

**SCRF-AS MEETING**  
**LAL/Orsay, 14 may 2006**

**Present:** O. Brunner, M. Grecki, P. McIntosh, J. Knobloch, O. Napoly, F. Richard, J. Teichert, A. Variola, W. Weingarten

At PSI: T. Schilcher and T. Garvey

At DESY: D. Proch, R. Mayer

At LASA-Milano (part time): P. Michelato

**Excused:** S. Guidicci, V. Palladino, R. Seviour

Presentations can be found in

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=1565>

### **Preamble**

T.S asks about the budget attribution for PSI that actually is zero in the JRA Cost Table (see Excel file). O.N explains that only the total Work Package (WP) costs is reported, under the WP Coordinator Institute. The distribution between different partners of a WP is not described yet in the "JRA Cost Table": the JRA coordinators will work out this distribution.

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### **0) Approval of the Agenda**

The agenda of the meeting is discussed and approved by the participants.

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### **1) Report from the ESGARD meeting:**

<http://ilcagenda.linearcollider.org/materialDisplay.py?materialId=6&confId=1565>

- 1) Visit of D.P and Roy Aleksan to D. Pasini at Brussels in April. The total budget has been established at 160 M€ for the bottom-up IA's. D. Pasini does not see two different IA's on accelerator R&D and suggests submitting only one IA with an EC support of about 15 M€ (equivalent to CARE's subvention). **This could force all 3 Preparatory Groups to reduce the scope of their proposal by as much as a factor 3 in the EC subvention.** ESGARD has not decided yet how to respond to this information.
- 2) O.N says that in September (10-11) there are discussions to hold a public meeting at CERN organized by ESGARD. The decision on this meeting is not yet final. All the interested communities are invited. Three "half days" will be devoted to the presentation of the three working groups, and the remaining half day for general discussions. Priorities, structure of the IA's and JRA's, and budget will be discussed before starting the writing process for the submission to the EU.
- 3) ESGARD has expressed support to two Design Studies (Neutrino and SuperB), and two CNI-PP (LHC and ILC). Particularly for the later ones, the proposed budgets could be too large so ESGARD warns that a reduction of the technical activity budget could happen.
- 4) P. Burrows is mandated by the EU-GDE to prepare ILC oriented JRA proposals. A.V says that he has already been contacted by P. Burrows for the positron source. A discussion

will occur during LCWS 2007 in Hambourg. So the process of exchanging information between the GDE and the ESGARD Preparation Groups has already started and this is positive. However this process has to take into account also the probable budget reduction for the JRA's already proposed.

#### Discussion on the total budget for FP7/I1

O.N points out that either there is a budget reduction of a factor 2 to 3, or there is a global increase in the support form the national institutes.

D.P suggests foreseeing an important budget request to reduce the impact of a possible reduction.

F.R says that in a discussion he was told that an increased political pressure could benefit to the community, so taking the risk to go to two IA's must be evaluated.

#### Discussion on the two CNI's

##### SLHC:

- 1) WP4 is a Work Package on SC magnet
- 2) WP5 includes LLRF activities

##### ILC HiGrade :

Two mains goals:

- 1) Internal organisation and governance
- 2) Qualify and industrial process for cavities production => 30 cavities (+EP, couplers, tuners...) foreseen. RF tests must be carried out at DESY and Saclay.

In the case of a budget reduction, the number of cavities could be reduced to 26 (1 RF unit)

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## 2) SRF-AS Status Report

<http://ilcagenda.linearcollider.org/materialDisplay.py?materialId=5&confId=1565>

1) The roadmap is discussed. It foresees the closing of the EU call in March 2008 and a decision on the number of IA's taken during the summer 2007.

O.N thinks that there is a certain delay and that in the September ESGARD meeting at CERN all the aspects of priorities between R&D's will be discussed. So the decision must be expected for that period and after the meeting.

Budget reduction must be expected. A proposal is to be prepared with two plans:

- a) A plan taking into account a minimal scenario (strong budget reduction) that takes into account only high priority R&D's.
- b) An extensive plan for a scenario where all the activities are included.

2) O.N visited the different interested communities. The summary of his meetings in CERN, DESY (DE), DARESBURY (UK), ORSAY (FRANCE) and POLAND is illustrated.

3) Industrial participation is still to be evaluated. W.W contacted ACCEL. It seems that for the different industrial partners it is difficult to participate due to the industrial secret. It is possible to find industrial partners that agree to participate if they are the only industry involved. This attitude change when another industrial partner is associated. At this point there is still interest to participate to the R&D activities but as external associated partners.

It is suggested to send the CARE agreement to the partners in such a way that they can have a first evaluation if they can fit in such a context.

It is also suggested to get in touch with the XFEL industrial forum [EIFast](#) to have a list of partners that could be interested.

#### 4) JRA structure

O.N mentions that there are two updates from UK. This has been included in the .zip [file](#). In the JRA Cost Table, the overheads are not taken into account since the rules are still not clear and presumably institute-dependent. The Cost Table indicates the balance between countries within the SRF-AF activities, but more important is the final balance between the ensemble of the 3 ESGARD Preparatory Groups.

#### 5) Next steps.

It is important to have a clearer understanding of the resources investment of the European SCRF labs into the XFEL project. D.P remarks that the global strategy in DESY will be established soon by the top management. Similar discussions are taking place in France and Italy.

The success of the CERN White Paper, and of the two CNI-PP will also be determinant to evaluate the strategy and the resources.

O.N asks if it is appropriate to close the Letter of Intent acceptance. A.V and D.P remark that if there is a delay in decision after the CERN meeting, it is premature to impose a deadline on May 15. O.N hopes that further LoI's will fit in the currently identified JRAs.

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### 5) Discussion on JRA Organisation and potential Coordinators

<http://ilcagenda.linearcollider.org/materialDisplay.py?materialId=8&confId=1565>

O.N reminds that one of the goals of this meeting is to identify a coordinator for each JRA. This coordinator would have, as first task, to present the JRA activities at the ESGARD September meeting, if this meeting is confirmed, and later to coordinate the different WP of the JRA.

JRA5 (RF Test Infrastructures) => W.W accepts.

JRA4 (Accelerator and Beam Studies) => There are two main actors in this JRA, DESY and FZ Rossendorf. So it is suggested that there are two speakers for the moment for each lab. It would be better if they can agree at the end for a unique speaker. J.T is selected for FZ Rossendorf, while D.P will have a search for the good representative at DESY.

Both persons are invited to take contact with Roger Jones at the Cockroft Institute, Nicoleta Baboi and M.G at DESY.

JRA 3 (Thin Films) => Marek Sadowski from Swierk, is mentioned as a speaker

As far as this JRA is concerned D.P remarks that the eventual participation of DESY has to be discussed in particular if both CNI's are approved. This would require a careful re-evaluation of the DESY manpower engagement in general and in particular in this JRA.

JRA 2 (Prototype Cavities) => this JRA covers different topics. It is proposed to proceed with different speakers for each activity: P.McI (Cockcroft Institute) for Crab + ERL, Matteo Pasini (CERN) for  $\lambda/4$  cavities. As far as DESY is concerned, it is necessary to wait until the effort that DESY can take into account is known. So the speaker will be decided in September before the ESGARD meeting.

JRA1 => O.N suggests that one speaker could be chosen between the different experts of the proposed Work Packages.

**Action : O.N. will contact the potential speakers and coordinators**

A discussion follows on the relationship between the CNI-PP and the JRA1. There is an agreement on the fact that the CNI is devoted to assess the baseline cavity processing. The JRA1 addresses the R&D beyond this scope. So, it is necessary to identify the differences and to distribute the CNI proposal to the JRA1 partners.

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#### **4) Updates from Institutes**

DESY (D.P)

The participation of DESY to the JRA5 depends on the new DESY accelerator management which will evaluate the participation to the infrastructure utilisation. On the other side, the beam physics activity on FLASH will continue. The RF-GUN activity is less certain.

POLAND (M.G)

There is a strong interest in the LLRF activity. Not all the components can be provided by industries so there is an activity on design and realisation.

T.S asks if PSI is comprised in the fund request. The answer is affirmative and M.G thinks that the sum represents a total cost (not the requirements for the EU).

D.P remarks that in an IA the task must be dedicated to improving existing infrastructures, while in the proposal a lot of different LLRF studies are correlated with different machines. M.G believes that the main infrastructure involved in this activity will be FLASH.

**Action : M.G should provide a public version of the LLRF document as soon as possible**

UK (P.McI)

Two new letters of intent (FISHs and HOMBPM) has been sent with a revised budget of 2 M€ and 2.25 M€ respectively.

The ILC crab cavity program has three years duration as the CW ERL module because of synchronisation with the STFC funding.

P.McI received the W.W proposal and they need to evaluate it before a precise commitment can be made.

O.N asks about the scenario for the UK participation in the XFEL. P.McI: at present the UK participation to XFEL is basically dedicated in detectors and instrumentation, not on the accelerator side. So there are not particular constraints.

ROSSENDORF (J.T)

No news

CERN (O.B)

No news

INFN Milan (P.M)

The Italian community is waiting for a clear definition of the Italian participation to the XFEL project. Carlo Pagani is presently in a meeting in which this question is discussed. Until then, it is premature to discuss the INFN participation in JRA1 or JRA5, although the LASA laboratory is interested in principle. A meeting is scheduled later at Milano between O.N, W.W and the Italian representatives.

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AFTERNOON SESSION

#### 4) In depth review of the JRA Projects

<http://ilcagenda.linearcollider.org/materialDisplay.py?materialId=8&confId=1565>

JRA1

WP 1 – Single Crystal : FZ Rossendorf shows an interest for this activity to reach high fields in the SC gun. D.P confirms the validity of the application for two German institutes to be included. O.N would like to receive an update of the FZR letter of intent indicating the cost breakdown between Work Packages belonging to different JRAs.

A question is raised on the possible overlap with the CARE budget request. D.P says that in CARE the R&D was devoted to single cell cavities. Here the proposal is for multicell structures.

WP2 – EP and Fundamental Surface studies: the requested budget from Cockroft Institute is revised to 2 M€ P.McI will see if Rebecca Seviour can contact the different actors (like Saclay..) and check their eventual willing to participate to this WP. Saclay will continue the activity on EP and surface investigation.

WP3 – INFN is waiting for official decisions. The LAL-Orsay budget request has been split in two in the JRA1 and JRA5. A.V points out that his Letter of intent does not take into account the total cost. A new estimation of the total cost must be provided.

JRA2

WP1 – Crab cavity: DESY has been included because of the common developments with the 3.9 GHz LLRF and ancillaries. O.N asks if DESY knows this. P.McI says that there has been an e-mail exchange but nothing official.

INFN is interested in the tuners.

WP2 – 3.9 GHz Cavity: Cockroft Institute is interested due to the synergies with the LLRF for 4GLS. DESY is also interested.

WP3 – CW ERL: the goal is to build a proto with two 1.3GHz TESLA type cavities + a beam test (1 mA and then at 100 mA at Cornell). This justifies the important budget request. BESSY and FZ Rossendorf are interested.

WP4 – RF Gun Cavity: there are two requests from DESY and Rossendorf . The last is not detailed but overlaps with the above JRA1/WP1 FZR interest. J.T thinks that it is better to move the 100k€ in JRA1 to this WP.

J.K says that BESSY in principle is interested in RF SC gun.

WP5 –  $\lambda/4$  sputtered cavity: the possible partners are INFN Legnaro, Cockroft Institute, IPNO Orsay and Ganil, to be checked.

JRA3 Thin Films

FZ Rossendorf asks to be included in the WP3 (photocathodes).

#### JRA4

WP1 – FLASH: this is the biggest WP. The HOMBM budget is revised to 2.25 M€ Kracow and IPN-Orsay are participating to the LLRF Letter of Intend.

WP2 – ELBE : no comments

WP3 – Cryogenics: no recent news for the Cryogenics WP from Grenoble (with CERN).

#### JRA5

WP1 – GPI at CERN: if only hardware costs has to be taken into account the budget decreases from 6.4 to 5.1 M€ W.W propose to distribute the infrastructures in a network (and not only at CERN) and then to collect the single budget request to arrive to the total cost.

J.K reminds everyone that, unlike in FP6, the Full Cost model is enforced in FP7. Therefore, all contractors can declare the Permanent Manpower Cost as eligible costs. The definition of overheads (or indirect costs) can follow several models as decided by each institute (cf. [FP7 Guidelines](#) under pages 40-45). The definition of durable equipments and the depreciation (amortization) rules are also left to the institutes according to their own regulation (cf. [FP7 Guidelines](#) under pages 39-40). The depreciation, calculated over the project duration, can reduce significantly the part of the durable equipment costs which is supported by the EC. According to the Guidelines, the cost of durable equipments can include other costs (site preparation, delivery and handling, installation). The debated question is to know whether M&P maintenance and base load costs can also be included. It is important to clarify this point as soon as possible especially for all partners of JRA5 in which an important amount of money has to be spent on hardware that cannot be considered as prototypes or consumables. A possible solution is to ask money essentially for manpower and overheads, and to cover durable hardware costs with the institute contributions.

WP2 – SupraTech: Saclay and Orsay did not include the permanent staff manpower cost.

WP3 – TTF: although the participation of DESY needs to be confirmed, the infrastructure costs for the 3.9 GHz cavity development is included. The 3.9 GHz cavity cryomodule development cost belongs to JRA2/WP2.

WP5+ – BESSY and LASA are interested and will discuss their participation at later meetings with W.W.

#### Actions:

- 1) **FZR will provide an updated Letter of Intend with a cost breakdown over the different work packages R1 to R5.**
- 2) **A better understanding of the eligible costs relevant to JRA5 should be worked out (W.W, O.N, ...).**

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## 6) Discussion on NA and TNA Organisation and potential Coordinators

### TRANSNATIONAL ACCESS

JRA4 is a natural candidate for TN access. A TN access is mandatory, either FLASH, ELBE, CERN (magnet lab)... There is not problem for university participation.

### NETWORKING ACTIVITIES

Cost in CARE was around 400-800 k€ At present there is no clear proposal for a NA.

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## **7) Discussion on the Working Group strategy**

A discussion on how to decide a list of priorities in case of strong budget reduction follows. A proposal is that the different institutes (or States) have already a classification of the Work Packages distributed horizontally across the different JRA's. In this way one could avoid cutting an entire JRA by eliminating Work packages.

Alessandro Variola, and Olivier Napoly