Preface

When Superphenix reactor was definitely shut down in 1997, the major organizations, which had designed, built and participated to this project, that is to say, CEA, EDF and AREVA, got organized to save the accumulated knowledge, not only during the reactor operations, but also during its design, during its construction, for its fuel manufacturing, and for Superphenix 2 and EFR (European Fast reactor) subsequent projects and studies. All this constituted a dataset not only of exceptional richness, but also of a considerable volume.

For CEA, a database called MADONA, document database developed in a tripartite framework, CEA-AREVA and EDF and since integrated in the SIBIL database, was created, gathering thousands of documents, and the major specialist interview campaigns, which had been performed to save their knowledge. Data concerning fuel manufacturing and Superphenix 2 and EFR project studies were also injected in it.

For AREVA, a large archiving and scanning campaign of all the documents issued on these subjects, including constructive documents, was carried out. This enables, in particular, to find back for each item the data relative to its conception, its design, construction and quality assurance verification modes. This unique industrial experience thus remains available.

For EDF, the NERSA European Group majority actor, which was in charge of the reactor construction, activities and operations, a specific care was provided by EDF SEPTEN for this archiving, which will also bring together the results of research or testing actions carried out in support to the reactor. Furthermore, under the SFR experience feedback works, performed by SEPTEN in 2007 and 2008, twenty-seven summary notes were also written on thematic subjects, which reduced, during the writing of this book, the number of times when old files had to be "dug out".

Writing this book therefore gives as main objective to allow a reader to have a synthetic approach of this vast whole. This approach should enable to have an Ariadne's thread for the people wanting to enter inside this labyrinth, and wishing to have an experience feedback overview before going on for further enhancements.

This goal induced another one: the search for a "scientific truth". On such volumes of documents, and such durations, small differences may sometimes appear in the various available documents. We tried, as much as possible, to

understand them by interviewing the involved experts and to come to a consensus on the final conclusions and values proposed here.

Finally, what has not been said on this reactor to justify its early stop: too expensive, too big, dangerous, always broken down, useless, etc? Far from entering this controversy, this book simply gives the exact values: on the costs in Chaps. 2 and 25, on safety in Chap. 5 and many other chapters, on the shutdowns and the operating issues in Chap. 4 and many others. So, let us the reader read these chapters and build up his own opinion.

Have a Good reading

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http://www.springer.com/978-94-6239-245-8

Superphenix
Technical and Scientific Achievements
Guidez, J.; Prêle, G.
2017, XL, 342 p. 342 illus., 283 illus. in color.,
Hardcover
ISBN: 978-94-6239-245-8
A product of Atlantis Press