

18.2 Operating Experience Review

Operating experience review (OER) associated with HFE identifies HSI design issues that affect safety. The OER identifies past performance information for predecessor designs (i.e., earlier designs on which the new design is based). The issues and lessons learned from operating experience provide a basis for improving the plant design at the beginning of the design process.

18.2.1 Objectives and Scope

The OER identifies problems and issues with the HSI. Evaluation and control of the HSI design is promoted when the problems are resolved; operator errors are also reduced. The OER output demonstrates that HFE-related problems and issues in previous designs that are similar to the current design have been identified and analyzed. In this way, negative features associated with predecessor designs are avoided in the current design while retaining the positive features. The OER addresses the predecessor systems of which the design is based, selected technological approaches (e.g., if touch-screen interfaces are planned, associated HFE issues are reviewed), and HFE issues (e.g., generic safety issues defined by the NRC) of the plant.

18.2.2 Methodology

Section 5.4.3 of Reference 1 describes the process for evaluating operating, design, and construction experience. An implementation plan provides further details, including:

- Sources and means of collecting data.
- Review area focus:
 - Predecessor / related plants and systems.
 - Recognized industry HFE issues.
 - Related HFE technology.
 - Issues identified by plant personnel (including interview topics, questions, and results).
 - Risk-important human actions.
- Information screening.
- Tracking and maintaining appropriate information.
- Incorporation or utilization of issues by the appropriate design organization.

The multi-disciplinary composition, qualifications and experience level of the HFE and Control Room Design Team provides reasonable assurance that operating

experience and the results of research relevant to safety are identified, reviewed and analyzed and that the lessons learned are incorporated into the HSI design.

18.2.3 Evaluation of Results

After an OER issue has been entered into the appropriate tracking database, it is evaluated by a cognizant human factors engineer for applicability. The evaluation includes determining if any lessons learned from the issue have already been incorporated into the design.

Upon completion of the evaluation, the human factors engineer updates the tracking database with appropriate information. Each issue that results in a design change will follow the design change process described in Section 5 of Reference 1. When the issue has been incorporated into the design, it is closed out in the tracking database. The resolution will remain available for engineers to view.

OER results are a summary of the data captured and analyzed in the tracking database and the source materials that were evaluated using the methodology described in the implementation plan. The results summary also includes information on how selected issues were captured, maintained, evaluated, and incorporated in the final design.

18.2.4 References

1. ANP-10279, Revision 0, "U.S. EPR Human Factors Engineering Program," AREVA NP Inc., January 2007.