

Risk Assessment of Operational Events Handbook

Objectives

The primary objective of the Risk Assessment of Operational Events Handbook ('Handbook') is to provide methods and guidance that NRC staff could use to achieve more consistent results when performing risk assessments of operational events and licensee performance issues. Additionally, the Handbook provides best practices for risk analysts and Standardized Plant Analysis Risk (SPAR) model developers to ensure that SPAR models used in the risk analysis of operational events represent the as-built, as-operated plant to the extent needed to support the analyses. The principal users of the Handbook are NRC Senior Reactor Analysts and risk analysts involved with performing risk analyses of operational events.

Applications

The methods and processes described in the Handbook can be primarily applied to risk analysis of plant conditions in the Significance Determination Process (SDP) Phase 3 and Accident Sequence Precursor (ASP) programs, and the risk analysis of events/conditions in ASP and event assessment programs (NRC's Incident Investigation Program in accordance with Management Directive 8.3).

Contents

The Handbook consists of four volumes, designed to address internal events analysis (Volume 1), external events analysis (Volume 2), SPAR model reviews (Volume 3), and shutdown event analysis (Volume 4). The Handbook represents best practices based on feedback and experience from the analyses of precursors in the ASP Program and numerous SDP Phase 3 analyses. The current revisions of the four volumes of the handbook can be downloaded from the public NRC website.

Revisions

Revision 2 of Volume 1 of the RASP handbook was issued in January 2013. The revision included additional method guides for treatment of common-cause failure dependencies, application of SPAR-Human Reliability Analysis Method (SPAR-H) and associated human reliability analysis (HRA) technical issues, use of support-system initiating event models in SPAR models, treatment of initiating events, and treatment of loss of offsite power initiating events.

The Handbook will be updated on a periodic and as-needed basis, based on user comments and insights gained from "field application" of the document. New topics will also be added as needed, and the handbook can also be re-configured and/or reformatted based on user suggestions.