

Abstract – paper to be presented at seminar on Decommissioning of nuclear facilities, at Studsvik, 14-16 September 2010.

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Title: Handling of reactor internals at Forsmark Nuclear Power Plant

Forsmarks Kraftgrupp AB initiated preparations for a power uprate on all three reactors several years ago. This modification involved dismantling and replacing the reactor internals, core shroud cover, steam separators and steam dryer, all of which are heavily contaminated. Studies were conducted to analyze the options available for handling and disposing of these components. A strategy was selected and several major projects were initiated to carry out the process. These projects included the construction of an interim storage facility at Forsmark, the design and fabrication of waste containers and handling equipment and a transport system. The system is currently in use at Forsmark 2 where reactor internals are being segmented, packaged and transported to interim storage.

The presentation describes the development of the system for handling the reactor components, including some problems encountered and the solutions applied. The fabrication and testing process are discussed. Actual operation of the system is presented, with illustrations and photographs. Lessons learned that might be of general interest in waste management and decommissioning are presented.

Examples of issues that may be of interest include the importance of considering the entire handling and disposal sequence when evaluating options for managing waste. The tendency to underestimate the complexity of waste handling issues in a major plant modification project may also be addressed. This project has demonstrated that the benefits of a comprehensive fabrication oversight and testing programme are invaluable.