

The ARCON-RAMSES Bridge,

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The present radiation monitoring system of the PS and SPS complexes, the ARCON (ARea CONTroller) system was designed and built in the 80s. Today its hardware and software has to be considered technologically obsolete. In recent years, the frequency of ARCON problems, in particular software failures continually increased and hardware components for replacement are no more produced. The availability and reliability of a radiation monitoring system for the PS and SPS complex obviously is also of prime importance for the future operation of the LHC.

A systematic risk analysis was performed in order to determine the critical issues of the ARCON system. Major risks have been identified, ranging from the failure of single electronics boards of the ARCON, the failure of a "critical radiation monitor" up to the total failure of the whole ARCON monitoring system.

In order to overcome the ARCON problem, a technical solution was elaborated: the so-called ARCON-RAMSES Bridge. This bridge will allow ARCON continuing the monitoring of radiation levels around the injector chains and, at the same time, modifications of the system will be performed to increase its reliability and to prepare the transfer towards RAMSES, the radiation monitoring system already in use for LHC and CNGS.

The project of the ARCON-RAMSES Bridge plans:

- Improving the availability of spare parts by supplying new radiation monitors (that are compatible with the ones currently installed at LHC).
- Migrating the ARCON supervisory system to the one used by RAMSES by creating an interface between the ARCON controllers and the RAMSES supervision.
- Extending the RAMSES radiation monitoring system to replace ARCON's "crucial monitors" by monitors using the framework of the existing RAMSES contract.