets	LArCC Infrast	r. ID	LAr	TileC	Muon	TDAQ	allo
Argentina					П					0
Armenia										0
Australia					+					0
Austria		100	100							10
Azerbaijan		100	100		+					0
Belarus					+					0
Brazil					+					0
Canada										0
China NSFC+MSTC										0
Czech Republic					+					0
Denmark		500	500							50
France IN2P3	380	200	380		+	1				38
France IN21 3	300	$\vdash$	300		+	+				0
Georgia		+			+	1				0
Georgia Germany BMBF	810	780	915		+	+		275	400	159
Germany DESY	010	700	713		+			213	400	0
Germany MPI					+					0
Greece					+					0
Israel					+					0
Israer Italy		605							605	60:
•		750	750						003	75
Japan Morocco		750	730							0
		325	225							32
Netherlands		325	325							
Norway										0
Poland		50								0
Portugal		50	50							50
Romania										0
Russia										0
JINR										0
Serbia										0
Slovak Republic										0
Slovenia										0
Spain						1				0
Sweden		2000				02:				0
Switzerland		2000		77	1089	834				200
Taipei										0
Turkey		150	150							15
United Kingdom		1110	1110							111
US DOE + NSF		100							100	10
CERN		2950	2950							295
total contributions	1,190	9,420	7,230	0 77	1,089	834	0	275	1105	10,61
wai wiii wullons	1,170	2,740	1,230	0 //	1,009	034	U	413	1103	10,01

#### Notes:

Deferral scheme as part of the Cost to Completion Plan (CERN-RRB-2002-114 rev.)
Deferral funds refer to resources allocated to original CORE obligations now staged
Total of approved deferral funding is 13 MCHF for TDAQ and 2 MCHF for Pixels
Resources directed back to TDAQ reduce the available cash accordingly
The deferral contributions will be included in the final CORE baseline payments report



## CERN-RRB-2008-120

ATLAS Resources Review Board, November 10, 2008

For RRB approval

# Part 2 Request for 2009 ATLAS Baseline and Cost to Completion Budgets

## Introduction

The ATLAS management, supported by the ATLAS Executive and Collaboration Boards, kindly invites the RRB to <u>approve</u> the 2009 baseline and cost to completion budgets.

he budget request for the ATLAS detector construction baseline expenses in 2009 amounts to 2.0 MCHF in commitments and 2.1 MCHF in payments, respectively. There are no planned Commissioning and Integration (C&I) or Construction Completion (CC) costs in 2009 (activities were completed in 2007).

The temporary cumulative budget deficit up to 3 MCHF projected by the end of 2008 could be fully recovered in 2009 if all expected contributions were received. More details on remaining contributions from each Funding Agency are provided in **Annex 2**. Negotiations continue with the Funding Agencies to obtain these contributions as soon as possible.

BASELINE BUDGET	1. Baseline Budgets for 2009
REPORT ELEMENTS	Concerning the initial detector configuration, the only
Budget summary	remaining activity is related to the TDAQ system.
Activity Description	TI 2000 1 1: '' ' 1 1 1 ( ) ( )
Table References	The 2009 baseline commitments and payments for the
	detector systems are budgeted at 2.0 MCHF and 2.1 MCHF,
respectively. The cost of	lriver is the purchase of the trigger processors for the High
Level Trigger system.	

## **Detector (sub) system construction:**

All detector (sub) system and Common Project-related baseline activities were finished in 2007. From 2008 onwards, all common activities have been fully covered by the M&O-A budget. In 2008, only due Common Fund and Cost to Completion contributions remained to cover past payments.

The ATLAS management has reported additional manpower costs outside the agreed financial framework at a level of about 0.2 MCHF per month since August 2007, following delays in the foreseen machine start-up. The final share related to construction amounts to 1.9 MCHF. It is covered by CERN in the understanding it is

reimbursed by ATLAS once the deferred funds become available. This will correspondingly reduce the volume of the restored TDAQ HLT processors.

**Table 7** shows the global budget balance. There is a slight improvement w.r.t the situation in April, 2008 (CERN-RRB-2008-033) as Canada has confirmed the payment of the 1.5 MCHF by 2011. Table 7 includes the present total CtC costs of 72.6 MCHF but not any additional manpower costs of 1.9 MCHF generated by machine delays as discussed above. The temporary, cumulative budget deficit of ca. 3 MCHF projected by the end of 2008 would return to zero if all currently pledged contributions were received now, including the deferral funds. At present, the following expected baseline Common Fund contributions have not yet been received: Russia (2.5 MCHF), US (1.0 MCHF), Canada (1.5 MCHF), JINR (0.5 MCHF) and Morocco (0.1 MCHF). ATLAS management remains confident that some of the above contributions will become available soon, the others on a longer time scale up to 2011.

It should be stressed that unless the required contributions are secured soon, ATLAS is left with no other choice than to further stage parts of the initial detector, in particular TDAQ processors.

The ATLAS management urges Funding Agencies to make their remaining baseline and cost to completion contributions as soon as possible. In parallel, the ATLAS management continues seeking ways to shift payments as much as it can. If no other solution is found, new commitments will not be made until funding is available. This would certainly result in sub-optimal running of the TDAQ system.

Table 7. Evolution of the ATLAS Budget Balance (MCHF)

PAYMENTS	95-01	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Baseline + CC(A)	231	71	56	52	43	29	19	2	3	2	509
of which deferrals					-3	-2	-4				-9
C&I (A+B)	0	1	3	4	9	2	1	0			21
CC (B)		1	1	1	4	2	3				12
TOTAL	231	73	61	57	54	30	19	3	3	2	532
INCOME	95-01	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Baseline + CC(A)	252	65	55	54	33	15	13	5	3	2	496
C&I (A+B)		1	9	3	4	4	2	0			23
CC (B)		2	4	2	1	2	0	0			11
TOTAL	252	68	68	59	38	20	15	6	3	2	530
BUDGET BALANCE	21	-5	7	2	-15	-11	-4	3	0	0	-2
CUMULATIVE	21	15	23	25	9	-1	-6	-3	-2	-2	
CUMULATIVE (APRIL 2008)	21	15	23	25	9	-1	-6				

Details of the budget estimates for 2009 by system/sub-detector and Funding Agencies are presented in **Tables 8 to 10**. There are no planned C&I or CC activities in 2009 as all these activities have finished in 2007.

# **Construction during 2009 by Funding Agency**

(Commitments, in kCHF)

Funding	Inner	LAr	Tile	Muon	Trigger	Common	total						
Agency	Det.	Cal.	Cal.	cham.	/DAQ	Projects							
	•	•	•	•		, ,	•						
Argentina						0	0						
Armenia						0	0						
Australia						0	0						
Austria						0	0						
Azerbaijan						0	0						
Belarus						0	0						
Brazil						0	0						
Canada						0	0						
Chile						0	0						
China NSFC+MSTC						0	0						
Colombia						0	0						
Czech Republic					20	0	20						
Denmark					20	0	0						
Finland						0	0						
France IN2P3						0	0						
France CEA						0	0						
Georgia						0	0						
Germany BMBF						0	0						
Germany DESY						0	0						
Germany MPI						0	0						
Greece						0	0						
Israel						0	0						
Italy						0	0						
Japan						0	0						
Morocco						0	0						
Netherlands						0	0						
Norway						0	0						
Poland						0	0						
Portugal					150	0	150						
Romania					130	0	0						
Russia						0	0						
JINR						0	0						
Serbia Serbia						0	0						
Slovak Republic						0	0						
Slovak Kepublic Slovenia						0	0						
Spain						0	0						
Sweden						0	0						
Switzerland					830	0	830						
Taipei					030	0	0						
Turkey						0	0						
United Kingdom						0	0						
US DOE+NSF						0	0						
CERN					1045	0	1045						
CEMI		<u>I</u>	<u> </u>	<u>I</u>	1043	U	1040						
from nact Common Eu	from past Common Fund contributions 0												
11 om past Common Ful	na contin	unons				U							
total sub-detector	_	_	_	_	2,045	_	2,045						
total sub-detector		_		_	4,045	-	4,045						

## Construction during 2009 by Funding Agency

(Payments, in kCHF)

Funding	Inner	LAr	Tile	Muon	Trigger	Common	total
Agency	Det.	Cal.	Cal.	cham.	/DAQ	Projects	
8)					,		
Argentina						0	0
Armenia						0	0
Australia						0	0
Austria						0	0
Azerbaijan						0	0
Belarus						0	0
Brazil						0	0
Canada						0	0
Chile					180	0	180
China NSFC+MSTC						0	0
Colombia						0	0
Czech Republic					20	0	20
Denmark						0	0
Finland						0	0
France IN2P3						0	0
France CEA						0	0
Georgia						0	0
Germany BMBF						0	0
Germany DESY						0	0
Germany MPI						0	0
Greece						0	0
Israel						0	0
Italy						0	0
Japan						0	0
Morocco						0	0
Netherlands						0	0
Norway						0	0
Poland						0	0
Portugal						0	0
Romania						0	0
Russia						0	0
JINR						0	0
Serbia						0	0
Slovak Republic						0	0
Slovenia						0	0
Spain						0	0
Sweden						0	0
Switzerland					830	0	830
Taipei						0	0
Turkey	_					0	0
United Kingdom	_					0	0
US DOE+NSF						0	0
CERN					1045	0	1045
from past Common Fu missing contributions t			oiect pav	ments	]	0	
total sub-detector		<b>F</b> -	- <b>JFJ</b>	 l -	2,075		2,075
TOTAL SUN UCTOCOT	<u> </u>	I	1	1	-,010		2,075

# Planned CORE Common Project Contributions during 2009 by Funding Agency

(Baseline+CC-A, in kCHF)

### payments

### new commitments needed

Funding	in-kind	cash	m.s.	total	in-kind	Common	total					
Agency	contrib.	contrib.	contrib.	contrib.	contrib.	Fund	contrib.					
rigency	contro.	contro.	contro.	contribi	contro.	Tuna	contrib.					
Argentina	0	0	0	0	0	0	0					
Armenia	0	0	0	0	0	0	0					
Australia	0	0	0	0	0	0	0					
Austria	0	0	0	0	0	0	0					
Azerbaijan	0	0	0	0	0	0	0					
Belarus	0	0	0	0	0	0	0					
Brazil	0	0	0	0	0	0	0					
Canada	0	0	0	0	0	0	0					
Chile	0	0	0	0	0	0	0					
China NSFC+MSTC	0	0	0	0	0	0	0					
Colombia	0	0	0	0	0	0	0					
Czech Republic	0	0	0	0	0	0	0					
Denmark	0	0	0	0	0	0	0					
Finland	0	0	0	0	0	0	0					
France IN2P3	0	0	0	0	0	0	0					
France CEA	0	0	0	0	0	0	0					
Georgia	0	0	0	0	0	0	0					
Germany BMBF	0	0	0	0	0	0	0					
Germany DESY	0	0	0	0	0	0	0					
Germany MPI	0	0	0	0	0	0	0					
Greece	0	0	0	0	0	0	0					
Israel	0	0	0	0	0	0	0					
Italy	0	0	0	0	0	0	0					
Japan	0	0	0	0	0	0	0					
Morocco	0	0	0	0	0	0	0					
Netherlands	0	0	0	0	0	0	0					
Norway	0	0	0	0	0	0	0					
Poland	0	0	0	0	0	0	0					
Portugal	0	0	0	0	0	0	0					
Romania	0	0	0	0	0	0	0					
Russia	0	0	0	0	0	0	0					
JINR	0	0	0	0	0	0	0					
Serbia	0	0	0	0	0	0	0					
Slovak Republic	0	0	0	0	0	0	0					
Slovenia	0	0	0	0	0	0	0					
Spain	0	0	0	0	0	0	0					
Sweden	0	0	0	0	0	0	0					
Switzerland	0	0	0	0	0	0	0					
Taipei	0	0	0	0	0	0	0					
Turkey	0	0	0	0	0	0	0					
United Kingdom	0	0	0	0	0	0	0					
US DOE+NSF	0	0	0	0	0	0	0					
CERN	0	0	0	0	0	0	0					
Common Fund	0	0	0	0								
missing contributions to meet planned project payments -												
total	_	-	-									

Funding Agency					C&I	(A)					Calc.					C&I	(B)					Calc.	Invoice	Calc.	1
	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Total	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Total	Total	G.Total	
Argentina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Armenia	0	0	0	0	0	0	0	0	0	0	5	3	4	0	0	0	0	0	0	0	7	13	7	18	
Australia	0	0	0	0	0	56	0	0	0	56	56	13	17	0	0	0	29	0	0	0	59	59	115	115	
Austria	0	5	6	4	0	0	0	0	0	15	15	0	0	0	0	0	0	0	0	0	0	0	15	15	
Azerbaijan	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	
Belarus	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10	
Brazil	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	1	11	1	15	
Canada	0	0	0	336	0	0	0	0	0	336	336	0	71	0	155	0	0	0	0	0	226	226	562	562	
Chile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
China NSFC+MSTC	0	7	8	5	0	0	0	0	0	20	20	0	10	9	3	0	0	0	0	0	22	22	42	42	
Colombia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Czech Republic	2	9	20	0	0	0	0	0	0	31	31	14	33	22.7	19.3	0	0	0	0	0	89	89	120	120	
Denmark	0	0	0	0	0	0	0	0	0	0	71	10	0	0	0	0	0	50	0	0	60	60	60	131	
rance IN2P3	0	0	0	11	740	0	0	0	0	751	865	54	40	146	238	372	0	0	0	0	850	850	1601	1715	
France CEA	0	0	0	0	245	0	13	0	0	258	295	0	0	0	0	0	265	0	0	0	265	265	523	560	1
Georgia	0	0	0	0	0	4	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	4	4	
Germany BMBF	252	0	18	454	0	0	0	0	0	724	724	253	0	183	16	105	0	0	0	0	557	557	1281	1281	
Germany DESY	0	0	0	0	0	0	0	0	0	0	724	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	1
Germany MPI	0	44	69	54	0	0	0	0	0	167	167	36	34	45	44	1	0	0	0	0	160	165	327	332	
Greece	0	0	0	0	0	36	0	0	0	36	36	0	0	0	0	0	52	0	0	0	52	52	88	88	
srael	0	0	0	0	106	0	0	0	0	106	107	14	72	50	0	0	0	0	0	0	136	135		242	
taly	0	350	206	205	205	0	0	0	0	966	1007	0	418	93	190	262	0	0	0	0	963	980	1929	1987	
•		330			203	0		-	0								0	0	0	0				1333	
apan	0	0	247 0	436		0	0	0	0	683 0	683	0	0	290 0	360 0	0	0	0	0	0	650 0	650 6	1333	1000	1
Morocco		-		0	0	-			v		241	0					-			0		-			1
Netherlands	0	118	141	82	0	0	0	0	0	341	341	34	65	83	43	0	0	0	0	0	225	225	566	566	
Norway	0	32	38	22	0	0	0	0	0	92	92	23	29	26	20	0	0	0	0	0	98	98	190	190	
Poland	0	0	0	0	20	0	0	0	0	20	20	2	0	0	0	2	0	0	0	0	4	22	24	42	
Portugal	0	0	0	38	6	0	0	0	0	44	46	3	0	0	60	72	0	0	0	0	135	135	179	181	
Romania	0	0	0	15	0	0	0	0	0	15	15	0	0	29	11	0	0	0	0	0	40	40	55	55	
Russia	150	320	220	398	0	0	0	0	0	1088	408	28	122	0	65	91	0	0	0	0	306	588	1394	996	
IINR	0	0	0	0	0	0	0	0	0	0	117	48	78	144	62	0	0	0	0	0	332	289	332	406	
Serbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Slovak Republic	0	0	0	0	0	0	0	0	0	0	11	10	36	0	0	0	0	0	0	0	46	8	46	19	
Slovenia	0	0	0	0	36	0	0	0	0	36	36	0	0	0	0	35	0	0	0	0	35	35	71	71	
Spain	0	0	163	53	0	0	0	0	0	216	220	22	55	211	83	10	0	0	0	0	381	381	597	601	
Sweden	0	83	99	57	0	0	0	0	0	239	239	45	90	0	0	195	0	0	0	0	330	330	569	569	
Switzerland	0	0	0	0	433	0	0	0	0	433	433	3	0	0	0	235	0	0	0	0	238	238	671	671	
Гаіреі	0	22	27	16	0	0	0	0	0	65	65	8	26	12	15	0	0	0	0	0	61	61	126	126	
Turkey	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10	1
United Kingdom	0	0	250	250	232	32	0	0	0	764	764	0	269	174	116	0	0	0	0	0	559	559	1323	1323	
US DOE + NSF	0	0	0	0	0	1500	0	0	0	1500	1807	51	25	0	0	0	0	0	0	0	76	2001	1576	3808	
CERN	111	5485	0	0	0	0	0	0	0	5596	1428	199	1081	0	0	80	0	0	0	0	1360	1260	6956	2688	]
<u>-</u>									•	•											•				
otal	515	6475	1512	2436	2023	1628	13	0	0	14602	10496	874	2575	1518	1500	1460	346	50	0	0	8323	10410	22925	20906	1
olouloted total	965	2775	1211	2515	0				0 1	10406	0	1405	2770	2275	2025	25					10410	1			-
calculated total	865	2775	4341	2515	0				0	10496	0	1405	2770	3375	2825	35					10410				
								Ç	%		139									%	80				
Actual payments	332	1425	1474	6696	352	5					10284	376	1710	1978	2366	1972	548					8950	1		

balance cumulative

#### ACTUAL & PLANNED INCOME FOR ATLAS CONSTRUCTION COMPLETION (kCHF)

Annex 1

Funding Agency					CC	(A)					Calc.					CC (	(B)					Calc.	Invoice	Calc.	
	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Total	2002	2003	2004	2005	2006	2007	2008	2009 2	2010 To	tal	Total	Total	G.Total	
Argentina	0	0	0	0	0	75	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	75	0	
Armenia	0	0	0	0	9	0	29	0	0	38	38	0	0	0	0	0	0	0	0	0	0	10	38	48	
Australia	0	0	0	50	25	115	0	0	0	190	190	10	14	11	0	0	17	0	0	0	52	52	242	242	
Austria	0	12	14	13	13	0	0	0	0	52	52	0	0	0	0	0	0	0	0	0	0	0	52	52	
Azerbaijan	0	0	20	0	0	18	0	0	0	38	38	0	0	0	0	0	0	0	0	0	0	0	38		
Belarus	0	0	0	0	0	75	0	0	0	75		0	0	0	0	0	0	0	0	0	0	0	75		
Brazil	0	0	0	0	0	0	38	0	0	38	38	2	0	0	0	0	0	0	0	0	2	9	40	47	
Canada	0	0	87.5	212	411	428	0	0	0	1138.5	1139	32	177	0	180	0	0	0	0	0	389	389	1527.5	1528	
Chile	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	0	0	0	0	0		0	38	0	
China NSFC+MSTC	0	25	18	13	13	0	0	0	0	69	69	0	9	13	6	2	0	0	0	0	30	30	99	99	Profile as calculated
Colombia	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	0	0	0	0	0		0	38	0	
Czech Republic	22	98	0	0	0	0	0	0	0	120	113	16	33	26	1	0	0	0	0	0	76	83		196	As calculated total, 100k/year 2003-2006
Denmark	0	0	38	0	0	0	0	0	0	38	242	0	0	10	0	0	0	10	0	0	20	49	58	291	·
France IN2P3	0	730	520	912.5	62.5	710	0	0	0	2935	2935	569	0	116	370	145	155	0	0	0 1	1355	1241	4290	4176	
France CEA	0	300	712	13	13	0	0	0	0	1038	1001	21	30	0	0	0	55	273	0	0	379	379	1417	1380	
Georgia	0	0	0	0	25	13	0	0	0	38	38	0	0	0	0	0	0	0	0	0	0	0	38	38	
Germany BMBF	1992	0	0	0	458	0	2	0	0	2452	2452	430	368	0	0	0	0	0	0	0	798	798	3250	3250	
Germany DESY	0	0	0	0	38	0	0	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	38	0	
Germany MPI	122	290	0	100	58	0	0	0	0	570	570	61	51	82	2	0	0	0	0	0	196	191	766	761	
Greece	0	0	0	0	75	46	0	0	0	121	121	0	0	0	0	0	52	0	0	0	52	52	173	173	
Israel	0	0	37	38	288	0	0	0	0	363	363	6	128	0	0	0	0	0	0	0	134	134		497	
Italy	80	350	80	160	151	0	2288	0	0	3109	3418	14	393	323	267	253	0	0	0	0 :	1250	1233	4359	4651	
Japan	0	0	1438	229	750	0	0	0	0	2417	2417	0	0	212	400	0	0	0	0	0	612	612	3029	3029	
Morocco	0	0	12	13	0	0	13	0	0	38	38	Ö	0	0	1	0	0	3	0	0	4	9	42	47	
Netherlands	ő	0	25	1107	25	ő.	0	ő	0	1157	1157	22	34	101	41	13	Ö	0	0	Ö	211	211	1368	1368	
Norway	0	187	18	25	41	40	0	0	0	311	311	22	33	21	4	0	0	0	0	0	80	80		391	Profile (A) changed as in letter RCN 24.9.03
Poland	ő	0	25	25	46	0	0	0	0	96	75	3	0	0	0	0	5	0	0	Ö	8	19	104	94	
Portugal	0	0	15	12	21	2	0	0	0	50	155	0	0	0	73	0	24	13	0	0	110	110	160	265	
Romania	0	15	0	37	0	0	0	0	0	52	52	0	0	17	16	0	0	0	0	0	33	33			All In-kind
Russia	ő	0	0	0	0	0	263	0	0	263	1381	36	12	3	0	51	0	0	0	Ö	102	614		1995	
JINR	0	0	12	0	0	25	0	0	0	37	397	3	76	58	0	2	0	13	0	0	152	263		660	
Serbia	ő	163	0	137	0	0	0	0	0	300	0	0	0	0	0	0	0	0	0	Ö	0	0	300	0	
Slovak Republic	0	0	15	15	1	0	0	0	0	31	39	5	0	0	0	0	0	0	0	0	5	14		53	
Slovenia	0	0	12	13	35	61	0	0	0	121	121	0	0	0	0	19	0	12	0	0	31	31		152	
Spain	ő	0	446	258	38	0	0	0	0	742	738	58	54	242	13	0	0	0	0	Ö	367	367	1109		
Sweden	0	441	213	157	0	0	0	0	0	811	811	45	131	0	0	135	0	0	0	0	311	311	1122	1122	
Switzerland	ő	1213	225	12	13	12	0	0	0	1475	1475	21	61	0	0	144	0	0	0	0	226	226	1701	1701	
Taipei	0	134	59	18	13	0	0	0	0	224	224	10	42	27	12	4	0	0	0	0	95	95	319	319	
Turkey	0	0	25	25	25	0	0	0	0	75		0	0	-0	0	0	0	0	0	0	0	0	75	75	
United Kingdom	0	0	613	433	322	1222	0	0	0	2590	2590	137	195	121	21	0	0	0	0	0	474	474		3064	
US DOE + NSF	0	1830	232	723	883	0	173	0	0	3841	6129	156	914	778	0	435	0	0	0	0 3	2283	2308	6124	8437	
CERN	978	4523	0	0	0	0	0	0	0	5501	8927	294	949	0	0	0	0	0	0		1243	1243	6744	10170	
total	3194	10311	4912	4751	3853	2842	2882	0	0	32744	40004	1973	3704	2161	1407	1203	308	324	0	0 1	1080	11670	43824	51674	
calculated total	9550	11900	9350	4700	100	4400			1	40000	4	2510	2945	4035	1645	535				0 1	1670	0			
								G	%		 								%	- 1		-			
									70	82									%		95				
Actual payments	8415	4490	3690	5940	6962	10503				40000		1126	1007	1044	4207	1941	3026			13	2351				
Income-actual payments	-5221	5821	1222	-1190	-3110	-7661				-7257		847	2697	1117	-2800	-738 -	-2718			-1	1271				

balance cumul.

		Construction	MoU obligat	ions (kCHF)		l F	CC and	C&I accepte	d (kCHF)	Grand Part not yet				Additional
		detec	tors	CF		ΙĪ				total	pled	ged	co	ontributions
Funding	total	remaining	remaining	remaining	total	Ιſ	total	remaining	total	committed				(CtC-2)
Agency	paid	deliverables	deferrals	contrib.	CMoU	Ιl	paid	contrib.	committed	(CORE-CC-C&I)	CC	C&I		
Argentina	200	1			200	ı [	75	1	75	275				
Armenia	195				195	ıŀ	16	29	45	240	10	11	-	
Australia	2145			350	2495	ıŀ	357		357	2852	10	- 11	-	
Austria	460	40	50		550	Ιŀ	80		80	630				
Azerbaijan	100	.0			100	Ιŀ	38		38	138		4		
Belarus	200				200	H	75		75	275		10		
Brazil	160			25	185	H	3	38	41	226	7	14		
Canada	13575			1500	15075	H	2090		2090	17165				
Chile	100.0	180		100	285	Ιŀ		38	38	323				
China NSFC+MSTC	1575				1575	H	141		141	1716				
Colombia				100	100	ıŀ		38	38	138			<b>—</b>	
Czech Republic	1610		35	100	1645	Ιŀ	316		316	1961				
Denmark	3195	105			3300	Ιŀ	58		58	3358	243	121		
Finland	100	100			100	ıŀ			- 20	100			<b>—</b>	
France IN2P3	39080				39080	Ιŀ	5891		5891	44971				
France CEA	13679				13679	ıŀ	1667	273	1940	15619				
Georgia	100				100	ıŀ	38	2.0	38	138		4		
Germany BMBF	32568				32568	ıŀ	4529	2	4531	37099		_	_	
Germany DESY	100				100	ıŀ	38	-	38	138				
Germany MPI	7545				7545	ıŀ	1093		1093	8638			_	
Greece	1725				1725	H	261		261	1986			$\vdash$	
Israel	4785			250	5035	H	739		739	5774			$\vdash$	
Italy	43185		1925	250	45110	H	4000	2288	6288	51398	292	58	$\vdash$	
Japan	31575		1723	600	32175	ıŀ	4362	2200	4362	36537	272	30	-	
Morocco	243			113	355	ıŀ	26	16	42	397	5	10	-	
Netherlands	12115			113	12115	ıŀ	1934	10	1934	14049		10	-	
Norway	4120				4120	ıŀ	581		581	4701			-	
Poland	965				965	ıŀ	123		123	1088	6	2	-	
Portugal	1930	150	100		2180	ıŀ	326	13	339	2519	105	2	-	
Romania	550	130	100		550	ıŀ	140	13	140	690	103		-	
Russia	15920			2335	18255	ıŀ	1496	263	1759	20014	1232		-	
JINR	7340	100		440	7880	ıŀ	508	13	521	8401	471	74	-	
Serbia	7340	100		440	7000	ıŀ	300	13	300	300	4/1	/	-	
Slovak Republic	550				550	ıŀ	82		82	632			-	
Slovak Kepublic	1540				1540	ıŀ	171	12	183	1723			-	
Spain	9775				9775	ιŀ	1706	14	1706	11481	<b>-</b>	$\vdash$	-	
Sweden	10800				10800	1 }	1691		1691	12491	-		$\vdash$	
Switzerland	17645	860			18505	1 }	2372		2372	20877	-		$\vdash$	
Taipei	3000	500			3000	ıŀ	445		445	3445	<b>-</b>		$\vdash$	
Turkev	350				350	ıŀ	75		75	425	-	10	$\vdash$	
United Kingdom	34100				34100	1 }	4387		4387	38487	-	10	$\vdash$	
US DOE+NSF	77030	255	1983	1467	80735	ıŀ	7527	173	7700	88435	-		$\vdash$	
CERN	58310	1205	1703	1407	59515	1 }	9300	1/3	9300	68815	-		$\vdash$	4400
CLICY	20210	1200	ļ		57515	, L	7500		7500	00012	<u> </u>	<u> </u>	_	4400
		I	1										_	
TOTAL	454140	2895	4093	7280	468412	ıl	59057	3196	62253	530665	2371	320		4400
			of which for	CtC	-5918	ĺ			5918				Г	0
A . 9.11. 6			m . 11 "		462407		nnn	4.10(0(2)	(0150	nnn	T(C) (2)			4400
Available for payments			Total baseline	available	462495	ı L	RRB accept	ted CtC(1)	68170	RRB accepted	AC (2)			4400
Notes											Grand	total		535065

- 1. Column 'Total Paid' in Construction MoU is renormalized, includes also the deferral contributions made so far
- Column Total Paid' in Construction MoU is renormalized, includes also the deferral contributions made so far
   Total CMoU refers to updated CORE construction figures (March 2008)
   Original TDR detector staged for 21 MCHF of which < 14.5 MCHF (deferrals) can be used for covering cost over-runs</li>
   Sharing between BMBF/MPI and RF/JINR based on CORE MoU
   CEA has contributed 1 MCHF to CF over and above its original MoU share (not shown here)
   Risk of missing contributions in CF is 4.7 MCHF (Russia&JINR 3.0 MCHF, Morocco& other 0.2 MCHF)
   Remaining US C&I contribution of 4.5 MCHF is agreed on a best effort basis