

1) Etat d'avancement RDR

Une réduction forte des coûts, de l'ordre de 30%, a été obtenue depuis Vancouver grâce à un certain nombre d'ajustements internes et quelques changements importants de « baseline ». La plupart ont été (ou vont l'être sous peu) traités par le « Change Control Board ». Les deux plus importants concernent : le repositionnement des anneaux d'amortissement dans un seul tunnel au centre de la machine, le changement d'angle de croisement des faisceaux (de 20/2 à 14/14 (approuvé par le CCB) au passage à 1 seule zone d'interaction avec deux détecteurs en push-pull (soumis au CCB). La « task force » push-pull a produit un travail considérable et pense qu'un changement durant une semaine tous les deux ou trois mois est faisable.

Avec ces réductions, le coût est encore plus élevé que la limite dite raisonnable mais s'en rapproche beaucoup. Deux autres réductions substantielles sont envisageables :

-la suppression de la marge de 3,5% sur l'énergie max de la machine existant dans la BCD, qui se traduira par 3,5% de tunnels, de cryomodules en moins, avec le risque très grand de ne pas pouvoir atteindre 500 GeV

-n'acheter que la moitié de la RF, accompagné d'une division par 2 du nombre de paquets et de la luminosité pic. Ceci n'est pas grave au début car on sera loin de la luminosité pic. Un scénario permet d'atteindre les 500 fb⁻¹ en 5 ans au lieu de 4 prévus initialement.

Toutefois, il faudra acheter les klystrons à un moment ou à un autre si on veut atteindre les 2 10³⁴. B. Barish propose d'inclure cet argent dans le budget opérationnel

2) Discussions des points concernant la physique et les détecteurs. Le document des paramètres est en cours de révision. Ont été évoqués :

-la réduction possible en énergie évoquée plus haut

-la luminosité réduite (idem)

-l'angle de croisement et le caractère push-pull des détecteurs

Ce dernier point est maintenant considéré comme un moindre mal. Pour les deux autres, ils peuvent être admis s'il est clair qu'ils ne sont pas irréversibles : prévoir l'achat des klystrons pour qu'ils soient disponibles trois ou quatre ans après le démarrage, prévoir au moins le tunnel pour 500 GeV.

3) Le calendrier d'ici à Pékin

30 Novembre : gel de toutes les décisions concernant le nouveau « baseline design »

Mi-décembre à SLAC : revue « interne » du RDR avec quelques invités extérieurs

Mi Janvier à Daresbury : revue MAC y compris les coûts, cette réunion sera ouverte aux membres du GDE.

Fin Janvier : Présentation du RDR et du coût à FALC

Début Février (Pékin) : Présentation ICFA et publique du RDR

4) L'après -RDR

Anticiper la phase suivante le plus possible pour ne pas perdre l'impulsion du GDE.

4-a) le RDR sera soumis à une revue internationale détaillée et rendu définitif vers l'été

4-b) Transition vers une approche de « Work Packages » tant pour la R&D et que l'EDR

5) Déjeuner GDE-France à Valence

Cette réunion avait pour but de définir la position française vis-à-vis de la proposition SCRF et de la réunion préparatoire du 20 Novembre à DESY. A. Mueller a annoncé le soutien de l'IN2P3 à cette initiative, sa participation à cette réunion et son intention de pouvoir y annoncer une contribution financière de l'IN2P3 en support de l'argent européen dans le

contexte d'une action Européenne menée par le CERN et profitable à la R&D accélérateur en général et toute la communauté de physique nucléaire, des neutrinos et de hautes énergies.

La position européenne

Ci-joint le résumé de la réunion tenue sous l'égide de Brian Foster de « Advisory Committee » du GDE Européen.

GDE European Director Advisory Group 9/11/06

Present: P. Burrows, J-P. Delahaye, E. Elsen, D. Espriu, B. Foster, A. Wagner, G. Wormser. By telephone: R. Aleksan, R. Eichler, M. Poole. Apologies, T. Akesson, S. Bertolucci.

BF introduced the agenda and the general status of ILC & GDE. Very good progress was being made in the intensive effort to reduce the cost of the current baseline design. We are on track to freeze the design by the end of the month and for an internal cost review and validation at the SLAC meeting in December. BF & EE outlined status of the FP7 bid and forthcoming meeting at DESY. There will be a call for new infrastructures (including prototyping) in spring 2007 for which the ILC may qualify through its fundamental role in the CERN Council Strategy paper. The financial EC contribution per project will be at the level of 5 M€. A modest infrastructure proposal at CERN was on the table, which would not be really useful for ILC. GW reported that Alex Mueller will attend the DESY meeting and that there had been positive developments in France since IN2P3 is generally supportive of this SCRF initiative to the benefit of the accelerator R&D community at large and could bring some financial contribution.

GW suggested being somewhat more ambitious in the bid for the infrastructure at CERN – he asked about CERN policy on the infrastructure project. J-PD explained that CERN had requested new money from Council from 2008 – which is quite a suitable time scale. LHC infrastructure will become available on that timescale and in any case CERN will need to use this infrastructure for internal CERN purposes – e.g. SPL, current injectors, etc.. LHC itself also has some superconducting cavities. The clean rooms will need to be refurbished. A LoI will be sent out drawn up by W. Weingarten, describing available systems and for what purposes they could be used; it is not really at a level that will be useful for ILC – but perhaps it could gradually be improved for ILC. Another alternative would be for a facility to be developed at DESY utilising the facilities currently being developed for the XFEL – the timescale on which they would become available is somewhat later than ideal but would still be useful. RA pointed out that in fact only 120 MEuro is available for these calls; he believes that we should have a 2-stage strategy – the 2nd stage one year later using the integrated activities call. The money from the call early in 2007 will start to flow in early 2008; 2nd stage money will come in 2009. MP asked about the matching funds rule and whether it had increased to 75% – EE said that the rules are not yet fixed. BF said that a meeting would be held in the UK to prepare a position for the DESY meeting. He hoped that all countries would be able to come to DESY with a commitment to be involved. DE said that Spain was interested in principle and he would enquire if someone could attend the DESY meeting. BF hoped that SB would be able to attend the DESY meeting for Italy.

BF moved onto the second major topic for the meeting – Europe's situation in the post-RDR phase of the GDE. He summarised the thinking going on inside the GDE Executive Committee. B. Barish has asked BF to lead these preparations and he would make a plenary presentation on Friday. The estimate was that a factor of 2 increase in the current FTEs

working on the ILC would be necessary to produce an EDR that would be the basis for approval to construct the ILC in 2010. The GDE would need some internal reorganisation and strengthening of project management but the top-level management seemed fit for purpose and the idea was evolution rather than revolution in structures. The way in which to produce the necessary increase in effort would probably be to split up the project into work packages that would be open to bids from consortia. The danger of work packages is that they will tend to freeze the project for ever, which may make difficult the assimilation of new collaborators. GW welcomed the idea of work packages and said that it was actually positive that these things were frozen because it would allow us to make more rapid progress; and welcomed the reduction in duplication in R&D that such a work package structure would imply. The type of manpower required in the increase is a problem – in the US the current staff are split 2/3 in R&D and 1/3 in engineering – in France it is 95% R&D and 5% engineering, which is probably true elsewhere in Europe. We will need to shift effort from R&D to engineering. There should be a European shift towards engineering to support the need to secure well defined engineering packages. DE reported that it is expected that more effort will be available in Spain. They are submitting an ambitious proposal to government including ILC work. This will contain engineering aspects. AW welcomed the proposal to define work packages. The DESY position will be to utilise the synergies with the XFEL and will need to decide which work packages to bid for. PB asked what mechanisms would be put in place to ensure that the losers in the bids for work packages were not lost to the project. BF said that this was not yet defined, but we would need staggered competitions and also consortia who were flexible enough to absorb members after the allocation of work packages. MP urged the need for a European-wide view and decision on which work packages Europe should bid for. GW suggested that the EGDE Advisory Board was an appropriate body that could accomplish the steering of European bids. J-PD said that at CERN nearly all resources are invested in LHC & LHC upgrade & consolidation of the injector chain. How much effort from CERN would be available would need to be discussed with the DG.

It was agreed that a suitable time for the next meeting would be in conjunction with the Beijing meeting, when many of the members would be together because of the GDE and ICFA/ILCSC meetings.

B. Foster
11/11/06