



## 10th MEETING OF THE SNX COUNCIL

Grenoble (France)  
Thursday 27th and Friday 28th November 2008

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In Attendance: SNX Council, SNBL Administrative Manager, Observers from RCN and SER, BL Scientists.

### 1. Approvals and Review

[R. Abela]

#### 1.1. Approval of the Agenda

The agenda is approved by all.

**Appendix No. 1.** Approved New Agenda.

#### 1.2. Approval of the minutes of the 9th SNX Council

The minutes of the 9<sup>th</sup> SNX Council are approved by all the members.

#### 1.3. Review and results of actions decided at last meeting

**9.1.1.** Look at the education aspects of the SNBLs, CH and NOR process to converge. Will further explore the possibilities. **Helge LARSEN and Jeroen VAN BOKHOVEN. Deadline: next SNX meeting in November 2008.**

**Helge LARSEN** mentioned that there is some funding available in Norway for educational purposes. There is also funding available to students to cover their travelling costs. The 16 and single-bunch mode could be used for student training activities, but this has to be planned in a more coherent way together with the Swiss side.

**Gervais CHAPUIS** reported that every second year a course is organised on the synchrotron techniques, he is therefore reluctant to add a new course on this subject for students, as this would be too demanding for them.

**Jeroen VAN BOKHOVEN** enquired as to how SNBL can integrate students, and how SNBL can participate in these programmes. **Gervais CHAPUIS** underlined that the extra load of work for the SNBL staff should be evaluated.

**Rafael ABELA** stressed that new programmes should not be created, only existing programmes should be considered for the Swiss side (for example MaMaSELF- *Master of Materials Science exploiting European Large Scale Facilities*, Hercules). Practical sessions at SNBL could be considered.

**Helge LARSEN** underlined that the situation is different in Norway, as students have to have 20 credit points, and practical training at SNBL is needed. Helge LARSEN is still working on the exact number of students concerned, and the exact needs. Conclusion: Action 10.1.1

**10. 1.1. Evaluation of the needs and of the extra work for SNBL staff. Helge Larsen. Deadline: June 2009**

**9.3.1.** OUTSIDE CONTRACT amount. Each SNX Member is to enquire on how to find this amount. **Rafael ABELA and David NICHOLSON to coordinate. Deadline, November 2008.**

David NICHOLSON reported that in a recent meeting at NSR, funds were made available (around NOK 1 million) for investment in equipment. A prioritised list should be prepared by SNBL. The conditions are that a prioritised list be sent to the Research Council and that the Swiss side also finds funds. See action under point 5.

**9.5.1.** The Committee of the Future is to collect and identify the specific directions, the impact on manpower, and the developments to be undergone. **On the Swiss side: Rafael ABELA, on the Norwegian side: David NICHOLSON. Deadline: Draft for consideration at the SNX Meeting in November 2008.**

This point will be discussed under point No. 5.

**9.5.2.** SNX Council will work on acquiring funding from CH and N to replace old equipment, for example MAR, **responsibles Kenneth KNUDSEN, Gervais CHAPUIS/Marc SCHILTZ. Deadline next SNX meeting, November 2008.**

This point will be discussed later on, see point No. 5.

**9.9.1.** The 11<sup>th</sup> SNX Meeting will take place in June 2009, in Lugano. Final dates to be decided by end of June 2008. **Chantal Heurtebise. Deadline end June 2009. Result : The final dates for the 11<sup>th</sup> SNX Meeting are Thursday 11<sup>th</sup> and Friday 12<sup>th</sup> June 2009**

## 2. Report of the SNX Director

[V. Dmitriev]

### 2.1. SNX and A-SNG operations

### 2.2. Report on Meetings and Workshops

#### Past events:

"*Simultaneous Raman-X-ray diffraction/absorption studies*", 18-19th June 2008, there were around 80 participants.

#### Forthcoming events:

"*Diffuse Scattering in Crystalline Materials*" will be on 25-26th June 2009 at ESRF, in collaboration with ID 28.

### 2.3. Report of Beam Lines Review

The review has been extremely positive. Many interesting scientific discussions took place during the review.

**Vladimir DMITRIEV** acknowledged the SNX financial support, together with the moral support which contributed to the SNBL success.

**Rafael ABELA** reported the very positive return from SAC, and stressed that this review was very important for the SNBL.

**David NICHOLSON** underlined that the SNBL progressed greatly from the last review, which took place in 2004.

**Martin STEINACHER** appreciated the presentation of the report from the SNBL. "*The Beamline Review echoes the perception we have of the SNBL, we are convinced that further financial support is well deserved*". The success is due to each staff member involvement. If more human resources are needed to fully exploit the refurbished and upgraded beamlines, this should be communicated to the funding agencies in due time for the renewal of the MoU, CoA and performance contracts.

See Vladimir DMITRIEV's full presentation in **Appendix No. 2.**

See Beam Lines Review Panel Report, **Appendix No. 3.**

## 3. Financial Matters

### 3.1. Income and Spending 2008 as of November 2008

[C.Heurtebise]

Income 2008 presented as decided during 8<sup>th</sup> SNX Meeting, Compte d'exploitation (Spending) November 2008, see **Appendix No. 4.**

Discussion regarding the following points :

Extra costs for dismissal of the technician : CHF 52,640 amount to be taken from reserve, in 2009.

**Rafael ABELA** requested to mention PSI contribution, roughly CHF 60,000 for STRIP DETECTORS. Exact amount to be provided by Rafael ABELA.

From the amount still due by PSI, namely CHF 19'000, half this amount is considered as a participation to the STRIP Detectors, the other half will be paid by PSI via invoices issued to the SNX Foundation.

### 3.2. Financial Summary of Projects

[C.Heurtebise]

Income 2008, see *Appendix No. 5*.

The following projects are now finalised :

Raman

High pressure

Gas Mixing System

### 3.3. Income and Budget 2009

[C. Heurtebise/. V. Dmitriev]

Income 2009 was presented by the Administrative Manager. Budget 2009 was presented by the SNBL Director, see *Appendix No. 6*.

## 4. Status of the SNBL operations

### 4.1. Beamline A: Operations

[P. Pattison]

See Philip PATTISON's full presentation in *Appendix No. 7*.

Philip Pattison presented a short status report on BM01A, describing the operational status of the beamline, a selection of recent scientific highlights and some technical developments. The highlights included work emerging from collaborations between SNBL and the University of Geneva, EPFL together with the University of Cambridge, and the University of Zurich. Examples of recent publications in the field of protein crystallography from experiments carried out at SNBL were also given. In addition to presenting an update on some ongoing technical developments, the pressing need for replacing area detectors on BM01A was stressed.

**Jeroen VAN BOKHOVEN** inquired as to the percentage use of Raman on BM 1A. This represents roughly 20%. **Vladimir DMITRIEV** mentioned that 25% of all projects request Raman.

Many groups have Raman in their home laboratory, and they use it in situ-experiments on the beamlines.

### 4.2. Beamline B: Operations

[H. Emerich]

The situation and projects on the B station were presented.

#### A) Strip Detector

As a high priority project the different possibilities for a mechanical integration of the already delivered strip detector onto the beamline were shown. Due to the lack of space it is not possible to build an independent (rotary) stand for it. It must therefore be integrated into our existing diffractometer mechanics.

The only two options left are mounting it either on the outer theta –circle or on the independent inner omega circle. The latter choice is mechanically more challenging but allows to measure simultaneously with the strip detector at negative angles and the 6-channel detector array at positive angles. This creates however potential mechanical conflict (collision) amongst the two units

#### B) “Monochromator Glitches”

The situation and tests on “monochromator glitches” were summarised. Several possible sources (like non-linearities in detectors, and amplifiers, errors in the alignment of the ion chambers , gas fillings etc) can be excluded according to recently performed tests.

More commissioning time is needed to come to the bottom of the problem. It was pointed out that the investigations are done in close contact with other beamlines (BM29, Fame).

### C) Mirrors for harmonic rejection

It is known that the use of harmonic rejecting mirrors (instead of monochromator detuning) improves the data quality. The old Exafs mirror system is out of order and has always performed badly. A cost estimate of building an in-vacuum mirror system in-house is of the order of at least 80keuros at the expense of at least a year and a half in conceiving and building it. A system built by an external company may be faster but the costs are expected to double.

**David NICHOLSON** referring to the CoF Report, remarked that the glitch problem is of great concern to users. (see also 5.2)

**Jeroen VAN BOKHOVEN** pointed out that the problem seems to be specific to the beamline. As far as he is concerned, measurements had to be re-done on another beamline.

**Kenneth KNUDSEN** underlined that it is crucial to find out the origin of the problem.

**Rafael ABELA** pointed out that there are other beamlines working very well, and therefore there is no reason why this should not be the case for SNBL.

## 5. Future of SNBL

COF Members were warmly thanked for their work.

See reports Swiss CoF and Norwegian CoF in **Appendix No. 8.**

### 5.1. Swiss CoF

[G. Chapuis]

Although there were fewer answers to the Swiss survey than to the Norwegian one, here are the main comments :

The combination of methods is highly appreciated, the infrastructure, the data quality issues have also been stressed. It could be more friendly user.

SNBL should deal with what they have, and should not try to do things that are better done on other stations.

### 5.2. Norwegian CoF

[K.Knudsen]

**Kenneth KNUDSEN** reported on the questionnaire.

The main comments are :

- The A-station is a multipurpose facility, and has to continue that way.
- Versatility is very important
- Energy range can remain more or less as is now
- One recommendation is that SPEC should be used as a general control as this is the case for the ESRF
- One should not try to gain intensity which would result in reducing resolution

The comments regarding instruments :

- Investment in a new detector is important

KM6

New CCD

**Rafael ABELA** concluded as follows :

The immediate future to be discussed :

#### - Station A

Implementation of SPEC as a control system. This is in the process of being implemented, it is mainly a question of time.

Beamline control should be more user friendly.

Regarding the implementation of KUMA, **Gervais CHAPUIS** commented that as there is no help from KUMA, SNBL should employ a professional programmer in order to solve this issue.

Regarding SPEC, **Philip PATTISON** commented that the investment in hardware is substantial, together with a software documentation (which would roughly take one year). This would cost around half a million Swiss Francs. The achievement seems to be not sufficient to support this investment.

It is decided to leave the KUMA as it is for the time being. If other users make the request, this decision will have to be revised.

The point detector is to be replaced by a pixel detector, e.g. a Pilatus 100k.

The CCD detector has to be replaced. A quotation will be provided by Philip PATTISON.

The present CCD detector is presently under warranty. But the new CCDs are much better (read-out time for example, dynamic range is higher with the new CCD- Price range CHF 25' 000)

Concerning the large area x-ray detector, a replacement of the current MAR is not regarded as the best option. A state-of-the-art large-area detector should be considered, while the current MAR is maintained in operation. An evaluation should be done so as to specify the exact type for the new area detector.

### **- Station B**

SPEC is already installed.

The immediate actions on station B are as follows :

- clear recommendation about improving glitches, energy, intensity of the EXAFS instruments. **Rafael ABELA** stressed that it is necessary to improve these points. It is a very high priority for the next two years.
- In response to **Hermann EMERICH**'s concern about costs **David NICHOLSON** responded by stating that it is important to find the best technical solution regardless of cost. It is the responsibility of Council to find and approve allocation of funds.

**Vladimir DMITRIEV** pointed out that all additional money should go to station-B to solve the problems.

Regarding the STRIP detector, it is up to the team to organise these improvements. Station-B is in care of the hardware, Station-A is in charge of the software.

**Jeroen VAN BOKHOVEN** suggested having experts from outside to help solve this issue. SNBL should select experts, then organise a meeting in order to have a full analysis on the problems and find the adequate solution.

**10.5.1. A working group is to be organised to find solutions to the problems on Station-B. Vladimir DMITRIEV. Report for SNX Meeting in June 2009.**

**Vladimir DMITRIEV** suggested a common application, similar to the Raman Project, in order to have funds to purchase the necessary equipment for a good running of the beamlines.

As a reminder, the deadlines for such an application are :

- on the Swiss side, R'Equipe, 15th May 2009
- on the Norwegian side, 11<sup>th</sup> February 2009

The Norwegian side is willing to apply for equivalent funding. This will have to be coordinated with the Swiss side.

On the Swiss side, **Rafael ABELA** stated that a new application will be sent to R'Equipe. The following actions resulted from this discussion:

**10.5.2. SNBL is to provide a prioritised list of equipment needed. Vladimir DMITRIEV. Deadline : beginning December 2008 if possible.**

**10.5.3. Regarding the upgrade programme, a list of expenses should be issued. Vladimir DMITRIEV. Deadline December 2008/June 2009.**

**Kenneth KNUDSEN** enquired about the possibility of having beamtime allocation more flexible, although it seems to be a big advantage to follow ESRF deadlines. It was generally agreed that Long Term Proposals and Urgent Proposals allow for more flexibility. These two possibilities should be conveyed to the users.

The ESRF are looking for new ways to deal with the CRG beamlines. BM 29 do not have enough staff to run the beamline. The ESRF is still providing money to support this beamline. The possibility for SNBL would be to provide an extra staff to BM29. Beamtime available (in the order of an extra 25%) would be increased for SNBL users. Rafael ABELA is to contact the ESRF in order to have more detailed information on how this could be organised (for example one staff member provided by the ESRF, one staff member provided by SNBL, plus technical support from the ESRF). This would be a further collaboration to be probably planned for 2012.

**Aase Marie HUNDERE** pointed out that the extra beamtime needed will have to be documented. Any future Norwegian evaluation of this would, in addition to other parameters, depend on the Norwegian need for more beam time.

**10.5.4. Enquiry as to an eventual collaboration with BM29, details to be obtained from the ESRF as to the conditions, including staff issues and technical support. Rafael ABELA. Deadline June 2009.**

## 6. Any other business

[R. Abela]

### 6.1. Transfer Of Salary

The Norwegian and the Swiss parties agree to transfer the salary of the Director to the French Association (Association SNX Grenoble).

A French lawyer, specialised in working rules, has been contacted in order to check the details of the new work contract. The lawyer is to provide an answer for the 1<sup>st</sup> week of December 2008. The document, once received from the French lawyer, will be sent to Rafael ABELA who will distribute it in order to have this new contract signed.

### 6.2. Decoupling the personal financial liability of the President of A-SNX

In order to decouple the ASNX President's personal liability an addition to the company's bye-laws is required. The Board Meeting of the Association SNX approved the issue of the bye-laws which will be presented in June 2009. Rafael ABELA and Chantal HEURTEBISE to issue Bye-laws for June 2009.

### 6.3. Internal Matters

See reports and discussions in **Appendix No. 9**.

At this stage, **Rafael ABELA** reported that as from January 2009, he will be Research Director of XFEL at PSI. This new position will no longer allow him the necessary time to continue being Chairman of the SNX Foundation. He therefore issued the wish to step down from the responsibility of Chairman of the SNX Foundation.

**David NICHOLSON** is sorry that Rafael ABELA is stepping down, but understands fully the reason for this decision.

The Vice Chairman will be the interim Chairman until June 2009. Rafael ABELA will enquire as to his replacement as Board Member to the SNX Foundation and will provide a name before June 2009.

**Aase Marie HUNDERE** and **Martin STEINACHER** thanked everyone for this nice meeting, and thanked particularly the staff for their great involvement in the very good running of the beamlines, and for the very good perspectives for the future. Chantal HEURTEBISE was thanked for the presentation of the financial situation, which is well under control, despite the extra expenses involved in the beamline refurbishment carried out by the ESRF.

In Attendance: SNX Council, SNBL Administrative Manager, BL Scientists.

## 7. Discussion of Proposals

[Shepherds]

Requests and Allocations of Beamtime on BM1A and BM1 B, see **Appendix No. 10.**

### BM1 A

Total Number of shifts available		205
Shifts for ESRF	- 66	
Shifts available for scheduling		139
Long Term	- 54	
Dubble request	0	
<b>Shifts available for discussion</b>		<b>85</b>

**Total shifts requested by users : 171**

**Commissioning, time given by the ESRF for commissioning is sufficient.**

All the proposals with Grade **A** and over will get beamtime. Proposals with grade **B** are on the waiting list, the Main Proposer will be contacted by the Beamline Scientist.

### BM1 B

Total Number of shifts available		205
Shifts for ESRF	- 68	
Shifts available for scheduling		137
Long Term	- 36	
Backlog	- 15	
Dubble request	- 15	
<b>Shifts available for discussion</b>		<b>71</b>

**Total Shifts requested bu users : 195**

All the proposals with Grade **A** and over will get beamtime. Proposals with grade **B** are on the waiting list, the Main Proposer will be contacted by the Beamline Scientist.

## 8. Summary of actions to be taken

[C. Heurtebise]

**10. 1.1. Evaluation of the needs and of the extra work for SNBL staff. Helge Larsen. Deadline: June 2009**

**10.5.1. A working group is to be organised to find solutions to the problems on Station-B. Vladimir DMITRIEV. Report for SNX Meeting in June 2009.**

**10.5.2. SNBL is to provide a prioritised list of equipment needed. Vladimir DMITRIEV. Deadline : beginning December 2008 if possible.**

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**10.5.4. Enquiry as to an eventual collaboration with BM29, details to be obtained from the ESRF as to the conditions, including staff issues and technical support. Rafael ABELA. Deadline June 2009.**

## 9. Concluding remarks

[R. Abela]

**11<sup>th</sup> SNX Meeting. Thursday 11<sup>th</sup> and Friday 12<sup>th</sup> June 2009** The June 2009 SNX Meeting is organised in Lugano, Switzerland.

**12<sup>th</sup> SNX Meeting.** This meeting will take place in Grenoble, on Wednesday 2nd and Thursday 3rd December 2009.

**Rafael ABELA** thanked everyone for this meeting. He is confident that the SNBL will continue on the same level of excellence in the coming years, provided solutions are found to the existing problems on the beamlines.

**List of appendices, showing the page number on which they appear in the minutes.**

**Appendix A are available only to SNX Members and Observers**

**Appendix B are available to all.**

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