



## 8th MEETING OF THE SNX COUNCIL

Grenoble (France)  
Wednesday 28<sup>th</sup> and Thursday 29<sup>th</sup> November 2007

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

### 1. Approvals and Review

#### 1.1. Approval of the Agenda

[R. Abela]

The agenda is approved

**Appendix No. 1.** Approved Agenda

#### 1.2. Approval of the minutes of the 7th SNX Council

**Martin STEINACHER** underlined that it is helpful to be able to consult the minutes before their final version is issued.

**Philip PATTISON** and **Chantal HEURTEBISE** are thanked for the minutes of the 7<sup>th</sup> SNX Meeting.

The minutes of the 7<sup>th</sup> SNX Council are approved by all members.

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

**7.5.1 : A. M. Hundere and M. Steinacher to coordinate the preparation of a revised MoU for signing by 1st October 2007.**

**Martin STEINACHER** reported that the text of the MoU has been formalized, only minor modifications were made. Signature process is now done in Oslo. Aase Marie HUNDERE will send the signed copies to Gervais CHAPUIS, Martin STEINACHER and Rafael ABELA for signature by the Swiss Party. The MoU covers the period 2008-2011, with a likely continuation for another 4-year period.

**7.5.2 : V. Dmitriev to provide an updated appendix to the MoU concerning the equipment and infrastructure of SNBL. Done July 2007.**

**7.5.3 : A. M. Hundere and G. Chapuis to coordinate the preparation of a revised agreement for signing by 1st October 2007. Done**

**7.5.4 : V. Dmitriev to prepare a Performance Contract between SER and SNX for the period 2008-2011. M. Steinacher to provide a template contract and details of the requirements of SER in formulating such a contract. A contract should be ready for signing by 1st October 2007.**

The Performance Contract is now signed by Rafael ABELA. Martin STEINACHER has the two signed copies, **Rafael ABELA** underlined that this Performance Contract is an excellent document to be used as a basis for the next four year. Everyone who worked on this document is thanked for the effort and time spent on this contract.

## 2. Report of the SNX Director

### 2.1. SNX and A-SNG operations

[V. Dmitriev]

A. Technical operations – redistribution of shifts amongst users. No dramatic changes

B. Administrative actions – **Vladimir DMITRIEV** mentioned that SNBL has now a PhD student on the beamlines, Wouter VAN BEEK. He was classified amongst the first 6 (Università degli Studi del Piemonte Orientale). Topic collaboration simultaneous diffraction of Raman, a LTP project accepted a year ago. **Philip PATTISON** underlined that Wouter VAN BEEK is particularly interested in the subject of solar cells, and that he also works in collaboration with EPFL in this field.

See presentation in **Appendix No. 2**.

### 2.2. Report on meetings and Workshops

[V. Dmitriev, P.Pattison, Y.Filinchuk]

#### Increase of Visibility of the SNBL

**Rafael ABELA** remarked that there seems to be a step function in the increase of publications, and stressed that the beamlines have been improved (new techniques for example), which might be one of the reasons for this step rise.

**Vladimir DMITRIEV** is of the opinion that it is difficult to explain why this is so, but there seems to be now a kind of stabilization.

#### Workshops.

- **Gas System Training Sessions**, from 10th to 14th October 2007, organised by Yaroslav FILINCHUK. This training took place over 4 days of in-house beamtime – one day was devoted to commissioning, two days for the combined use with Raman, one day to try to use H loading. Altogether 15 people attended this training session, from the following institutes: Institut Lavoisier, CNRS-Univ Versailles, France, EMPA - Materials Science & Technology, Switzerland, MADIREL, CNRS-Univ. Provence, France, Institute de Microtechnique, Université de Neuchâtel, Switzerland, ENSICAEN - Université de Caen Basse-Normandie, France, Laboratory of Crystallography, University of Geneva, DUBBLE at ESRF. **Vladimir DMITRIEV** stressed the age range of those participants who represent our future users. They optimized the protocols. At this stage, **Philip PATTISON** stressed that Safety was extremely cooperative in organizing the safety issues and are thanked for the time spent on this. See corresponding slides in **Appendix No. 2**.

David NICHOLSON wondered whether these sessions could be used for training students.

- **High Gas Pressure Workshop** – This took place over two days on 8<sup>th</sup> and 9th November 2007, organised by Philip PATTISON. Twenty participants attended from outside institutes, and 10 from CRG beamlines and our own team. The Head of the ESRF Sample Environment Group, Peter VAN DER LINDEN, is thanked for his contribution. The ESRF is not developing this kind of instrumentation. The participants were enthusiastic about this workshop. The collaboration between DUBBLE and SNBL is important and useful. Gas experiments are planned to reach 200 bars for 2008, and there is a need for further increase. It therefore means further investments which have to be envisaged in the future. David NICHOLSON is thanked for the financial help that came from NTNU for the high gas pressure equipment and for his support of the workshop.

Vladimir DMITRIEV attended the following Meetings – see his presentation.

SLS User meeting 11-12<sup>th</sup> September 2007.

Annual Meeting of the SSC/SGK Villigen – 13<sup>th</sup> September 2007

XXth Max Lab Users Meeting (Lund, 29-31<sup>st</sup> October 2007).

Vladimir DMITRIEV was invited by the Slovenian Academy of Science to visit the Academy and give a lecture. Vladimir DMITRIEV was received by the President of Academy, Prof. B. Zeks. Prof. D. Hadzi, Member of the Academy, took part in the discussion on possible participation of Slovenian researchers in studies with synchrotron radiation.

Hans-Beat BUERGI, when doing an experiment at the SNBL, enquired about what was the capitalisation of the high productivity of the beamlines. Here is part of the answer given by the Director :

In 2007 we received from our User community :

- EUR 260,000 for the Raman equipment
- EUR 106,00 for the Gas system for catalysis
- The full trust from the ESRF, as mentioned by Gervais CHAPUIS, which is extremely important.

See presentation of Vladimir DMITRIEV, **appendix No. 2.**

## 2.3. Refurbishment program: current status

[V. Dmitriev]

Current Status

1. Refurbishment of the end stations
2. Modification of the Stepper Motors Control Systems
3. Refurbishment of the Vacuum System
4. Refurbishment of the Fluids Systems
5. Infrastructure Modifications

The new cablings further increased the cost of the refurbishment, as this was not budgeted in the first estimate of the refurbishment programme – Of the above mentioned points, points 3, 4 and cabling are now finished.

**Martin STEINACHER** is impressed by Vladimir DMITRIEV's report. Many points for 2008 have already been covered in 2007. Visibility of SNX Director is already well under way. This is an excellent achievement which has to be continued for the next four years.

Technical operations. The question was put as to whether SNBL was affected by the ESRF shutdown because of a water leak in the storage ring. The answer is that it had no major impact for SNBL as it took place during the 16 bunch mode.

On the subject of publications and impacts, it was underlined that the high number of publications, and the high quality of publications are certainly due to the effort and work of the SNBL team, "We are proud of the present team, who ensures such publications".

**Rafael ABELA** enquired as to whether, within the redistribution of beamtime, a lot of time was dedicated to buffer, commissioning, and in-house research, to which **Vladimir DMITRIEV** replied that many projects were scheduled which needed changes of set up, with roughly two projects on each station per week. This is sometimes complicated. Safety has to approve these set-ups, but SNBL has a good relationship with ESRF Safety Group.

**Philip PATTISON** commented on buffer that it is important for users to get good conditions for the Beamtime, and this is by no means a waste of time for them.

**Hermann EMERICH** pointed out that 2 weeks (21<sup>st</sup> August to 5<sup>th</sup> September) were scheduled for commissioning.

## 3. Financial Matters

### 3.1. Income 2007 (payments by funding agencies, other income)

C.Heurtebise]

**Jan-Dierk GRUNWALDT** reported that *"The money for the purchase of the Raman spectrometer has now been transferred to SNX. 200'000 CHF were given by the Swiss Nationalfonds (SNF) and the remaining 10'000 CHF by the ETH Zurich so that all the money expected from Switzerland within this project could be acquired. At this point many thanks to the Swiss groups who participated in the proposal as co-proposers (Steurer, Schiltz, Abela, Baiker) and the many people that were supporting it both in Switzerland (groups such as ETH, EMPA, SLS, Geneva, Neuchatel) and the strong support from Norway (both for their successful*

proposal and the case studies). The greatest thank goes to SNBL and here particularly Wouter VAN BEEK who helped me with the proposal even over Christmas time and gave as the expert most of the input ! I have written a "lay summary" for SNF which I will send around later next month and where I will need your comments"

Jan-Dierk GRUNWALDT was warmly thanked for his help in getting the funds for the purchase of the Raman spectrometer.

Income 2007, See Chantal HEURTEBISE's presentation in **Appendix No. 3.**

### 3.2. Spending 2007 as of Mid-November 2007 (compte d'exploitation) [C. Heurtebise]

The increase in the spending of consumables is explained by Vladimir DMITRIEV. Users increase their use of gases, Helium is expensive. The increase use of gas mixing system is also a reason for this increase. Rafael ABELA enquired on how to deal with the budgeted amount which is lower than the spending, to which Vladimir DMITRIEV replied that there are several possibilities: ask for financial participation from the users, or redistribute the amounts within the budget. It is probably wise to wait for the spending of 2008 which should decrease compared to 2007. This was agreed by all.

Spending 2007, see Chantal HEURTEBISE's presentation in **Appendix No. 3.**

### 3.3. 4-Year Budget 2008-2011 [R. Abela]

It was commented that the increase for personnel salaries is welcome, and that from 2008 the post-docs will get the same level of salary as paid by the ESRF, which is well deserved.

There is a moderate increase for the general expenses.

Energy and consumables, the budgeted amount seems to be too modest it should be increased in the future. The amount spent in 2008 will give a clearer indication of the actual trend.

Infrastructure expenses are based on the present situation. A big increase in the participation to the ESRF has not been included as it is assumed that it will be on a constant level.

All these numbers are in the contracts being signed now.

Comments:

**Martin STEINACHER** thanked Rafael ABELA. The budget as shown was approved. We agreed on a 50% share between Norway and Switzerland. The amounts outside contributions from the two partners were also agreed upon. These contributions represent a minimum; it can be increased. These could cover the forecast increases.

At this stage, **David NICHOLSON** raised the issue of funds for facilitating training. Rafael ABELA underlined that this is not usual on the Swiss side, and that "we have to think about extra fundings for these trainings". Gervais CHAPUIS mentioned that this might be possible for a unique project, but it could be easier to submit requests/proposals to purchase equipment for Research.

**8.3.1.** On the Swiss side, look for sources for educational projects. **Rafael ABELA, Vladimir DMITRIEV and Martin STEINACHER – Deadline June 2008.**

It is suggested that the collaboration between PSI, EPFL, ETHZ and so on, for REquip for projects over CHF 100,000 should be further investigated. Gervais CHAPUIS mentioned that we stood a better chance for such projects, taking into consideration a joint contribution from Switzerland and Norway. **Helge LARSEN** mentioned that funds could be obtained from Norway.

**8.3.2.** Input from SNBL for a 2009 project, so that requests can be prepared. **Deadline June 08.**

Four-Year budget, see **Appendix No. 4.**

### 3.4. Budget and Income 2008 [V. Dmitriev]

Energy and consumables. This should be reduced compared to year 2007, as the gas mixing system will be completely installed. It will be seen next year how spending goes.

Budget and Income 2008, see **Appendix No. 5.**

## 4. Status of the SNBL operations

### 4.1. Beamline A: Operations

[P. Pattison]

Operational Status

Refurbishment was undergone at the same time as the running of the beamline. This has been a challenge. We are now enjoying the result of these efforts.

Technical developments

EUR 22,000 will be needed for the purchase of micro focussing equipment from Xenocs. The equipment is now on loan to us for a couple of months, in order to test it.

KM6 Software development The software should be finalised within a month.

Examples of current activities.

Collaboration between SNBL and Leuven (Belgium)

Collaboration between SNBL (Yaroslav FILINCHUK) and the University of Geneva

Conclusion: There are lots of projects, and therefore lots of data collected. Some of these improvements cost money. These instrumentations we have now will have to be replaced (for example the image plate system and CCD system). These replacements will have to be done via specific requests (for example to REquip for 2009).

**Rafal ABELA** thanked Philip PATTISON for his presentation.

**Rafael ABELA** enquired on how robust the KUMA system is, to which **Philip PATTISON** replied that it is a heavy duty instrumentation, which is not falling apart, but needs just some improvements. Then one has to find out a protocole. It is more a problem of complexity than falling apart. It needs care and attention and upgrading. The CCD is working very well, but CCDs are improving. The CCD systems is now roughly 5 years old.

**Jan-Dierk GRUNWALDT** commented *"The strategy with respect to in situ XAS, XRD and Raman studies also presented at the high pressure workshop earlier in November is excellent. A lot has changed during the past years. Congratulations for these efforts"*.

See Philip PATTISON's presentation in **Appendix No. 6**.

### 4.2. Beamline B: Operations

[H. Emerich]

There have been many positive changes since June 2007.

#### **- Raman installation**

The system is now fully operational but some items are still to be delivered. Many proposals now use the Raman equipment.

#### **- Second "small monochromator"**

Modification of the optics enclosures.

The slit vessels were changed in the summer shutdown, further changes will take place in the next shutdown. The new Mono will be installed in the winter shutdown.

#### **- Improvements to operation and infrastructure**

New vacuum control system

Complete rewiring of the beamline

New gas rack installed

New mass spectrometer to arrive

**- planned activities**

Installation of second mono

New stepper motor controllers

Integration of new mirrors for Exafs

Geir WIKER, the Norwegian Technician from NTNU, did a great job in helping installing the equipment.

**David NICHOLSON** commented that all these changes were very inspiring.

**Kenneth KNUDSEN** is of the opinion that the effect of the refurbishment undergone now, should last for the next many years.

In conclusion, this is now a new step. All these combined experiments are very exciting for the users.

**Vladimir DMITRIEV** commented that a workshop on combined experiments, using Raman, will be organized in 2008.

**Mr. Chairman** thanked Hermann EMERICH and congratulated him for the work accomplished.

See Hermann EMERICH's presentation in **Appendix No. 7**.

## 5. Future of SNBL

### 5.1. MoU for 2008-2011 (RCN – SER)

**[A.M.Hundere and M.Steinacher]**

**Martin STEINACHER** stated that the MoU was now signed by the Norwegian partner. Counter signature by the state secretary is a formality as the text has already been approved.

### 5.2. CoA for 2008-2011 (RCN – SSC)

**[A.M.Hundere and G. Chapuis]**

**Gervais CHAPUIS** stated that the status of the CoA is identical to the MoU. The basic work is now done, and is in the finalization phase.

### 5.3. Performance contract SER with SNX for the 4 years 2008-2011 [M. Steinacher & R. Abela]

**Martin STEINACHER** mentioned that the Performance contract is in the same situation as the MoU.

The 4-year budget has been presented and approved by NCR and SER. Funding by both side has been agreed. The yearly request is now changed to a four-year request, with a yearly payment.

**David NICHOLSON** would like a copy of this performance contract (Vladimir DMITRIEV to give a copy).

**Martin STEINACHER** underlined the level of salary to be increased for the post-docs as from next year which should be on the same level as the ESRF as we have talented post docs in the SNBL team. The 4-year request took account of this.

The Performance contract is to be seen as a guideline for SNBL.

**Martin STEINACHER** is very satisfied with the progress and the work done

The performance contract could be used by the Norwegian party as it is now. David NICHOLSON is to contact Aase Marie HUNDERE to check whether this contract could be used by RCN.

**Rafael ABELA** thanked Martin STEINACHER for all the work and convincing done in order to get the funds. **Vladimir DMITRIEV** thanked Martin STEINACHER for his efforts and support of SNBL.

**Vladimir DMITRIEV** pointed out that extra request for money will be based on the improvement of our beamlines and its equipment.

## 5.5 Free discussion

### - One SNX Member leaving the SNX Foundation.

**Jan-Dierk GRUNWALDT** is warmly thanked for the work done for the SNBL, and for the funding requests approved for the SNX Foundation. We all wish him good success in his new position in the Institute of Chemical Engineering, Lyngby, Denmark.

### - On the Short term future.

**Rafael ABELA** mentioned that in the short term future, SNBL should be reviewed by the ESRF in one year from now, that is in the autumn 2008. What will have to be demonstrated during this review are the achievements within the last 2 years. From a technical point of view, the beamlines are capable of lasting 10 years. SNBL achieved a good level in powder diffraction, Raman, EXAFS. The beamlines are running very well.

Regarding single crystal diffraction **Rafael ABELA** has still some worries about the KUMA diffractometer.

### - On the Long term future.

How should we proceed in the future, what are the new needs for SNBL.

**Vladimir DMITRIEV** pointed out the importance of national strategies, and SNBL has to adapt its activities to these requests. Two areas are important for the Swiss and the Norwegian: energy storage (hydrogen) and catalysis. Both need good chemical laboratories. Samples cannot always be prepared in national laboratories, but may need to be prepared here at SNBL. We have a problem with space. Some equipment is reaching the life limits as parts and pieces are no longer available, as the equipment is no longer made (MAR for example).

The quality of beam cannot be significantly increased. What is important is the development of the infrastructure, the sample environment, the gas mixing systems, the development of Raman.

Manpower: 50 per cent of the success is due to the staff who actually is extremely happy because of the results obtained. But we cannot develop more with the present level of staffing. This needed to be mentioned in order to have a better analysis of our future.

**Philip PATTISON** emphasised the usefulness of the workshops. Priorities and needs are expressed during these workshops, to which **David NICHOLSON** agreed upon.

**Rafael ABELA** enquired whether there could be a collection of the presentations plus an executive summary on the outcome of the discussions during these meetings. **Philip PATTISON** suggested to select the points discussed during the workshops with regards to the future of the SNBL.

**8.5.1. Philip PATTISON** is to write a summary on the outcome for the future developments raised during the workshops.

**8.5.2.** The Committee of the Future (COF) 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 Meeting in December 2008.**

### - On ESRF Upgrade Programme

**Martin STEINACHER** underlined that his first task is to get extra funds for the Upgrade Programme of the ESRF.

### - on collaboration

**Philip PATTISON** mentioned his trip to the Netherlands with Wim Bras and pointed out that the later is ready to invest money in items of common interest for DUBBLE and SNBL.

Collaboration PSI/SNBL is again mentioned as extremely positive.

## - SNBL staff

Regarding staff at SNBL, it could be that another post-doc should be employed in 4 years time.

**Jan-Dierk GRUNDWALDT** sent the following comment *“I am happy that this year the proposal came through by ETH Zurich to finance 1/3 of a post-doc position at SNBL for both 2006 and 2007. Coupled with this “sign” was also in the hope that SNF/SER in future pays a post-doc more at SNBL. I hope that this can be done”.*

## - Successor to Jan-Dierk Grunwaldt

**Jan-Dierk GRUNWALDT** proposed to be replaced as from June 2008, as SNX Member, Prof. Dr. Jeroen A. van Bokhoven from ETH Zurich, who is very active in XAS/in situ spectroscopy and is also a delegate of ETH Zurich. This will be made official during the Board Meeting in June 2008, through the usual procedure of voting.

## - confidential reports.

See **appendix No. 8**

# 6. ESRF Upgrade Programme

[A. Kaprolat]

Since last presentation in the Spring. In June 2007 brochures were distributed explaining what will be done. The Purple book is available for consultation, it is also available from the ESRF web site.

First week of December, **Axel KAPROLAT** will ask the CRGs what their needs are, and whether there are any plans to extend their beamlines.

Regarding shutdowns, **Axel KAPROLAT** mentioned that this should cover a period from 2 to 4 months, half a year in the worse case.

The CRGs will get the same area for offices and laboratories as now, unless more is requested. We have to make our needs known very soon.

# 7. Any other business

[R. Abela]

**Rafael ABELA** on behalf of the Council encourages Vladimir DMITRIEV to have further contacts with the Slovenian community for scientific collaboration.

**Martin STEINACHER** thanked everyone for this constructive and productive meeting. “It is a real pleasure to attend these meetings”, and he is looking forward to the future developments.

# 8. Discussion of Proposals

Dubble request

**Shifts available for discussion**

**86**

Total number of shifts requested 103

All the proposals with Grade **B +** and over will get beamtime

Requests and Allocations of Beamtime, see **Appendix No. 9.**



**BM1 B**

Total Number of shifts available		205
Shifts for ESRF	- 68	
Shifts available for scheduling		137
Long Term	- 45	
Dubble request		
<b>Shifts available for discussion</b>		<b>92</b>

All the proposals with Grade A will get beamtime

Requests and Allocations of Beamtime, see **Appendix No. 9**.

**9. Summary of actions to be taken**

[C. Heurtebise]

**8.3.1.** On the Swiss side, look for sources for educational projects. **Rafael ABELA, Vladimir DMITRIEV and Martin STEINACHER** – **Deadline June 2008**.

**8.3.2.** Input from SNBL for a 2009 project, so that requests can be prepared. **Deadline June 08**.

**8.5.1.** **Philip PATTISON** is to write a summary on the outcome for the future developments raised during the workshops.

**8.5.2.** The Committee of the Future (COF) 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 Meeting in December 2008**.

**10. Concluding remarks**

[R. Abela]

**Rafael ABELA** pointed out that this was a very good meeting, The beamlines are working well. There will be an official announcement from the ESRF for the SNBL review (which will take place in the second half of 2008). We have to think about referees, and think about presentations from users attached to the SNBL (preferably one user from the EXAFS community, one from the powder diffraction community) and also one from the previous panel in 2004.

**David NICHOLSON** reminded that student training on 16 bunch implies that experiments have to be tailored for 16 bunch. Training is seen as a very positive action.

The 9th meeting of the SNX council will take place in **Annecy**, France, on **Thursday 5<sup>th</sup> and Friday 6<sup>th</sup> June 2008**.

The 10<sup>th</sup> meeting of the SNX meeting will take place in **Grenoble** on **Thursday 27<sup>th</sup> and Friday 28<sup>th</sup> November 2008**.