Luxembourg, 21st October 2015

Environmental and Social Data Sheet

Overview

Project Name:	*EUROPEAN SYNCROTRON RESEARCH INFRASTRUCTURE*
Project Number:	*20140617*
Country:	*FRANCE*
Project Description:	*Upgrade of ESRF Facilities at Grenoble, France*

EIA required:	*no*
Project included in Carbon Footprint Exercise[1]:	*no*

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

Research Infrastructures are not specifically mentioned in Annex II of the EIA directive 92/2011/EC. The operation will not require the construction of new buildings and the promoter has confirmed that an EIA will not be required. Given the nature of the facility's activities and more specifically the production of radiation, the operation of the European Synchrotron Radiation Facility (ESRF) is subject to an authorisation delivered by the French Nuclear Safety Authority (ASN). The upgrade of the accelerator facility, through Phase II of the Upgrade Programme, will require a new ASN authorisation. The ESRF will have to submit successively two distinct requests, the first one concerning the dismantling of the existing storage ring and the second one concerning the installation and operation of the new storage ring. Both documents must include an impact study in terms of ionising radiation hazards for the workers, the public and the environment.

The ESRF will submit the request for the decommissioning (dismantling) in 2017, so that all authorisations should be granted before 2019 when the storage ring will be dismantled. At around the same time, the ESRF will submit the documents related to the commissioning and operation of the new facility, expecting to get the necessary approvals before 2019. The ESRF has strong internal expertise on the matter and a long working relationship with the ASN with which it has already started discussing the requirements, and it is therefore expected that the design and implementation will fully comply with all applicable regulations. The Bank will require the promoter to make available to the Bank the outcome of both authorisation processes as soon as they are granted from the ASN.

Sustainability is an important element in the ESRF's strategy. The new design will reduce the electricity consumption of the storage ring by almost one third, saving some 9 GWh per year.

The project is considered as overall acceptable with minor residual negative impacts.

[1] Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO2e/year absolute (gross) or 20,000 tons CO2e/year relative (net) – both increases and savings.

Environmental and Social Assessment

Environmental Assessment

The European Synchrotron Radiation Facility (ESRF) is the most powerful synchrotron radiation source in Europe. Each year several thousand researchers travel to Grenoble, where they work in a first-class scientific environment to conduct important experiments at the cutting edge of modern science. The project concerns the 2nd Phase of the upgrading programme at the European Synchrotron Radiation Facility, a large research infrastructure in Grenoble, France.
The project covers the construction of a new storage ring, four new state-of-the-art beam lines, scientific instrumentation and equipment, developments in X-ray detection technology and large data handling infrastructure.

The dismantling of the existing storage ring and the installation of the new one will present a number of safety issues. All of these potential hazards however are within the remit of the ESRF operations and will be managed accordingly using existing rules and procedures.

Dismantling: The dismantling of the existing storage ring, in particular the evacuation of the accelerator components could become particularly complicated due to the fact that the French radiation protection legislation does not foresee clearance levels for radioactive materials. As a consequence of this, all accelerator components taken out of the storage ring tunnel should be considered as activated and, if no recycling is foreseen, should be treated as radioactive waste. The absence of clearance levels in the French legislation will also complicate trans-boundary movement of such components. Discussions between the ESRF and ASN on these issues are ongoing. Preliminary calculations show that the activation of the large majority of the storage ring components is well below the 96/29/Euratom clearance levels. This will still hold with respect to the more stringent clearance levels defined in the recent Council Directive (Council Directive 2013/59/Euratom, 2014), which should be transposed by the Member States into their national laws before 6 February 2018.

The promoter plans to file a preliminary application in 2015, which (as there are no established relevant procedures) is expected to trigger a number of iterations with ASN. The final application is expected to be filed in 2017, which will give ample time to the authorities to come to a decision before the decommissioning in 2019.

Installation and Operation: The second authorisation request concerns the installation and the operation of the new storage ring. Here the corresponding impact study must in particular include a detailed radiation shielding study for the new lattice which will emit higher levels of radiation than today. The impact study must clearly demonstrate how the ESRF applies the ALARA principle (as low as reasonably achievable) to minimise radiation hazards for workers, for the public and for the environment. Since one of the boundary conditions of the Phase II Upgrade is to use existing infrastructures as much as possible, the shielding study must demonstrate that it will indeed be possible to operate the new facility without major upgrades of the existing shielding.

The installation and operation authorisation process is established and within the promoter's expertise that has had to obtain the initial authorisation for the facility and also had to obtain the necessary periodic authorisations. The promoter plans to submit the request at the end of 2016 or beginning of 2017, again allowing ample time for the delivery of the approval before the beginning of the installation process.

Other Environmental and Social Aspects

The Bank will require that the promoter makes available to the Bank the outcome of both radiation related authorisation processes as soon as they are granted from the ASN.