

Severe Accident Equipment

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Abstract

The events of Fukushima highlighted many things that are right with nuclear power safety especially considering that both no harm to the public and no harm to the environment occurred from the damaged nuclear plants even though the events were the highest levels ever recorded for both earthquake and Tsunami. The events also disclosed areas that we as an industry can do better. This paper focuses on the goals for us to do better in providing equipment. Nuclear plant operators and workers need more and better equipment capable and designed for severe accidents. The types of equipment are typical such as more robust and forgiving power sources, and not as typical as equipment designed to operate at conditions that here-to-fore seem unobtainable. The so called “beyond design basis event conditions” can and have actually occurred. It is the opinion of this author that nuclear plants should be designed for “beyond design basis event conditions,” that severe accidents should be included in the nuclear safety design conditions, and there should be equipment to provide defense in depth for severe accidents. With this convection, the company embarked on developing better equipment and this paper identifies some of our new severe accident capable equipment, including the Severe Accident Instrument Line (SAIL) designed especially to provide information during severe accidents for mitigation and plant status. Key attributes of SAIL are fault tolerance, being totally independent of existing I&C, and impervious to the environments during severe accident.