

International Issues and Outreach

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October 23, 2003

Requirements for an Internationally Built and Managed Lab on US Soil

- **Secure and dependable (U.S.) budgets**
- **Willingness to divide benefits among the international participants consistent with contributions. Have to share -- contracts and \$\$; positions; and scientific glory**
- **Non-interference of government agencies; non-politicization of the site. Can any agreement protect from Congressional, OMB, and DOE interference?**
- **U.S. willingness to adapt to recognized international standards and to waive some rules (we will have to work at this persistently, an inch at a time).**
- **Access to the U.S.**
- **Exceptions for job permits for working relatives of visitors**
- **Willingness to share Directorate and other key positions with citizens of other nations**
- **Commitment to be a dependable partner/host.**

The Problem

- No basis yet to believe that the US can make the required adjustments to do this and also there is the issue of time it will take to complete deliberations in this area.
- Difficulty in the US HEP Community of understanding the difference between
 - A lab with experiments that have international participation
 - A lab with international financing and management
- Are we dependable as a host?
 - Terminated the SSC
 - Have cancelled other projects
 - Have even cancelled agreements done at treaty level

The Opportunity

- Learning to be a successful host may be a reason for the US to be involved in the project – apart from the scientific interest
 - Learning to be an international partner was often used as part of the justification for US involvement in the LHC.

Development of Formal International Agreement

- **ECFA has already written a report on GLCP governance and host laboratory issues**
- **ACFA has a shorter draft version but along similar lines**
- **Maury Tigner (chair of the ILCSC) also chairs the International Subcommittee of the USLCSC) and is drafting a document on international governance, within a U.S. context. Hope to have it available in October. The group doing this includes U.S., Canadian, and Mexican representation**
 - **Make a list of everything an international agreement has to accomplish.**
 - **Draft the American version of the Kalmus model.**
- **Roy Rubinstein comments: It is easier to write down issues than solutions. Solutions are likely to be determined in negotiations between governments and it is unlikely physicists will have the final word.**

“Kalmus” (SGOM-ECFA) Model

<http://committees.web.cern.ch/Committees/ECFA/Cern03Kalmus.pdf%20>

- The GLCP (Global Linear Collider Project) as a “Fixed-term Project” located near an existing laboratory
 - **“We propose that initially the GLCP should be established for 25 years, including construction time. This should enable the scientific objectives to be met and would limit commitments of the participating governments. There should be a review of the lifetime of the GLCP after ten years of operation with subsequent reviews every 5 years.”**
- **International representation is based on “three region” model – so we must continue to coordinate with other nations of the Americas**

GLCP and the Host Lab

- **The GLCP should be sited near an existing ‘Host’ laboratory, from which it should be managerially wholly independent. This would:**
 - **save much of the cost of establishing the infrastructure, support, and services that are needed by any large-scale project, while keeping the number of staff directly employed by the GLCP low;**
 - **provide the necessary academic and technical ambience from the outset;**
 - **reduce the cost of ultimate closure of the GLCP by ensuring that facilities owned by it are kept to a minimum.**
- **Relations between the GLCP and the Host Laboratory, and the role of the Host State, are considered in more detail in the full ECFA report**

Host Lab

- **5.2.1 The overall objective in using the Host Laboratory is to minimise the overhead element of the GLCP and to ensure that the full range of necessary services is available locally and does not have to be built up from a zero base.**
- **5.2.2 The Host Laboratory, if necessary involving the Host State, should conclude a detailed agreement with the GLCP concerning the interaction between the two parties and their respective rights and obligations.**
- **5.2.3 The GLCP and the Host Laboratory must be financially and managerially independent of each other. Services and deliverables required from the Host Laboratory by the GLCP should be technically and financially specified, the costing and payment basis defined, and the managerial interfaces established.**
- **5.2.4 None of the general infrastructure investment made in the Host Laboratory by the Host State should belong to the GLCP and, unless agreed otherwise, should not be included in the accounting of the Host State Premium.**

Model is not what we might have expected

- Most of us probably imagined the host lab building and managing the LC
- The Kalmus Model has its advantages: The host lab can continue to have an independent program
- What part of the lab resources can go towards this new infrastructure and still maintain a viable program in other areas?
- Will the LC (try to) absorb the (nearby) host lab?
- Will the host lab (try to) absorb the LC?

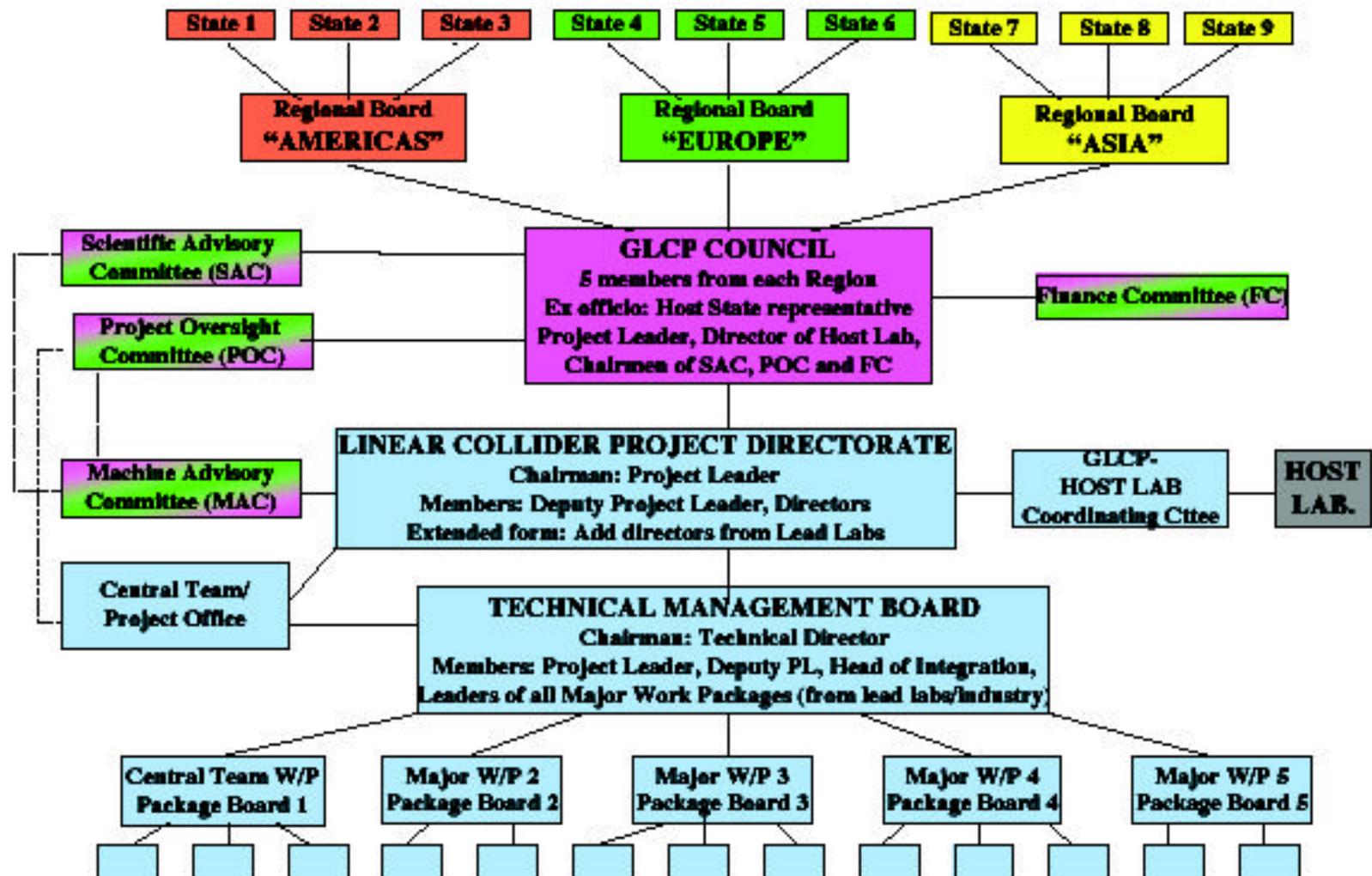


Fig. 1c Governance (GLCP Council and above), Management (Light blue boxes below GLPC Council) and Monitoring (Bi-coloured boxes) structure of the GLCP

July 2003

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9

Changes at Fermilab

- Major issues to be understood if Fermilab is host lab
 - Imperative to form a view on the relationship between the host lab and the international project organization.
 - Need to think about authority chain, including the authority of the central team.
 - How much of the research program at Fermilab would the lab (or the U.S.) be willing to sacrifice?
- Feeling within the discussion group that 30% of Fermilab resources devoted to the project is right scale.

Issues we should resolve now “Locally”

- Consensus: Fermilab and LC should be separate organizations to start. (Consistent with Kalmus model.).
- Fermilab has responsibility to continue a forefront hadron based program during the construction period (at least).

We should develop Scenarios that show how we would evolve our program to achieve the headroom to do this based on a realistic schedule for an LC (and also what our exit strategy would be)

What we can do now Globally

- Show we “get it”
 - **LHC a good example, be an enthusiastic, dependable, and effective collaborator**
 - **Establish ourselves as a good “regional” collaborator**
 - **Show sensitivity to international issues throughout the FNAL HEP program**
- Pursue the formal agreements, even though there are many other issues. Make progress where we can.
- Emphasize and exploit the fact that the US govt may see the major value in this project that we can use it to learn how to be an effective international collaborator

Outreach

- We'll discuss the issue in ways you may not have expected (I.e. not educational outreach- a given!)
 - Internal – Fermilab staff does not embrace the project
 - External
 - **Government**
 - State
 - Federal
 - **HEP**
 - National – here we have to demonstrate our commitment to the project
 - International – commitment plus issues we already discussed
 - **Broader Physics and Science Community**
 - **Local Universities: Making progress on involvement is accelerator physics– ICAR, NICADD**
 - **Immediate neighbors: Feel we have good relations – arts programs, ask a scientist (govt issues?), recreation opportunities onsite, Joint Task Force. LOCAL OPPOSITION DEFINITELY HURT OUR SSC BID.**

Fermilab Support

- Is it compatible with (most of) staff's scientific vision? Will it be more accepted if the early returns from the LHC confirm SUSY/light Higgs? I think we will (have to) know much more BEFORE the project is (can be) approved for construction in the US.
- Must talk about “Physics Frontier” rather than “Energy Frontier” and change our view of what is a “discovery machine”. Neutrino physics is also a beneficiary of this “shift”.
- Will the Kalmus HOST Model, which recognizes that the lab will have its own existence and independent program, help the lab staff to embrace it?

Federal Government

- **How in the world can we ever convince a risk-averse, financially strapped, government to support such an expensive, risky project?**
- **They may be interested for its international collaborative aspects more than for the science.**
- **On the other hand, we should not underestimate the interest and enthusiasm for our science and should increase our efforts to make it accessible.**
- **We will have to enlist support from the broader scientific community in the US and the international community AND will have to be willing to demonstrate our own commitment by reducing our efforts in other areas to finance some of this project from our “base”.**
- **We will have to accept that this project will be achieved in many small steps with no guarantee that success at each point will ultimately lead to the approval and execution of the final project.**

Broader Scientific Community

- **The Federal govt decision makers like large science proposals to have broad support in the scientific community. They realize that each narrowly focused group thinks its own projects are great – but do they have impact beyond that restricted community? We don't care for this view, but it is definitely out there.**
- **We have a bad image in the broad scientific community – Judy Jackson actually established that in a FermiNews story not too long ago!**
- **We also place special burdens on universities because of the way we have to do business.**
- **It is the scientific community outside HEP that has the knowledge to raise objections. Their opinions will be sought! Opposition from the scientific community really hurt the SSC.**
- **To fix this, we must improve our attitude and interactions with other disciplines – starting with the rest of the physics community– and, if possible, find some way to have them participate and benefit from this project.**