Abstract. MYRRHA (Multi-purpose hYbrid Research Reactor for High-tech Applications) is a multipurpose research facility being developed since 1998 at SCK•CEN, based on the Accelerator Driven System (ADS) concept where a proton accelerator, a spallation target and a lead-bismuth cooled subcritical reactor are coupled. MYRRHA will demonstrate the ADS full concept by coupling these three components at a reasonable power level to allow operation feedback, scalable to an industrial demonstrator, and allow the study of efficient transmutation of high-level nuclear waste.
The MYRRHA research facility will be able to work in both critical as subcritical modes and will allow fuel developments for innovative reactor systems, material developments for GEN IV and fusion reactors, and radioisotope production for medical and industrial applications. MYRRHA will contribute to the development of Lead Fast Reactor (LFR) technology and in critical mode it will play the role of European Technology Pilot Plant in the roadmap for LFR.
In the beginning of 2014, SCK•CEN has consolidated a coherent version of the primary system. This version 1.6 of the primary system forms the basis for the pre-licensing activities. In this paper, the implementation of MYRRHA via a phased approach will be presented.