PROJECT PERIODIC REPORT

Grant Agreement number: 212114

Project acronym: SLHC-PP

Project title: SLHC-PP Preparatory Phase of the Large Hadron Collider Upgrade

Funding Scheme: Combination of CP & CSA

Date of latest version of Annex I against which the assessment will be made: January 30, 2009

Periodic report: **1st ☐ 2nd X 3rd ☐ 4th ☐**

Period covered: **from April 2009 to March 2010**

Project co-ordinator name, title and organisation: Dr. R. Garoby, European Organization for Nuclear Research, CERN

Tel: +41 22 767 2892

E-mail: roland.garoby@cern.ch

Project website address: http://cern.ch/SLHC-PP/

Declaration by the project coordinator

I, as co-ordinator of this project and in line with my obligations as stated in Article II.2.3 of the Grant Agreement declare that:

- The attached periodic report represents an accurate description of the work carried out in this project for this reporting period;
- The project (tick as appropriate):

  ☐ has fully achieved its objectives and technical goals for the period;

  X has achieved most of its objectives and technical goals for the period with relatively minor deviations[1];

  ☐ has failed to achieve critical objectives and/or is not at all on schedule.

- The public Website is up to date, if applicable.
- To my best knowledge, the financial statements which are being submitted as part of this report are in line with the actual work carried out and are consistent with the report on the resources used for the project (section 3.6) and if applicable with the certificate on financial statement.
- All beneficiaries, in particular non-profit public bodies, secondary and higher education establishments, research organisations and SMEs, have declared to have verified their legal status. Any changes have been reported under section 5 (Project Management) in accordance with Article II.3.f of the Grant Agreement.

Name of Coordinator: .Roland Garoby.....

Date: 22/05/2020

Signature of Coordinator: .....

[1] If either of these boxes is ticked, the report should reflect these and any remedial actions taken.

Table of Contents

List of Acronyms

ATLAS	A Toroidal LHC ApparatuS, general-purpose detector at the LHC
CMS	Compact Muon Solenoid, a general-purpose detector at the LHC
CMS2	The CMS experiment upgrade for sLHC
EVM	Earned Value Management, IT-based management tool
FLUKA	FLUtuierende KAskade, Monte-Carlo code for particle transport
FPGA	Field-Programmable Gate Array
HIPPI	High Intensity Proton Pulsed Injector, sub-project of CARE
LARP	LHC Accelerator Research Program, USA
LHC	Large Hadron Collider
Linac4	Linear accelerator, first injector within the sLHC injector chain
LLRF	Low Level Radio Frequency
LP-SPL	Low Power Super Proton Linac, second injector within the sLHC injector chain
PS2	Proton Synchroton 2, third injector within the sLHC injector chain
RF	Radio Frequency
S-ATLAS	ATLAS experiment upgrade for sLHC
SNS	Spallation Neutron Source, at Oakridge USA
SPL	Super Proton Linac, future high-intensity stage of the LP-SPL
SPS	Super Proton Synchrotron, highest energy injector within the sLHC injector chain

1. Publishable Summary

Project objectives and organization

The preparatory phase project for the Large Hadron Collider luminosity upgrade (SLHC-PP) is aimed at preparing for a smooth increase of performance of the LHC, far beyond its design goal and ultimately aiming a ten-fold luminosity increase, to optimally exploit the unique discovery potential of the collider (Public web site: http://slhcpp.web.cern.ch/SLHCPP/). As initially conceived, this upgrade would imply successive implementation of several new elements and technical improvements, both in the chain of LHC injectors, in the LHC itself (new focusing magnets in the interaction regions) and in the general purpose LHC experiments ATLAS and CMS. The SLHC-PP project started on April 1, 2008 for a duration of 3 years. It comprises Management, Coordinating, Support and Technical activities arranged in 8 work packages. The coordinating activities (WP2, WP3 and WP4) play a central role in the organisation of collaborations for the new accelerator- and detectors- upgrades, putting in place project structures and collaboration management tools for the implementation phase. The support activity in WP5 (radiation protection and safety issues for accelerator and experiments) addresses crucial safety issues in the radioprotection domain. The technical developments address the construction of Nb-Ti high field magnets with large aperture (WP6), the study of a new H^- ion source as well as field stabilization in superconducting accelerating structures (WP7), and novel solutions for the powering of the central tracking detector (WP8). The SLHC-PP project runs in parallel with two construction projects (Linac4 and Inner Triplet Phase-1 upgrade) and an extensive sLHC-oriented R&D programme involving numerous laboratories and universities world-wide concerning the study of new injectors (LP-SPL and PS2), the upgrade of the SPS, and the development of new solutions for many detector elements. A sketch of the CERN accelerator complex is shown in Figure 1, the present injectors being represented in green and the new ones in red.

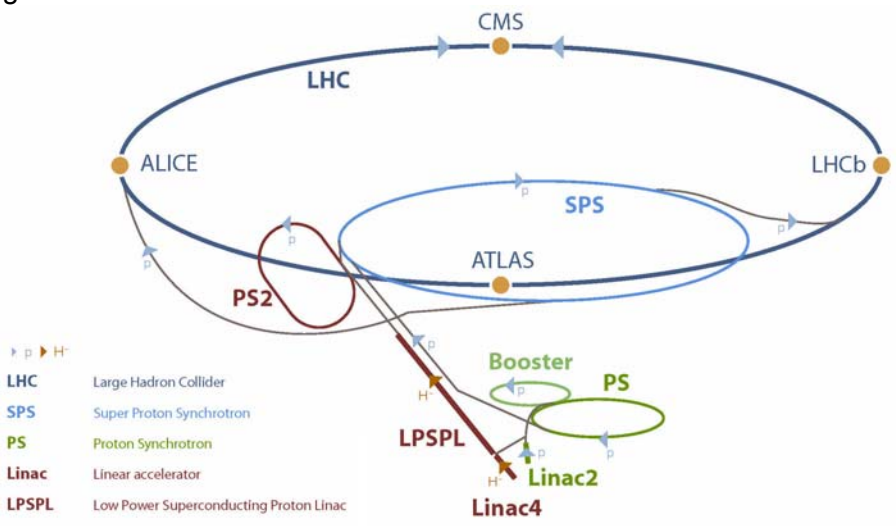


Figure 1: LHC and its injectors. Within the sLHC projects, Linac4 is in construction to replace Linac2, and the replacement of PS and PSB by LP-SPL and PS2 is under study.

Project status and context

The sequel of the electrical fault which occurred during powering tests in the LHC dipoles, on September 19, 2008 has significant consequences for the implementation of the sLHC and hence on the SLHC-PP as well. The cause and the sequence of events were analysed by a special task force [1]. During the last step in the hardware commissioning of an LHC sector, a thermal runaway happened in a defective joint between superconducting cables at a current of 8.7 kA (nominal: 13 kA), causing severe damage to the equipment. The repair involved the removal of 53 magnets (39 dipoles and 14 quadrupoles) and their reinstallation after repair or replacement by a spare unit, the design and construction of additional protection systems and the implementation of mitigation measures [2]. It took until the end of November 2009 before beam commissioning could resume.

As a result, a new schedule of operation of the LHC has been decided, based on a safe plan for progressively extending the discovery reach. Contrary to the regular CERN practice, the LHC will operate quasi-continuously for physics during 2 years periods. During the first period, in 2010-2011, the energy will be limited to 3.5 TeV per beam (half of the nominal) because of remaining dubious interconnections. During the 2012 shutdown, all interconnections will be renovated and the collimation system will hopefully be brought up to nominal performance. The LHC will then be able to operate around the nominal energy and progressively close to nominal beam current during the second period of exploitation, in 2013-2014. Linac4 will almost certainly replace Linac2 in 2015, and the injector complex will be commissioned with beam while the LHC is stopped. Operation for physics will resume at the end of 2015/ beginning of 2016. This subject was debated during the LHC performance workshop in January 2010 [3]. It lead to the above-mentioned proposals and to the very preliminary estimate of the evolution of instantaneous and integrated luminosities sketched in Figure 2. It illustrates that it is approximately in 2018-2020 (~4 years later than foreseen when the SLHC-PP was defined), that the integrated dose and the performance attained will justify the replacement of the initial Inner Triplets and of the inner part of the detectors.

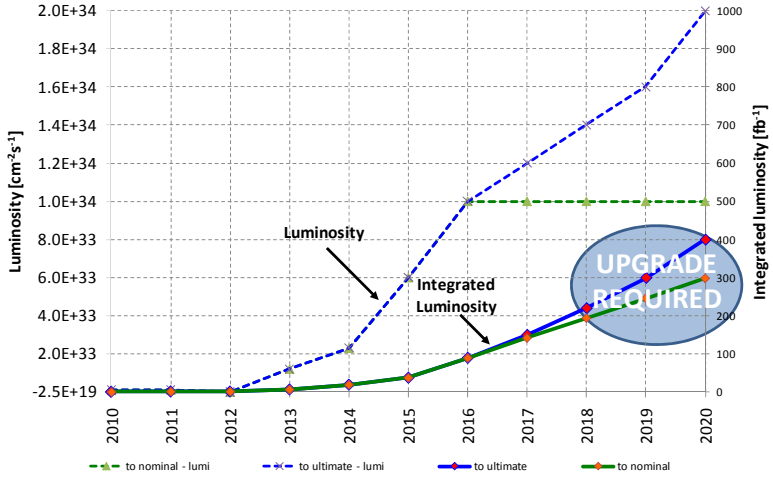


Figure 2: Very preliminary estimate of the evolution of the LHC instantaneous and integrated luminosities until 2020.

Work performed and achievements

WP1: SLHC-PP project management

In the context of WP1, the Project Coordinator, the Deputy and the Administrative Manager are taking care of the overall coordination, the continuous monitoring of the progress in Work Packages and the communication in general, both within the community, with the EU Commission and to the largest possible public. Linked to the sLHC web site, which is directly accessible from the CERN main web page, an sLHC outreach dedicated web site has been created for the general public [http://slhcpp.web.cern.ch/SLHCPP/]. After the kick-off meeting in 2008, two annual meetings have been organized in 2009 (CERN) and 2010 (CIEMAT – Madrid). A public event took

place after the 2009 annual meeting [http://indico.cern.ch/conferenceDisplay.py?confId=49774]. A second one is planned on June 23, 2010 at CERN. An sLHC series of publications has been created on the CERN Document Server (CDS) (http://cdsweb.cern.ch/collection/sLHC%20Project?ln=en).
The SLHC-PP has been effective in favouring exchange of information and common R&D between ATLAS and CMS, in view of the detector upgrades. In particular, during the reference period two relevant joint events were organized: "*Mini Workshop of the Joint ATLAS CMS Opto Working Group"* (http://indico.cern.ch/conferenceDisplay.py?confId=81071), addressing radiation-hard technologies for on-detector components and systems for optical data transmission, and "*ATLAS-CMS power working group"* (http://indico.cern.ch/conferenceDisplay.py?confId=85278), addressing magnetic field tolerant and radiation-resistant on-detector power distribution (WP8).

WP2: Coordination for the sLHC accelerator implementation
The aim of WP2 is to set up project management structures and tools for the 5 sLHC subprojects (Linac4, Inner Triplet Phase-1 upgrade, LP-SPL, PS2 and SPS upgrade) which also benefit from the scientific backing of EU-supported networks and Joint Research Activities first inside CARE (FP6) and now within EuCARD (FP7). Linac4 is in construction and progresses as planned, extensively using the upgraded version of the Earned Value Management tool. The Inner Triplet Phase-1 upgrade is now being reconsidered in terms of scope, design and planning, as a result of the presently expected evolution of performance of the LHC (see in the section "Project status and context").The other three subprojects are the subjects of studies preparing for construction proposals in 2012. Up-to-date information is available on dedicated web-sites. The "Indico" and "EDMS" software tools are more and more used for structured storage of information related to meetings and notes/reports. The SPL study is supported by an international collaboration including the recently approved ESS (European Spallation Source) project. Work has started on improving the Quality Assurance System used for LHC and adapting it to the needs of the sLHC project, including in-kind contributions.
The milestone report 2.2 concerning the initial release of the EVM software is delayed by two months, owing to the recent change (Feb. 2010) of work package coordinator.

WP3: Coordination for the S-ATLAS experiment implementation
The goal of this work package is to establish a managerial structure in charge of coordinating the developments needed for the upgrade of the ATLAS detector, promoting efficient exchange of information and ensuring coherence among the numerous and diverse R&D activities carried out in the collaborating Institutes. During the past year the role of the central managerial bodies was consolidated: the Upgrade Steering Group for the overall coordination, and the preparation of Cost Books and Collaboration Agreements; the Upgrade Review Office for reviewing and evaluating the R&D plans of the collaborating institutes; the Project Office for the consistency of the global technical framework, scheduling, installation scenarios, database of all technical documentation.
Significant progress was made in assessing the overall scope and cost of the detector upgrades. For the Phase I upgrades, detailed technical documents as well as the Cost Book and the Memorandum of Understanding are in preparation, while for the Phase II upgrades the corresponding documentation will be produced gradually, as the activities will move from technology R&D into prototyping of components and larger assemblies.
The deliverable report 3.2.1 is published and the milestone 3.2 has been met.

WP4: Coordination for the CMS2 experiment implementation
The managerial structure of the CMS upgrade is in place and fully operational. General Upgrade Workshops are held regularly, complemented by meetings on specific subsystems. During 2009, major progress was made in the definition of the scope for the Phase I upgrade, and the R&D for the Phase II. Detailed planning for Phase I is in the process of being finalized. The Technical Coordination Unit and the Integration Office are operational, along the principles used during CMS construction. A major achievement of this year was the finalization of the Equipment Management database, which is the repository for all drawings, 3D models and technical data describing detector components and other equipment of the CMS cavern. The database provides traceability

of all the elements and their activation levels, a precondition for the upgrade of any CMS component.
The deliverable report 4.2.2 is published and the milestone 4.1 has been met.

WP5: Radiation protection and safety issues for accelerator and experiments
The increased luminosity expected after the sLHC implementation will unavoidably result into increased radiation levels both in accelerators and experiments. WP5 is meant to address the crucial questions of prompt dose rates, material activation, production and disposal of radioactive waste, radiation impact studies and control of dose to the personnel.
Dosimeters have been installed at multiple locations in the LHC and experiments for the purpose of validating the simulation codes in the presently unchartered range of proton energy up to 7 TeV. Because the LHC will operate at a maximum of 3.5 TeV until the end of 2011, the validation of the simulation codes will be limited to 3.5 TeV during the SLHC-PP.
For the injectors, specific measures have been developed for protecting construction workers of Linac4, the radiation from the future accelerators (SPL and PS2) is under study (waveguides ducts connecting the SPL tunnel to surface building, SPL and PS2 dumps) and shielding and protection measures are being designed. In the LHC itself, the future dismantling and replacement of the Inner Triplets is the subject of a dedicated investigation. Calculations have started concerning the impact on the environment, both concerning air activation and amount and nature of radioactive waste.
Deliverable reports 5.1.1 and 5.2.1 have been published. Deliverable 5.2.2 will be two months late.

WP6: Development of Nb-Ti quadrupole magnet prototype
WP6 addresses the development of superconducting quadrupole magnets of advanced design for the future Inner Triplets. The main objective is to produce the design of the quadrupole magnets and adjacent correctors, terminating with the construction of a full-length prototype. The intensive engineering design work during the first two years of the SLHC-PP has been very productive, leading to an innovative self-locking collar pack design associated to a special horizontal assembly process. That results in a lengthening of the development time, with the procurement of tooling and a special hydraulic press from European industry. Furthermore, there is a need for an intermediate validation step consisting in 2-m-long prototypes which have to be built and characterized. This justifies changing the nature of a number of WP6 deliverables, the ultimate one at month 36 being an horizontally assembled 2-m-long prototype quadrupole instead of a full length device (proposed new formulation of deliverable 6.3.2. More details are given in section 3). All the resources foreseen within the SLHC-PP project will be required to demonstrate this new improved design, without equivalent to the deliverables 6.3.3 and 6.3.4.
The Inner Triplet Phase-1 upgrade being re-scoped and re-scheduled because of the newly estimated rate of progress of LHC performance up to nominal (see ‘Project status and context”), this delay will be of no detrimental effect to the sLHC project. The outcome of WP6 will be an essential input on the potential of NbTi technology when the design of the future Inner Triplets will be reconsidered.

WP7: Development of critical components for the injectors
The foreseen linear accelerator SPL sets technical challenges concerning the H^- ion source (beam brightness at high duty factor and life-time) and the stability of the beam energy at the end of the accelerator, which is directly related to the stability of the field in the pulsed superconducting accelerating structures. Both subjects are addressed within WP7.
The Linac4 ion source which is used as a first test bed towards an SPL device has been the subject of an extensive measurement campaign. The modelling of the plasma generator and the thermal study have been done and the corresponding deliverables reports published (7.1.1 and 7.1.2). The plasma generator prototype for high duty factor operation has been designed. The execution drawings are finished and construction is in progress. Orders have been passed for the test stand sub systems and the construction proceeds as planned.

The superconducting cavity and high power RF coupler built by the CEA in the context of the HIPPI (CARE -FP6) have been fully characterized at low temperature and nominal pulsed RF power during the winter 2009-2010 using a prototype low level RF system prepared at CERN. Modelling is progressing in parallel. For logistic reasons the INFN cavity-tuner ensemble has only been tested at warm for the time being. The deliverable report 7.2.1 is well advanced and will be published by month 26. Analysis of the optimum architecture advances using the modelling tool, and the deliverable report 7.2.2 will be published in month 27 instead of 18. In practice all tasks are advancing in parallel rather than in series as initially foreseen (e.g. the prototype electronic system in deliverable 7.2.3 which is already almost complete), so that all WP7 deliverables will be provided before the end of the SLHC-PP project. WP7 is integrated within the design work of the SPL and its contributions will be crucial for its successful completion.

WP8: Tracking detector power distribution

The realization of Tracking detectors with higher granularity and enhanced functionalities requires the development of novel powering schemes to deliver the current to the front-end electronics, while limiting the cross-section of the power cables and power losses in the conductors. Two distribution schemes are under study, DC-DC conversion and serial powering; in both, there has been substantial technical progress in 2009.

For DC-DC conversion, several lines of research are carried out in parallel: development of a DC-DC converter ASIC, optimization of the air-core inductor, development of an on-chip switched capacitor voltage divider, and evaluation of system aspects. Three converter ASIC prototypes have been realized in two different technologies, reaching the required level of radiation tolerance and fully satisfactory performance: this has been a major breakthrough, providing a definitive proof of the feasibility of this option. System tests performed at CERN and at RTWH Aachen using both, ATLAS and CMS prototype detecto modules, have already shown excellent progress in developing boards of small size and mass, minimizing at the same time the noise injected in the system.

Two different schemes of serial powering are under development, optimized for silicon pixel and strip detectors, respectively. On-chip regulators for both the pixel and the strip systems have been developed and successfully tested. Substantial progress has been made in the development of protection systems: a protection chip is under development for the pixel detector, while in the strip detector the protection is currently implemented as a small PCB with discrete components. Several tests are ongoing and well advanced, to evaluate system aspects for both detectors. Feasibility of the serial powering option has been demonstrated in successful tests of a full size silicon strip modules powered in the serial powering mode using different options of the developed shunt regulators. Deliverable report 8.2.2 has been published on time.

References

[1] Report of the Task Force on the Incident of 09/2008 at the LHC, P. Lebrun (Chair), LHC Project Report 1168, http://cdsweb.cern.ch/record/1168025/files/LHC-PROJECT-REPORT-1168.pdf

[2] Superconductivity: its role, its success and its setbacks in the Large Hadron Collider of CERN, L. Rossi, 9th European Conference on Applied Superconductivity, EUCAS 2009, Dresden, Germany, September 13-17, 2009, http://iopscience.iop.org/0953-2048/23/3/034001

[3] LHC Performance Workshop, Chamonix, 25-29 January 2010, http://indico.cern.ch/conferenceDisplay.py?confId=67839

2. Project objectives for the period

The SLHC-PP project has significantly progressed during its second year of existence (April 2009 till March 2010), both on the front of coordination, support and technical activities, although it was impacted by the consequences of the difficulties encountered by the LHC (see previous section). The resulting change of scope and planning of the sLHC also modifies the perspectives of the SLHC-PP.

Concerning Project management (WP1), the first annual periodic report was published on time (deliverable 1.1.1) and answers were provided to the feedback received from the EU Commission. An sLHC outreach dedicated web site has been created for the general public. The second annual project meeting was organized at CIEMAT (Madrid) in February 2010 (milestone 1.3) [http://indico.cern.ch/conferenceDisplay.py?confId=70620]. A second public meeting is planned in June 2010 at CERN.

As an illustration of the Coordination for the sLHC accelerator implementation (WP2), the effective use of modern and common management tools (upgraded EVM, Indico, EDMS, CDS...) has spread inside the five different subprojects associated with the sLHC (Linac4, Inner Triplet Phase-1 upgrade, LP-SPL, PS2, SPS upgrade). The SPL collaboration is setting an example of how future accelerator construction projects at CERN could be organized. Work has started on improving the Quality Assurance Plan used for the LHC and adapting it to the needs of the sLHC.

The objectives of the Coordination for the S-ATLAS experiment implementation (WP3) during the past 12 months were to establish the upgrade project structures for the implementation phase (milestone 3.2) and to document the scope of the upgrade including an initial cost estimate (deliverable 3.2.1). Both objectives have been met and work has proceeded for preparing the deliverables foreseen during the third year.

The Coordination for the CMS2 experiment implementation (WP4) fulfilled its objectives to define the scope of the upgrade (milestone 4.1) and to outline the key structural requirements as well as the scheduling and reporting mechanisms (deliverable 4.2.2). Work is progressing towards the completion of the tasks foreseen within the SLHC-PP project.

The support activity about Radiation protection and safety issues for accelerator and experiments suffered from the delayed start-up of the LHC for getting measurements to validate the simulation codes. Moreover, because the beam energy will be limited to 3.5 TeV in the collider until the end of 2011, the validation will only reach this energy during the SLHC-PP project. Radiation flux in some critical places of the future injectors (SPL and PS2 dumps, SPL waveguide shafts) has been computed and corrective measures are being designed. Specific measures have been implemented for protecting Linac4 construction workers of the potential hazard from the active accelerators. The deliverable reports 5.1.1 and 5.2.1 have been published. The deliverable report 5.1.2 is delayed by two months (M26) because of the temporary unavailability of key personnel in the experiments, tasked with high priority duties during LHC start-up.

The Development of a Nb-Ti quadrupole magnet prototype (WP6) has been the subject of an intense engineering work, leading to an innovative self-locking collar pack design associated to a special horizontal assembly process. That results in a lengthening of the development time, with the procurement of tooling and a special hydraulic press from European industry. Furthermore, there is a need for an intermediate validation step consisting in 2-m-long prototypes which have to be built and characterized. Hence the foreseen short magnet model has not been constructed (deliverable 6.2.1) nor assessed (deliverable 6.2.2) but two instrumented collar packs will be built with the new process for month 32 (new proposal for deliverable 6.2.1) and assessed for month 33 (new proposal for deliverable 6.2.1). The construction of a horizontally assembled 2 m long

prototype will take place within the duration of the SLHC-PP project and it is proposed as deliverable 6.3.2 in month 36. The work for the corrector magnet package has progressed satisfyingly and the corresponding deliverable 6.3.1 will soon be provided.

Within WP7 (Development of critical components for the injectors), the task 1 on the H^- ion source has advanced as scheduled, providing the deliverable report 7.1.2 and fulfilling milestone 7.1, preparing the engineering design of all components and of the test place for the plasma generator prototype and launching construction. In the task 2, all activities are progressing simultaneously instead of in series, as initially planned. The test of CEA cavity-coupler assembly at high pulsed RF power took place during the winter 2009-2010, later than foreseen, but it made full use of a prototype low level RF set-up prepared by CERN which was only supposed to be available during the third year of the SLHC-PP. The information for deliverable report 7.2.1 is available and a draft is already circulating. It should be officially published in month 26. The publication of the report on RF system architecture is delayed until month 27 (instead of 18), but enough information has been provided to the SPL project allowing for major design decisions. We are confident that all the deliverables expected from WP7 will be delivered by month 36, and will be very useful for the overall design of the SPL.

The work on tracking detector power distribution has been very productive and both tasks are well within schedule. All objectives have been met during this second year, and the deliverable report 8.2.2 is a major achievement provided on time.

3. Work progress and achievements during the period

3.1 Progress within the individual work packages

Work Package 2: Coordination for the sLHC accelerator implementation

Task 2.1 Project Management preparation

Earned Value Management has become the method with which CERN management follows and controls the progress of projects of all natures. After its success in monitoring the construction of the LHC from the year 2003 on, it was a natural choice to introduce it also as a planning and controlling tool for the sLHC project. At present EVM is used in the planning and construction of LINAC-4, the first of the new or upgraded injector accelerators for the sLHC.
A software implementation of Earned Value Management, tailored to the needs of CERN, is developed since several years in the Information Technology department. In the framework of SLHC-PP, an interface between the planning software MS Project and the CERN implementation of EVM has been created. In particular in the early stage of a project, managers appreciate the flexibility of MS Project. This program does not need a long learning process and its use is rather intuitive. However, it is not capable to manage large projects with the complexity of e.g. a new accelerator. The new tool permits to transfer the data acquired and generated under MS Project seamlessly into CERN's EVM application.
Due to a change in management of WP2, the issue of the corresponding Milestone Report (No. 2.2) is delayed by 2 months.

Quality assurance in large projects fulfils the goal of assuring coherence of the workflow over the whole organisational structure of the project, where multiple persons in different entities intervene. In a project of the scale of sLHC it is indispensable to adopt a Quality Assurance System (QAS) even before the planning stage. During the planning and construction of LHC, a QAS had been introduced with the purpose of monitoring the quality of industrial supplies. This was achieved by adopting CERN-wide unified criteria for market surveys, calls for tender and subsequent acceptance of deliveries.
In the preparatory phase of sLHC, the QAS is being adapted to changed regulations for international tenders in the European Union and in Member States, and to updated regulations on safety and security. An additional aspect which is being treated is the delivery of goods from partner institutions. This aspect is fundamental at CERN, whose success is built on scientific collaboration.

Task 2.2 Networking and communication

In 2009/2010, networking and communication within the sLHC project were reinforced. The SLHC-PP project provides a necessary focal point with its annual meeting, bringing together particle physicists and accelerator specialists from different European institutes. For example, the recent announcement of changes in the mid-term strategy of the LHC and sLHC was discussed in depth at the sLHC annual meeting in Madrid, giving the opportunity to prepare for the adaptation of research and development programmes.

Networking with partners outside of the SLHC-PP project continued within the LINAC 4 project, which is under construction and the SPL and PS2 projects, which are preparing extended conceptual design reports. The adaptation of SPS to higher luminosities is another subject with synergies with the sLHC project.

The structures established so far within the SLHC-PP project will simplify the potential reshaping of the subprojects once CERN's mid-term strategy has been clarified in mid-2010.

Work Package 3: Coordination for the S-ATLAS experiment implementation

The implementation phase of the present ATLAS LHC experiment, as carried out by the Collaborating Institutes, was based on:

- Letter of Intent (LoI) followed later by Technical Design Reports;
- Cost Books for the proposed construction, assembly and installation work, based on an agreed overall schedule;
- Memorandum of Understanding (MoU) for the experiment, through which the specific work and deliverables for each Funding Agency (FA) were defined;
- Payment in a Common Fund allowing the construction of major experimental infrastructures, which were beyond the funding capabilities of single institutes.

The main aim of this WP is to set up a structure to address these issues in a coordinated way for the ATLAS upgrade, S-ATLAS.

Task 3.1

The goal of this task is to establish the managerial structure (Upgrade Steering Group/Committee) responsible for setting up the formal framework for the experiment construction consortium, including the preparatory phase, and follow up the upgrade work carried out by this consortium. This structure coordinates the preparation of Cost Books, Reviewing Processes, and Collaboration Agreements, assisted in technical matters by the Project Office (see task 3.2).
Such an organization is set up, lead by one of the members of this WP, and its interaction with the Upgrade Project Office (see task 3.2) is defined. The upgrade review office is also established, linked to the Project Office and led by a member of this WP, and it is active in reviewing the planned and ongoing R&D projects.
Overall this task is progressing well, and there are no deviations from the original plan.

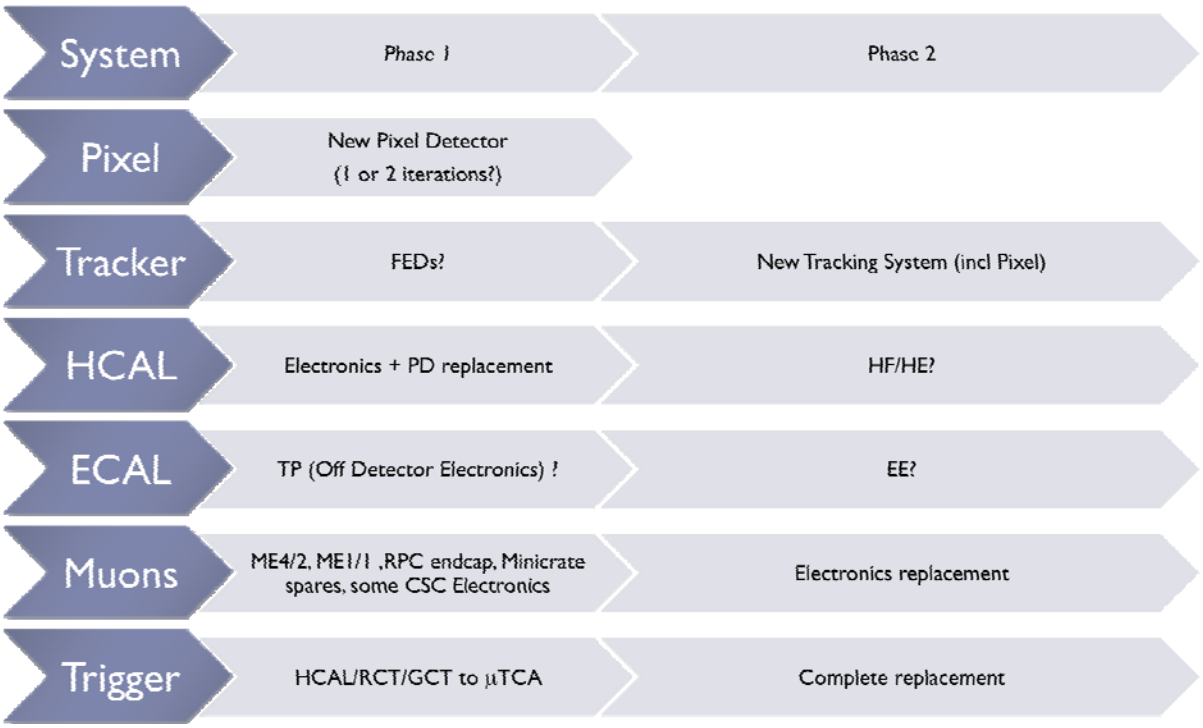
Task 3.2

The Project Office ensures a consistent information structure related to the technical infrastructures and tools of the upgrade experiment. It is central in the definition of installation scenarios and scheduling, and it is responsible for definition and execution of Common Projects. While individual laboratories or groups of laboratories perform R&D activities on individual detectors and components, the Project Office checks the compatibility of the R&D projects with the global technical framework. The progress of the technical work is monitored on a monthly basis and regular workshops are held where the status and further plans are reviewed. In parallel the project office will prepare information covering technical web interfaces, databases, drawing, CAD documentation and technical documentation.
The upgrade Project Office is operational carrying out the tasks mentioned above. The overall project organization (milestone 3.2) is now being changed adapting to the future project structures for the phase I and II upgrade projects, and the technical scope/costs of the entire upgrade project is assessed (deliverable 3.2.1). Detailed technical documents for both phase I and phase II of the upgrade projects are being prepared, and also an updated description of the organization and schedule for the project is being made.
Preparation of the project cost books and Memorandum of Understanding for the phase I upgrade is well underway, while the similar documents for phase II will be established gradually as upgrade projects move from R&D into larger prototypes and construction.
This task is also progressing well, and there are no deviations from the original plan.

Work Package 4: Coordination for the CMS2 experiment implementation

Task 4.1: Coordination and organisation of CMS2

The coordination structure for the CMS upgrade was put in place during the first year of this project. There are regular meetings of the management board, and to date there have been more than 200 meetings of international collaborators involved in various parts of the CMS upgrade programme.
The main milestone for the second year of this task was to define the scope of the CMS upgrades. The CMS Upgrade scope was initially discussed during the CMS upgrade workshop in May 2008. At this workshop, each detector presented its ideas for early upgrades able to cope with up to 700/fb of integrated luminosity, as well as longer-term upgrades for up to 5000/fb of integrated luminosity.
At the CMS upgrade workshop in November 2008, a work plan for refining each of the early (Phase 1) upgrade options was agreed. In addition, a task force was created to study the issues relating to using the tracking system in the level 1 trigger. Reports at the May 2009 Workshop gave a clear picture of the readiness for construction and required additional R & D for phase 1 upgrades, as well as allowing a clear work plan for phase 2 R & D to be developed. An additional task force was created during the summer of 2009 to study the issues which will be required in order to upgrade the forward regions of the calorimeter for high luminosity running (ECAL/HCAL on the roadmap). Further workshops in October 2009 and April 2010 have been used to make detailed progress towards producing the schedules, technical proposal, and cost sharing for the phase I upgrades which will form parts of the final deliverables for this work package.
The figure below shows the roadmap of detector system components which will need to be upgraded for the two phases of high luminosity running. For each of the components in phase 1, detailed planning is now underway. For the phase 2 upgrades – a full plan of R/D is in preparation for choosing between potential options for longer term upgrades to CMS.



Task 4.2: CMS2 Technical Coordination Unit

This main deliverables of this task are to prepare the organization of the CMS technical coordination unit for the upgrade. During the second year of the project, this task achieved the

deliverable and good progress has continued on putting in place the teams and practices for the technical coordination.
The CMS upgrade project uses a similar organization as for the original construction. The Technical coordination team is supported by an integration office that coordinates the mechanical and electrical integration aspects for the upgrade. Any upgrade work is organized in work packages that contain the technical details, schedules and safety measures. As information repository CMS has a large equipment management database which includes all drawings and models of the "as-built" detector. The database and its user interface provide traceability of all the detector components and equipment of the experimental cavern, which is exposed to irradiation from the LHC. The user interface and registration procedures have been completed in 2009 and are fully operational. The traceability of the detector parts is a prerequisite for any upgrade plan. The organizational structures of the Technical Coordination and the Integration Office are in place.
All milestones and deliverables were met during this reporting period

Work Package 5: Radiation protection and safety issues for accelerator and experiments

Task 5.1: Experiment Radiation & Activation

Studies of the impact of ionising radiation on workers and the environment for planned facilities rely heavily on results of radiation transport calculations with Monte-Carlo programs. Whenever the range of applications of a well-tested Monte-Carlo programme is extended – e.g. for higher particle energies – it is reasonable to verify that the predictions of the programme coincide with experimental measurements of the same observables.
Simulations of the radiation impact of the sLHC concern to a significant extent the effects in of proton beams accelerated to energies of 7 TeV. Presently, there are no experimental data to which to compare estimations for LHC and one relies exclusively on the validity of the underlying physical effects and their parameterisation at very high energies. Predictions of Monte-Carlo programs for the sLHC proton beam energy of 7 TeV can be validated with data from LHC.
In the sLHC-pp project it had been planned to expose various dosimeters to the first beams with energy E=7 TeV in LHC during 2009, in order to compare their indication to predictions of prompt radiation effects. Good performance of a particular code in this area would greatly enhance the confidence one can have in it.
The deliverable No. 5.1.1 is describing the detector types employed for the validation study, and the locations in accelerator and experiments where they are placed.

Due to the incident with one of the magnets in LHC in September 2008 and the ensuing long stop of more than one year, the planned work programme could not be realised in the planned lapse of time. For the LHC run 2009/2011, numerous dosimeters have been placed in LHC and in the experiments ATLAS and CMS. While the accelerator will run at an energy of only 3.5 TeV (50% of the nominal energy), the evaluation of the dosimeters will still yield precious data on the validity of Monte-Carlo models in unchartered energy regions. Results of these validations will become available in spring 2011, towards the end of the preparatory phase. LHC will reach maximum proton energy after a comprehensive technical and safety upgrade, provisionally in 2013. The validation of Monte-carlo codes for proton beams of 7 TeV is therefore no longer in the scope of the preparatory phase.

The radiation impact on the different experiments has been estimated with Monte-Carlo simulations of radiation transport for the nominal luminosity of LHC (10^{34} cm^{-2} s^{-1}). These results are summarised in a deliverable (No 5.1.2.). Induced activation levels and resulting dose equivalent rates for the environment of the detectors at sLHC can be scaled from the LHC-results, because they are proportional to the luminosity. The only uncertainty in this process is represented by the inner detectors, which will undergo changes.
A later assessment of these activation and radiation levels is facilitated by the calculation methods and tools developed during the preparatory phase of sLHC.

These results will be summarised in a deliverable (No 5.1.2.), which is delayed until July 2010 to permit inclusion of work presently under completion in the ATLAS collaboration.

Task 5.2 Accelerator Radiation & Activation

On the worksite of Linac4, a new injector accelerator on the critical path to sLHC, measures have been taken to protect the construction workers (not classified as radiation workers) from ionizing radiation emerging from the operating Linac 2. A combination of additional shielding walls and a radiation interlock by a monitor is assuring that ambient dose equivalents on the worksite remain below 0.5 μSv h-1, the dose rate limit for publicly accessible spaces.
SPL and PS2 are the injector accelerators planned to renovate CERN's aging injector complex for delivering reliably the required number of protons to sLHC. They are built with modern methodologies, minimizing beam loss. Nevertheless, all aspects of radiation protection must be studied in the planning phase of these accelerators. In SPL wide vertical shafts are needed to accommodate 16 bundled RF waveguides each. These shafts with a diameter of 2.8 metres are a pathway for neutron scattering and the ambient dose rates in the Klystron Buildings must be studied. The radiation transport calculations performed demonstrate that additional work is required to optimize the radiation impact.
The PS2 injection dump is a planned beam loss point, a first design of its shielding is provided such that worker can access the dump for short periods of time during shut-downs of the accelerator.
The inner triplets are the last quadrupole magnets before the interaction points (IP) in the ATLAS and CMS detectors. In order to provide increased luminosity for sLHC, they must be replaced by new models, providing better focusing of the beams. Due to their closeness to the IP, the inner triplets are exposed to an intense bombardment of secondary particles emerging from the p-p collisions and will become strongly activated. For their dismantling (before installing new triplets), either a long waiting time after the stop of the LHC for allowing radioactive decay, or the retrofitting of remote-controlled manipulators and tools is necessary. The design of new inner triplets should include an optimized approach to dismantling.

As a summary, the most obvious points, where wrongly assessed effects of ionising radiation could have had an impact on the schedule or the budget of the sLHC project have been assessed. Either, solutions for the protection of personnel have been developed immediately (Linac 4 worksite) or the project teams have been made aware that they must integrate safety aspects into their planning.
The work on this task is terminated and its results are summarised in deliverable No. 5.2.1.

Task 5.3 Impact Study

The environmental impact of underground accelerator facilities can be classified into releases of radioactivity during operation and disposal of radioactive waste, predominantly after the end of the life of the facility.
During all studies made so far, activation of components was one of the output quantities. The activity concentration of radionuclides in a certain material, together with the radiological characteristics (half-life, emissions) determines the classification of the material as radioactive waste. All material analysed so far in sLHC will be classified as low-activity waste or it will be exempted, because the expected activity levels are so low.
Low-level waste must be safeguarded until the activity therein has decreased so much that the material can be regarded as non-active. If the time required for this is too long – one usually considers a span of 30 years – then the material must be deposited safely in a radioactive waste depot. The SLHC-PP study is aiming to give a rough estimate of the volumes which must be thus stored.

Releases into the environment are assessed by estimating the activation of air and by following the probable distribution of activated, released air in the environment. Codes for this purpose are available and first calculations have been started.

Both aspects will be reported in deliverable 5.3.1. which is due at the end of the project.

Work Package 6: Development of Nb-Ti quadrupole magnet prototype

The objectives for the period (year 2) include the engineering design of the quadrupole magnet (Task 6.1), the construction of a model magnet (Deliverable 6.2.1), the assessment of its design (Deliverable 6.2.2), the complete cold-mass design (Milestone 6.3), and the design of the complete cryomagnet (Milestone 6.4).

Task 6.1 and deliverables task 6.2 (Model magnet construction)

Introduction

During the last 12 months, good progress has been made with the engineering design (with 246 execution drawings completed) and the design and procurement of tooling. However, the following issues lead to major changes in the work plan:

- Underestimated technical challenges stemming from the heat load to the cryomagnets and therefore the need of developing a new electromagnetic design and a new hydraulic press for horizontal assembly of the magnet.
- Re-scoping and re-scheduling of the Inner Triplet Upgrade as a result of the newly estimated rate of progress of LHC performance up to nominal, after the September 2008 event and the extensive investigations performed in 2009 [1].
- Priority given to the repair and re-commissioning work for the LHC machine until October 2009, which introduced delays and bottlenecks, even though the foreseen amount of CERN resources have been invested into the SLHC-PP work programme.

As a result, the model magnet construction initially planned is not required anymore (initial deliverable 6.2.1), while a so-called instrumented collar pack and a 2-m-long magnet prototype need to be built and tested, before any attempt can be made to manufacture a full-scale magnet prototype.

Engineering challenges

The main parameters of the quadrupole magnets (MQXC) for the inner triplets were established in 2008 (Milestone 6.2). Extensive heat deposit studies [2] have revealed that the heat-load to the inner triplet magnets, on the order of 500 W, requires a minimum inner diameter of the bayonet heat-exchanger of 95 mm for a maximum vapour velocity of 7 m/s [3]. It became clear that this heat exchanger cannot be placed on the median plane of the magnet cold mass. This would have resulted in non-acceptable stray fields and non-allowed multipole field errors due to the off-centricity of the (ferromagnetic) vacuum vessel of the cryostat. In addition, the stray fields of 0.8 T would have made impossible to route the superconducting busbar cartridge through the corresponding holes on the magnet's symmetry planes.

Although using available cable, and building on the past experience from the LHC magnet construction, a particular challenge is to obtain the necessary pre-stress and field quality (coil size) in the magnet after cool-down and excitation using the new insulation scheme [4,5], which was developed in order to cope with the above-mentioned heat deposit.

Moreover, the available workshop equipment only allows for a horizontal assembly of the full length quadrupole. An innovative collaring scheme has therefore been developed which requires a

special hydraulic press, to guarantee a four-fold symmetry and avoid excessive multipole field errors.

Achievements in year 2

Subject to the above mentioned challenges, good progress has been made with the engineering design of the MQXC magnets (Task 6.1) and the tooling required for their production.

The iron yoke design was completely revised with respect to the cross section presented in the design report (Milestone 6.2) [6]. The present design also allows for the placing of tuning shims and rods to compensate for multipole field errors. This is particularly important for the small production batch of less than 20 magnets [7].

In particular the integrated design and manufacture of coil-end spacers, which require the CNC-machining of the ruled surfaces with 5-axis machines, was fully exploited. Simulation tools for the electromagnetic design and optimization of the magnets, including the simulation of quench and time transient effects, were extended. The cryostat design, basically identical to that of the LHC main dipole (MB), has been finalized (see also report on the Milestones 6.3 and 6.4 below). End spacers were successfully produced using a rapid prototyping method, known as selective laser sintering, at the CERN main workshop and in European industry. It is interesting to note that the production of these pieces had caused series delays during the prototype phase of the LHC magnets. The shape of the end spacers was successfully qualified in a coil winding trial at CEA Saclay who have taken the lead in the MQXC coil manufacture.

A novel self-locking collar pack design was developed in 2009. These packs allow the assembly of the collars in horizontal direction, but require a spring-loaded and collapsible assembly mandrel. The handling and assembly of the coil/collar packs in horizontal direction is compatible with the workflow in the "magnet rescue facility," which is currently commissioned at CERN for the repair of dipole cold masses. The novel collaring scheme needs to be qualified for the series production. This can be achieved with a so-called instrumented collar pack. The hydraulic press needed for collaring will be procured from European industry. Its technical specifications and tendering documents were completed in 2009.

Objectives for year 3

Considering the extensive changes decided in 2009, we propose to reformulate the subject of the subtask 6.2 and to focus it on the self-locking collar packs. The associated deliverables will then become:

- “6.2.1 Construction of 2 instrumented collar packs using the new collaring procedure for horizontal assembly and a specially procured collaring press”, to be provided by Month 32.
- “6.2.2 Assessment of the collaring procedure and definition of the final coil size”, to be provided by Month 33.

Task 6.3 (Construction and testing of a full scale prototype)

The newly developed horizontal assembly technique will need to be proven by construction and full assessment of two 2-m-long prototypes, an intermediate step that was not foreseen in the initial SLHC-PP work programme. These tasks cannot be performed before the end of the SLHC-PP (March 2011), but CERN and its partners are committed to complete them, until the end of 2012, in order to capitalize on the development and tooling made until now in the context of WP6. The installation of new Inner Triplets for the LHC now delayed by more than 4 years with respect to the initial plans, the outcome of the above-mentioned work programme for NbTi magnets will be on-time for the final design choices.

Two 2-m-long prototype magnets will be built and tested, for a total cost of approximately 2.5 Million Swiss Francs, or 1.74 Million Euros:

- Nb. 1: Assembled from coils wound at CEA or CERN according to availability. Cold testing in a vertical cryostat. Field quality measurements and training performance.
- Nb. 2: Assembled from the second set of coils wound at CEA or CERN. Full cold-mass integration and cold testing in a horizontal cryostat. Extended instrumentation for heat transfer, quench propagation velocity measurements, study of the quench-back effect with differently sized protection resistors.

We propose therefore that the subtask 6.3 within WP6 contributes until the end of the SLHC-PP (April 2011) to this work programme. It could then be reformulated as "Construction of 2-m-long prototype magnets". The spending profile for 2010 will include 366 000 Euros for tooling and 140 000 Euros for the magnet components (not including resources and overheads).

Within the duration of the SLHC-PP, the only possible deliverable is the assembly of a 2-m-long prototype quadrupole. We propose to name it "Deliverable 6.3.2", to be provided by Month 36. However, no equivalent to the deliverables 6.3.3, 6.3.4 can be expected.

Concerning the corrector magnets (deliverable 6.3.1):

- CERN will design and manufacture a model orbit corrector and a model skew-quadrupole magnet, the latter with a lower priority. The tooling for the winding and curing of the orbit corrector coils has been designed and procured. First winding tests have qualified the end spacer design (including rapid prototyping) and the coil winding technique. This is a new technique, as for the first time an orbit corrector magnet is wound from a Rutherford-type cable.
- CIEMAT will design and manufacture the model multipole correctors of higher order, i.e., normal and skew sextupole and octupoles (b3, a3, b4, a4). The design is now complete and a prototype magnet will be provided by Month 36. STFC will be involved in material and manufacturing R&D related to the model skew-quadrupole corrector, comprising the qualification of the polyimide insulation and end-spacer development.

Milestones

6.3 Cold-mass design

The cold-mass design is completed. A publication for the ASC conference (August 2010) is in preparation. All-together 246 execution drawings for the cold-mass design and related manufacturing tooling have been made. Prototype components have been manufactured in European industry. The calls for tender for the production of materials needed for the 2 m long magnet prototypes have been launched. The cold-mass design review was held at CERN on 3 November, 2009.

6.4 Cryomagnet design

The cryomagnet design relies on the LHC main dipoles. For this reason, the outer dimensions of the quadrupole cold-mass have been fixed to those of the LHC main dipole. The off-centricity of the cold-mass with respect to the vacuum vessel of the cryostat is also identical to the LHC main dipoles. Thus the support posts can be used as is. Due to the decision to stop the production of the full-scale prototype magnet, the cryomagnet design can be regarded as completed. For the cold test of the 2m long prototype magnets, LHC spare components can be used. The cryomagnet design review was held at CERN from 22-23. July, 2009.

6.5 Cryogenic and power test of the model

For the reasons stated above, the model magnet has not been built. The subtask 6.2 now focuses on the self-locking collar packs. Milestone 6.5 is irrelevant in this new context.

References
[1] LHC Performance Workshop, 25-29 January 2010, Chamonix, https://espace.cern.ch/acc-tec-sector/cham2010/default.aspx
[2] Cerutti, F., Mereghetti, M., Wildner, E.: Update of Power Deposition Studies in the LHC Upgrade Phase I Insertion Regions, EDMS 975134, 2008
[3] Van Weelderen. R.: Update of the Cryo-scheme, EDMS 1013620, 2009
[4] Fessia, P. A., Gerardin, A., Granieri, P.P., Guinchard, M., Luzieux S., Sgobba, S., Tommasini, D.: Electrical and Mechanical Performance of an Enhanced Cable Insulation Scheme for the Superconducting Magnets of the LHC Luminosity Upgrade, presented at MT21, 2009, to be published in IEEE Transactions on Applied Superconductivity.
[5] Granieri, P.P.: A Heat Transfer Model through Cable Insulation of Superconducting Nb-Ti Magnets Operating in He II, presented at MT21, 2009 to be published in IEEE Transactions on Applied Superconductivity.
[6] Borgnolutti, F., Fessia, P., Todesco, E.: Electromagnetic Design of the 120~mm Aperture Quadrupole for the LHC, Phase One Ugrade, sLHC Project Report 0001, CERN, 2009
[7] Russenschuck, S.: Hardware Challenges and Limitations for the IR Upgrade, Proceedings of the Chamonix 2010 workshop, CERN, 2010.

Work Package 7: Development of critical components for the injectors

Task 7.1

Task 7.1 aims development towards a high power negative hydrogen ion source for a future Superconducting Proton Linac (SPL) at CERN. Specifically, the plasma generator of a 2MHz RF ion source should be studied to run at high average power, and the design and construction of such a plasma generator take place.

Summary of progress

Linac-4 Ion-source: The Linac4 ion-source is derived from the non-caesiated DESY volume H^- ion-source; it is now assembled in CERN's 3MeV test stand and successfully passed its 35 kV commissioning. The source was operated to study plasma ignition for a range of gas injection parameters. An important success and major input to the design of the SPL plasma chamber RF circuit was the measurement on the Linac4 ion source of the contribution of the plasma to the total RF load impedance.

Plasma ignition mock-up: The mock-up experimental system, where the plasma chamber is replaced by a quartz tube is produced and leak tested. Its aim is to observe the spark gap initiated plasma ignition trigger.

Plasma generator prototype: The 3D design of the plasma generator was completed by September 2009. All production drawings of the plasma chamber and its water cooling circuits are available and the production was started. A notable exception is the cusp magnet cooling system, where more detailed simulations (using the RF-antenna current expected at 100 kW RF power) showed that the 20 micron Ni-coating of the permanent magnets may require an active cooling system (currently under design).

2 MHz RF-amplifier: The measurement technique of the RF coupling is being discussed and tested with dummy loads and with the linac4 ion-source body. A method and circuit for tuning and measuring the RF-coupling was tested with the Linac4 source and its results presented at an international workshop held at SNS Oak Ridge. The discussion strongly supported the chosen RF approach namely flexible control of the frequency and amplitude.

Thermal modeling: The mandatory improvements listed on the base of the linac4 ion-source thermal modeling were presented in the deliverable report 7.1.2. For the sLHC plasma Generator, four independent cooling circuits were designed for the antenna, the extraction region, the cylindrical plasma chamber and the ignition spark gap. The thermal equilibrium of the average heat flow and the fluid dynamics of the plasma generator equipped with cooling circuits were simulated.

The models indicate all selected materials are now within their operating temperature range. The eddy currents induced on the permanent magnets by the 2 MHz RF were simulated; a cooled Cu-confinement box is necessary and is being designed.
Modeling of magnetic field: The 3D-Magnetic field distribution of the Linac4 ion-source was simulated with the OPERA software package. A very detailed cusp field simulation was achieved for 6, 8 and 12 poles in standard and Hallbach configurations of the permanent magnets.
Plasma generator design: The modeling of a SPL plasma generator is achieved and described in the deliverable report SLHC-PP-D7.1.2-1049282-v1.0. The design respects the results of thermal simulation that are based on the CAD 3D geometry.
SPL-plasma Chamber test stand: The 50 m^2 laboratory has been available since February 2009. It is being refurbished and equipped with the necessary ancillary equipment (demineralized water, electrical power and gas distribution). Gas distribution and Hydrogen safety systems have been installed and are ready for commissioning. Vacuum system is operational and has been leak tested. An optical spectrometer for plasma diagnostics and a Plasma process monitoring system via gaseous mass spectrometry have been delivered to CERN.

Significant results
Thermal modeling: Within the limits of the uncertainty induced by our heat source hypothesis, the simulation shows that the temperatures of all components are within material specifications. The ceramic chamber and most insulators are made of high conductivity Aluminum-nitride ceramics. The Molybdenum collar cooling is achieved via brazed AlN insulators pressed onto a water cooled Cu flange.
Successful brazing of AlN high thermal conductivity insulator to the Molybdenum collar, the brazed prototype was installed into the ignition system mock-up. RF-plasma coupling: measurement of the electrical equivalent plasma impedance and direct measurement of the antenna current. Antenna insulation: two 5.5 turns prototypes antenna were successfully embedded into a vacuum casted epoxy layer.

Statement use or resources and deviations
During the second year, the work package is on budget and on schedule.

Task 7.2

Summary of progress
The CEA cavity has achieved its nominal gradient. Conditioning with the 1 MW coupler installed together with the cavity in the “CryHoLab” at CEA Saclay advanced rapidly in 2009. Testing of the cold cavity with the piezo tuning mechanism and full power commenced in October 2009, initially at a low pulse repetition rate of 1 Hz to 5 Hz. Pulsing at the full foreseen repetition rate of 50 Hz was first achieved in January 2010, following re-commissioning of the full power installation at the end of 2009. [3]
The LLRF prototype system from CERN has been used during several measurement campaigns between October 2009 and January 2010. In parallel work continued on the simulations of the LLRF control of the cavity field. Results of simulation and testing were presented at the LLRF workshop in Tsukuba, Japan [1, 2] and at the SPL collaboration meeting in November 2009 at CERN [4, 5]. The necessity to do the tests on the two cavities (CEA and INFN) at CEA Saclay sequentially, implicated a strategy whereby work is carried out in parallel towards completion of the four deliverables, necessarily entailing some delay in the individual milestones. There is confidence that the experimental program and the simulations can be completed within the time frame of the program, provided the test facilities at CEA Saclay remain available for these tests until the end of program.
The team at CEA Saclay also progressed with the commissioning of a 704 MHz IOT amplifier with which cw measurements can be performed. These cw measurements turn out to be essential to carry out calibrations of forward and reflected power and thereby being able to disentangle imperfections of the directivity of the waveguide couplers and the imperfect circulator matching.

Significant results

Contributions to the deliverable report 7.2.1 are being reviewed and submittal is planned for month 26. The report, in two parts, summarizes the characterization of the two tuning systems on the two distinct cavities, the CEA cavity and the INFN cavity. On the CEA cavity the tuning mechanism including the piezo were validated in cold cavity tests, and good results of field stability in amplitude and phase were achieved with active Lorentz-Force detuning compensation using the piezos. Using the CERN LLRF system [6] the control of the piezo must now be automated and a full LLRF system will be implemented.

Significant progress was made with the simulations of the LLRF and a user interface created which allows to simulate the three chosen baseline scenarios - 1, 2, and 4 cavities per klystron. The next step is to create error files for amplitude and phase of the cavity voltage in the individual cavities of the linac, simulate the impact on the overall performance of the linac and check in beam dynamics simulations for the full LINAC if the achieved field stability in amplitude and phase is acceptable. Special emphasis will be put on optimizing the LLRF control and on the correlations of the errors in amplitude and phase for cavities driven by the same power source (klystron). Completion of a report is planned for the middle of 2010 with presentation of the results to the 4th SPL collaboration meeting to be help end of June 2010 in Lund, Sweden, event jointly organized with ESS. The deliverable report 7.2.2 will then be issued in month 27 (Initially M18).

Deviations from Annex I

Adoption of the strategy to move forward in parallel with the completion of the four milestones necessitates a further short delay for the first two deliverables 7.2.1 (now M26) and 7.2.2 (now M27). This strategy originated from the necessity of testing the two cavities sequentially and spreading out the experimental program over the full length of the project.

Corrective actions (follow-up of 2008/2009 report)

A tripartite meeting was help at INFN 15th-16th February 2010 aimed at establishing a schedule for the delivery of the report related to deliverable 7.2.1 and for the preparation of the cold testing of the INFN cavity at CEA Saclay. The planning for the testing of this cavity is now firmly established and foresees cleaning of the INFN cavity at CEA no later than July 2010.

A fellow has been hired by CERN in August 2009, later than foreseen due to the difficulties of finding a suitable candidate for the simulation work. Progress has been good, with first results of simulations by the fellow already presented in November 2009 [3].

[1] O. Piquet, S. Chel, G. Devanz, W. Hofle, D. Valuch, *LLRF simulations for the future CERN superconducting H- linac*, 4th LLRF workshop LLRF09, October 19-22, Tsukuba, Japan, http://www-conf.kek.jp/llrf09/llrf-intro.html, CERN EDMS document number 1072932 https://edms.cern.ch/file/1072932/1/LLRF09_poster.pdf

[2] A. Butterworth, F. Dubouchet, W. Hofle, J. Lollierou, D. Valuch, S. Chel, G. Devanz, M. Desmons, O. Piquet, *High Power pulsed RF testing of 704 MHz super conducting cavities using a newly developed automatic measuring system for Lorentz Force detuning evaluation*, 4th LLRF workshop LLRF09, October 19-22, Tsukuba, Japan, http://www-conf.kek.jp/llrf09/llrf-intro.html , CERN EDMS document number 1072924, https://edms.cern.ch/file/1072924/1/LLRF09_poster.pdf

[3] G. Devanz, P. Carbonnier, S. Chel, M. Desmons, Y. Gasser, A. Hamdi, D. Roudier, *Tests of 704 mhz 1mw power coupler at Saclay*, Proceedings of SRF09, Berlin, Germany, 2009 http://accelconf.web.cern.ch/AccelConf/srf2009/papers/thppo032.pdf

[4] W. Hofle, M. Hernandez Flano, *RF Simulations*, 3rd SPL collaboration meeting, CERN, 11-13 November 2009, http://indico.cern.ch/materialDisplay.py?contribId=80&sessionId=11&materialId=slides&confId=63935

[5] D. Valuch, *Lorentz Force detuning measurements on the CEA cavity*, 3rd SPL collaboration meeting, CERN, 11-13 November 2009, http://indico.cern.ch/getFile.py/access?contribId=79&sessionId=11&resId=1&materialId=slides&confId=63935

[6] D. Valuch, J. Lollierou, W. Hofle, CERN EDMS document number 994198, https://edms.cern.ch/file/994198/1/MeasurementSetupForCavityDetuning-Valuch-2009-02-01.pdf

Work Package 8: Tracking detector power distribution

Task 8.1: DC-DC Conversion

In view of enabling new power distribution schemes for sLHC trackers, different topologies based on the use of DC-DC converters have been selected by different detectors and systems. Two optimal conversion stages have been selected: a buck converter as main stage, capable of serving a full detector module, and an embedded on-chip switched capacitor voltage divider serving as second stage in some applications. The implementation of such schemes required the development of a radiation tolerant power ASIC buck converter that is carried out at CERN. The integration of this ASIC onto a compact, low noise and magnetic field tolerant buck converter module required a careful optimization carried out at CERN and at RTWH Aachen University. The resulting prototype boards have then been tested on the ATLAS short strip tracker prototype by CERN, and on the CMS Tracker End Cap modules at RWTH Aachen University. Also, an ASIC prototype for the second stage charge pump was designed at PSI. The measurement results are matched with simulation parameters, resulting in a good simulation model to be used in system developments.

Selection of the technology. After the choice of the buck converter topology for the main conversion stage, a radiation tolerant microelectronics technology suitable to the development of a DC-DC converter ASIC needed to be selected. With the collaboration of chip foundries, CERN evaluated five technologies in the second year of the project through extensive radiation tests on sample transistors. As a result of this, a 0.25µm process from IHP was selected as baseline and a 0.35µm technology from On-Semiconductors as backup option as both were found to be tolerant to radiation levels up to the doses and fluences required by the application. Three prototype ASIC buck converters have been designed at CERN and were produced in these technologies. The ASICs were mounted on different prototype boards at CERN that were used to characterize the ASICs functionality and their effective radiation tolerance. The first prototype ASIC, AMIS1, integrated the power transistors and main control functions. It required however an external saw-tooth signal generator and linear regulators. These blocks were integrated in the second prototype, AMIS2, where also a programmable gate delay was introduced. A switching frequency of 3 MHz was reached with a higher efficiency and output currents beyond 3A were successfully provided at the output. This prototype successfully passed irradiation tests with both ionizing radiation and particles introducing displacement damage, proving that the required level of hardness is within the reach of the technologies used. This ASIC was mounted first in a QFN48 package, and later on in a QFN32 package that allowed its integration in a very compact board design of 1.3cmX2.5cm. For the third ASIC prototype, IHP1, an adaptive gate delay was introduced. This first integration in the baseline IHP technology did not contain on chip regulators yet. The circuit was mounted in a QFN48 package and was fully functional with very good efficiency and stability. A more complete version of this design, featuring on-chip regulation and over-current protection, is currently being produced.

Evaluation of air core inductors. The buck converter topology requires a low mass, low resistance air core power inductor to deliver a DC output voltage. Solenoid, wrapped toroid and custom PCB toroid structures were evaluated at CERN and at RWTH Aachen University. Electromagnetic simulations and measurements showed that the toroidal topology leads to significantly lower emissions of magnetic field. Prototypes of a PCB based toroid were produced at CERN. The difficulty to build reliable copper filled vias forced us to discard this topology, in favor of the more classic wrapped toroid inductor. Different wrapped toroidal coils, produced and tested at CERN and RWTH Aachen University, are being used now for the assembly of the DC-DC prototype boards. A magnetic field scan table was set up at RWTH Aachen University to measure

the magnetic emission of various air core inductors. The measurements are combined with finite elements simulations to optimize the coil design.

Optimization and system test. System tests performed at CERN and RTWH Aachen University have put in evidence susceptibility to conducted noise, and to radiated magnetic and electric fields. Electromagnetic simulations have been used at CERN to identify the critical parameters that required optimization at board level. The development of this expertise allowed reducing radically the noise emitted first by the converters that used commercial controllers, and afterwards on boards that used the AMIS2 ASIC, on designs made at CERN and RWTH Aachen University. This noise reduction was achieved together with the board size reduction, which is of primary importance for the reduction of material budget in the detector volume. These DC-DC boards were used to power detector systems to explore the coupling mechanisms and the susceptibility figures. In 2009, the noise susceptibility of the ATLAS short strips tracker prototype was studied, first using the CERN DC-DC prototypes, and later on using near field antennas. This system was found to be sensitive to electric and magnetic fields, while conducted noise had negligible impact, justifying the need of a small shield box on top of the DC-DC converter board and confirming the need for a careful integration at board level. Similarly DC-DC converters boards produced at RWTH Aachen University were used to test CMS Tracker End Cap substructures equipped with several silicon strip modules. These boards include conductive noise filters and compact air-core toroids with little magnetic emission. As a result of this optimization, the CMS modules can now be operated with the DC-DC converters with commercial chips without any significant noise increase. The AMIS2 based converters developed at RWTH Aachen University provide a similarly good performance for the same operating conditions. A better understanding of the noise coupling mechanisms has been achieved with noise susceptibility tests. The susceptibility to conducted noise was studied using the bulk current injected method. A scanning table setup is used to study the susceptibility to magnetic fields, by moving a magnetic emitter across the module and measuring the induced module noise as a function of the emitter's position. In view of a possible application of DC-DC converters for the upgrade of the CMS pixel detector, system tests of DC-DC converters with components of the pixel power system (power supplies, cables, realistic load and load variations) are now also being conducted.

Achievement of objectives. The availability of the technology, the acquired expertise in designing ASICs and low noise, compact converter modules, and the knowledge about noise coupling mechanisms between the converters and the detector systems allow the completion of the task in the next year in the form of prototype boards integrated into prototype systems.

Task 8.2: Serial powering

Two schemes of serial powering of detector modules for sLHC trackers are being developed: for the pixel detectors and for the silicon strip detectors. Specific ASICs comprising shunt regulators and linear regulators have been developed for each of the detector systems. Serially powered detector modules require effective protection circuitries to avoid losing entire chain in case of single module failure. Such specific protection circuitries for the pixel module and the strips modules have been worked out.

Shunt-LDO regulator for serial powering of pixel modules. In order to provide the pixel modules with the needed supply voltages of 1.2V (analog) and 1.4V (digital) a new on-chip power regulator has been developed, which combines the functionality of a shunt regulator with that of a low-dropout (LDO) voltage regulator. It is planned to equip each pixel front-end chip (FE-I4) with two of them. Redundancy is achieved by using 8 regulators in a pixel module consisting of four chips. A first test chip with this circuit has been submitted in radiation-hard 130nm technology in September 2008, tested successfully after fabrication. Preliminary results were shown in the previous report. The chip worked according to the specifications. The distribution of shunt currents among the regulators was found to be unequal during the ramp-up phase, starting at an input current of ~300mA. The problem was identified and corrected. A second test chip has been submitted in March 2009 and the test results have shown that the problem was understood and solved correctly.

Protection scheme for the pixel modules. In order to avoid losing the whole chain of serially powered modules in case of problems with only one module connection, a module protection chip (MPC) is being developed which allows disabling single modules. Simulation for the bypass transistor and the slow control has been performed and the over-voltage protection circuitry is being developed.

Pixel detector system test. For studying all system aspects before the new pixel ROIC and modules are available, a special test bench has been developed. The main components of the test bench are FPGA based boards which serve as module emulators and one FPGA board which acts as an 'end-of-stave' card controlling a group of modules. The FPGAs of the boards are programmed in a way that a realistic communication and data transmission scheme between modules and the end-of-stave card is possible. Additional features like DCS integration, HV connection or several AC coupling schemes have been implemented in this test bench and tested in more detail. A multi-purpose test system to emulate the electrical behavior of a pixel stave has been developed and built. It consists of an "end-of-stave" FPGA board, and interconnect board with commercial LVDS chips and up to six module emulator units. Each module unit consists of an FPGA board and an add-on board which enables to test different LVDS chip types. In particular the module emulators can be powered serially using the prototype Shunt-LDO regulators. New interconnection boards for the module emulator are available with Shunt-LDO and FE-I4 transceiver chip. The boards are ready and a preliminary version of the serially powered stave emulator has already been setup and first measurements have been performed.

Shunt regulators in the ABCN-25 readout ASIC. The ABCN-25 ASIC for readout of silicon strips comprises two prototypes of distributed shunt regulator circuits, which can be used alternatively. One circuit is a full shunt regulator. Another circuit comprises only shunt transistors, with gate control inputs, which are foreseen to be driven by an external voltage control loop, common for all ASICs connected in parallel on the hybrid. Each of the two designs, which can be used alternatively, allows connecting several shunt regulators in parallel on the hybrid. The circuits have been tested and parameterised using dedicated evaluation boards. The test results show that both circuits are fully functional according to the specification. Further, the serial powering modes have been demonstrated to work correctly for the fully populated hybrids comprising twenty ABCN-25 ASICs, which means twenty shunt regulators connected in parallel.

SPi ASIC for serial powering strip detector modules. The SPi (Serial Powering Interface) is a versatile chip including a shunt regulator and other circuitry, like AC-coupled interfaces and protection circuits, needed in the serially powered system. The chip has been fully tested using a dedicated evaluation board and the results indicate that the chip can be used in a scheme with a single shunt regulator per hybrid carrying twenty ABCN-25 readout ASICs.

Protection scheme for the strip detector modules. The protection circuitry for the strip modules have been developed in the form of a tiny PCB using discrete components. The first PCBs have been delivered to RAL and additional testing using 1-wire interface has been performed. The protection boards will be implemented on stavelets. They include the 2x11 socket for the insertion of a plug-in board that allows testing of different powering schemes.

Progress on the strip detector demonstrator. First silicon strip detector modules have been assembled and tested successfully. The module is based on a 9.75×9.75 cm^2 silicon wafer comprising 5120 short strips being read out by 40 ABCN-25 ASICs assembled on two hybrids. The modules will be assembled one by one on the stavelet structure and tested after each assembly step. The stavelet design is compatible with both serial powering and DC-DC conversion, and both schemes will be evaluated.

Progress on current source version 2. Based on the first successful prototype of the current source with parameters and features required for serial powering of detector modules, a second much elaborated version has been designed. Building of the prototype is advanced and testing will be performed in coming weeks. Initially two such systems will be built, one for the stavelet

development program at RAL and one will be kept by the designer for parallel testing and further improvements.

Achievement of objectives. The objectives of task 8.2 have been fully reached and the project is well within the schedule. Radiation resistant ASICs for serial powering schemes have been developed. These include SHULDO – an ASIC dedicated for serial powering of pixel detector modules, two optional shunt regulator integrated in the ABCN-25 ASIC for readout of silicon strip modules, and the SPi ASIC – a generic ASIC for another option of serial powering scheme of the silicon strip modules. Module protection schemes have been worked out and prototypes have been built using discrete components. Full size silicon strip modules populated with ABCN-25 ASICs have been powered successfully in the serial powering mode using different options of the developed shunt regulators.

3.2 Overall personnel effort:

A summary table presenting the budgeted resources for the whole project, as they appear in 'Annex I – Description of Work', and the use of resources as declared for Period 1 and Period 2 is shown below. The last column shows in addition the accumulated percentage of use of resources in years 1 and 2 versus the amount budgeted for the whole duration of the project (3 years). A value around 70% is expected at this stage of the project for most beneficiaries.

The resources allocated by CEA to task 7.2 (Field stabilisation in pulsed superconducting low beta (v/c) accelerating) exceeded the original expectations. A major failure of the HV power supply of the test stand used for this activity triggered a series of studies that benefited the control/interlock system to prevent HV breakdowns. CEA has also performed a series of experimental tests that were not foreseen in the original work program. In 2010, the field stabilisation of the SC cavity in pulse mode was finally demonstrated.

CTU shows a 112% usage of personnel resources. During the second year of the project, the ATLAS-MPX network was upgraded to the radiation hard version and this work needed more personnel than originally foreseen. Moreover, after the LHC startup by the end of 2009, interesting experimental results about background radiation in ATLAS experiment and its environment have become available. Then, young physicists started to be heavily involved also in the ATLAS-MPX data evaluation and their comparison with results of radiation background simulation, what becomes very desirable in the present stage of LHC operation.

GSI has used about 40% of the resources allocated the project. This is due to the frozen PS2 project; works on beam dump had to be stopped and the needed input for duct calculations of the SPL Linac were given with some delay. Their activity will rise in the 3rd year of the project.

Within WP7, INFN is committing personnel to a full characterization of the INFN superconducting cavity at warm temperatures, to a much deeper extent with respect to what was initially foreseen. This explains the somehow slightly higher use of resources at this stage of the project, with respect to the original budget. The warm characterization activities that are carried out at INFN will be beneficial for the understanding of the subsequent cold test results. The CRYHOLAB facility at Saclay is being used for the complete characterization of the CEA cavity, and the cold tests for the INFN cavity should wait for the completion of these tests.

The 22% currently recorded for PSI is justified as the activities within WP8 were foreseen for the first and third year of the project. In WP5, the activities started in the second year and all the evaluations have to be done in the third year of the project.

The high personnel usage of UniGe is largely due to the activities of one person who has the SLHC-PP project as his principal activity. No revision of the nominal personnel usage is requested.

Beneficiary	Management WP1				Coordinatiom WP2			WP3			WP4			Sum		Support WP5				RTD WP6			WP7			WP8			Sum		TOTAL		% Used
	Budget	P1	P2	Actual	Budget	P1	P2	Budget	P1	P2	Budget	P1	P2	Budget	Actual	Budget	P1	P2	Actual	Budget	P1	P2	Budget	P1	P2	Budget	P1	P2	Budget	Actual	Budget	Actual	%
1 CERN	49	17	24	40.9	38	3.3	13.8	52	5.0	12.5	48	16.6	31.0	138	82.1	58	16.1	45.3	61.4	72	23.4	47.4	148	24.4	48.0	48	20.1	33.4	268	196.7	513	381	74%
2 AGH-UST																										36	7.4	12.6	36	20.0	36	20	56%
3 CEA-Saclay					6	0.0	0.0							6	0.0					49	16.2	43.2	23	15.8	63.5				72	138.7	78	139	178%
4 CIEMAT					4	0.0	3.6							4	3.6					30	5.5	4.4							30	9.9	34	14	40%
5 CNRS-IN2P3																				18	4.1	13.7							18	17.8	18	18	98%
6 CTU																18	11.1	9.0	20.1												18	20	112%
7 DESY											18	1.2	6.1	18	7.3								2	3.0	0.0				2	3.0	20	10	52%
8 ETH Zürich											15	3.7	5.2	15	8.9																15	9	59%
9 FOM-NIKHEF								20	6.4	6.0				20	12.4																20	12	62%
10 GSI																16	1.4	4.7	6.1												16	6	38%
11 Imperial											9	3.6	6.1	9	9.7																9	10	108%
12 INFN																							7	1.7	5.4				7	7.1	7	7	101%
13 PSI																16	0.1	2.7	2.8							16	4.2	0.0	16	4.2	32	7	22%
14 STFC					4	1.0	0.0	20	6.5	6.0				24	13.5					24	2.8	0.8	1	0.6	0.3	35	15.0	14.8	60	34.2	84	48	57%
15 UBONN																										48	23.1	27.0	48	50.0	48	50	104%
16 UNIGE								10	6.4	8.3				10	14.8																10	15	148%
17 USFD																8	2.9	4.0	6.9												8	7	86%
18 RWTH Aachen																										10	2.3	6.5	10	8.8	10	9	88%
TOTAL P-M	49	17	24	41	52	4	17	102	24	33	90	25	48	244	152	116	32	66	97	193	52	110	181	45	117	193	72	94	567	491	976	781	80%

Summary table presenting the budgeted resources for the whole project, as they appear in 'Annex I – Description of Work', and the use of resources as declared for Period 1 and Period 2

4. Deliverables and milestones tables

Deliverables (excluding the periodic and final reports)

Reports of all deliverables are available at the url http://cern.ch/SLHC-PP/MILESTONES.htm

TABLE 1. DELIVERABLES[2]

Del. no.	Deliverable name	WP no.	Lead participant	Nature	Dissemination level	Due delivery date from Annex I	Delivered Yes/No	Actual / Forecast delivery date	Comments
1.2.1	SLHC-PP web-site operational (intranet + public pages)	1	CERN	O	Public	M03	Yes		
3.1.1	Project management structure and review office for R&D phase in place	3	CERN	O, R	Public	M06	Yes		
2.2.1	Functioning collaboration communication structure	2	CERN	O	Public	M12	Yes		
2.2.2	Project web site linked to the technical databases: Machine layout database, hardware baseline database, project notes and reports	2	CERN	O	Public	M12	Yes		
4.1.1	Project Structures for construction of systems and sub-systems	4	CERN	O, R	Public	M12	Yes		
4.2.1	Personnel and working practices of the Technical Coordination unit in place	4	CERN	O, R	Public	M12	Yes		

[2] For Security Projects the template for the deliverables list in Annex A1 has to be used.

6.1.1	Basic design of the triplet	6	CERN	R	Public	M12	Yes		
7.1.1	Finite element thermal study of the Linac 4 design source at the final duty factor	7	CERN	R	Public	M12	Yes		
7.2.1	In depth characterisation of the two tuners plus cavities developed in the frame of the "HIPPI" JRA , FP6 (tuner/cavity characteristics)	7	CERN	R	Public	M12	No	M22	Delayed due to late delivery of input material from HIPPI programme (Framework Programme 6)
8.1.1	Evaluation report on DC-DC conversion technologies	8	SFTC	R	Public	M12	Yes		
8.2.1	Evaluation report on generic serial powering studies and specification of serial powering components	8	SFTC	R	Public	M12	Yes		
4.2.2	Key structural requirements (information repository, tools, coordination framework, safety and quality systems, integration office) and scheduling and reporting mechanisms in place	4	CERN	O, R	Public	M18	Yes		
6.2.1	Construction of the model	6	CERN	D	Public	M18	No	M32	Delay due to change of work program in WP6. Now concerns instrumented collar packs.
7.1.2	Design of a high duty factor plasma generator	7	CERN	R	Public	M18	Yes		
7.2.2	Design of RF system architecture including modeling of RF components, simulation of the RF system and simulation of beam dynamics of the full LINAC; RF system and high power modulator specifications	7	CERN	R	Public	M18	No	M27	Delay due to WP7 activities proceeding in parallel. To be presented at the 4th SPL collaboration meeting (June 2010, Lund –Sweden).
3.2.1	Document the technical scope	3	CERN	R	Public	M24	Yes		

	of the upgrade including an initial cost-estimate								
5.1.1	Validation of simulation tools with measurements at LHC	5	CERN	R	Public	M24	Yes		
5.1.2	Estimation of radiation and activation levels for critical areas of the experiments at sLHC	5	CERN	R	Public	M24	No	M26	Two months delay because of the temporary unavailability of key personnel in the experiments, tasked with high priority duties during LHC start-up
5.2.1	Estimation of radiation and activation levels for critical areas of sLHC and its injectors	5	CERN	R	Public	M24	Yes		
6.2.2	Assessment of the design	6	CERN	R	Public	M24	No	M33	Results from change of work program in WP6. Now concerns instrumented collar packs
8.2.2	Custom serial powering circuitry and evaluation of generic high-current serial powering ASIC	8	AGH-UST	R	Public	M24	Yes		

Milestones

Reports of all milestones are available at the url http://cern.ch/SLHC-PP/MILESTONES.htm

TABLE 2. MILESTONES

Milestone no.	Milestone name	Due achievement date from Annex I	Achieved Yes/No	Actual / Forecast achievement date	Comments
7.1	List of required improvements for the design of the high duty factor plasma generator to function at a high duty factor	M14	Yes		
2.1	Financial management system (initial version)	M18	Yes		
4.1	Upgrade Project Scope defined	M18	Yes		
6.3	Complete cold mass design	M18	Yes		246 execution drawings for the cold-mass design and related manufacturing tooling have been made. Prototype components have been manufactured in European industry. Cold-mass design review was held at CERN on 3 November, 2009.
6.4	Complete cryomagnet design	M22	Yes		Cryomagnet design review was held at CERN on 22-23. July, 2009
6.5	Cryogenic and power test of the model	M22	No	None	Irrelevant within the new work programme in WP6
1.3	Second Annual SLHC-PP Meeting	M24	Yes		
2.2	EVM software (initial version)	M24	No	M26	Delayed by 2 months, owing to the recent change (1. 2. 2010) of the work package coordinator.
3.2	Upgrade project structures adapted to the implementation phase	M24	Yes		

5. Project management

During the second year of the SLHC-PP project, the project management and work package coordination have been partially renewed. According to the SLHC-PP Consortium Agreement, the Project Coordinator and Deputy Project Coordinator are formally appointed by the Co-ordinating institute, CERN. From January 1st, R. Garoby is the new SLHC-PP Project Co-ordinator and D. Abbaneo is the new SLHC-PP Deputy Project Co-ordinator. M. Capeans remains as Administrative Manager. New leaders of WP2, WP6 and WP8 were also appointed, after approval of the SLHC-PP Governing Board. The current members of the whole management organization can be found at http://cern.ch/SLHC-PP/MANAGEMENT.htm

The management team has been in direct charge of:

- Organizing the work related to the SLHC-PP First Periodic Report and submitting the report to the Commission in due time, and any further clarification requested.
- Administration of the community financial contribution regarding its allocation between beneficiaries and activities. The first payment from the Commission was effectively received at CERN in November 2009. Partners were informed and payments were done without delay with value date December 3rd 2009.
- Keeping the records of the Community financial contribution paid to each beneficiary.
- Maintaining the Consortium Agreement.
- Monitoring of the compliance of the beneficiaries with their obligations under the Grant Agreement, by monitoring their expenditure of resources and work progress.
- Reviewing the deliverables and milestones reports to verify consistency with the project tasks before transmitting them to the Commission. Reports have been made public on the SLHC-PP web pages: http://cern.ch/SLHC-PP/MILESTONES.htm.
- Co-Organizing together with CIEMAT (partner 4) the Second SLHC-PP Annual Meeting at CIEMAT, Madrid (Spain) on the 4-5 February 2010. The Annual Meeting assembled all participating institutes to discuss the scientific program with emphasis on results of the second year of the project and ideas and plans for the last year of the project. The workshop was open to everyone interested in the international R&D effort towards the LHC luminosity upgrade. The overall programme, contributions to all sessions, and participants are available at the url http://indico.cern.ch/event/70620. The presentations provided an overview of the various accelerator sub-projects, the LHC physics potential and the experiment upgrade plans. 41 members of the SLHC-PP project attended the event at Madrid.
- Guaranteeing the long-term storage of all SLHC-PP documentation based on the Engineering and Data Management System of CERN (EDMS). The following url is the entry point to the system: https://edms.cern.ch/nav/CERN-0000072367. EDMS ensures that documentation for the project is safeguarded, organized, verified and remains retrievable on a long-term basis.
- Maintaining and updating the project web site. The SLHC-PP the site is divided in 3 major sub-units: the project pages (http://cern.ch/SLHC-PP), the password-protected internal pages (https://cern.ch/SLHC-PP/Internal) and a set of pages targeting the general public (http://cern.ch/slhcpp/).
- Maintaining, improving and updating the Project Progress Tracking (PPT) IT tool, that keeps record of timesheets for most SLHC-PP beneficiaries. The tool permits to monitor reported hours on a monthly basis and it is used to monitor work progress. PPT also handles the so-called internal cost claims that serve to prepare the final Forms C for the Commission.
- Three Steering Group meetings were organized at CERN in the following dates: August 5th 2009, December 11th 2009 and March 25th 2010. Discussions, actions and major decisions were minuted and transmitted by the Coordinator to all Steering Committee members for their approval. The Governing Board met on February 4th 2010. Relevant information was also supplied by email and decisions needed during the year were taken with the Governing Board members voting by email.

Co-ordination activities:

WP1: SLHC-PP project management
Contacts with other European projects was established by participating to the ECRI conference in Madrid [http://www.ecri2010.es/] and presenting a poster. Tight links are maintained with the EuCARD integrated activity whose JRAs and networks are relevant for the sLHC. Formal participation of the SLHC-PP to the 2010 annual meeting of EuCARD is foreseen. The participants to the SLHC-P have systematically presented the progress of their tasks in international conferences, workshops and collaboration meetings in view of strengthening the existing links world-wide and possibly extending them.

WP2: Coordination for the sLHC accelerator implementation
WP2, being centered on coordination cooperation for new accelerator projects is having an active role in projects related to the new injector accelerator chain. An example is the international SPL collaboration, or the PS2 project. Both projects will produce enlarged conceptual design reports during the SLHC-PP project. WP2's activities in quality assurance will assure a common approach for these documents.
Within CERN, WP2 acts as a mediator between the accelerator sector, the experimental sector and activities in the Finance and Purchasing department, concerning resource planning, project follow-up and quality assurance.

WP3: Coordination for the S-ATLAS experiment implementation
In WP3 there are regular ATLAS wide meetings to follow up the project. These meetings are organised by participants in WP3 but include around 20-25 people in the ATLAS project office and upgrade steering group. Twice a year the entire project is reviewed in a week long meeting series, including more than 100 talks and more than 200 participants. Included in these meetings are several studies related to WP5 and 8 of SLHC-PP, and usually there is also a presentation about the sLHC accelerator project.

WP4: Coordination for the CMS2 experiment implementation
In WP4 there are monthly meetings to coordinate the upgrade activities for the collaboration. These meetings are attended by the leaders of the upgrade activities for each CMS sub-detector. In addition there are two annual meetings for setting the overall strategy, and reviewing the goals for the upgrade activities.

WP5: Radiation protection and safety issues for accelerator and experiments
WP5 brings together Radiation protection specialists from 3 leading European accelerator laboratories – CERN, PSI and GSI – and serves as a forum for professional exchange in the domain of radiation protection for future accelerators. The mutual participation in multi-national projects such as the SPL-study enhance the synergies between the partners and other laboratories.

WP7: Development of critical components for the injectors
For the plasma generator task (7.1) CERN provides more than 90% of the effort, with DESY and STFC providing expert help. The DESY expert on H- ion sources retired in 2008, fulfilling its commitments before then. STFC continue to provide advice on simulation tools for sources. In the project second year there were task meetings at which STFC presented results on simulation studies, and also advice on source design.
For the low level rf task (7.2), meetings have taken place at CERN, INFN and CEA for technical details and planning of the task. In addition, measurements have been made on the CEA superconducting cavity, at CEA, Saclay, with CERN providing part of the measurement equipment as well as being present for the tests. This has lead to the first of the task deliverables. Partners have also all attended the SPL collaboration meetings and Low Level RF Workshops, where the work has been discussed.

WP8: Tracking detector power distribution
Power distribution is a critical challenge, which affects the overall concepts and technological options of SLHC tracking detectors. Intensive R&D programs on tracking detector upgrades are carried out for both, ATLAS and CMS experiments. All WP8 partners are linked directly either to ATLAS or to CMS experiment and they ensure efficient communication between the groups working on development of specific power distribution technologies and much larger communities involved in development of the tracking detectors. Platforms for communication between WP8 and the experiments are: ATLAS and CMS Upgrade Week meetings, in which members of WP8 participate and report WP8 results, meetings of the Power Working Group organized by CERN with strong contributions from WP8, and frequent meetings of smaller working groups. WP8 has become a platform for exchanging ideas and results as well as for coordination of common projects carried out together with external to WP8 groups from Fermilab and Penn. The WP8 members have been very active in organizing and participating in the TWEPP 2009 conference, which raised awareness of powering issues in other detector systems.

Deviations of planned milestones and deliverables:

During its second year of existence (April 2009 till March 2010), the SLHC-PP project has been impacted by the consequences of the difficulties encountered by the LHC (see section 1). Coordination, Support and Technical activities are nevertheless progressing satisfyingly and all Work Packages, except WP6, are still expected to accomplish the foreseen work programme and provide their deliverables before the end of the SLHC-PP project, in April 2011. The technical development of the NbTi quadrupoles (WP6) being more demanding than initially foreseen, unrecoverable delays are being encountered in that Work Package and the proposal is made to rescope its objectives (see section 3.1).
Out of the 12 deliverables that were due during this period (11 ordinary + 1 delayed from the first year), 7 have been delivered and 5 will be provided before month 36. Out of the 9 milestones, 8 have been met and one is now declared as irrelevant (6.5).

List of project meetings, dates and venues:

Project Meeting	Date	Location
Internal Meetings		
SPL PG Meeting – Status Review	April 2009	CERN, Geneva
Trail coil winding at CEA - WP 6	April 2009	CEA, Paris
WP 6.2 collaboration meeting CERN, CEA	July 2009	CEA, Paris
SLHC-PP steering meeting for accelerator work packages	5 August 2009	CERN, Geneva
WP 6.2 collaboration meeting CERN, CEA, IN2P3	September 2009	CERN, Geneva
Visit CERN team to CEA Saclay (1st cold cavity testing) – WP7	October 2009	CEA/Saclay, Paris
WP 6.2 collaboration meeting CERN, CEA	November 2009	CERN, Geneva
WP 6 definition meeting CERN, STFC	November 2009	CERN, Geneva
Visit CERN team to CEA Saclay (2nd cold cavity testing) – WP7	November 2009	CEA/Saclay, Paris
SLHC-PP steering meeting for detector work packages	11 December 2009	CERN, Geneva
WP 6 Collaboration meeting CERN, STFC	January 2010	STFC, Didcot
Visit CERN team to CEA Saclay (3rd cold cavity testing) – WP7	January 2010	CEA/Saclay, Paris
SLHC-PP Annual Meeting	4-5 February 2010	CIEMAT, Madrid

SLHC-PP Governing Board Meeting	4 February 2010	CIEMAT, Madrid
SLHC-PP WP internal meetings	4 February 2010	CIEMAT, Madrid
Planning Meeting at INFN – WP7	February 2010	INFN, Milan
SLHC-PP 7.1 meeting	February 2010	CERN, Geneva
H- plasma diagnostics at MPI	February 2010	CERN, Geneva
SLHC-PP steering meeting	25 March 2010	CERN, Geneva
WP 6.2 team meetings	Weekly	CERN, Geneva
SPL PG Engineering Meeting	Weekly	CERN, Geneva
Other meetings organized with SLHC-PP participation		
2. Alliance Detector Workshop of the Helmholtz Alliance 'Physics at the Terascale'	April 2009	DESY, Hamburg
CMS Upgrade Week	April 2009	CERN, Geneva
2nd SPL Collaboration Meeting	8-9 May 2009	TRIUMF, Vancouver
Workshop on "New Opportunities in the physics landscape at CERN"	11-13 May 2009	CERN, Geneva
ATLAS upgrade project office and steering group meeting	May 2009	CERN, Geneva
CMS Upgrade Workshop	May 2009	CERN, Geneva
CMS Tracker Upgrade Power Working Group Meeting	June 2009	CERN, Geneva
ATLAS upgrade project office and steering group meeting	June 2009	CERN, Geneva
SPL workshop on High Order Modes in Superconducting Cavities	25-26 June 2009	CERN, Geneva
ATLAS upgrade project office and steering group meeting	July 2009	CERN, Geneva
CMS Trigger Upgrade Workshop	July 2009	CERN, Geneva
Topical Workshop on Electronics for Particle Physics TWEPP-09	September 2009	Paris, France
Common ATLAS/CMS Power WG Meeting during TWEPP-09	September 2009	Paris, France
CMS Tracker Upgrade Power Working Group Meeting	September 2009	CERN, Geneva
ATLAS upgrade project office and steering group meeting	September 2009	CERN, Geneva
FSP CMS Annual Meeting (Annual Meeting of all German CMS groups)	September 2009	DESY, Hamburg
H- RF ion sources	September 2009	SNS Oak Ridge
Workshop on "European Strategy for future neutrino physics"	1-3 October 2009	CERN, Geneva
CMS Upgrade Workshop	October 2009	Fermilab USA
SPL workshop on Cryogenics Sectorization	9-10 November 2009	CERN, Geneva
3rd SPL Collaboration Meeting	11-13 November 2009	CERN, Geneva
CMS Tracker Upgrade Power Working Group Meeting	November 2009	CERN, Geneva
ATLAS upgrade project office and steering group meeting	November 2009	CERN, Geneva
ATLAS Upgrade Week	November 2009	CERN, Geneva
3rd Annual Workshop of the Helmholtz Alliance 'Physics at the Terascale'	November 2009	DESY, Geneva
LHC performance workshop	25-29 January 2010	Chamonix, France

ATLAS upgrade project office and steering group meeting	January 2010	CERN, Geneva
CMS Tracker Upgrade Power Working Group Meeting	February 2010	CERN, Geneva
Workshop on Intelligent Trackers WIT2010	February 2010	LBNL, Berkeley, USA
SPL workshop on SPL High Power RF Couplers	16 March 2010	CERN, Geneva
DPG- Frühjahrstagung (Annual Meeting of the German Physical Society)	March 2010	Bonn, Germany
ATLAS upgrade project office and steering group meeting	March 2010	CERN, Geneva
ATLAS Power Distribution Working Group	March 2010	CERN, Geneva
Common ATLAS/CMS Power WG Meeting	March 2010	CERN, Geneva
CMS Upgrade Management Board	Monthly 2009/2010	CERN, Geneva
CMS Upgrade Days	Monthly 2009/2010	CERN, Geneva

Dissemination Activities:

Dissemination Type	**Reference**
Journal publications (peer reviewed)	*F. Faccio, B. Allongue, G. Blanchot, C. Fuentes, S. Michelis, S. Orlandi, R. Sorge, "TID and siaplacement damage effects in vertical and lateral power MOSFETs for integrated DC-DC converters", IEEE Transaction on Nuclear Science 2009 (accepted for publication in TNS 2009).*
Journal publications (peer reviewed)	*E.G. Villani, C. Haber, R. Holt, P. Phillips, M. Tyndel, M. Weber, "Serial Powering of Silicon Strip Modules for the ATLAS Tracker Upgrade", Nucl. Phys. B (Proc. Suppl.), Vol. 197, Issue 1 (2009), 250.*
Publications (notes, theses etc.)	*R. Jussen, 'Elektronische Charakterisierung von DC-DC-Konvertern zur Spannungsversorgung des CMS-Spurdetektors am SLHC', Diploma Thesis, RWTH Aachen University, CMS TS-2009/009 (2009)*
Publications (notes, theses etc.)	*J. Merz, 'Studien zur Verringerung des Material-Budgets für einen neuen CMS-Spurdetektor am SLHC', Diploma Thesis, RWTH Aachen University (2009)*
Int. Conference/Workshop presentation/poster	*G. Blanchot et al, "System Integration Issues of DC to DC converters in the sLHC Trackers", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*S. Michelis et al, "ASIC buck converetr prototypes for LHC upgrades", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*F. Faccio, et al. "Irradiation results of technologies for a custom DC-DC converter", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*F. Faccio, "Roadmap for power distribution using DC-DC converters", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*M. Bochenek, W. Dabrowski, F. Faccio, J. Kaplon, "An integrated DC-DC step-up charge pump and step-down converter in 130 nm technology",Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*C. Fuentes et al, "Power distribution with custom DC-DC converters for sLHC trackers", IEEE Nuclear Science*

	Symposium NSS 2009, Orlando Florida USA, 2009.
Int. Conference/Workshop presentation/poster	*F. Faccio et al, "TID and siaplacement damage effects in vertical and lateral power MOSFETs for integrated DC-DC converters", 10th European Conference on radiation Effects on Components and Systems (RADECS 2009), Bruges, Belgium, September 2009.*
Int. Conference/Workshop presentation/poster	*S. Orlandi et al, "Optimization of shielded PCB air-core toroids for high efficiency dc-dc converters", IEEE Energy Conversion Congress and Exposition, ECCE 2009, San Jose, California, September 2009.*
Int. Conference/Workshop presentation/poster	*S. Buso et al, "Comparison of dc-dc converter topologies for future SLHC experiments", IEEE Energy Conversion Congress and Exposition, ECCE 2009, San Jose, California, September 2009.*
Int. Conference/Workshop presentation/poster	*L. Feld, "DC-DC Conversion Powering for the CMS Tracker at SLHC", Vienna Conference on Instrumentation VCI 2010, 2010*
Int. Conference/Workshop presentation/poster	*R. Jussen, "Development of a DC-DC Powering Scheme for the SLHC CMS Tracker", FSP CMS Annual Meeting, 2009*
Int. Conference/Workshop presentation/poster	*R. Jussen, "Entwicklung einer auf DC-DC Konvertern basierenden Spannungsversorgung des CMS-Siliziumpixeldetektors am SLHC", Annual Meeting of the German Physical Society DPG, 2010*
Int. Conference/Workshop presentation/poster	*K. Klein, "Experimental Studies Towards a DC-DC Conversion Powering Scheme for the CMS Silicon Strip Tracker at SLHC", Topical Workshop on Electronics for Particle Physics TWEPP-09, 2009*
Int. Conference/Workshop presentation/poster	*K. Klein, "DC-DC Conversion Powering Schemes for the CMS Tracker at Super-LHC", Workshop on Intelligent Trackers WIT2010, 2010*
Int. Conference/Workshop presentation/poster	*K. Klein, "R&D at RWTH Aachen towards DC-DC Conversion Powering Schemes for the CMS Tracker at SLHC", 2nd HGF Alliance Detector Workshop, 2009*
Int. Conference/Workshop presentation/poster	*K. Klein, "Studies Towards a DC-DC Conversion Powering Scheme for the CMS Tracker at SLHC", 3rd Annual HGF Workshop, 2009*
Int. Conference/Workshop presentation/poster	*K. Klein, "Novel Powering Schemes for the CMS Tracker at the Super-LHC", Poster at HGF Midterm Review, 2009*
Int. Conference/Workshop presentation/poster	*J. Merz, "Material Budget Reduction through Novel Powering and Cooling Schemes for the SLHC CMS Tracker", FSP CMS Annual Meeting, 2009*
Int. Conference/Workshop presentation/poster	*J. Sammet, "Entwicklung von DC-DC-Konvertern für den CMS-Spurdetektor am SLHC", Annual Meeting of the German Physical Society DPG, 2010*
Int. Conference/Workshop presentation/poster	*T. Tic, P. W. Phillips, M. Weber, "Performance and Comparison of Custom Serial Powering Regulators and Architectures for SLHC Silicon Trackers", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*R. Holt, "SPi test result", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*M. Weber, "Roadmap for serial powering", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*F. Anghonolfi, et al., "Performance of the ABCN-25 readout chip for the ATLAS Inner Detector Upgrade", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*

Int. Conference/Workshop presentation/poster	*M. Dwuznik, S. Gonzalez-Sevilla, "Replacing full custom DAQ test system by COTS DAQ components on example of ATLAS SCT readout", Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop presentation/poster	*M. Karagounis, D. Arutinov, M. Barbero, F. Huegging, H. Krueger, N. Wermes, "An integrated Shunt-LDO regulator for serial powered systems", IEEE European Solid-State Circuits Conference Athens, Greece, 2009.*
Int. Conference/Workshop presentation/poster	*F. Huegging, et al., "Development of Serial Powering for the Upgrade of the ATLAS Pixel Detector", 2009 Nuclear Science Symposium and Medical Imaging Conference, Orlando, Florida, USA, October 2009.*
Int. Conference/Workshop presentation/poster	*M. Weber, "Serial Powering for Silicon Tracking at the Super-LHC", 2009 Nuclear Science Symposium and Medical Imaging Conference, Orlando, Florida, USA, October 2009.*
Int. Conference/Workshop presentation/poster	*W. Dabrowski, et al., "Design and Performance of the ABCN-25 Readout Chip for the ATLAS Inner Detector Upgrade", 2009 Nuclear Science Symposium and Medical Imaging Conference, Orlando, Florida, USA, October 2009.*
Int. Conference/Workshop presentation/poster	*F. Hügging, "Serial powering for pixels", SLHC-PP Annual Meeting, CIEMAT Madrit, 4-5 February 2010.*
Int. Conference/Workshop presentation/poster	*L. Gonella, "Stave Emulator and Regulator Test", SLHC-PP Annual Meeting, CIEMAT, Madrit, 4-5 February 2010.*
Int. Conference/Workshop presentation/poster	*G. Villani, "Serial Powering Updates", LHC-PP Annual Meeting, CIEMAT, Madrit, 4-5 February 2010.*
Int. Conference/Workshop presentation/poster	*W. Dabrowski, ""Status of WP8: Tracking detector power distribution", LHC-PP Annual Meeting, CIEMAT, Madrit, 4-5 February 2010*
Int. Conference/Workshop presentation/poster	*G. Blanchot, "DC-DC test with strips", ATLAS Upgrade Wek, CERN, November 2009.*
Int. Conference/Workshop presentation/poster	*M.F. Newcomer, "Serial powering protection scheme", ATLAS Upgrade Wek, CERN, November 2009.*
Int. Conference/Workshop presentation/poster	*G. Villani, "Latest results with serial powering", ATLAS Upgrade Wek, CERN, November 2009.*
Int. Conference/Workshop presentation/poster	*L. Gonella, "Module Protection Chip for serial powered Pixel Modules", ATLAS Upgrade Wek, CERN, November 2009.*
Int. Conference/Workshop presentation/poster	*L. Gonella, "Serial Powering Scheme for the Upgrade of the ATLAS Pixel Detector", ATLAS Upgrade Week, CERN, November 2009.*
Int. Conference/Workshop presentation/poster	*Stapnes, October 2009, The challenges and possible implementation of Super-LHC detector upgrades, IEEE Orlando, Oct. 2009*
Int. Conference/Workshop presentation/poster	*M. Benedikt, PS2 Design, Proceedings of the Particle Accelerator Conference 09, Vancouver (Canada), 4-8 May 2009, http://www.triumf.info/hosted/PAC09/*
Int. Conference/Workshop presentation/poster	*F. Zimmermann, LHC Upgrade, Proceedings of the Particle Accelerator Conference 09, Vancouver (Canada), 4-8 May 2009, http://www.triumf.info/hosted/PAC09/*
Int. Conference/Workshop presentation/poster	*R. Assmann, L. Evans, R. Garoby, M. Mangano, M. Nessi, l. Rossi, J. Tuckmantel, F. Zimmermann, Scenarios and Technological Challenges for a LHC Luminosity Upgrade: Introduction to the LHC Upgrade Program and Summary of Physics Motivations, CERN Academic Training Programme, Lectures 8-12 June 2009,*

	http://indico.cern.ch/conferenceDisplay.py?confId=55041
Int. Conference/Workshop presentation/poster	*R. Garoby, Accelerator scheme and R&D issues of SPL, TTC meeting, Orsay (France), 16-19 June 2009, https://indico.desy.de/conferenceDisplay.py?confId=1834*
Int. Conference/Workshop presentation/poster	*M. Eshraqi, SPL as Recirculating Linac for e+/e-, 2nd CERN-ECFA-NuPECC Workshop on the LHeC, Divonne les bains (France), 1-3 September 2009, http://indico.cern.ch/conferenceDisplay.py?confId=59304*
Int. Conference/Workshop presentation/poster	*R. Garoby, Pulsed Linac + Rings Proton Driver, Workshop on Applications of High Intensity Proton Accelerators, FNAL Batavia Illinois (USA), 19-21 October 2009, http://conferences.fnal.gov/App-Proton-Accelerator/general_info.html*
Int. Conference/Workshop presentation/poster	*R. Garoby, SLHC-PP, ECRI2010, Barcelona (Spain), 23-24 March 2010, http://www.ecri2010.es/*
Int. Conference/Workshop presentation/poster	*Russenschuck, S.: 2010: Hardware Challenges and Limitations for the IR Upgrade, Proceedings of the Chamonix 2010 workshop, CERN*
Int. Conference/Workshop Paper	*B. Allongue, G. Blanchot, F. Faccio, C. Fuentes, S. Michelis, S. Orlandi, "System Integration Issues of DC to DC converters in the sLHC Trackers", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France, CERN-2009-006*
Int. Conference/Workshop Paper	*S. Michelis, C. Azra, B. Allongue, G. Blanchot, F. Faccio, C. Fuentes, S. Orlandi, "ASIC buck converetr prototypes for LHC upgrades", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France, CERN-2009-006*
Int. Conference/Workshop Paper	*M. Bochenek, W. Dabrowski, F. Faccio, J. Kaplon, "An integrated DC-DC step-up charge pump and step-down converter in 130 nm technology",Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France, CERN-2009-006.*
Int. Conference/Workshop Paper	*M. Karagounis, D. Arutinov, M. Barbero, F. Huegging, H. Krueger, N. Wermes, 'An integrated Shunt-LDO regulator for serial powered systems', Proceedings of the IEEE European Solid-State Circuits Conference Athens, Greece, 276 - 279 (2009)*
Int. Conference/Workshop Paper	*F. Anghonolfi, W. Dabrowski, N. Dressnandt, J. Kaplon, D. La Marra, M. Newcomer, S. Pernecker, K. Poltorak, K. Swientek, "Performance of the ABCN-25 readout chip for the ATLAS Inner Detector Upgrade", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France, CERN-2009-006.*
Int. Conference/Workshop Paper	*T. Tic, P. W. Phillips, M. Weber, "Performance and Comparison of Custom Serial Powering Regulators and Architectures for SLHC Silicon Trackers", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop Paper	*M. Dwuznik, S. Gonzalez-Sevilla, "Replacing full custom DAQ test system by COTS DAQ components on example of ATLAS SCT readout", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France.*
Int. Conference/Workshop Paper	*C. Fuentes, B. Allongue, S. Buso, G. Blanchot, F. Faccio, S. Michelis, S. Orlandi, G. Spiazzi, "Power distribution with custom DC-DC converters for sLHC trackers", Proceedings of the 2009 Nuclear Science Symposium and Medical Imaging Conference,*

	Orlando, Florida, USA, October 2009.
Int. Conference/Workshop Paper	*W. Dabrowski, F. Anghinolfi, N. Dressnandt, M. Dwuznik, J. Kaplon, D. La Marra, M. Newcomer, S. Pernecker, K. Poltorak, S. G. Sevilla, K. Swientek, "Design and Performance of the ABCN-25 Readout Chip for the ATLAS Inner Detector Upgrade", Proceedings of the 2009 Nuclear Science Symposium and Medical Imaging Conference, Orlando, Florida, USA, October 2009.*
Int. Conference/Workshop Paper	*F. Faccio, B. Allongue, G. Blanchot, C. Fuentes, S. Michelis, S. Orlandi, R. Sorge, "TID and displacement damage effects in vertical and lateral power MOSFETs for integrated DC-DC converters", Proceedings of the 10th European Conference on radiation Effects on Components and Systems (RADECS 2009), Bruges Belgium, September 2009.*
Int. Conference/Workshop Paper	*S. Orlandi, B. Allongue, G. Blanchot, S. Buso, F. Faccio, C. Fuentes, M. Kayal, S. Michelis, G. Spiazzi, "Optimization of shielded PCB air-core toroids for high efficiency dc-dc converters", Proceedings of the IEEE Energy Conversion Congress and Exposition, ECCE 2009, San Jose, California, September 2009.*
Int. Conference/Workshop Paper	*S. Buso, G. Spiazzi, F. Faccio, S. Michelis, "Comparison of dc-dc converter topologies for future SLHC experiments", Proceedings of the IEEE Energy Conversion Congress and Exposition, ECCE 2009, San Jose, California, September 2009.*
Int. Conference/Workshop Paper	*K. Klein, L. Feld, R. Jussen, W. Karpinski, J. Merz, J. Sammet, "Experimental Studies Towards a DC-DC Conversion Powering Scheme for the CMS Silicon Strip Tracker at SLHC", Proceedings of the Topical Workshop on Electronics for Particle Physics TWEPP-09, Paris, France, CERN-2009-006*
Int. Conference/Workshop Paper	*Finite element thermal study of the Linac4 plasma generator M. Kronberger, D. Küchler, J. Lettry, Ø. Midttun, M. O'Neil, M. Paoluzzi, and R. Scrivens, Rev. Sci. Instrum. 81, 02A708 2010 .*
Int. Conference/Workshop Paper	*High duty factor plasma generator for CERN's Superconducting Proton Linac, J. Lettry, M. Kronberger, R. Scrivens,1E. Chaudet, D. Faircloth, G. Favre, J.-M. Geisser, D. Küchler, S. Mathot, O. Midttun, M. Paoluzzi, C. Schmitzer, and D. Steyaert, Rev. Sci. Instrum. 81, 02A723 2010 .*
Int. Conference/Workshop Paper	*High power pulsed RF testing of 704 MHz super conducting cavities using a newly developed automatic measuring system for Lorentz force detuning evaluation, A. Butterworth, F. Dubouchet, W. Hofle, J. Lollierou, D. Valuch (CERN); S. Chel, G. Devanz, O. Piquet (CEA, Saclay); LLRF09 Workshop, Tsukuba, Japan, http://www-conf.kek.jp/llrf09/llrf-intro.html;*
Int. Conference/Workshop Paper	*LLRF system simulations for the future CERN superconducting H- Linac; O. Piquet, S. Chel, G. Devanz, W. Hofle, D. Valuc; LLRF09 Workshop, Tsukuba, Japan, http://www-conf.kek.jp/llrf09/llrf-intro.html;*
Int. Conference/Workshop Paper	*Fessia, P. A., Gerardin, A., Granieri, P.P., Guinchard, M., Luzieux S., Sgobba, S., Tommasini, D.: 2009: Electrical and Mechanical Performance of an Enhanced Cable Insulation Scheme for the Superconducting Magnets of the LHC Luminosity Upgrade, presented at MT21, to be published in IEEE Transactions on Applied Superconductivity.*
Int. Conference/Workshop	*Granieri, P.P.: 2009: A Heat Transfer Model through Cable*

Paper	*Insulation of Superconducting Nb-Ti Magnets Operating in He II, presented at MT21, to be published in IEEE Transactions on Applied Superconductivity.*
Reports	*E. Kozlova, T. Radon, T. Otto, and G. Fehrenbacher, Residual dose rate calculation for an injection absorber of 4 GeV H- in the PS 2 accelerator project*injection, Annual Report 2009, GSI, Germany*
Reports	*E. Kozlova, T. Radon, T. Otto, and G. Fehrenbacher, Neutron streaming though the RF waveguide ducts of SPL, Annual Report 2009, GSI, Germany*
Reports	*M. Fürstner, S. Mayer, T. Otto, Ch. Wernli, Compilation of distributed passive detectors and already performed MC-simulations, PSI , Abteilung Strahlenschutz, April 2010*
Reports	*Van Weelderen, R.: 2009: Update of the Cryo-scheme, EDMS 1013620*
Reports	*Borgnolutti, F., Fessia, P., Todesco, E.: 2009, Electromagnetic Design of the 120 mm Aperture Quadrupole for the LHC, Phase One Ugrade, SLHC Project Report 0001, CERN*

6. Explanation of the use of the resources

CERN

Table 3.1 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 1 FOR THE PERIOD		
		WP1 - SLHC-PP Project Management
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	232404.25	Cost of 24 person-months
Subcontracting	0.00	
Travel Costs		
Travel Madrid	1350.04	Travels 3 members to the SHC-PP Annual Meeting in Madrid
Consumables		
Catering	1867.42	SLHC-PP annual meeting
Equipment	1812.54	Material IT, WP1 dissemination activities
Durable Equipment	0.00	
Remaining Costs	480.71	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**237914.95**	
		WP2 - Coordination for the SLHC accelerator implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	63208.66	Cost of 13.8 person-months
Subcontracting	0.00	
Travel Costs	2911.35	1 month travel and subsistance for WEB master, WP2
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**66120.01**	
		WP3 - Coordination of S-ATLAS experiement implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	148463.52	Cost of 12.5 person-months
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**148463.52**	
		WP4 - Coordination of CMS2 experiement implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	183273.39	Cost of 31 person-months
Subcontracting	0.00	
Travel Costs		
CMS Tracker Meeting	1501.30	Trips of Mr. Gill and Mr. Abbaneo to London, CMS Tracker meeting
Communia Workshop	804.01	Trips of Mr. Gill and Mr. Abbaneo to COMMUNIA workshop in London, CMS Tracker meeting
Cooling meeting	977.50	Trip of Mr. Postema and Ms. Tropea to Amsterdam, meeting on cooling technolgies for CMS upgrade
CMS Tracker Meeting	327.24	Trips of Mr. Vasey and Ms. Tropea to meeting CMS tracker (optical mudulators) in Barcelona
CMS Tracker Meeting	232.74	Trips of Mr. Postema to CMS Tracker meeting at Nikhef

Technical Visit	1169.69	Trip of Mr.Marchioro to visit companies for CMS tracker technologies, NY
Subsistance	5037.73	Designer, Subsistence for 2 PM
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	70.84	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**193394.45**	
		WP5 - Radiation protection and safety issues for accelerator and experiments
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	261562.31	Cost of 45.3 person-month
Subcontracting	0.00	
Travel Costs		
SLHC-PP Annual Meeting	2601.58	Travels of Mr. Otto, Mr. Muller, Mr. Roesler, Ms. Richter and Ms. Urscheler to the SHC-PP Annual Meeting in Madrid
Travel to HBNI	869.60	Travel Richter to HBNI, Mumbai
Consumables		
Irradiations	628.46	Test irradiation cristauxPWO at IONISOS
Durable Equipment	0.00	
Remaining Costs	492.13	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**266154.07**	
		WP6 - Development of Nb-Ti quadrupole magnet prototype
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	420581.03	Cost of 47.4 person-months
Subcontracting	0.00	
Travel Costs		
Conference MT21	7118.13	Oral presentations at the Conference MT21 China, RIO DUARTE, BORGNOLUTTI , GRANIERI
Technical visit	178.85	Technical Visit of Mr. Perez and Mr. Duarte to Firm GALBIATI (IT)
Technical visit	511.06	Technical Visit of Mr. Perez and Mr. Duarte to Firm ENERPAC (FR)
Technical visit	237.68	Technical visit, Paris (FR)
Meeting LIT-PSL	1070.03	Meeting LIT-PSL of two WP6 members, Collaboration with Saclay
Technical visit	679.17	Trip to LBL, invited presentation MQCX magent design work, RUSSENSCHUCK
SLHC-PP Annual Meeting	1163.48	Travel expenses, SLHC-PP Annual meeting in Madrid, KARPPINEN, RUSSENSCHUCK
Subsistance	5822.70	Subsistance Mr. Schwerg (2 PM)
Consumables		
Tube	1596.73	Tube G11 VON ROLL SUISSE SA
Tube	3269.99	G11 tubes two sizes 5 off of each size.
Tube	2558.07	TUBE EPGC 22
Tools	1393.67	mqxc short curing tool
Tools	878.14	MQXC SHORT CURING TOOL
Tools	1156.13	OUTIL INSWERTION MQXC
Mechanics	5110.64	Mechanical work for INNER TRIPLET QUADRUPOLE
Mechanics	3877.18	NIT Model Activities
Mechanics	2126.41	ENSEMBLE MANDRIN COURT
Mechanics	2685.89	Chemical Cutting
Mechanics	1283.59	WEDGES 1 ET 2 MQXCM
Electromech.	4951.72	Modification cablage rubaneuse
Electromech.	1831.60	Isolation NIT adaptabilite IPC rubaneuse
Parts	32287.19	INNER TRIPLET QUADRUPOLE
MQXC	2380.41	mqxc short model 150 mm
Parts	3350.08	Verins 25 tonnes Presse MQXC Magnet
Parts	2221.60	IRON YOKE MQXC + RONDELLES
Parts	2962.13	MQXC, 10+10 WEDGES
Parts	7875.78	Verins Presse MQXC Magnet
Parts	5391.85	MQXC MACHINE INSERTION COLLIER
Parts	627.84	MQXC MAGNET IRON YOKE
Parts	2511.37	1 set espaceurs de tete inox

Parts	13260.21	Diverse mechanical parts for MQXC Short Model
Parts	4654.77	ULTEM FISH BONES
Parts	3792.02	Mechanics. parts
Equipment	4591.76	Laboratory equipment, 3D AVENIR SAS
Equipment	24426.36	Cartes CTSA Contr. diametre rubaneuse
Durable Equipment	0.00	
Remaining Costs	6544.90	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**586960.16**	
		WP7 - Development of critical components for the injectors
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	411915.45	Cost of 48 person-month
Subcontracting	0.00	
Travel Costs		
SLHC-PP Annual Meeting	451.62	Trip to SLHC-PP Annual Event in Madrid (ES), SCRIVENS
Technical visit	6383.58	Travel to ATLANTA, visit SNS; MOLENDIJK, BAUDRENGHIEN
Workshop	3694.53	Travel to Narita, Low Level RF Workshop, Japan; HOFLE, VALUCH
Collaboration meeting	192.00	Travel to Paris, WP Collaboration with CEA, HOFLE
Collaboration meeting	633.75	Travel expenses for attending Collaboration Meeting at INFN, IT
Collaboration meeting	820.11	SLHC-PP meeting at Saclay, VALUCH
Collaboration meeting	921.86	Collaboration meeting at CEA, Saclay
Consumables		
Parts	6252.84	SLHC-7.1 Parts for Low Pressure H2-N2-Ar gas distribution
Set-up	2837.92	Electrical and Cabling Installations
Set-up	2113.32	Repartiteurs pour BAT. 357 (1002-)
Set-up	2953.99	Manifolds, gas installation
Set-up	6178.52	Piping work
Instrument	2315.40	Lampe de calibration
Instrument	913.32	2MHz WP7 Blower
Parts	1127.66	AIN components for SPL H-source
Parts	1585.44	ADDICTIONAL CERAMIC ITEMS
Parts	3048.76	Parts/work for SPL PLASMA CHAMBER
Parts	62997.33	SPS PLASMA CHAMBER-NEW H-SOURCE
Parts	1108.70	Parts for SPL, H-
Parts	2402.00	ANTENNE SOURCE H SPL
Mechanics	6642.06	Manufacturing of special pieces for 20 MHz amplifier
Electromech.	12442.65	Assembly and cabling RF amplifier for H- source
Parts	11984.12	Turbo pumps for SLHC project
Parts	1540.31	HE GUIDE
Parts	2217.00	SPL PLASMA CHAMBER
Parts	3522.82	Dry Pump for source SLHC
Parts	4379.72	VAT valves Serie 10 for SLHC Source.
Power supply	2005.52	Fug Power supply SPL Ign.
Mock up	1116.16	SPL CHAMBRE PLASMA MOCK
Parts	1830.44	2NHz WP7 Filament regulator
Parts	1657.36	Interlock amplificateur 100 Kw 2 Mhz
Parts	1331.55	DN 25 angle valves
Parts	1455.89	SPL 50hz 22kV Converter : HVR resistors
Parts	54752.89	SPL 50hz 22kV Converter: Technix
Parts	10244.33	SPL 50hz Converter FUG
Parts	5818.41	SPL 50hz Conver.22kV: Condensateur AVX
Instrument	16165.46	Oscilloscopes LeCroy
Instrument	29973.91	Spectrometre de gas SLHC-7.1
Durable Equipment	0.00	
Remaining Costs	383.37	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**690312.02**	
		WP8 - Tracking detector power distribution

Item Description	Actual direct eligible costs (€)	Explanation
Personnel cost	171073.22	Cost of 33.4 person-month
Subcontracting	0.00	
Travel Costs		
Subsistance	5289.51	KEIKHOSRAVY Subsistence for 5 p/mth
Consumables		
Prototype	19862.11	Prototype ASIC in AMIS MPW
Prototype	5241.09	Prototype ASIC (BANDGAPS) in IHP MPW
Prototype	12278.08	Prototype ASIC in AMIS MPW
Circuits	2128.64	Bandgap reference circuits
Asic	6072.66	ASIC packaging in QFN32
Equipment	4669.44	SUN Ultra 24
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**226614.75**	

AGH-UST

Table 3.2 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 2 FOR THE PERIOD		
		WP8 - Tracking detector power distribution
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	37920.14	12,63 PM: 4,55 - physicists working on Task 8.2, 8.08 - engineer working on Task 8.2
Subcontracting	0.00	
Travel Costs		
Travel M. Dwuznik	1402.76	17-26 May 2009, CERN, development of DAQ for ASC testing
Travel K. Swientek	605.62	28 Sep - 2 Oct 2009, Lodz Techn. University, Poland, Advanced Design Course
Travel W. Dabrowski	1438.22	21-25 September 2009, Paris, Topical Workshop on Electronics for Particle Physics
Travel M. Dwuznik	1531.01	20-26 September 2009, Paris, Topical Workshop on Electronics for Particle Physics
Travel W. Dabrowski	2354.33	24-30 October 2009, Orlando, Fl, USA, Nuclear Science Symposium
Travel W. Dabrowski	533.96	3-6 February 2010, Madrit, SLHC-PP Annual Meeting
Travel W. Dabrowski	458.17	29-31 March 2010. CERN, Power working Froup Meeting
Travel W. Dabrowski	332.68	19-23 April 2010 DESY-Hmburg, Atlas Upgrade Week
Consumables		
Electronic components	1054.13	for ASIC test boards
BNC Triaxial adapters	160.17	for ASIC test system
Soldering tools	187.13	for test board assembly
Connectors, glue, PCB	151.09	for ASIC test system
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	48129.41	

CEA-Saclay

Table 3.3 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 3 FOR THE PERIOD 01-04-2009 to 31-03-2010		
		WP2 - Coordination for the SLHC accelerator implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	0.00	No activities on this task during period 2
Subcontracting	0.00	
Travel Costs		
Consumables	0.00	
Durable Equipment	0.00	

Remaining Costs WP6	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**0.00**	

		WP6 - Development of Nb-Ti quadrupole magnet prototype
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	217,590.16	CEA staff (34,20 p/m) + 9 months temporary contract engineer Manpower resources exceeded expectations. This is mainly due to the fact that design studies have been carried out on two different layouts instead of on only one as initially foreseen. Also, a special mock-up has been realized in order to test the choosen design before going on on detailed design studies for 2m model.
Subcontracting	0.00	
Travel Costs		
Travel	527.31	Participation to CNI-PP-SLHC annual meeting (feb. 2009 Geneva) - 2 persons. Although the trip was during period 1, trip fees have been payed only after March 2009 and have to be declared for period 2
Travel	560.74	Participation to a Workshop (June 2009 Geneva) - 2 persons
Travel	336.28	Participation to a WP6 Meeting (Sept 2009 Geneva) - 1 person
Travel	1,333.17	Participation to a WP6 Meeting (Nov 2009 Geneva) - 4 persons
Travel	902.69	Participation to CNI-PP-SLHC annual meeting (feb. 2010 Madrid) - 2 persons
Consumables		
Misc	9,090.06	Materials and components
Durable Equipment	339.62	Depreciation durable equipements
Remaining Costs WP6	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**230,680.03**	

		WP7 - Development of critical components for the injectors
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	345,502.31	CEA staff (63,47 p/m) Manpower resources exceeded expectations. This is mainly due to failure of the HV power supply which is a major equipment of the power test stand. Before repair, new studies of HV components were undertaken in 2009. We also performed some experimental tests not foreseen in the initial program, and in 2010 we finally succeeded in demonstrating field stabilization of sc cavity in pulsed mode.
Subcontracting	0.00	
Travel Costs		
Travel	105.08	Participation to CNI-PP-SLHC annual meeting (feb. 2009 Geneva) - 1 person. Although the trip was during period 1, trip fees have been payed only after March 2009 and have to be declared for period 2
Travel	677.03	Participation to a workshop (feb 2010 - Milano) - 1 person
Consumables		
Misc	32,579.54	Electronic cards and materials
Durable Equipment	1,437.07	Depreciation durable equipements
Remaining Costs WP7	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**380,301.03**	

CIEMAT

Table 3.4 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 4 FOR THE PERIOD		
		WP2 - Coordination of the SLHC accelerator implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	13673.88	2 ENGINEER PART TIME
Subcontracting	0.00	
Travel Costs		
Madrid	284.34	Cost related to SLHC-PP ANNUAL MEETING, Feb 2010

Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	13958.22	

		WP6 - Development of Nb-Ti quadrupole magnet prototype
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	21042.89	2 ENGINEER PART TIME
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	21042.89	

CNRS-IN2P3

Contract N°	**212114**	**Project acronym**	**SLHC-PP**
Participant N°	**5**	**Participant short name**	**CNRS-IN2P3-IPNO**

		WP6 - Development of Nb - Ti quadrupole magnet prototype	
		Total effort in person-months (1)	13.74193548
Cost category	**Actual direct eligible costs (€)**	**Justification of costs** description of expenditure and link to the specific work carried out (e.g. tasks, work packages, …)	
Personnel cost (2)	72,570.87	**IPNO - Part of salaries of 5 engineers**	
Travel	4,063.40	**IPNO - 16 trips to CERN**	
Consommable	7,046.96	**IPNO - Meeting CODAP , training**	
Equipment	155.49	**IPNO - Station de travail**	

Total direct eligible costs	83,836.72		
Total indirect costs	50,302.03		
Total costs (3)	134,138.75	**Global estimate of the total costs for AC contractors (not only the eligible costs)**	

Adjustment to P1		***WP6 - Development of Nd -Ti quadrupole magnet prototype***	
		Total effort in person-months (1)	4.230414747
Cost category	**Actual direct eligible costs (€)**	**Justification of costs** description of expenditure and link to the specific work carried out (e.g. tasks, work packages, …)	
Personnel cost (2)	18,215.72	**IPNO - Salaries of 5 engineers and 1 researcher**	

Total direct eligible costs	18,215.72		
Total indirect costs	10,929.43		

Total costs [3]	29,145.15	**Global estimate of the total costs for AC contractors (not only the eligible costs)**	

CTU

Table 3.6 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 6 FOR THE PERIOD		
		WP5 - Radiation protection and safety issues for accelerator and experiments
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	18337.11	8,98 PM in total. 7,95 PM of physicists, 1,03 PM of engineers.
Subcontracting	0.00	
Travel Costs		
SLHC-PP Travels	2,627.91	Travel costs related to upgrade of ATLAS-MPX network installation
		and to project meetings.
Consumables		
Major Cost Item X	5,761.88	Consumables (cables, interfaces) for RadHard upgrade of MPX network
		in ATLAS environment.
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	26,726.90	

DESY

Table 3.7 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 7 FOR THE PERIOD		
		WP4 - Coordination of CMS2 experiement implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	35555.59	3,8 PMs of W.Zeuner, 1,3 PMs of H.Maser, 0,13 PMs of G.Eckerlin
Subcontracting	0.00	
Travel Costs	3395.52	Trips of W.Zeuner from 01.-04.04.09, 15.-16.09.09, 10.-12.06.09, 07.-10.05.09 from CERN to DESY and H.Maser from DESY to CERN
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	38951.11	

ETH Zürich

Table 3.8 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 8 FOR THE PERIOD		
		WP4 - Coordination of the CMS2 experiment implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	51262.00	Cost of 5.2 PM dedicated to the project
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	51262.00	

FOM-NIKHEF

Table 3.9 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 9 FOR THE PERIOD		
		WP3 - Coordination of the S-ATLAS experiment implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	51582.47	5.6 PM, physicist
Subcontracting	0.00	
Travel Costs		
hessey 737 cern 03/4 and 26/3	1453.99	30/3-3/4, WP3: Upgrade Steering Group, Upgrade Project Office meetings
hessey 738 cern 12/4	1338.72	14/4-23/4, WP3: Upgrade Steering Group, Upgrade Project Office meetings
hessey 739 cern 15/5	1650.99	6/5-15/5, WP3: Upgrade Steering Group, Upgrade Project Office meetings
hessey 741 cern 26/6	655.95	22/6-26/6, WP3: Layout and IBL meetings
hessey 742 cern 25/7	3315.95	2/7-25/7, WP3: ATLAS week, layout, USG, PO meetings
hessey 744 cern 19/6	2244.78	2/6-19/6, WP3: Upgrade Steering Group, Upgrade Project Office meetings
HESSEY 824 CERN 28/8	1959.23	19/8-28/8, WP3: Upgrade Steering Group, Upgrade Project Office meetings
HESSEY 735 CERN 2/2	1201.38	27/1-2/2, WP3: Upgrade Steering Group, Upgrade Project Office meetings
HESSEY 825 CERN 22/9	1925.03	8/9-22/9, WP3: Upgrade Steering Group, Upgrade Project Office, Layout meetings
HESSEY 826 CERN 04/10	1365.00	28/9-4/10, WP3: Upgrade Steering Group, Upgrade Project Office and Layout meetings
HESSEY 827 CERN 27/10	1158.93	19-27/10, WP3: Upgrade Steering Group, Upgrade Project Office meetings
HESSEY 829 CERN 1/12	709.92	23/11-1/12, WP3: Upgrade Steering Group, Upgrade Project Office meetings
HESSEY 731 BARCELONA 9/10	1022.43	4/10-9/10, WP3: ATLAS week
hessey 1237 cern 3/2	3294.49	11/1-3/2, WP3: Upgrade Steering Group, Upgrade Project Office meetings
hessey 1238 cern 8/2	159.29	7-8/2, WP3: Review Gossip R&D for Inner Tracker
HESSEY 1394 MADRID 06/02	591.55	3-6/2, SLHC-PP Annual Meeting
HESSEY 1395 CERN 17/2	321.07	16-17/2, WP3: LHC Upgrade Committee meetings
HESSEY 828 CERN 16/11	1620.28	4-16/11, WP3: ATLAS Upgrade Week
Consumables		
tnt	74.48	24/6, Ship frozen unidirectional prepreg to NLR for Upgrade R&D
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	**77645.93**	

GSI

Table 3.10 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 10 FOR THE PERIOD		
		WP5 - Radiation protection and safety issues for accelerator and experiments
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	22,488.35	4,7 PM
Subcontracting	0.00	
Travel Costs		
Travel Erice	2,415.33	Erice
Travel Madrid	592.78	Madrid, SLHC-PP Annual Event
Consumables		
Other Cons. (e.g. postage)	300.12	Cost of postage; official documents etc.
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	25,796.58	

Imperial

Table 3.11 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 11 FOR THE PERIOD		
		WP4 - Coordination of the CMS2 experiment implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	34,299.47	4.26 man months
Subcontracting	0.00	
Travel Costs		
SLHC-PP Travels	12,733.77	Travel to CERN for work on the project management and meetings with collaborators
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	47,033.24	

INFN

Table 3.12 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 12 FOR THE PERIOD		
		WP7 - Development of critical components for the injectors
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	26465.28	5.4 Total PM, 4.2 Researchers, 1.2 Technicians, in different salary levels on WP7.2.
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	26465.28	

PSI

Table 3.13 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 13 FOR THE PERIOD		
		WP5 - Radiation protection and safety issues for accelerator and experiments
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	24735.88	2.3. PM for scientist and 0.45 PM for leading scientist
Subcontracting	0.00	
Travel Costs	1508.29	Participation in SLHC-PP annual meeting, Madrid (ES)
Consumables	1023.67	Several minor consumables
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	27267.84	
		WP8 - Tracking detector power distribution
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	0.00	No man power in this period
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	1287.21	Several minor consumables

Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	1287.21	

STFC

Table 3.14 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 14 FOR THE PERIOD		
		WP2 - Coordination for the SLHC accelerator implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	3025.30	0.051
Subcontracting	0.00	
Travel Costs		
Travel	2058.71	MISC TRAVEL
Consumables		
Misc	124.65	MISC EXPENDITURE
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	5208.66	
		WP3 - Coordination of S-ATLAS experiement implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	42497.55	0.0548
Subcontracting	0.00	
Travel Costs	0.00	
Consumables		
Misc	1217.16	MISC EXPENDITURE
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	43714.71	
		WP6 - Development of Nb-Ti quadrupole magnet prototype
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	12386.54	0.225
Subcontracting	0.00	
Travel Costs		
Misc	517.88	MISC TRAVEL
Consumables		
Misc	8468.67	MISC EXPENDITURE
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	21373.09	
		WP7 - Development of critical components for the injectors
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	0.00	
Subcontracting	0.00	
Travel Costs		
Misc	1161.86	MISC TRAVEL
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	

TOTAL DIRECT COSTS AS CLAIMED IN FORM C	1161.86	
		WP8 - Tracking detector power distribution
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	86154.08	1.767
Subcontracting	0.00	
Travel Costs		
Misc	7071.32	MISC TRAVEL
Consumables		
Misc	10831.85	MISC EXPENDITURE
Misc	2147.26	EXPENDITURE THOMAS TIC
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	106204.51	

UBONN

Table 3.15 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 15 FOR THE PERIOD		
		WP8 - Tracking detector power distribution
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	117062.50	27 PM (out of which 12PM Engineer)
Subcontracting	0.00	
Travel Costs		
Consumables		
Durable Equipment		
Remaining Costs		
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	117062.50	

UNIGE

Table 3.16 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 16 FOR THE PERIOD		
		WP3 - Coordination of the S-ATLAS experiment implementation
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	78567.32	1 physicist, 1 applied physicist and 1 mechanical engineer
Subcontracting		
Travel Costs		
ATLAS Upgrade Workshop	2383.17	Participation to Silicon Strip Tracker Upgrade Workshop (stave09)
Consumables		
Durable Equipment		
Remaining Costs		
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	80950.49	

USFD

Table 3.17 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 17 FOR THE PERIOD	
	WP5 - Radiation protection and safety issues for accelerator and experiments

Item Description	Actual direct eligible costs (€)	Explanation
Personnel cost	22803.52	Ian Dawson and Ludovic Nicolas 3.96 PM Simulation of experiment radiation backgrounds at the LHC and SLHC, and preparations for measurements at the LHC for comparison with the predictions, which will feed back into assessing and improving the simulation tools
Subcontracting	0.00	
Travel Costs	0.00	
Consumables	0.00	
Durable Equipment	0.00	
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	22803.52	

RWTH-Aachen

Table 3.18 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR COST ITEMS FOR BENEFICIARY 18 FOR THE PERIOD		
		WP8 - Tracking detector power distribution
Item Description	**Actual direct eligible costs (€)**	**Explanation**
Personnel cost	17199.17	4,1 PM Engineer
	12675.81	2,4 PM Scientist
Subcontracting	0.00	
Travel Costs	803.38	Travel to Cern
Consumables		
	1643.49	DC-DC Converter Prototypes
	1948.58	DC-DC Converter Cooling
	1214.86	DC-DC Converter Test System
	625.68	Other Consumables
Durable Equipment		
Remaining Costs	0.00	
TOTAL DIRECT COSTS AS CLAIMED IN FORM C	36110.97	

7. Financial statements – Form C and summary financial report

This section contains financial statements from each beneficiary together with a summary financial report that consolidates the claimed Community contribution of all the beneficiaries in an aggregate form, based on the information provided in Form C (Annex VI) by each beneficiary. Original signed copies have been submitted by mail to the European Commission.

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Summary Financial Report - Combination of CP & CSA

Project acronym	SLHC-PP	Project nr.	212114	Reporting period from	01/04/2009	to	31/03/2010	Page	1/1

Funding scheme	CP-CSA

Beneficiary nr.	If 3rd Party, linked to beneficiary	Adjustment (Yes/No)	Organization Short Name	Type of activity										Total (A)+(B)+(C)+(D)+(E)		Receipts	Interest
				RTD (A)		Coordination (B)		Support (C)		Management (D)		Other (E)					
				Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution		
1		No	CERN	2,406,219.09	1,804,664.32	652,764.78	436,536.45	425,846.51	284,784.85	380,663.92	380,663.92	0.00	0.00	3,865,494.30	2,906,649.54	0.00	0.00
2		No	AGH-UST	77,007.06	57,755.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77,007.06	57,755.30	34,416.20	0.00
3		No	CEA-Saclay	971,785.09	728,838.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	971,785.09	728,838.82	0.00	0.00
3		Yes	CEA-Saclay	5,280.39	3,960.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,280.39	3,960.29	0.00	0.00
4		No	CIEMAT	42,485.59	31,864.19	27,891.90	14,935.30	0.00	0.00	0.00	0.00	0.00	0.00	70,377.49	46,799.49	0.00	0.00
5		No	CNRS-IN2P3	134,138.75	100,604.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	134,138.75	100,604.06	0.00	0.00
5		Yes	CNRS-IN2P3	29,145.15	21,858.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29,145.15	21,858.86	0.00	0.00
6		No	CTU	0.00	0.00	0.00	0.00	42,763.04	28,597.78	0.00	0.00	0.00	0.00	42,763.04	28,597.78	0.00	0.00
7		No	DESY	0.00	0.00	62,321.78	41,677.69	0.00	0.00	0.00	0.00	0.00	0.00	62,321.78	41,677.69	0.00	0.00
7		Yes	DESY	22,720.05	17,040.04	21,112.90	14,119.25	0.00	0.00	0.00	0.00	0.00	0.00	43,832.95	31,159.29	0.00	0.00
8		No	ETH Zürich	0.00	0.00	82,019.20	54,850.34	0.00	0.00	0.00	0.00	0.00	0.00	82,019.20	54,850.34	0.00	0.00
9		No	FOM-NIKHEF	0.00	0.00	124,233.49	83,081.15	0.00	0.00	0.00	0.00	0.00	0.00	124,233.49	83,081.15	0.00	0.00
10		No	GSI	0.00	0.00	0.00	0.00	29,606.25	27,602.34	0.00	0.00	0.00	0.00	29,606.25	27,602.34	0.00	0.00
10		Yes	GSI	0.00	0.00	0.00	0.00	-2,175.39	-2,040.12	0.00	0.00	0.00	0.00	-2,175.39	-2,040.12	0.00	0.00
11		No	Imperial	0.00	0.00	75,253.18	50,325.57	0.00	0.00	0.00	0.00	0.00	0.00	75,253.18	50,325.57	0.00	0.00
12		No	INFN	42,344.45	31,758.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42,344.45	31,758.34	0.00	0.00
13		No	PSI	1,544.65	1,158.49	0.00	0.00	32,721.41	29,176.59	0.00	0.00	0.00	0.00	34,266.06	30,335.08	0.00	0.00
14		No	STFC	232,207.12	174,155.34	96,722.37	52,348.01	0.00	0.00	0.00	0.00	0.00	0.00	328,929.49	226,503.35	0.00	0.00
15		No	UBONN	187,300.00	140,475.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	187,300.00	140,475.00	0.00	0.00
16		No	UNIGE	0.00	0.00	129,520.78	86,617.02	0.00	0.00	0.00	0.00	0.00	0.00	129,520.78	86,617.02	0.00	0.00
17		No	USFD	0.00	0.00	0.00	0.00	36,485.63	24,399.77	0.00	0.00	0.00	0.00	36,485.63	24,399.77	0.00	0.00
18		No	RWTHAACHEN	57,777.55	43,333.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57,777.55	43,333.16	0.00	0.00
TOTAL				4,209,954.94	3,157,466.21	1,271,840.38	834,490.78	565,247.45	392,521.21	380,663.92	380,663.92	0.00	0.00	6,427,706.69	4,765,142.12	34,416.20	0.00

Requested EC contribution for the reporting perior (in €)	4,301,094.80

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCHCERN	**Participant Identity Code**	**999988133**
Organisation short Name	CERN	**Beneficiary nr.**	**1**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	1,003,569.70	394,945.58	261,562.31	232,404.25	0.00	1,892,481.84
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	500,317.23	13,032.41	4,591.76	5,510.70	0.00	523,452.10
Indirect costs *	902,332.16	244,786.79	159,692.44	142,748.97	0.00	1,449,560.36
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	2,406,219.09	652,764.78	425,846.51	380,663.92	0.00	3,865,494.30
Maximum EC contribution	1,804,664.32	436,536.45	284,784.85	380,663.92	0.00	2,906,649.54
Requested EC contribution						2,906,649.54

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			Yes
Name of the auditor	Internal Audit Service	**Cost of the certificate (in €)**	0.00

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Dr. Florian Sonnemann
	Date & signature
	26/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	AKADEMIA GORNICZO-HUTNICZA IM. STANISBAWA STASZICA W KRAKOWIE	**Participant Identity Code**	**999844573**
Organisation short Name	AGH-UST	**Beneficiary nr.**	**2**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	37,920.14	0.00	0.00	0.00	0.00	37,920.14
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	10,209.27	0.00	0.00	0.00	0.00	10,209.27
Indirect costs *	28,877.65	0.00	0.00	0.00	0.00	28,877.65
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	77,007.06	0.00	0.00	0.00	0.00	77,007.06
Maximum EC contribution	57,755.30	0.00	0.00	0.00	0.00	57,755.30
Requested EC contribution						57,755.29

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	Yes
If yes, please mention the amount (in €)	34,416.20

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Ewa S#obodzian
	Date & signature
	04/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		
Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		
Legal Name	COMMISSARIAT A L' ENERGIE ATOMIQUE	**Participant Identity Code**	**999992401**
Organisation short Name	CEA-Saclay	**Beneficiary nr.**	**3**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	563,092.47	0.00	0.00	0.00	0.00	563,092.47
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	47,888.59	0.00	0.00	0.00	0.00	47,888.59
Indirect costs *	360,804.03	0.00	0.00	0.00	0.00	360,804.03
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	971,785.09	0.00	0.00	0.00	0.00	971,785.09
Maximum EC contribution	728,838.82	0.00	0.00	0.00	0.00	728,838.82
Requested EC contribution						340,124.78

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €), if charged under this project**	0.00

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €)**	3,473.00

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Nathalie JUDAS
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**Yes (for period 1)**
To	31/03/2010		

Legal Name	COMMISSARIAT A L' ENERGIE ATOMIQUE	**Participant Identity Code**	**999992401**
Organisation short Name	CEA-Saclay	**Beneficiary nr.**	**3**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	2,494.82	0.00	0.00	0.00	0.00	2,494.82
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	2,785.57	0.00	0.00	0.00	0.00	2,785.57
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	5,280.39	0.00	0.00	0.00	0.00	5,280.39
Maximum EC contribution	3,960.29	0.00	0.00	0.00	0.00	3,960.29
Requested EC contribution						0.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €), if charged under this project**	0.00

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Nathalie JUDAS
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS-CIEMAT	**Participant Identity Code**	**999614877**
Organisation short Name	CIEMAT	**Beneficiary nr.**	**4**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	21,042.89	13,673.88	0.00	0.00	0.00	34,716.77
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	284.34	0.00	0.00	0.00	284.34
Indirect costs *	21,442.70	13,933.68	0.00	0.00	0.00	35,376.38
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	42,485.59	27,891.90	0.00	0.00	0.00	70,377.49
Maximum EC contribution	31,864.19	14,935.30	0.00	0.00	0.00	46,799.49
Requested EC contribution						46,799.49

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Ana Collados Martin-Posadillo
	Date & signature
	12/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	**Participant Identity Code**	**999997930**
Organisation short Name	CNRS-IN2P3	**Beneficiary nr.**	**5**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	72,570.87	0.00	0.00	0.00	0.00	72,570.87
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	11,265.85	0.00	0.00	0.00	0.00	11,265.85
Indirect costs *	50,302.03	0.00	0.00	0.00	0.00	50,302.03
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	134,138.75	0.00	0.00	0.00	0.00	134,138.75
Maximum EC contribution	100,604.06	0.00	0.00	0.00	0.00	100,604.06
Requested EC contribution						100,604.06

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Gilles SENTISE
	Date & signature
	20/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**Yes (for period 1)**
To	31/03/2010		

Legal Name	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	**Participant Identity Code**	**999997930**
Organisation short Name	CNRS-IN2P3	**Beneficiary nr.**	**5**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	18,215.72	0.00	0.00	0.00	0.00	18,215.72
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	10,929.43	0.00	0.00	0.00	0.00	10,929.43
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	29,145.15	0.00	0.00	0.00	0.00	29,145.15
Maximum EC contribution	21,858.86	0.00	0.00	0.00	0.00	21,858.86
Requested EC contribution						21,858.86

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Gilles SENTISE
	Date & signature
	20/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	CESKE VYSOKE UCENI TECHNICKE V PRAZE	**Participant Identity Code**	**999848744**
Organisation short Name	CTU	**Beneficiary nr.**	**6**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	0.00	18,337.11	0.00	0.00	18,337.11
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	8,389.79	0.00	0.00	8,389.79
Indirect costs *	0.00	0.00	16,036.14	0.00	0.00	16,036.14
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	42,763.04	0.00	0.00	42,763.04
Maximum EC contribution	0.00	0.00	28,597.78	0.00	0.00	28,597.78
Requested EC contribution						21,404.37

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Prof. Ing. Vaclav Havlicek, CSc.
	Date & signature
	06/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	STIFTUNG DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY	**Participant Identity Code**	**999986969**
Organisation short Name	DESY	**Beneficiary nr.**	**7**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	35,555.59	0.00	0.00	0.00	35,555.59
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	3,395.52	0.00	0.00	0.00	3,395.52
Indirect costs *	0.00	23,370.67	0.00	0.00	0.00	23,370.67
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	62,321.78	0.00	0.00	0.00	62,321.78
Maximum EC contribution	0.00	41,677.69	0.00	0.00	0.00	41,677.69
Requested EC contribution						41,677.69

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Prof.Dr. J.Mnich C.Scherf
	Date & signature
	14/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**Yes (for period 1)**
To	31/03/2010		

Legal Name	STIFTUNG DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY	**Participant Identity Code**	**999986969**
Organisation short Name	DESY	**Beneficiary nr.**	**7**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	14,200.03	12,155.15	0.00	0.00	0.00	26,355.18
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	1,040.41	0.00	0.00	0.00	1,040.41
Indirect costs *	8,520.02	7,917.34	0.00	0.00	0.00	16,437.36
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	22,720.05	21,112.90	0.00	0.00	0.00	43,832.95
Maximum EC contribution	17,040.04	14,119.25	0.00	0.00	0.00	31,159.29
Requested EC contribution						31,159.29

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Prof.Dr. J.Mnich C.Scherf
	Date & signature
	14/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	Eidgenössische Technische Hochschule Zürich	**Participant Identity Code**	**999979015**
Organisation short Name	ETH Zürich	**Beneficiary nr.**	**8**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	51,262.00	0.00	0.00	0.00	51,262.00
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	0.00	30,757.20	0.00	0.00	0.00	30,757.20
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	82,019.20	0.00	0.00	0.00	82,019.20
Maximum EC contribution	0.00	54,850.34	0.00	0.00	0.00	54,850.34
Requested EC contribution						54,850.34

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	P.Meierhofer
	Date & signature
	03/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	STICHTING VOOR FUNDAMENTEEL ONDERZOEK DER MATERIE - FOM	**Participant Identity Code**	**999624092**
Organisation short Name	FOM-NIKHEF	**Beneficiary nr.**	**9**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	51,582.47	0.00	0.00	0.00	51,582.47
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	26,063.46	0.00	0.00	0.00	26,063.46
Indirect costs *	0.00	46,587.56	0.00	0.00	0.00	46,587.56
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	124,233.49	0.00	0.00	0.00	124,233.49
Maximum EC contribution	0.00	83,081.15	0.00	0.00	0.00	83,081.15
Requested EC contribution						40,660.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Arjen van Rijn
	Date & signature
	12/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		
Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		
Legal Name	GSI HELMHOLTZZENTRUM FUER SCHWERIONENFORSCHUNG Gmbh	**Participant Identity Code**	**999995214**
Organisation short Name	GSI	**Beneficiary nr.**	**10**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	0.00	22,488.35	0.00	0.00	22,488.35
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	3,308.23	0.00	0.00	3,308.23
Indirect costs *	0.00	0.00	3,809.67	0.00	0.00	3,809.67
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	29,606.25	0.00	0.00	29,606.25
Maximum EC contribution	0.00	0.00	27,602.34	0.00	0.00	27,602.34
Requested EC contribution						27,602.34

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	J. Heilmann, Dr.
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**Yes (for period 1)**
To	31/03/2010		

Legal Name	GSI HELMHOLTZZENTRUM FUER SCHWERIONENFORSCHUNG Gmbh	**Participant Identity Code**	**999995214**
Organisation short Name	GSI	**Beneficiary nr.**	**10**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	0.00	-906.65	0.00	0.00	-906.65
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	-1,000.00	0.00	0.00	-1,000.00
Indirect costs *	0.00	0.00	-268.74	0.00	0.00	-268.74
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	-2,175.39	0.00	0.00	-2,175.39
Maximum EC contribution	0.00	0.00	-2,040.12	0.00	0.00	-2,040.12
Requested EC contribution						-2,040.12

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	J. Heilmann, Dr.
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	**Participant Identity Code**	**999993468**
Organisation short Name	Imperial	**Beneficiary nr.**	**11**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	34,299.47	0.00	0.00	0.00	34,299.47
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	12,733.77	0.00	0.00	0.00	12,733.77
Indirect costs *	0.00	28,219.94	0.00	0.00	0.00	28,219.94
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	75,253.18	0.00	0.00	0.00	75,253.18
Maximum EC contribution	0.00	50,325.57	0.00	0.00	0.00	50,325.57
Requested EC contribution						50,325.57

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Ms, Brooke Alasya
	Date & signature
	04/04/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	ISTITUTO NAZIONALE DI FISICA NUCLEARE	**Participant Identity Code**	**999992789**
Organisation short Name	INFN	**Beneficiary nr.**	**12**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	26,465.28	0.00	0.00	0.00	0.00	26,465.28
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	15,879.17	0.00	0.00	0.00	0.00	15,879.17
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	42,344.45	0.00	0.00	0.00	0.00	42,344.45
Maximum EC contribution	31,758.34	0.00	0.00	0.00	0.00	31,758.34
Requested EC contribution						10,000.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Dr. Angela Campanale, Dr. Paolo Pierini
	Date & signature
	10/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	PAUL SCHERRER INSTITUT	**Participant Identity Code**	**999994923**
Organisation short Name	PSI	**Beneficiary nr.**	**13**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**20.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	0.00	24,735.88	0.00	0.00	24,735.88
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	1,287.21	0.00	2,531.96	0.00	0.00	3,819.17
Indirect costs *	257.44	0.00	5,453.57	0.00	0.00	5,711.01
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	1,544.65	0.00	32,721.41	0.00	0.00	34,266.06
Maximum EC contribution	1,158.49	0.00	29,176.59	0.00	0.00	30,335.08
Requested EC contribution						30,335.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Christian Wernli
	Date & signature
	04/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	SCIENCE AND TECHNOLOGY FACILITIES COUNCIL	**Participant Identity Code**	**999980179**
Organisation short Name	STFC	**Beneficiary nr.**	**14**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	98,540.62	45,522.85	0.00	0.00	0.00	144,063.47
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	30,198.84	3,400.52	0.00	0.00	0.00	33,599.36
Indirect costs *	103,467.66	47,799.00	0.00	0.00	0.00	151,266.66
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	232,207.12	96,722.37	0.00	0.00	0.00	328,929.49
Maximum EC contribution	174,155.34	52,348.01	0.00	0.00	0.00	226,503.35
Requested EC contribution						226,503.35

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	MR JOE MOXON
	Date & signature
	20/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAET BONN	**Participant Identity Code**	**999980276**
Organisation short Name	UBONN	**Beneficiary nr.**	**15**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	117,062.50	0.00	0.00	0.00	0.00	117,062.50
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	70,237.50	0.00	0.00	0.00	0.00	70,237.50
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	187,300.00	0.00	0.00	0.00	0.00	187,300.00
Maximum EC contribution	140,475.00	0.00	0.00	0.00	0.00	140,475.00
Requested EC contribution						140,475.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Daniela Hasenpusch
	Date & signature
	12/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		
Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		
Legal Name	UNIVERSITE DE GENEVE	**Participant Identity Code**	**999974650**
Organisation short Name	UNIGE	**Beneficiary nr.**	**16**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	78,567.32	0.00	0.00	0.00	78,567.32
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	2,383.17	0.00	0.00	0.00	2,383.17
Indirect costs *	0.00	48,570.29	0.00	0.00	0.00	48,570.29
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	129,520.78	0.00	0.00	0.00	129,520.78
Maximum EC contribution	0.00	86,617.02	0.00	0.00	0.00	86,617.02
Requested EC contribution						86,617.02

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Allan G. CLARK
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		
Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		
Legal Name	THE UNIVERSITY OF SHEFFIELD	**Participant Identity Code**	**999976881**
Organisation short Name	USFD	**Beneficiary nr.**	**17**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	0.00	0.00	22,803.52	0.00	0.00	22,803.52
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	0.00	0.00	13,682.11	0.00	0.00	13,682.11
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	36,485.63	0.00	0.00	36,485.63
Maximum EC contribution	0.00	0.00	24,399.77	0.00	0.00	24,399.77
Requested EC contribution						24,399.77

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Joanne Watson
	Date & signature
	04/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		

Period from	01/04/2009	Is this an adjustment to a previous statement?	**No**
To	31/03/2010		

Legal Name	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	**Participant Identity Code**	**999983962**
Organisation short Name	RWTHAACHEN	**Beneficiary nr.**	**18**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**60.00**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	29,874.98	0.00	0.00	0.00	0.00	29,874.98
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	6,235.99	0.00	0.00	0.00	0.00	6,235.99
Indirect costs *	21,666.58	0.00	0.00	0.00	0.00	21,666.58
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	57,777.55	0.00	0.00	0.00	0.00	57,777.55
Maximum EC contribution	43,333.16	0.00	0.00	0.00	0.00	43,333.16
Requested EC contribution						43,333.16

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €), if charged under this project**	

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No

Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Stephanie Carl
	Date & signature
	06/05/2010

8. Certificates

Beneficiary	Organisation short name	Certificate on the financial statements provided? yes / no	Any useful comment, in particular if a certificate is not provided
1	CERN	YES	
2	AGH-UST	NO	
3	CEA-Saclay	YES	
4	CIEMAT	NO	
5	CNRS-IN2P3	NO	
6	CTU	NO	
7	DESY	NO	
8	ETH Zürich	NO	
9	FOM-NIKHEF	NO	
10	GSI	NO	
11	Imperial	NO	
12	INFN	NO	
13	PSI	NO	
14	STFC	NO	
15	UBONN	NO	
16	UNIGE	NO	
17	USFD	NO	
18	RWTH - Aachen	NO	

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Laboratoire Européen pour la Physique des Particules

GENEVE, SUISSE
GENEVA, SWITZERLAND

Mail address: CERN
CH-1211 GENEVE 23
Switzerland

Téléphone/Telephone :
Direct : +41 (22) 767 2892
Central/Exchange : +41 (22) 767 6111
Téléfax/fax : +41 (22) 767 6595
E-mail : Roland.Garoby@cern.ch

To: CERN, Internal Audit

Notre référence/Our reference: SLHC-pp/ToR/04052010/RG/0405

Date: 04 May 2010

Terms of Reference for an Independent Report of Factual Findings on costs claimed under a Grant Agreement financed under the Seventh Research Framework Programme (FP7)

The following are the terms of reference ('ToR') on which CERN 'the Beneficiary' agrees to engage Internal Audit 'the Auditor' to provide an independent report of factual findings on a Financial Statement prepared by the Beneficiary and to report in connection with a European Community/European Atomic Energy Community financed grant agreement concerning the Seventh Research Framework Programme (FP7), concerning SLHC-pp 212114 (the 'Grant Agreement'). Where in these ToR the 'European Commission' is mentioned this refers to its quality as signatory of the Grant Agreement with the Beneficiary. The European Community is not a party to this engagement.

1.1 Responsibilities of the Parties to the Engagement

'**The Beneficiary**' refers to the legal entity that is receiving the grant and that has signed the Grant Agreement with the European Commission.

- The Beneficiary is responsible for preparing a Financial Statement for the Action financed by the Grant Agreement in compliance with such agreements and providing it to the Auditor, and for ensuring that this Financial Statement can be properly reconciled to the Beneficiary's accounting and bookkeeping system and to the underlying accounts and records. Notwithstanding the procedures to be carried out, the Beneficiary remains at all times responsible and reliable for the

accuracy of the Financial Statement.

- The Beneficiary is responsible for the factual statements which will enable the Auditor to carry out the procedures specified, and will provide the Auditor with a written representation letter supporting these statements, clearly dated and stating the period covered by the statements.

- The Beneficiary accepts that the ability of the Auditor to perform the procedures required by this engagement effectively depends upon the Beneficiary providing full and free access to the Beneficiary's staff and its accounting and other relevant records.

'**The Auditor**' refers to the Auditor who is responsible for performing the agreed-upon procedures as specified in these ToR, and for submitting an independent report of factual findings to the Beneficiary. The Auditor must be independent from the Beneficiary.

- The Auditor is a Competent Public Officer for which the relevant national authorities have established the legal capacity to audit the Beneficiary and has not been involved in the preparation of the financial statements.

- The procedures to be performed are specified by the European Commission and the Auditor is not responsible for the suitability and appropriateness of these procedures.

1.2 Subject of the Engagement

The subject of this engagement is the interim Financial Statement in connection with the Grant Agreement for the period covering 1 April 2009 to 31 March 2010.

1.3 Reason for the Engagement

The Beneficiary is required to submit to the European Commission a certificate on a Financial Statement in the form of an independent report of factual findings produced by an external auditor in support of the payment requested by the Beneficiary under Article II.4 of the Grant Agreement. The Authorising Officer of the Commission requires this Report as he makes the payment of costs requested by the Beneficiary conditional on the factual findings of this Report.

1.4 Engagement Type and Objective

This constitutes an engagement to perform specific agreed-upon procedures regarding an independent report of factual findings on costs claimed under the Grant Agreement.

As this engagement is not an assurance engagement the Auditor does not provide an audit opinion and expresses no assurance. The European Commission derives its assurance by drawing its own conclusions from the factual findings reported by the Auditor on the Financial Statement and the payment request of the Beneficiary relating thereto.

The Auditor shall include in its Report that no conflict of interest exists between it and the Beneficiary in establishing this Report, as well as the fee paid to the Auditor for providing the Report.

1.5 Scope of Work

1.5.1 The Auditor shall undertake this engagement in accordance with these ToR and:

- in accordance with the International Standard on Related Services ('ISRS') 4400 *Engagements to perform Agreed-upon Procedures regarding Financial Information* as promulgated by the IFAC;

- in compliance with the *Code of Ethics for Professional Accountants* issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, the European Commission requires that the Auditor also complies with the independence requirements of the *Code of Ethics for Professional Accountants.*

1.5.2 Planning, procedures, documentation and evidence

The Auditor should plan the work so that the procedures can be effectively performed. For this purpose he performs the procedures specified in 1.9 of these Terms of Reference ('Scope of Work – Compulsory Report Format and Procedures to be Performed') and uses the evidence obtained from these procedures as the basis for the Report of factual findings.

1.6 Reporting

The Report of factual findings, an example of which is attached to this ToR, should describe the purpose and the agreed-upon procedures of the engagement in sufficient detail in order to enable the Beneficiary and the European Commission to understand the nature and extent of the procedures performed by the Auditor. Use of the reporting format attached as Annex VII of the Grant Agreement is compulsory. The Report should be written in the language indicated in Article 4 of the Grant Agreement. In accordance with Article II.22 of the Grant Agreement, the European Commission and the Court of Auditors have the right to audit any work carried out under the project for which costs are claimed from the Community, including the work related to this engagement.

1.7 Timing

The Report should be provided by 14.05.2010.

1.8 Scope of Work – Compulsory Report Format and Procedures to be Performed

Independent Report of Factual Findings on costs claimed under a Grant Agreement financed under the Seventh Research Framework Programme (FP7)

To be printed on letterhead paper of the Auditor
<Name of contact person(s)>, < Position>
< Beneficiary's name>
<Address>
<dd Month yyyy>
In accordance with our contract dated <dd Month yyyy> with <name of the Beneficiary "the Beneficiary" and the terms of reference attached thereto (appended to this Report), we provide our Independent Report of Factual Findings ("the Report"), as specified below.

Objective

We *[legal name of the audit firm]*, established in *[full address/city/state/province/country]* represented for signature of this Report by [*[name and function of an authorised representative]* have performed agreed upon procedures regarding the cost declared in the Financial Statement(s)[2] of [*name of beneficiary*] hereinafter referred to as the Beneficiary, to which this Report is attached, and which is to be presented to the Commission of the European Communities under grant agreement *[EC grant agreement reference:*

title, acronym, number] for the following period(s) *[insert period(s) covered by the Financial Statement(s) per Activity]*. This engagement involved performing certain specified procedures, the results of which the European Commission uses to draw conclusions as to the eligibility of the costs claimed.

Scope of Work

Our engagement was carried out in accordance with:

- the terms of reference appended to this Report and:

- International Standard on Related Services ('ISRS') 4400 *Engagements to perform Agreed-upon Procedures regarding Financial Information* as promulgated by the International Federation of Accountants ('IFAC);

- the *Code of Ethics for Professional Accountants* issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, the European Commission requires that the Auditor also complies with the independence requirements of the *Code of Ethics for Professional Accountants;*

As requested, we have only performed the procedures set out in the terms of reference for this engagement and we have reported our factual findings on those procedures in the table appended to this Report.

The scope of these agreed upon procedures has been determined solely by the European Commission and the procedures were performed solely to assist the European Commission in evaluating whether the costs claimed by the Beneficiary in the accompanying Financial Statement has been claimed in accordance with the Grant Agreement. The Auditor is not responsible for the suitability and appropriateness of these procedures.

Because the procedures performed by us did not constitute either an audit or a review made in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not express any assurance on the Financial Statements.

Had we performed additional procedures or had we performed an audit or review of the Financial Statements of the Beneficiary in accordance with International Standards on Auditing, other matters might have come to our attention that would have been reported to you.

Sources of Information

The Report sets out information provided to us by the management of the Beneficiary in response to specific questions or as obtained and extracted from the Beneficiary's information and accounting systems.

Factual Findings

The above mentioned Financial Statement(s) per Activity was (were) examined and all procedures specified in the appended table for our engagement were carried out. On the basis of the results of these procedures, we found:
All documentation and accounting information to enable us to carry out these procedures has been provided to us by the Beneficiary. Except as indicated below, no exceptions were noted.

Exceptions

- In some cases, the Auditor was not able to successfully complete the procedures specified. These exceptions are as follows:

exceptions such as inability to reconcile key information, unavailability of data which prevented the Auditor from carrying out the procedures, etc. should be listed here. The Commission will use this information to decide the amounts which will be reimbursed.

Use of this Report

This Report is solely for the purpose set forth in the above objective.

This Report is prepared solely for the confidential use of the Beneficiary and the European Commission and solely for the purpose of submission to the European Commission in connection with the requirements as set out in Article II.4.4 of the Grant Agreement. This Report may not be relied upon by the Beneficiary or by the European Commission for any other purpose, nor may it be distributed to any other parties. The European Commission may only disclose this Report to others who have regulatory rights of access to it, in particular the European Anti Fraud Office and the European Court of Auditors.

This Report relates only to the Financial Statement(s) specified above and does not extend to any other financial statements of the Beneficiary.

No conflict of interest exists between the Auditor and the Beneficiary in establishing this Report. The fee paid to the Auditor for providing the Report was € _____.

We look forward to discussing our Report with you and would be pleased to provide any further information or assistance which may be required.

[legal name of the audit firm]
[[name and function of an authorised representative]

Roland Garoby
CERN, Project Leader of SLHC-pp

Received by Internal Audit Service
04/05/2010

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Laboratoire Européen pour la Physique des Particules
European Laboratory for Particle Physics

GENÈVE, SUISSE
GENEVA, SWITZERLAND

Adresse postale / Mailing address*:
CERN
Internal Audit Service
1211 GENEVE 23
Switzerland
Téléphone / Telephone :
Direct + 41 22 767 3951
General + 41 22 767 6111
Télécopieur / Telefax :
Direct + 41 22 766 8451
Courrier électronique / Electronic mail : bertrand.salami@cern.ch
Notre référence/Our reference: DG-IA/10-22

26 May 2010

In accordance with our contract dated 04 May 2010 with CERN "the Beneficiary" and the terms of reference attached thereto (appended to this Report), we provide our Independent Report of Factual Findings ("the Report"), as specified below.

Objective

We, CERN's Internal Audit Service, established in 1211 Geneve 23, Switzerland, represented for signature of this report by Bertrand Salami, Internal Auditor, have performed agreed upon procedures regarding the cost declared in the Financial Statement[1] of CERN hereinafter referred to as the Beneficiary, to which this Report is attached, and which is to be presented to the Commission of the European Communities under grant agreement Preparatory Phase of the Large Hadron Collider Upgrade, SLHC-PP, 212114, for the following period:

P2: 1 April 2009 - 31 March 2010.

This engagement involved performing certain specified procedures, the results of which the European Commission uses to draw conclusions as to the eligibility of the costs claimed.

Scope of Work

Our engagement was carried out in accordance with:

- the terms of reference appended to this Report and:
- International Standard on Related Services ('ISRS') 4400 *Engagements to perform Agreed-upon Procedures regarding Financial Information* as promulgated by the International Federation of Accountants ('IFAC);
- the *Code of Ethics for Professional Accountants* issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, the European Commission requires that the Auditor also complies with the independence requirements of the *Code of Ethics for Professional Accountants;*

As requested, we have only performed the procedures set out in the terms of reference for this engagement and we have reported our factual findings on those procedures in the table appended to this Report.

[1] Financial Statement in this context refers solely to Form C – Annex VI by which the Beneficiary claims costs under the Grant Agreement.

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

The scope of these agreed upon procedures has been determined solely by the European Commission and the procedures were performed solely to assist the European Commission in evaluating whether the costs claimed by the Beneficiary in the accompanying Financial Statement has been claimed in accordance with the Grant Agreement. The Auditor is not responsible for the suitability and appropriateness of these procedures.

Because the procedures performed by us did not constitute either an audit or a review made in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not express any assurance on the Financial Statements.

Had we performed additional procedures or had we performed an audit or review of the Financial Statements of the Beneficiary in accordance with International Standards on Auditing, other matters might have come to our attention that would have been reported to you.

Sources of Information

The Report sets out information provided to us by the management of the Beneficiary in response to specific questions or as obtained and extracted from the Beneficiary's information and accounting systems.

Factual Findings

The above mentioned Financial Statement per Activity was examined and all procedures specified in the appended table for our engagement were carried out. On the basis of the results of these procedures, we found:
All documentation and accounting information to enable us to carry out these procedures has been provided to us by the Beneficiary. Except as indicated below, no exceptions were noted.

Exceptions

There were no exceptions noted

Use of this Report

This Report is solely for the purpose set forth in the above objective.

This Report is prepared solely for the confidential use of the Beneficiary and the European Commission and solely for the purpose of submission to the European Commission in connection with the requirements as set out in Article II.4.4 of the Grant Agreement. This Report may not be relied upon by the Beneficiary or by the European Commission for any other purpose, nor may it be distributed to any other parties. The European Commission may only disclose this Report to others who have regulatory rights of access to it, in particular the European Anti Fraud Office and the European Court of Auditors.

This Report relates only to the Financial Statement specified above and does not extend to any other financial statements of the Beneficiary.

No conflict of interest exists between the Auditor and the Beneficiary in establishing this Report. The fee paid to the Auditor for providing the Report was € zero.

We look forward to discussing our Report with you and would be pleased to provide any further information or assistance which may be required.

CERN's Internal Audit
Bertrand Salami, Internal Auditor

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

Procedures performed by the Auditor

The Auditor designs and carries out his work in accordance with the objective and scope of this engagement and the procedures to be performed as specified below. When performing these procedures the Auditor may apply techniques such as inquiry and analysis, (re)computation, comparison, other clerical accuracy checks, observation, inspection of records and documents, inspection of assets and obtaining confirmations or any others deemed necessary in carrying out these procedures.

The European Commission reserves the right to issue guidance together with example definitions and findings to guide the Auditor in the nature and presentation of the facts to be ascertained. The European Commission reserves the right to vary the procedures by written notification to the Beneficiary. The procedures to be performed are listed as follows:

Procedures	Standard factual finding and basis for exception reporting
Personnel Costs	
1. Recalculate hourly personnel and overhead rates for personnel (full coverage if less than 20 employees, otherwise a sample of minimum 20, or 20% of employees, whichever is the greater), indicate the number of productive hours used and hourly rates. Where sampling is used, selection should be random with a view to producing a representative sample. **'Productive hours'** represent the (average) number of hours made available by the employee in a year after the deduction of holiday, sick leave and other entitlements. This calculation should be provided by the Beneficiary. [if average costs are used, a separate independent report is required on the methodology]	For each employee in the sample of 21, the Auditor obtained the personnel costs (salary and employer's costs) from the payroll system together with the productive hours from the time records of each employee. For each employee selected, the Auditor recomputed the hourly rate by dividing the actual personnel costs by the actual productive hours, which was then compared to the hourly rate charged by the Beneficiary. No exceptions were noted. The average number of productive hours for the employees selected was 1641.
2. For the same selection examine and describe time recording of employees (paper/ computer, daily/weekly/monthly, signed, authorized).	Employees recorded their time on a monthly basis using a computer based-system. The time-records selected were authorized and signed by the project manager or other superior.
3. Employment status and employment conditions of personnel. The Auditor should obtain the employment contracts of the employees selected and compare with the standard employment contract used by the Beneficiary. Differences which are not foreseen by the Grant Agreement should be noted as exceptions.	For the employees selected, the Auditor inspected their employment contracts and found that they were: – directly hired by the Beneficiary in accordance with its national legislation, – under the sole technical supervision and responsibility of the latter, and – remunerated in accordance with the normal practices of the Beneficiary.
4. Use of average personnel costs	Procedure 4 is not applicable
Subcontracting	
5. Obtain a written description from the Beneficiary regarding 3rd party resources used and compare with Annex 1 to the Grant Agreement.	Procedure 5 is not applicable as there were no subcontracting costs.
6. Inspect documents and obtain confirmations that subcontracts are awarded according to a procedure including an analysis of	Procedure 6 is not applicable as there were no subcontracting costs.

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

Procedures	Standard factual finding and basis for exception reporting
best value for money (best price-quality ratio), transparency and equal treatment. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	
Other Direct Costs	
7. Allocation of equipment subject to depreciation is correctly identified and allocated to the project. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	The Auditor traced the equipment charged to the project to the accounting records and the underlying invoices. The Beneficiary has documented the link with the project on the invoice and purchase documentation, and, where relevant, the project accounting. The asset value was agreed to the invoice and no VAT or other identifiable indirect taxes were charged. The depreciation method used to charge the equipment to the project was compared to the Beneficiary's normal accounting policy and found to be the same.
8. Travel costs correctly identified and allocated to the project (and in line with Beneficiary's normal policy for non-EC work regarding first-class travel, etc.) Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater. The Beneficiary should provide written evidence of its normal policy for travel costs (e.g. use of first class tickets) to enable the Auditor to compare the travel charged with this policy.	The Auditor inspected the sample and found that the Beneficiary had allocated travel costs to the project by marking of invoices and purchase orders with the project reference, resulting in traceable allocation in the project accounts. The costs charged were compared to the invoices and found to be the same. No VAT or other identifiable indirect taxes were charged.
9. Consumables correctly identified and allocated to the project. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	The Auditor inspected the sample and found that the Beneficiary had allocated consumable costs to the project by marking of invoices and purchase orders with the project reference, resulting in traceable allocation in the project accounts. The costs charged were compared to the invoices and found to be the same. No VAT or other identifiable indirect taxes were charged.
Indirect costs	
10. Obtain and review a detailed breakdown of Indirect costs (reconciled to the financial accounts) and confirm that the following costs are not present: a) identifiable indirect taxes including value added tax, b) duties, c) interest owed, d) provisions for possible future losses or charges, e) exchange losses, cost related to return on capital, f) costs declared or incurred, or reimbursed in respect of another Community project, g) debt and debt service charges, excessive or reckless expenditure[2].	Procedure 10 is not applicable as the project benefits from a transitional flat rate.

[2] Excessive or reckless expenditure as defined in guidance note to be issued by the Commission in 2007.

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

Procedures	Standard factual finding and basis for exception reporting
11. Assess use of a simplified method of calculation of overheads at the level of the legal entity. The Beneficiary may use a simplified method of calculation (either due to the lack of analytical accounting or legal requirement to use a form of cash-based accounting). This does not permit the use of a generalized estimate, or the use of a 'standard' rate that is not derived from the financial accounts of the period in question. Thus the rate (but not the methodology) should be updated for each accounting period.	Procedure 11 is not applicable as the project benefits from a transitional flat rate.
12. Inspect and compare exchange rates into Euros.	The Auditor compared the exchange rates used for conversion with the applicable official exchange rates established by the European Communities and the Beneficiary used: • the rate applicable on the first day of the month following the end of reporting period
13. Identification of receipts. The Beneficiary is obliged to deduct from its claim any receipts related to the project (income from events, rebates from suppliers, etc.)	The Auditor examined the relevant project accounts and obtained representations from the Beneficiary that the amounts listed represent a complete record of the sources of income connected with the project. The amount included in the claim regarding receipts is the same as the amount recorded in the project accounting
14. Identification of interest yielded on pre-financing. The Beneficiary, when it is the coordinator of the project, is obliged to declare interest yielded on pre-financing	The Auditor compared the relevant project accounts with the interest shown in the bank statements and found them to be the same.

CERN
EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH
Internal Audit

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex
France

Téléphone : +33 (0)1 55 68 68 68
Télécopie : +33 (0)1 55 68 73 00
Site internet : www.kpmg.fr

Commissariat à l'Energie Atomique

Independent Report of Factual Findings on costs claimed under a Grant Agreement financed under the Seventh Research Framewok Programme (FP7)

Commissariat à l'Energie Atomique
Bâtiment Le Ponant D - 25, rue Leblanc - 75015 Paris
This report contains 11 pages
Référence : LG-102-43

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex

KPMG S.A.,
société française membre du réseau KPMG
constitué de cabinets indépendants adhérents de
KPMG International Cooperative, une entité de droit suisse.

Société anonyme d'expertise
comptable et de commissariat
aux comptes à directoire et
conseil de surveillance.
Inscrite au Tableau de l'Ordre
à Paris sous le n° 14-30080101
et à la Compagnie Régionale
des Commissaires aux Comptes
de Versailles.

Siège social :
KPMG S.A.
Immeuble Le Palatin
3 cours du Triangle
92939 Paris La Défense Cedex
Capital : 5 497 100 €.
Code APE 6920Z
775 726 417 R.C.S. Nanterre
TVA Union Européenne
FR 77 775 726 417

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex
France

Téléphone : +33 (0)1 55 68 68 68
Télécopie : +33 (0)1 55 68 73 00
Site internet : www.kpmg.fr

Commissariat à l'Energie Atomique

Registered office: Bâtiment Le Ponant D - 25, rue Leblanc - 75015 Paris

Independent Report of Factual Findings on costs claimed under a Grant Agreement financed under the Seventh Research Framewok Programme (FP7)

Mrs Nathalie Judas
CEA
Centre de Saclay / DSM
91191 Gif-sur-Yvette Cedex

Following our appointment as statutory auditor by the French Finance Minister and in accordance with our contract dated 24 May 2006 with the Commissariat à l'Energie Atomique ("the Beneficiary") and with the terms of reference attached thereto (appended to this Report), we provide our Independent Report of Factual Findings ("the Report"), as specified below.

Objective

We KPMG Audit, established in 1 Cours Valmy, 92923 Paris La Défense Cedex – France, represented for signature of this Report by Laurent Genin, Partner, have performed agreed-upon procedures regarding the cost declared in the Financial Statements of Commissariat à l'Energie Atomique ("CEA") hereinafter referred to as the Beneficiary, to which this Report is attached, and which is to be presented to the Commission of the European Communities under grant agreement ***Preparatory Phase of the Large Hardon Collider Upgrade "SLHC-PP", contract number 212114***,, for the following periods:

- from April 1, 2008 to March 31, 2009 (Period N°1),
- and from April 1, 2009 to March 31, 2010 (Period N°2),

This engagement involved performing certain specified procedures, the results of which the European Commission uses to draw conclusions as to the eligibility of the costs claimed.

Scope of Work

Our engagement was carried out in accordance with:

- the terms of reference appended to this Report and,
- International Standard on Related Services ('ISRS') 4400 *Engagements to perform* Agreed-*upon Procedures regarding Financial Information* as promulgated by the International Federation of Accountants ('IFAC');

KPMG
KPMG Audit
1, cours Valmy
92923 Paris La Défense

KPMG S.A.,
société française membre du réseau KPMG
constitué de cabinets indépendants adhérents de
KPMG International Cooperative, une entité de droit suisse.

Société anonyme d'expertise comptable et de commissariat aux comptes à directoire et conseil de surveillance.
Inscrite au Tableau de l'Ordre à Paris sous le n° 14-30080101 et à la Compagnie Régionale des Commissaires aux Comptes de Versailles.

Siège social :
KPMG S.A.
Immeuble Le Palatin
3 cours du Triangle
92939 Paris La Défense Cedex
Capital : 5 497 100 €.
Code APE 6920Z
775 726 417 R.C.S. Nanterre
TVA Union Européenne
FR 77 775 726 417

- the Code of Ethics for Professional Accountants issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, the European Commission requires that the Auditor also complies with the independence requirements of the Code of Ethics for Professional Accountants;

As requested, we have only performed the procedures set out in the terms of reference for this engagement and we have reported our factual findings on those procedures in the table appended to this Report.

The scope of these agreed upon procedures has been determined solely by the European Commission and the procedures were performed solely to assist the European Commission in evaluating whether the costs claimed by the Beneficiary in the accompanying Financial Statement has been claimed in accordance with the Grant Agreement. The Auditor is not responsible for the suitability and appropriateness of these procedures.

Because the procedures performed by us did not constitute either an audit or a review made in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not express any assurance on the Financial Statements.

Had we performed additional procedures or had we performed an audit or review of the Financial Statements of the Beneficiary in accordance with International Standards on Auditing, other matters might have come to our attention that would have been reported to you.

Sources of Information

The Report sets out information provided to us by the management of the Beneficiary in response to specific questions or as obtained and extracted from the Beneficiary's information and accounting systems.

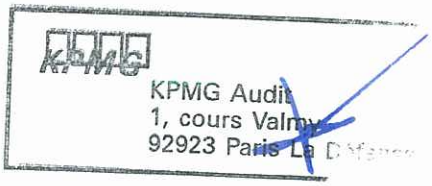
Factual Findings

The above mentioned Financial Statements per Activity were examined and all procedures specified in the appended table for our engagement were carried out. On the basis of the results of these procedures, we found:
All documentation and accounting information to enable us to carry out these procedures has been provided to us by the Beneficiary. Except as indicated below, no exceptions were noted.

Exceptions

These exceptions are as follow:

- Procedure n°4 – The Auditor found out that the personal costs for the period from January 1, 2010 to March 31, 2010 were reported using the average costs calculated for year 2009. These personal costs will be adjusted during period N°3 when the final average costs for year 2010 will be available.



- Procedure n°10 - The Auditor found out that the indirect costs charged to the attached Cost Statement ("SLHC-PP"- Period N°1 and Period N°2) are calculated using a yearly overhead rate. This yearly overhead rate is calculated in accordance with the methodology described in the "Report of factual findings on the methodology concerning Grant Agreements financed under the Seventh Research Framework Programme (FP7)" which is, to date, pending approval as it is under examination of the European Commission;

Use of this Report

This Report is solely for the purpose set forth in the above objective.

This Report is prepared solely for the confidential use of the Beneficiary and the European Commission and solely for the purpose of submission to the European Commission in connection with the requirements as set out in Article II.4.4 of the Grant Agreement. This Report may not be relied upon by the Beneficiary or by the European Commission for any other purpose, nor may it be distributed to any other parties. The European Commission may only disclose this Report to others who have regulatory rights of access to it, in particular the European Anti Fraud Office and the European Court of Auditors.

This Report relates only to the Financial Statements specified above ("SLHC-PP"- Period N°1 and Period N°2) and does not extend to any other financial statements of the Beneficiary.

No conflict of interest exists between the Auditor and the Beneficiary in establishing this Report. The fee that will be paid to the Auditor for providing the Report is €3,473.00 (exclusive of VAT).

We look forward to discussing our Report with you and would be pleased to provide any further information or assistance which may be required.

Paris La Défense, May 6, 2010

KPMG Audit
A division of KPMG S.A.

KPMG
KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex

Laurent Genin
Partner

Annex 1 - Procedures performed by the Auditor with respect to the « SLHC-PP » contract for Period N°1 and Period N°2

The Auditor designs and carries out his work in accordance with the objective and scope of this engagement and the procedures to be performed as specified below. When performing these procedures the Auditor may apply techniques such as inquiry and analysis, (re)computation, comparison, other clerical accuracy checks, observation, inspection of records and documents, inspection of assets and obtaining confirmations or any others deemed necessary in carrying out these procedures.

The European Commission reserves the right to issue guidance together with example definitions and findings to guide the Auditor in the nature and presentation of the facts to be ascertained. The European Commission reserves the right to vary the procedures by written notification to the Beneficiary. The procedures to be performed are listed as follows:

Procedures	**Standard factual finding and basis for exception reporting**
Personnel Costs	
1. Recalculate hourly personnel and overhead rates for personnel (full coverage if less than 20 employees, otherwise a sample of minimum 20, or 20% of employees, whichever is the greater), indicate the number of productive hours used and hourly rates. Where sampling is used, selection should be random with a view to producing a representative sample. **'Productive hours'** represent the (average) number of hours made available by the employee in a year after the deduction of holiday, sick leave and other entitlements. This calculation should be provided by the Beneficiary. [if average costs are used, a separate independent report is required on the methodology]	Hourly personnel rates : the Auditor found that the personnel costs charged to the attached Cost Statement "SLHC-PP"- Period N°1 and Period N°2 are calculated using average costs in accordance with the methodology specified in the Report of findings on the methodology for average personnel costs (CoMaV) approved by the European Commission on 29 July 2009. Productive hours: the average number of productive hours for the employees of the "SLHC-PP" contract was - 1595 hours for Period N°1, - 1568 hours for Period N°2.
2. For the same selection examine and describe time recording of employees (paper/ computer, daily/weekly/monthly, signed, authorised).	Employees record their time on a monthly basis using a computer-based system. The time-records selected were authorized by the project manager.

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex

Procedures	Standard factual finding and basis for exception reporting
3. Employment status and employment conditions of personnel. The Auditor should obtain the employment contracts of the employees selected and compare with the standard employment contract used by the Beneficiary. Differences which are not foreseen by the Grant Agreement should be noted as	For the employees selected, the Auditor inspected their employment contracts and found that they were: – directly hired by the Beneficiary in accordance with its national legislation, – under the sole technical supervision and responsibility of the latter, and – remunerated in accordance with the normal practices of the Beneficiary.
4. Use of average personnel costs	The Auditor found that the personnel costs charged to the attached Cost Statement "SLHC-PP"- Period N°1 and Period N°2 are calculated using average costs in accordance with the methodology specified in the Report of findings on the methodology for average personnel costs (CoMaV) approved by the European Commission on 29 July 2009. The personal costs for the period from January 1, 2010 to March 31, 2010 were reported using the average costs calculated for year 2009. These personal costs will be adjusted during period N°3 when the final average costs for year 2010 will be available.
Subcontracting	
5. Obtain a written description from the Beneficiary regarding 3rd party resources used and compare with Annex 1 to the Grant Agreement.	Procedure n°5 is not applicable : no subcontracting costs declared by the Beneficiary as "Eligible Costs" in the attached Cost Statements ("SLHC-PP"- Period N°1 and Period N°2).
6. Inspect documents and obtain confirmations that subcontracts are awarded according to a procedure including an analysis of best value for money (best price-quality ratio), transparency and equal treatment. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	Procedure n°6 is not applicable : no subcontracting costs declared by the Beneficiary as "Eligible Costs" in the attached Cost Statements ("SLHC-PP"- Period N°1 and Period N°2)
Other Direct Costs	
7. Allocation of equipment subject to depreciation is correctly identified and allocated to the project. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	The Auditor traced the equipment charged to the project (scope tested : 41% of equipment depreciation presented for Period N°1 and Period N°2) to the accounting records and the underlying invoices. The Beneficiary has documented the link with the project on the invoice and purchase documentation, and, where relevant, the project accounting. The asset value was agreed to the invoice and no VAT or other identifiable indirect taxes were charged. The depreciation method used to charge the equipment to the project was compared to the Beneficiary's normal accounting policy and found to be the same.

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex

Procedures	Standard factual finding and basis for exception reporting
8. Travel costs correctly identified and allocated to the project (and in line with Beneficiary's normal policy for non-EC work regarding first-class travel, etc.) Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater. The Beneficiary should provide written evidence of its normal policy for travel costs (e.g. use of first class tickets) to enable the Auditor to compare the travel charged with this policy.	The Auditor inspected the sample (scope tested : 47% of travel costs presented for Period N°1 and Period N°2) and found that the Beneficiary had allocated travel costs to the project by marking of invoices and purchase orders with the project reference, resulting in traceable allocation in the project accounts. The costs charged were compared to the invoices and found to be the same. No VAT or other identifiable indirect taxes were charged.
9. Consumables correctly identified and allocated to the project. Full coverage if less than 20 items, otherwise a sample of minimum 20, or 20% of the items, whichever is the greater.	The Auditor inspected the sample (scope tested : 70% of consumables costs presented for Period N°1 and Period N°2) and found that the Beneficiary had allocated consumable costs to the project by marking of invoices and purchase orders with the project reference, resulting in traceable allocation in the project accounts. The costs charged were compared to the invoices and found to be the same. No VAT or other identifiable indirect taxes were charged.
Indirect costs	
10. Obtain and review a detailed breakdown of Indirect costs (reconciled to the financial accounts) and confirm that the following costs are not present: a) identifiable indirect taxes including value added tax, b) duties, c) interest owed, d) provisions for possible future losses or charges, e) exchange losses, cost related to return on capital, f) costs declared or incurred, or reimbursed in respect of another Community project, g) debt and debt service charges, excessive or reckless expenditure	The Auditor found that the indirect costs charged to the appended Cost "SLHC-PP"- Period N°1 and Period N°2 are calculated using the methodology specified in the "Report of factual findings on the methodology concerning Grant Agreements financed under the Seventh Research Framework Programme (FP7)" which is, to date, pending approval as it is under examination of the European Commission. The Auditor found that costs for the non-research activities of the Beneficiary, such as manufacturing, education, marketing of products or services, etc., had not been included in the calculation. For each element of the breakdown, the Auditor obtained the Beneficiary's confirmation that it contained none of the ineligible costs specified (typical examples are leasing costs, loan charges, provisions for doubtful debt (but not normal accruals), local business and property taxes, customs duties, exchange losses from billing in a foreign currency). Only the types of excessive and reckless expenditure listed in the Commission's guidance should be considered, the Auditor is not required to exercise professional judgement or provide assurance in this matter.

KPMG Audit
1, cours Valmy
92923 Paris La Défense Cedex

Procedures	Standard factual finding and basis for exception reporting
11. Assess use of a simplified method of calculation of overheads at the level of the legal entity. The Beneficiary may use a simplified method of calculation (either due to the lack of analytical accounting or legal requirement to use a form of cash-based accounting). This does not permit the use of a generalised estimate, or the use of a 'standard' rate that is not derived from the financial accounts of the period in question. Thus the rate (but not the methodology) should be updated for each accounting period.	Procedure N°11 is not applicable as the Beneficiary did not use a "simplified method" as regards the calculation of overheads.
12. Inspect and compare exchange rates into Euros	The Auditor compared the exchange rates used for conversion with the applicable official exchange rates established by the European Communities and the Beneficiary used the conversion rate of the date where the actual costs were incurred.
13. Identification of receipts. The Beneficiary is obliged to deduct from its claim any receipts related to the project (income from events, rebates from suppliers, etc.)	The Auditor examined the relevant project accounts and obtained confirmation from the Beneficiary that the amount of receipts for the periods covered by these Cost Statements is equal to €.0.00 (Zero Euro)
14. Identification of interest yielded on pre-financing. The Beneficiary, when it is the coordinator of the project, is obliged to declare interest yielded on pre-financing	The Auditor obtained confirmation from the Beneficiary that the amount f interests yielded by the pre-financing received from the Commission of the European Communities for the periods covered by these Cost Statements is equal to €.0.00 (Zero Euro). The Auditor compared the relevant project accounts with the interest shown in the bank statements and found them to be the same.

KPMG Audit
1, cours Valmy
Paris La Défense Cedex

FP7 - Grant Agreement - Annex VI - Combination of Collaborative Project and Coordination and Support Action

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr	212114	Funding scheme	Combination of Collaborative Project and Coordination and Support Action
Project Acronym	SLHC-PP		
Period from	01/04/2008	Is this an adjustment to a previous statement ?	NO
To	31/03/2009		

Legal Name	Commissariat à l'Energie Atomique	Participant Identity Code	999992401
Organisation short Name	CEA	Beneficiary nr	3

Funding % for RTD activities (A)	75%	If flat rate for indirect costs, specify %	63%

1- Declaration of eligible costs/lump sum/flat rate/scale of unit (in€)

	Type of Activity					
	RTD (A)	Coordination (B)	Support (C)	Management (D)	Other (E)	TOTAL (A+B+C+D+E)
Personnel costs	€ 169 107,42					€ 169 107,42
Subcontracting						€ -
Other direct costs	€ 2 638,98					€ 2 638,98
Indirect costs *	€ 106 537,67	€ -	€ -	€ -		€ 106 537,67
Access Costs Lump sum/flat rate/scale of unit declared						
Total	€ 278 284,07	€ -	€ -	€ -		€ 278 284,07
Maximum EC contribution	€ 208 713,06					
Requested EC contribution						€ 208 713,06

* Indirect costs relating to
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II 15 2 a), b) and c) of the grant agreement.

2- Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement ? NO

If yes, please mention the amount (in €)

3- Declaration of interest yielded by the pre-financing(*to be completed only by the coordinator*)

Did the pre-financing you received generate any interest according to Art. II.19 ? NO

If yes, please mention the amount (in €)

4. Certificate on the methodology

Do you declare average personnel costs according to Art. II.14.1 ? YES

Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art. II.4.4 ? YES

Name of the auditor		Cost of the certificate (in €), if charged under this project	

5- Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4 ? NO

Name of the auditor		Cost of the certificate (in €)	

6- Beneficiary's declaration on its honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and Article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art. II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art. II.19 of the grant agreement ;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
CEA-SACLAY - 91191 GIF-S/YVETTE CEDEX Institut de Recherche sur les Lois Fondamentales de l'Univers IRFU	Nathalie JUDAS
	Date & signature: 15 JUIL. 2009

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	212114	**Funding scheme**	Combination of CP & CSA
Project Acronym	SLHC-PP		
Period from	01/04/2009	Is this an adjustment to a previous statement?	No
To	31/03/2010		
Legal Name	COMMISSARIAT A L' ENERGIE ATOMIQUE	**Participant Identity Code**	999992401
Organisation short Name	CEA-Saclay	**Beneficiary nr.**	3
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	N/A

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	Coordination (B)	Support (C)	Management (D)	Other (E)	Total (A+B+C+D+E)
Personnel costs	563,092.47	0.00	0.00	0.00	0.00	563,092.47
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	47,888.58	0.00	0.00	0.00	0.00	47,888.58
Indirect costs *	360,804.04	0.00	0.00	0.00	0.00	360,804.04
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	971,785.09	0.00	0.00	0.00	0.00	971,785.09
Maximum EC contribution	728,838.82	0.00	0.00	0.00	0.00	728,838.82
Requested EC contribution						340,124.78

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €), if charged under this project**	0.00

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €)**	3,473.00

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Nathalie JUDAS
	Date & signature
	05/05/2010

FP7 - Grant Agreement - Annex VI - Combination of CP & CSA

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr.	**212114**	**Funding scheme**	**Combination of CP & CSA**
Project Acronym	**SLHC-PP**		
Period from	01/04/2009	Is this an adjustment to a previous statement?	**Yes (for period 1)**
To	31/03/2010		
Legal Name	COMMISSARIAT A L' ENERGIE ATOMIQUE	**Participant Identity Code**	**999992401**
Organisation short Name	CEA-Saclay	**Beneficiary nr.**	**3**
Funding % for RTD activities (A)	75.00	**If flat rate for indirect costs, specify %**	**N/A**

1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)

	Type of Activity					
	RTD (A)	**Coordination (B)**	**Support (C)**	**Management (D)**	**Other (E)**	**Total (A+B+C+D+E)**
Personnel costs	2,494.82	0.00	0.00	0.00	0.00	2,494.82
Subcontracting	0.00	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00	0.00
Indirect costs *	2,785.57	0.00	0.00	0.00	0.00	2,785.57
Access costs			0.00			0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00	0.00
Total	5,280.39	0.00	0.00	0.00	0.00	5,280.39
Maximum EC contribution	3,960.29	0.00	0.00	0.00	0.00	3,960.29
Requested EC contribution						0.00

* Indirect costs relating to:
- "Coordination" and "Support" activities are reimbursed up to a maximum of 7% of the direct eligible costs relating to these activities excluding the direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary,
- "RTD", "Management" and "other" activities are reimbursed in accordance with the various options foreseen in Article II.15.2 a), b) and c) of the grant agreement.

2. Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?	No
If yes, please mention the amount (in €)	

3. Declaration of interest yielded by the pre-financing *(to be completed only by the coordinator)*

Did the pre-financing you received generate any interest according to Art.II.19?	No
If yes, please mention the amount (in €)	

4. Certificate on the methodology

Do you declare average personnel costs according to Art.II.14.1?			Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?			Yes
Name of the auditor	KPMG	**Cost of the certificate (in €), if charged under this project**	0.00

5. Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?			No
Name of the auditor		**Cost of the certificate (in €)**	

6. Beneficiary's declaration on their honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;

- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;

- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;

- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	**Name of the Person(s) Authorised to sign this Financial Statement**
	Nathalie JUDAS
	Date & signature
	05/05/2010