ACTIVITY/ SYSTEMS STATUS OVERVIEW OF THE ATLAS TRIGGER/DAQ.

AGENDA

This paper gives the organizational details of the Activity/Systems Status Overview (ASSO) as planned for the ATLAS Trigger/DAQ System to be held on October 16th 2001 in 60-6-002 at CERN.

Prepared by :	*Checked by :*	*Approved by :*
M.Nessi, Ph. Farthouat	**D. Lissauer**	**M. Nessi**

for information, you can contact :	**M. Nessi** **Ph. Farthouat**	Tel. +41.22.767. 2470 +41.22.767.6221	Fax. +41.22-767-8350	E-Mail M.Nessi@cern.ch philippe.farthouat@cern.ch

Distribution: EB Members, TC Members, all participants mentioned in the report.

1 PURPOSE OF THIS STATUS OVERVIEW

The objective of such a status overview, as defined and outlined in general terms in document ATC-R-ER-0002, EB-00-026, is to go over all Activities with the Systems and find out the overall status of each of them.

The first set of reviews will be used to give the incoming Technical Coordinator and his team a way to identify problems in a speedy fashion. The review should benefit the systems and activity leaders as well as TC. It should allow the activity/system leader to give an accurate picture on the status and the performance of the activity/system.

2 MEMBERS OF THE REVIEW COMMITTEE

Review committee:	Ex officio TC:	Ex officio Management:
B. Cleland	M. Hatch	M. Nessi
K. Einsweiler	D. Lissauer	P. Jenni
M. Nessi, Chair	P. Schmid	T. Åkesson
G. Polesello	J. Inigo-Golfin	M. Nordberg
	D. Schinzel	
	Ph. Farthouat	
		TDAQ team

For information:	ATLAS TC team:	*General distribution list*
R. Leitner	B. Szeless	
G. Mikenberg	O. Beltramello	
H. ten Kate	GP. Benincasa	
S. Stapnes	F. Dittus	
H. Oberlack	M. Kotamaki	
	H. Schmücker	

To prepare the session several members of the TC team will discuss and work through the relevant subjects with the different members of the tile team (see agenda, par. 4), who will present the status at the review. Their questions and answers should be collected in a common questionnaire.

The review chair, together with the review team, will produce a written report for the project management with observations and recommendations. Main part of the report will consist of action items to be followed up by the PL and TC.

3 SCOPE OF THE REVIEW

A general guideline for the points to be addressed is given in the paper on ASSO, ref. above, but in particular also the following points should be addressed:

- Status of design and production of electronics and software packages
- Project schedule and reporting, manpower issues
- Documentation and configuration control
- Quality Assurance Plan and effective implementation, data base
- Interface issues

4 AGENDA

Oct. 16th '01 in 60-6-002

1.	Closed Session of the reviewers		8:30-9:00
2.	Introduction	M. Nessi	9:00-9:05
3.	TDAQ/DCS project organisation	A. Lankford	9:05-9:35
4.	LVL1 overview, schedule and milestones	N. Ellis	9:35-10:00
5.	LVL1 project status		10:00-11:00

- Calorimeter trigger preprocessor   P. Hanke
- Calorimeter trigger cluster processor
  and jet/energy processor   A. Gillman
- Muon barrel trigger   S. Veneziano
- Muon endcap trigger   O. Sasaki
- Central trigger processor, muon
  interface, and TTC system   R. Spiwoks

6.	Coffee break		11:10-11:20
7.	LVL1 reviews and follow up	N. Ellis	11:20-11:30
8.	HLT/DAQ project status (up to TDR)		11:30-15:45

- Dataflow System overview   A. Lankford   15'
- Readout Subsystem   D. Francis   25'
- Data Collection Subsystem   H.P. Beck   25'
- HLT Dataflow Subsystem   C. Bee   25'
- Online Software System   R. Jones   25'
- Physics & Event Selection System   S. Tapprogge   20'
- Detector Control System interface
  to DAQ   H. Burckhart   10'

9.	Lunch		12:30-14:00
10.	HLT/DAQ project status (up to TDR) continuation		14:00-15:45
11.	HLT/DAQ planned reviews (up to TDR)	A. Lankford	15:45-16:00
12.	TDAQ/DCS documentation and QA plans	F. Wickens	16:00-16:15
13.	TDAQ/DCS project schedule after TDR	A. Lankford	16:15-16:45
14.	Interfaces and overall integration questions	A. Lankford	16:45-17:00
15.	Resources	F. Wickens	17:00-17:30
16.	Reviewer Closed session		17:30-18:30
17.	Review Follow up next day Oct 17th (Joint meeting of the ATLAS Management and the TDAQ Project Leader + TDAQ IB chair to discuss the outcome of the Review and action items)		

5 EXPANDED AGENDA AND GUIDELINES

For each agenda topic a contact person in TC and a contact person in the project are given. An expanded list of what should be covered is given for each major topic.

5.1   TDAQ/DCS ORGANIZATION
         TC CONTACT: M.NESSI.   PROJ: A.LANKFORD.

An overview of the system shall be given as well as the project organisation. The responsibilities for each component must be clearly stated as well as the reporting lines. The implementation of the organisation and lines of responsibility in PPT should be shown. Experience with PPT, if any, should be reported.

5.2   LVL1 OVERVIEW, SCHEDULE AND MILESTONES
         TC CONTACT: M.KOTAMAKI.   PROJ: N.ELLIS.

An overview of the system and subproject organisation shall be given. Interfaces to other systems will be identified. The baseline schedule for the Level I (including PPT Work Packages) must be presented. Critical path items must be identified. Float should be discussed. QA management and status and implementation of EDMS should be presented.

5.3   LVL1 PROJECT STATUS
         TC CONTACT: B.CLELAND.   PROJ: SEVERAL

Items that were identified to be on the critical path in the Schedule discussion should be discussed in some detail. In addition the following points should be addressed for the major components:

- Status of each of the Major components;
- Interface to other systems;
- Milestones;
- Performance results or issues.

5.4   LVL1 REVIEWS AND FOLLOW UP
         TC CONTACT: PH.FARTHOUAT. PROJ: N.ELLIS.

A short summary of the main action items from previous reviews and the list of upcoming reviews must be given.

5.5   HLT/DAQ PROJECT STATUS
         TC CONTACT: PROJ: SEVERAL

Only time up to the TDR is considered in this section. For each of the main components (sub-projects) the following points must be addressed:

- Specification and interface to other components or systems;
- Organisation and responsibilities;
- Reporting line;
- Status of the sub-project;
- Plan for implementation in PPT;
- Sub-project schedule and milestones;
- Identification of critical path items;
- Performance results.

5.6   HLT/DAQ PLANNED REVIEWS
         TC CONTACT: PH. FARTHOUAT.   PROJ: A.LANKFORD.

Short summary of the main action items from previous reviews and list of upcoming reviews up to the TDR.

5.7 TDAQ/DCS PROJECT DOCUMENTATION AND QA PLANS
TC CONTACT: F.DITTUS.   PROJ: F.WICKENS.

How is it planned to use EDMS for handling project documents? Which QA plans will be adopted by the system to handle the TDR phase? Are there plans for a production database?

5.8 TDAQ/DCS PROJECT SCHEDULE AFTER TDR
TC CONTACT: M.KOTAMAKI.   PROJ: A.LANKFORD.

Discuss and identify baseline milestones for HLT/DAQ for the production period. Identify possible critical path items. Are the TDAQ milestones coherent with the rest of the ATLAS schedule?

5.9 INTERFACES AND OVERALL INTEGRATION QUESTIONS
TC CONTACT: PROJ: A.LANKFORD.

Identify sources of concern with respect to the integration of the TDAQ system in ATLAS. Identify what TC can do to help in this process.

5.10 RESOURCES
TC CONTACT: M.NORDBERG.   PROJ: F.WICKENS.

Manpower aspects and expenditure profile. Is there a Major short fall (excess) that TC/ATLAS management needs to know?

Plant #	PBS code	Work description	Location	Name of respo	Input from plant #	Output to p	Workload	Units	Start Date	End Date
0	10.1	LVL1 trigger system (integration & commissioning)	CERN	N.Ellis	1, 99, 308, 315	n/a				
1	10.1.2.1	**Calorimeter Trigger (integration & testing)**	**CERN**	**E.Eisenhandle**	**2, 11, 13, 15, 28**	**0**			**Aug-04**	**May-05**
2	10.1.2.1.1	**Preprocessor (PPr)**	**Heidelberg**	**P.Hanke**	**3-10, 23, 27**	**1**	**1**	**subsystem**	**Aug-03**	**Jul-04**
3	10.1.2.1.1.1	Preprocessor Module (PPM)	Heidelberg	P.Hanke	4, 5, 5a	2	140	modules	Sep-02	Aug-03
4	10.1.2.1.1.1.1	PPr ASIC	Heidelberg	P.Hanke	n/a	3	2240	ASICs	Oct-01	Sep-02
5	10.1.2.1.1.1.2	PPr MCM	Heidelberg	P.Hanke	n/a	3	2240	MCMs	Dec-01	Sep-02
5a	10.1.2.1.1.2.3	PPr AnIn daughter-card	Heidelberg	P.Hanke	n/a	3	616	cards	Mar-02	Sep-02
6	10.1.2.1.1.2	PPr Readout Driver Module	Heidelberg	P.Hanke	n/a	2	20	modules	Sep-02	Aug-03
7	10.1.2.1.1.3	PPr crate	Commercial	P.Hanke	n/a	2	8	crates	May-03	Aug-03
8	10.1.2.1.1.4	PPr crate backplane	Heidelberg	P.Hanke	n/a	2	12	backplanes	Feb-03	Aug-03
9	10.1.2.1.1.5	PPr TCM adapter link card	Heidelberg	P.Hanke	n/a	2	12	cards	May-03	Aug-03
10	10.1.2.1.1.6	Preprocessor crate CPU	Heidelberg/Comm	P.Hanke	n/a	2	8	processors	May-03	Aug-03
11	10.1.2.1.2	**Cluster Processor (CP)**	**UK**	**A.R.Gillman**	**12, 16-21, 23-27**	**1**	**1**	**subsystem**	**Dec-03**	**Dec-04**
12	10.1.2.1.2.1	CP Module (CPM)	UK	A.R.Gillman	n/a	11	62	modules	Jan-03	Dec-03
13	10.1.2.1.3	**Jet/Energy-sum Processor (JEP)**	**Mainz/Stockholm**	**U. Schaefer**	**14, 16-21, 23-27**	**1**	**1**	**subsystem**	**Jan-04**	**Jan-05**
14	10.1.2.1.3.1	JEP Module (JEM)	Mainz/Stockholm	U. Schaefer	n/a	13	36	modules	Feb-03	Jan-04
15	10.1.2.1.4	**Common modules and items**	**n/a**	**A.R.Gillman**	**n/a**	**n/a**			**Aug-02**	**Jul-04**
16	10.1.2.1.4.1	CP/JEP Common Merger Module (CMM)	UK	A.R.Gillman	n/a	11, 13	16	modules	Mar-03	Dec-03
17	10.1.2.1.4.2	CP/JEP crate	Commercial	A.R.Gillman	n/a	11, 13	11	crates	Oct-03	Dec-03
18	10.1.2.1.4.3	CP/JEP crate backplane	Stockholm	S.Silverstein	n/a	11, 13	12	backplanes	Dec-02	Dec-03
19	10.1.2.1.4.4	CP/JEP TCM Adapter Link Card (ALC)	UK	A.R.Gillman	n/a	11, 13	12	cards	Jul-03	Dec-03
20	10.1.2.1.4.5	CP/JEP CPU VME Mount Module (VMM)	UK	A.R.Gillman	n/a	11, 13	12	cards	Apr-03	Sep-03
21	10.1.2.1.4.6	CP/JEP crate CPU	Commercial	M.Landon	n/a	11, 13	11	processors	Sep-03	Dec-03
22	10.1.2.1.4.7	CP/JEP serial link cables	Commercial	A.R.Gillman	n/a	1	2294	cables	Dec-03	Jul-04
23	10.1.2.1.4.8	Timing Control Module (TCM)	UK	A.R.Gillman	n/a	2, 11, 13	24	modules	Aug-02	Aug-03
24	10.1.2.1.4.9	CP/JEP Readout Driver Module	UK	A.R.Gillman	n/a	11, 13	24	modules	Aug-03	Dec-03
25	10.1.2.1.4.10	CP/JEP Readout Driver crate	Commercial	A.R.Gillman	n/a	11, 13	2	crates	Sep-03	Dec-03
26	10.1.2.1.4.11	CP/JEP Readout Driver crate CPU	Commercial	M.Landon	n/a	11, 13	2	processors	Sep-03	Dec-03
27	10.1.2.1.4.12	Readout Driver Busy Module	CERN	A.R.Gillman	n/a	2, 11, 13	3	modules	Sep-03	Dec-03
28	10.1.2.1.5	**Joint Items**	**n/a**	**A.R.Gillman**	**29-32**	**1**			**Jul-03**	**Jul-03**
29	10.1.2.1.5.1	TileCal trigger cables to receiver stations	Commercial	A.R.Gillman	n/a	28	256	cables	Jan-04	Jul-04
30	10.1.2.1.5.2	TileCal receiver stations	Pittsburgh?	A.R.Gillman	n/a	28	1	subsystem	Jul-03	Jul-04
31	10.1.2.1.5.3	Trigger cables: receiver stations to PPr	Commercial	P.Hanke	n/a	28	528	cables	Apr-04	Jul-04
32	10.1.2.1.5.4	Computing infrastructure	Commercial	M.Landon	n/a	28			Jul-03	Aug-03

ASSO general aims

Marzio Nessi:

- Wants to see the ASSO as a process, rather than a review.
- Wants the TC contact for each presentation to work with the person making it in advance to agree upon the material to be prepared and presented.
- Some material that is prepared (e.g. milestones) may be prepared and not presented — the TC contact will report that all the required material has been prepared.

- ASSO will not be passing judgement on the project or its subprojects. The ASSO process will produce an action list, intended to help the system.
- Consequently, presentations should provide a responsible assessment of status and issues.
  - o They should not paint a falsely favourable picture of status.
  - o They may also provide constructive suggestions for what actions should be listed.

Bill Cleland:

Total time allocated for [LVL1] is 70 minutes, so we limit each talk to 10–12 minutes. Prepare **8 transparencies**, one on each of the following subjects:

1- Short description of the deliverable or activity

2- How locally the work is organized to accomplish this goal

3- Description of the necessary infrastructure (labs, tools, mapower, …)

4- Input interfaces: definition, needs, and problems

5- Output interfaces: definition, needs, and problems

6- Internal milestones or schedule (end R&D, start production, 10%, 50%, …)

7- QA activities and organization

8- Results or performance issues

In addition reply to the following **questions**:

1. List the names of the contacts you have with the systems with which you interface. Are the interactions adequate for your work? If not, can you suggest possible improvements?

2. Are the specifications and requirements for the hardware for which you are responsible adequately defined?

3. Are there areas within your responsibility where you see significant technical or schedule risk? If so, please list them and state the nature of the problem.

4. Are you aware of any problem not alluded to above concerning the LVL1 system or its interfaces with other ATLAS systems which should be brought to the attention of TC?

Items flagged at video conference on 5/10 (Bill, Nick, Paul, Tony, Eric):

- S/W effort shortfall (use TDIB effort survey)

- Receiver stations, esp. TileCal

- PRR timing and organisation for ASIC, MCM (and PPM)

- Documents specifying signal organisation details (Lar, TileCal)

- S/W interfaces, e.g. ROS, databases

- QA for manufacturing phase

- Liaison with calorimeter calibration systems

- Documents to EDMS: specifications used as review input, reports on reviews