

AEOD TECHNICAL REVIEW REPORT

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EVALUATORS: R. Dennig
T. Wolf

SUMMARY:

All of the PNOs issued in the first quarter of 1989, approximately 100, were reviewed for component level events that were potentially reportable to the Nuclear Plant Reliability System (NPRDS). The PN screening process was performed by engineers familiar with NPRDS conventions. Where corresponding failure records were not found in the NPRDS, LERs were reviewed (if one was issued) for additional detail to aid in the determination of reportability.

A total of 18 cases were identified where we would expect one or more NPRDS failure reports to be filed; in 15 of these cases matching reports were found in the system. This small sample then indicates that after about 9 months following discovery date approximately 80 percent of the failures are in the system. This estimate is a little higher than past estimates of between 65 and 75 percent, but is consistent with these earlier results.

PNs are designed to provide "early notice of events of possible safety or public interest significance." Hence, they cover a range of topics beyond equipment failures, such as drug testing, management changes, plant milestones reached (e.g., initial criticality), and non-reactor licensee events such as lost sources, and transportation incidents. Thus, the relatively low yield of potentially reportable component events, 18 of 100, is not surprising.

DISCUSSION:

All of the PNOs issued in the first quarter of 1989, approximately 100, were reviewed for component level events that were potentially reportable to NPRDS. Extensive guidance on reportability is provided in the NPRDS Reporting Guidance Manual and the four NSS-specific volumes entitled Reportable System and Component Scope Manual. Component level events described in PNs may not be reportable to NPRDS for the following reasons:

- (1) The event may not meet the NPRDS definition of failure, which comprises failure to perform intended function and the need for repair to reverse component condition and restore function. Examples of non-reportable situations are inoperability declared due to errors in analysis or absence of equipment environmental qualification, and valves or switches that have been mispositioned due to human error.
- (2) The degree of the loss of function may not be severe enough to require reporting. NPRDS works with three degrees of failure: immediate (total loss of function); degraded (some function still remains but the component is degraded to the point that it cannot meet functional specifications); and incipient (the component is

still functioning at an acceptable level but shows symptoms of impending loss of function). Attachment 1 provides examples to illustrate these degrees of severity. Under NPRDS rules, immediate and degraded failures must be reported, but incipient failure reporting is optional.

- (3) The component involved may not be covered by the reportable scope. For example, at the present time the main turbine is not in the scope, so EHC component failures are not reportable (The main turbine is scheduled to be added to the scope in 1990). As another example, valves and pipes less than 1 inch in size are not reportable even if they are in a reportable system.

The component level events listed in Table 1 (PROPRIETARY) were selected from the PNs for the first quarter of 1989. All of the component level events described in the PNs and judged to be reportable using the level of detail available in the PN are included; several non-reportable cases are included in the table to illustrate various reasons why events in PNs may not be found in NPRDS. Not all non-reportable cases are listed. For example, if the PN involved a failure in the turbine EHC, it was not listed since the reviewers knew it to be out of scope. The PN screening process was performed by engineers familiar with NPRDS conventions. Where corresponding failure records were not found in the NPRDS, LERs were reviewed (if one was issued) for additional detail to aid in the determination of reportability.

PNs are designed to provide "early notice of events of possible safety or public interest significance." Hence, they cover a range of topics beyond equipment failures, such as drug testing, management changes, plant milestones reached (e.g., initial criticality), and non-reactor licensee events such as lost sources, and transportation incidents. Thus, the relatively low yield of potentially reportable component events in Table 1, 18 of 100, is not surprising.

RESULTS:

Table 1 lists a total of 18 cases where we would expect one or more NPRDS failure reports to be filed; in 15 of these cases matching reports were found in the system. This small sample then indicates that after about 9 months following discovery date approximately 80 percent of the failures are in the system. This estimate is a little higher than past estimates of between 65 and 75 percent, but is consistent with these earlier results.