1. Record Nr. UNINA9910467829803321 Autore Couturier Jean **Titolo** Current state of research on pressurized water reactor safety / / Jean Couturier, Michel Schwarz Pubbl/distr/stampa [Place of publication not identified]:,: EDP Sciences,, [2018] ©2018 Descrizione fisica 1 online resource (xxxii, 194 pages): illustrations Collana Science and Technology Series Disciplina 621.4831 Soggetti Water cooled reactors Nuclear reactors - Security measures Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Frontmatter -- Preface -- The authors -- List of abbreviations --Nota di contenuto Foreword -- Contents -- Chapter 1. Introduction -- Chapter 2. Some of the Research Facilities Favored by IRSN in the Field of Nuclear Power Reactor Safety -- Chapter 3. Research on Loss-of-coolant Accidents --Chapter 4. Research on Reactivity-initiated Accidents -- Chapter 5. Research on Recirculation Cooling under Accident Conditions --Chapter 6. Research on Spent Fuel Pool Uncovery Accidents -- Chapter 7. Research on Fires -- Chapter 8. Research on Hazards associated to Natural Events -- Chapter 9. Research on Core Melt Accidents --Chapter 10. Research on the Behavior of Components Important to the Safety of NPPs and More Particularly the Aging of Such Components --Chapter 11. Research in the Field of Human and Organizational Factors and, More Broadly, in Human and Social Sciences -- Chapter 12. Other Research and Tracks of New Research For more than 40 years, IPSN then IRSN has conducted research and Sommario/riassunto development on nuclear safety, specifically concerning pressurized water reactors, which are the reactor type used in France. This publication reports on the progress of this research and development in each area of study - loss-of-coolant accidents, core melt accidents.

fires and external hazards, component aging, etc. -, the remaining

uncertainties and, in some cases, new measures that should be developed to consolidate the safety of today's reactors and also those of tomorrow. A chapter of this report is also devoted to research into human and organizational factors, and the human and social sciences more generally. All of the work is reviewed in the light of the safety issues raised by feedback from major accidents such as Chernobyl and Fukushima Daiichi, as well as the issues raised by assessments conducted, for example, as part of the ten-year reviews of safety at French nuclear reactors. Finally, through the subjects it discusses, this report illustrates the many partnerships and exchanges forged by IRSN with public, industrial and academic bodies both within Europe and internationally. This publication reflects IRSN's desire to keep an enduring record of its results and to share its knowledge.