

# SPS Consolidation Revisited

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The last SPS consolidation report was written in 1996 and published as: SLNote 96-32 (DI). It is available at:

<http://sl.web.cern.ch/SL/publications/di96-32.pdf>

In this report, the budget and manpower requirements for SPS consolidation projects were given covering 3 periods: short-term (<5 years), medium-term (5-10 years) and long-term (10-15 years). The conclusion was that a significant consolidation budget would be needed for the SPS, every year.

We are now at the end of the first period mentioned in the report. A new task force has been set up as a follow-up on the previous study. In this context we are contacting all the divisions/groups for their input.

## Aim of the new Study

### **Review the results of consolidation efforts since the last report (1996)**

- Highlight what was achieved.
- What was not done ... and the possible consequences
- Look at the proportion that was foreseen in the original report.

### **Re-do the consolidation exercise, with similar definitions i.e.**

- Short Term, Urgent consolidation required over the next 5 years
- Medium Term consolidation with a 5-10 year time scale
- Long term consolidation, up to 15 years

### **Output**

- Preliminary findings by the end of November.
- Report published at the beginning of next year.

## What is consolidation

*'The resources required to keep the SPS operating at the necessary performance level ...'*

This, in principle, excludes performance enhancements and upgrades. Equipment and installations are repaired, renovated or replaced at the end of their useful life. Which path is followed depends critically on the specific installation and factors such as the availability of spares, obsolescence etc.

However, beware:

- Once an upgrade project (eg SLI, LTI, CNGS) is complete the new equipment, becomes part of the 'present' machine and is therefore a candidate for future consolidation.
- Sometimes an upgrade is forced by changing external conditions. This can therefore be classed a consolidation. Examples include the SPS raw water, new control systems & computers. In addition, Rules governing safety and working conditions impose changes to working equipment. A recent example is the lift renovation program.

Any consolidation projects that are already funded must be mentioned - but indicated clearly as funded. This is to prevent mistakes of double accounting in the final report. Long term recurring consolidation budgets, that is where money is made available each year for specific tasks, need to be treated with some care as we cannot assume that the money will continue to be available in the future. An example is the irradiated cable replacement programme, where the budget has been cut completely. Annual preventative maintenance of equipment should normally be covered by the exploitation budget of the group concerned and is therefore not consolidation. However, in cases where such maintenance is not covered by existing budgets, it can be treated as a consolidation issue.

## **Money & Manpower?**

In the last report the issues for consolidation were clouded by the question of 'missing staff'. In other words ... 'even if you give us the money, we cannot do the job as we haven't got enough people'. This gave some political problems last time and diluted the impact of the report.

The question of staffing is being treated elsewhere (e.g. the SL succession plan) and does not need to be treated in detail for consolidation. The normal rule should be:

- Each consolidation project should be budgeted assuming the maximum possible outsourcing of the activity.
- The CERN manpower needs must be assessed, but should avoid the use of 'missing manpower' arguments.
- A statement will be put into the report that the assumption is made that the manpower for each project is made available when needed - and that this will require priorities to be set between individual consolidation projects and other activities within the groups and divisions.

## **What is covered by SPS Consolidation?**

In the first consolidation report, no distinction was made between the SPS machine itself and auxiliary installations. This time we have decided to make a clear distinction between the two:

- The SPS Machine includes the main ring and all transfer lines into and out of the SPS, the west and north experimental halls, together with all surface buildings that are directly concerned with the operation of the machine.
- Auxiliary installations includes all tunnels, galleries, roads and buildings attached to the SPS and Preveessin sites, which are not directly associated with machine operation.

In addition there are a few buildings on the Meyrin site that are used by the SPS - for example the ISR. These should also be included. As the new structures and lines for SLI, LTI and CNGS are delivered they will be added to the above.

### **Boundary Conditions & Physics Plan**

- The SPS will continue to provide fixed target beams throughout the period. There is some doubt about the future of the West area. As the medium term plan does not explicitly close down the West area, we assume that it will continue to operate.
- LHC proton beam from 2004 (sector test) onwards
- LHC Ion beams from 2007 onwards
- CNGS from 2005 onwards.

In addition the SPS is now an INB installation and will continue in that way for the period covered. The INB perimeter goes out to the North and West area primary beam targets. The implementation costs associated with the INB are not considered to be consolidation.