

Accelerator Advisory Panel (AAP)

E.Elsen

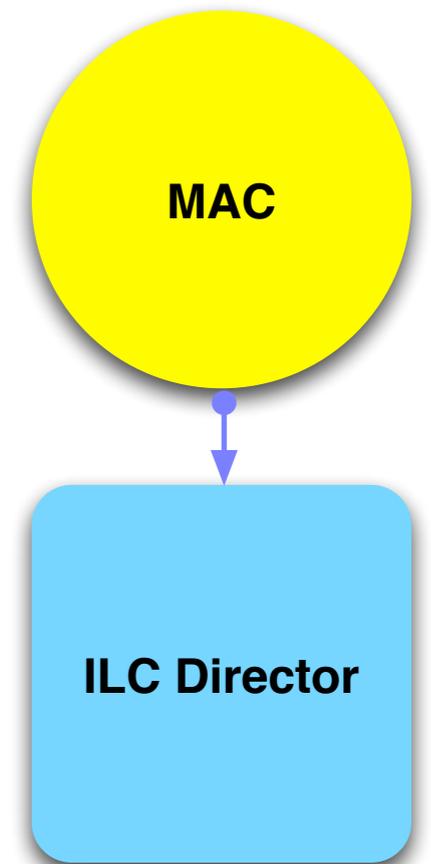
*an "experiment" for internal reviews in
global projects*

Background – MAC

- Machine Advisory Committee (MAC) active during RDR phase
 - traditional peer review process
 - substantial documentation
 - technical background
 - progress
 - series of intense meetings with full reviews
 - snapshot of then current issues
 - often augmented with additional ad-hoc agenda

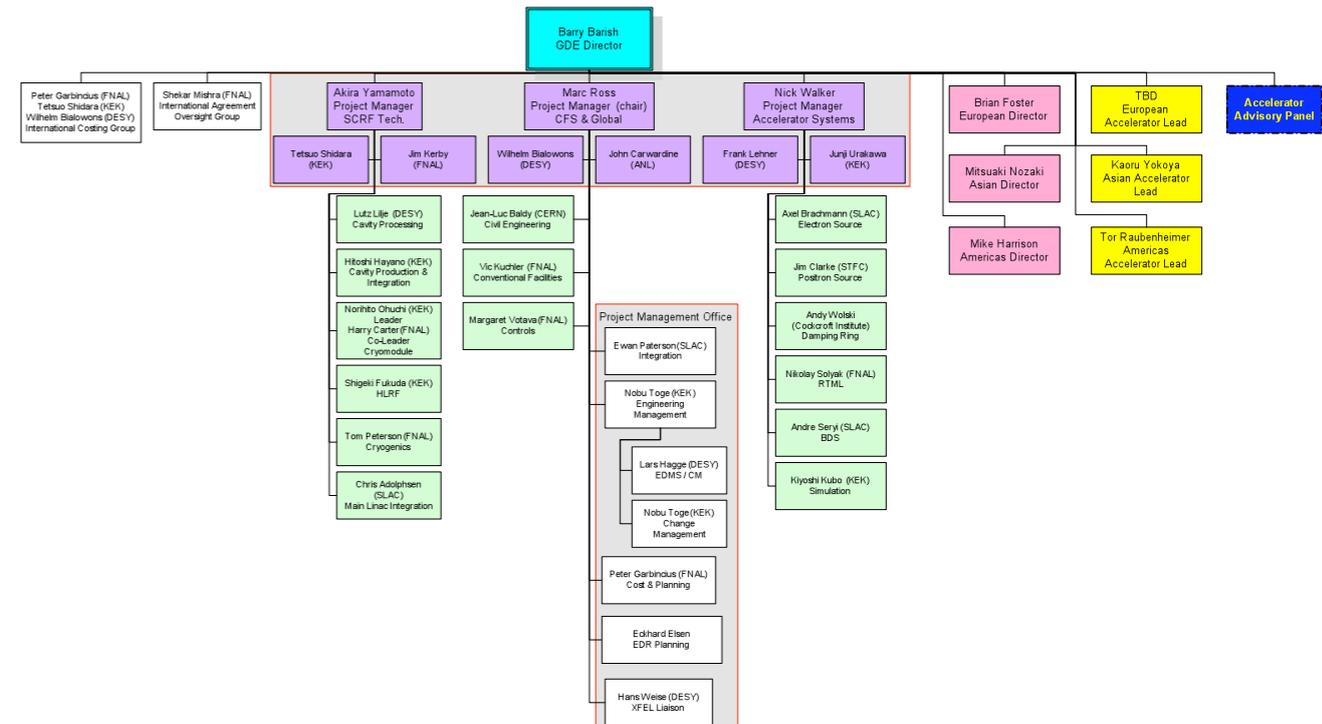
traditional approach

structures adequate during RDR



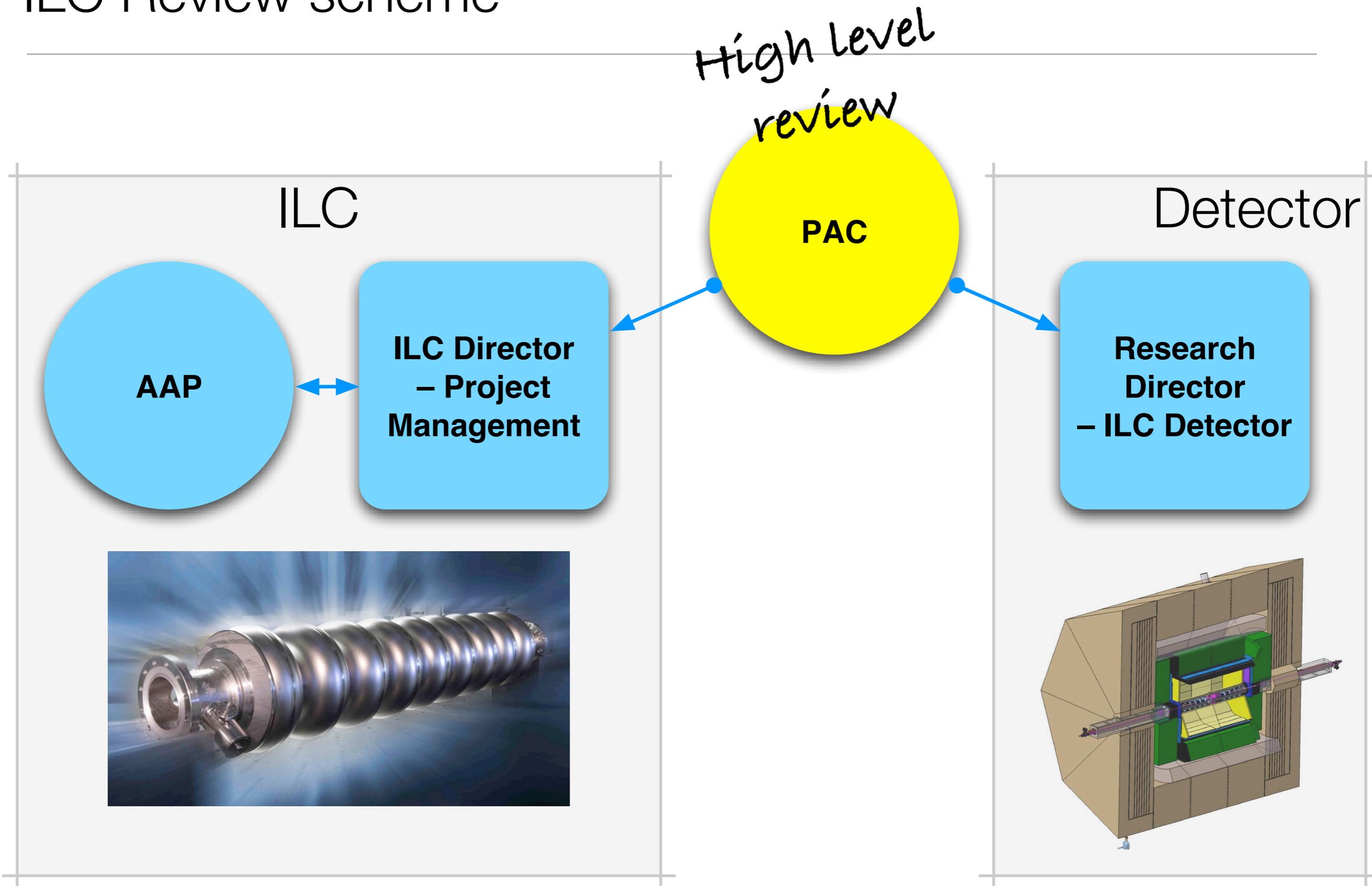
Needs during Technical Design Phase

- TD Phase necessitates
 - more formal project management
 - ILC Director
 - Project Managers
 - Executive Committee
 - ...
 - Peer and regional review
 - familiarity with the management goals
 - coherence with the goals of the TD phase
 - continuity
 - flexibility to adapt to realities and timelines



led to creation of PAC and AAP

ILC Review scheme



Expectations for AAP

- Internal group that **understands**
 - possibilities
 - limitations
 - constraints
- group that **contributes** to the effort
 - by adding a point of view external to the requirements of day to day management
 - aligned with project goals
 - by adding independent expertise as needed
 - from panel members or
 - from external members called in as needed

How does this work in practice?

AAP Members

- Chris Damerell (RAL)
- Jonathan Dorfan (SLAC)
- Eckhard Elsen (DESY)
- Tom Himel (SLAC)
- Masao Kuriki (Kyoto)
- Olivier Napoly (CEA)
- Katsunobu Oide (KEK)
- Hasan Padamsee (LEPP)
- Tor Raubenheimer (SLAC)
- Daniel Schulte (CERN)
- **Bill Willis** – Chair (Columbia)

*List originated from GDE
R&D Board and was
augmented by additional
requirements*

Initial Launch during Sendai Meeting

- With the GDE adapting to the funding realities of 2008

ILC Newsline



- AAP started to develop its role with

- Director

- Project Managers



Director's Corner

10 April 2008



Barry Barish

Implementing "internal" reviews for the ILC Technical Design Phase

Last week, the new Accelerator Advisory Panel (AAP) was [introduced](#) in NewsLine. This week, I follow up with a description of its role and why I believe it will improve the quality of our R&D and design efforts. As part of preparing to undertake the next phase of our work, now called the ILC Technical Design Phase (TDP), we critically assessed the organisational structure we had for the Reference Design Report (RDR). As a result, we decided to make some significant changes. The biggest change was to incorporate a more traditional project management structure within the Global Design Effort. Another important change that we proposed to the International Linear Collider Steering Committee involves streamlining the system of technical reviews.

It is very common for large technical projects to be - or at least to seem to be - 'over-reviewed', so why do we propose to add yet another review mechanism? The time and energy that goes into preparing for and responding to reviews can be mind-boggling and can reduce efficient work on the project. Yet, having an effective system of reviews is absolutely essential in order to provide accountability and validation, which for the TDP will be provided by the ILC Project Advisory Committee (PAC). But in addition, we propose to institute reviews that can also provide deep technical insights and/or suggestions, resulting in an improved design. We propose to accomplish this through a new system of "internal" technical reviews by the AAP.

During the production phase of the RDR, we had a valuable high-level committee called the Machine Advisory Committee (MAC) that met four times in a little over a year, reported to the ILCSC, and provided the main technical reviews. The MAC reviews were very important and very good, providing both accountability and validation for our R&D programme, our design and our costing, but they did not provide the in-depth technical reviews we seek.

In the new system, the [PAC](#) will review both the detector and accelerator work and thus maintain the high-level review role for the ILCSC. The PAC, like the MAC, will carry out purely external reviews, meaning that the committee is entirely made up of members outside the ILC community, and the committee reports to ILCSC. These objective reviews by experts will provide the validation and accountability we need.

In contrast, the AAP reviews we are instituting are internal, in that the committee reports to me and that the reviewers are a mixture of insiders and outside experts. In any particular area being reviewed, this will then both contain experts and members who are close to the project but not involved in the actual work. In addition, contact members of the AAP will participate in a continuous way in relevant technical meetings as observers. In fact, the AAP has already started this process by assigning a contact person for each project manager and each of the thematic areas from our Sendai meeting, plus a couple of other contact persons covering more general themes (integration and strategy).

This scheme is a bit of an experiment and we need to learn how to implement this review mechanism for best effect. Therefore, we are starting into this process slowly, to make sure we do not inhibit the ongoing work. I am optimistic that the assigning of contact persons in the different areas will be an important step for the AAP to effectively monitor and stay close to the ongoing issues and work, and that this will make meaningful formal reviews possible.



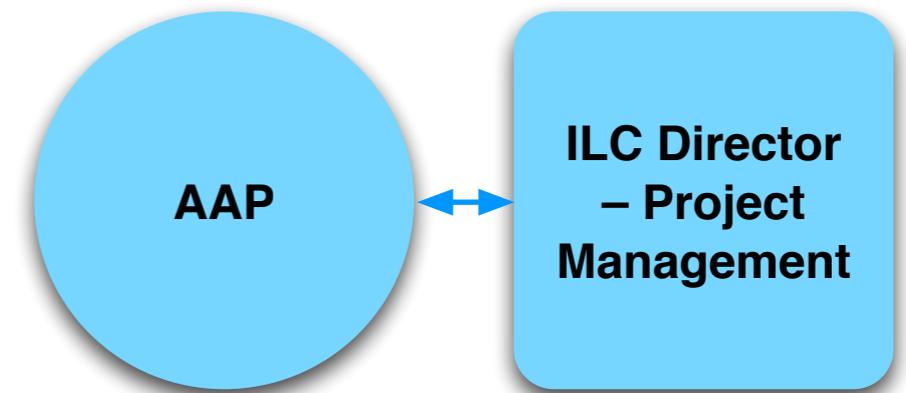
Bill Willis, chair of the Accelerator Advisory Panel

Themes	Project Manager	AAP
Strategic Planning	Ross	Dorfan
Conventional Facilities	Ross	Eisen
Superconducting RF	Yamamoto	Padamsee
Beam Delivery	Walker	Napoly
Damping ring	Walker	Oide
Integration	Paterson	Himel

AAP contact persons identified for Technical Design Phase thematic areas.

AAP – Internal Technical Reviewing

- Panel reports to director only. The director is free to
 - use or ignore the reports or
 - ask for further elaboration and specification
- Benefit for director
 - broader technical base
 - multi-regional (and non-formal) input
 - contributes to the long-term strategic planning aspects



*AAP advises Director.
It has no executive power*

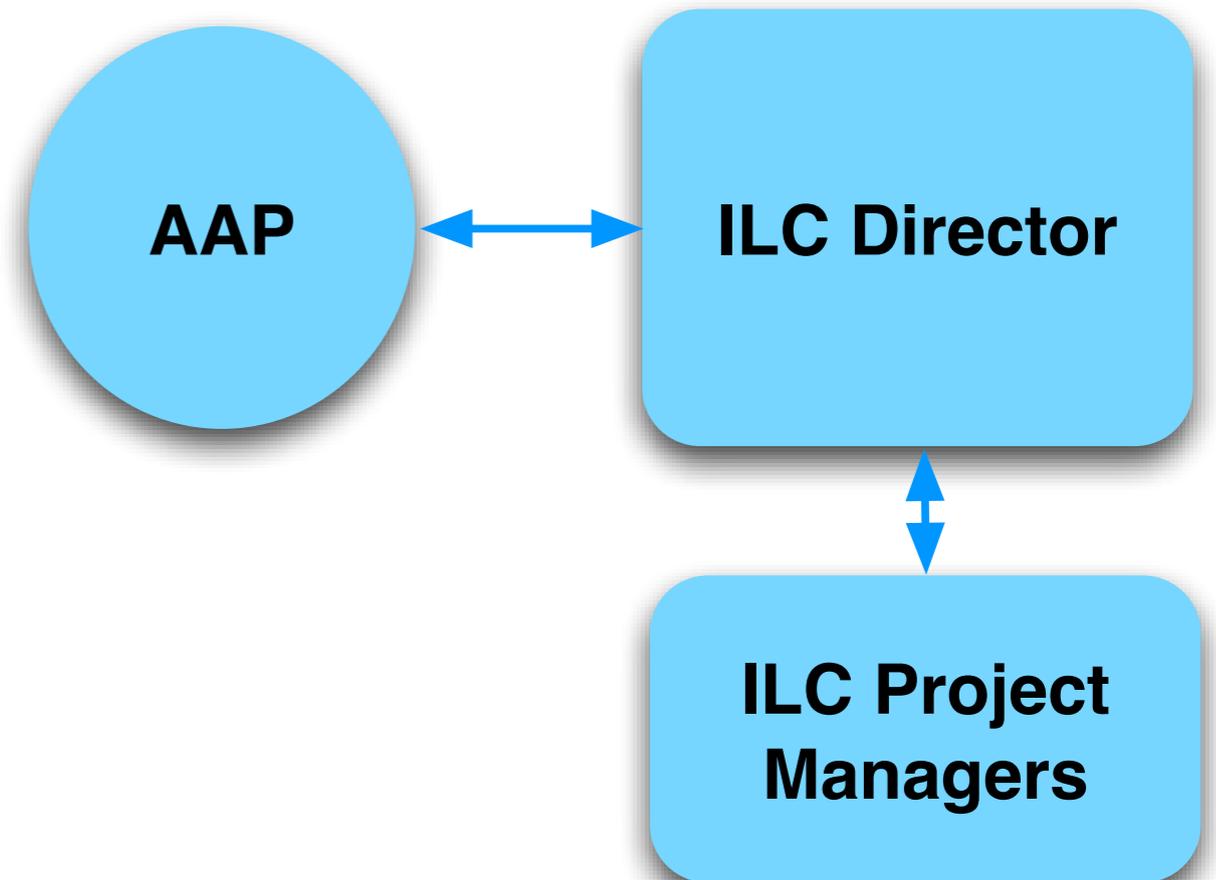
AAP and Project Managers

- AAP

- collect additional input from the ILC community (AAP has multi-national presence) and
- provide input and experience from other large projects

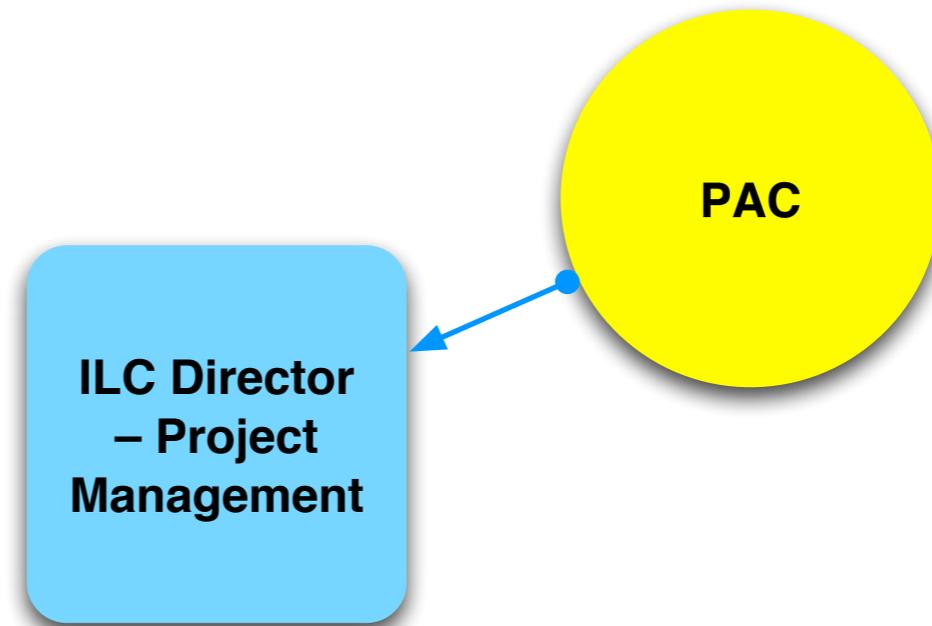
- Project Managers

- develop and
- execute the plan of the management



PAC

- PAC is the oversight committee installed by ILCSC
- PAC deals with
 - machine and
 - detector
- PAC reports to ILCSC



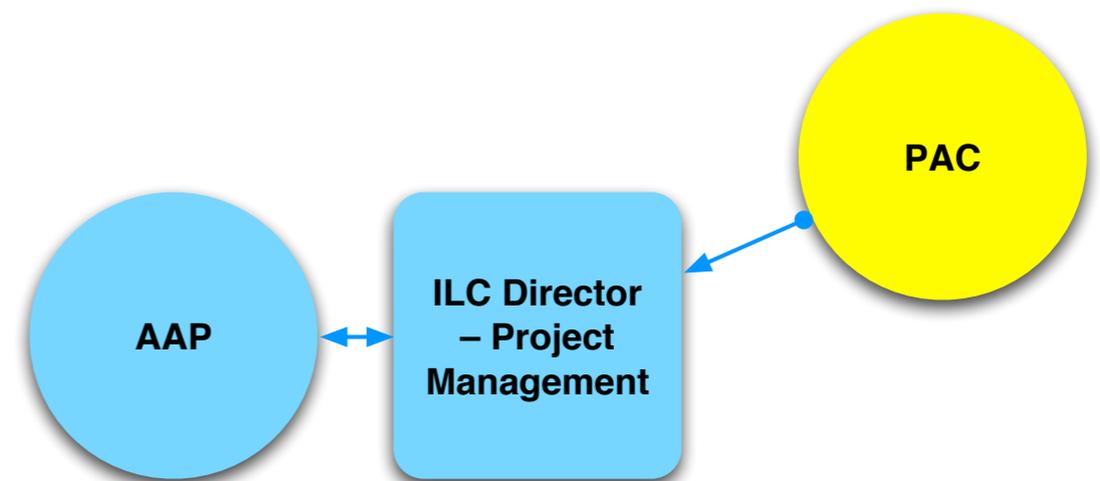
AAP Reviews and PAC

- AAP

- carries out in-depth technical assessment
- advises director
- The deliberations of the AAP will be given in **written form**. The director is free to make the documents available to the PAC
- **PAC** is offered to start their review from a considerably more general perspective and still **benefit from an assessment of critical details**

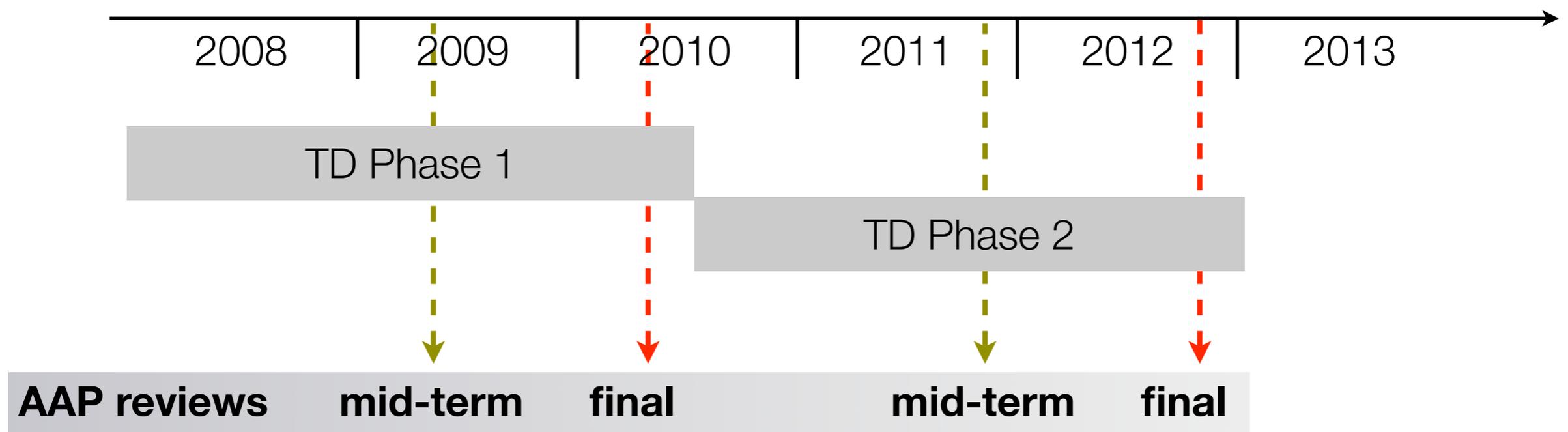
- PAC

- separate charge
 - machine & detector
- reports to ILCSC



AAP Implementation – continuing process

- AAP itself meets regularly (~monthly). Phone meetings
 - Minutes of the meetings are made available
 - Specific memos are written and send to the director (if required)
- Experts have been assigned to follow the developments in the technical areas. They typically attend the meetings of the technical areas group leaders (TAG meetings) and regularly report to the AAP
- AAP meetings are typically used to discuss current issues and to prepare the next annual review. First meeting is April 2009 at KEK.



AAP special assignments

Themes	PM/Expert	AAP
Strategic Planning	Ross	Dorfan
Conventional Facilities & Siting (CFS)	Ross	Elsen
Superconducting RF (SRF)	Yamamoto	Padamsee
BDS / MDI / ATF	Walker	Napoly
Damping ring	Walker	Oide
Integration Group	Paterson	Himel

Nomination of external members

- External members
 - provide specific expertise
 - global input on strategic planning
- AAP has started to develop such a list
 - concentrating on specific expertise in line with the thematic emphasis of the first review
- Note
 - AAP + external members = AAPR

Key topics of the First Review

- Elements of first AAP review
 - Key issues
 - SRF
 - e-cloud
 - demonstration facilities
 - ATF, FLASH
 - Conventional Facilities & Siting (CFS)
 - cost relevance
 - common effort with CLIC

*consistent with
the TDP 1 goals
and priorities*

First Review – Coarse Schedule

Friday Day 0	Saturday Day 1	Sunday Day 2	Monday Day 3	Tuesday Day 4
Plenaries	Management	Acc. Facilities ATF, FLASH	e-cloud	Plenaries
	Conventional Facilities & Siting	SRF	Accelerator Systems	
			ILC Project	

- The review will concentrate on TD phase 1 in its technical scope.

Details – Day 1

- Management

- Project Management

- Time lines

- TD Phase 1

- Outlook into TD Phase 2

- Resources

- CF&S

- Power distribution

- Tunnel / site configurations (single vs twin, deep vs shallow)

- Impact of minimal machine scenarios

- Reliability and safety aspects

Details – Day 2

- Accelerator Facilities

- ATF
- FLASH
- ...

- SRF

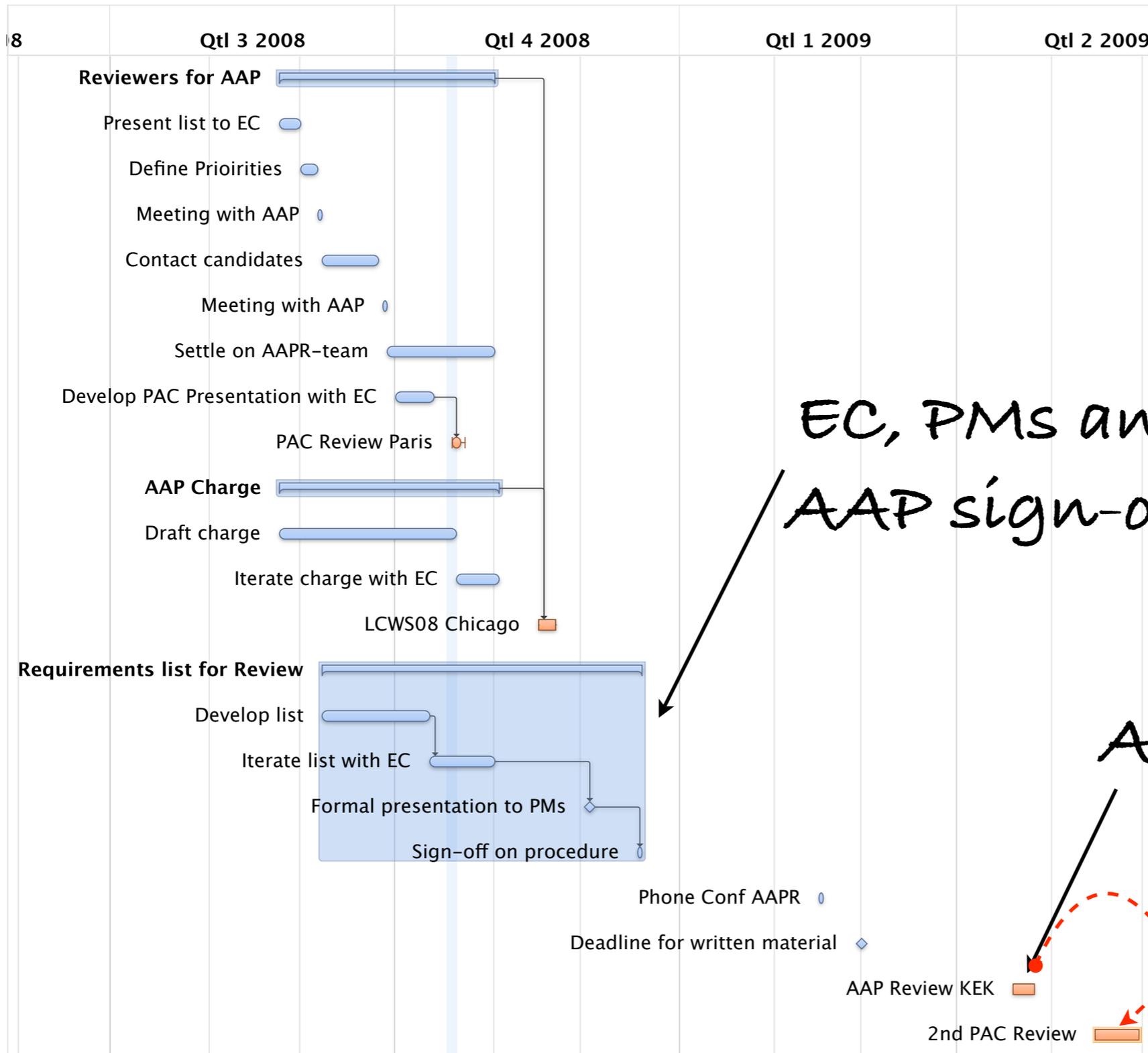
- Cavities (S0)
 - Re-evaluation of gradient specification
- Cryomodules (S1)
- String Test (S2)
- Plug Compatibility

The discussion should indicate the global base for the approach and address the process for industry engagement.

Details – Day 3

- e-cloud
 - Test results
 - Status of mitigation
- Accelerator
 - Minimal machine
 - Cost reduction and risk mitigation
 - Physics implications
 - Operability & Reliability
 - Damping rings
 - Other accelerator components
- ILC Project
 - Relative-cost developments
 - Targets for TDP 1 & 2
 - Resources towards these goals

Tentative Timelines



EC, PMS and AAP sign-off

AAP April KEK

offers input

PAC May 09

Conclusion

- Accelerator Advisory Panel

- has been formed
- starts to nominate external experts
- is preparing the first annual review
 - initially emphasizing key topics

- future reviews

- eventually expanding to full review of all areas
- long-term strategic planning aspects (so as to achieve readiness for implementation)