

Washington Public Power Supply System
Nuclear Project No. 2
Docket Number 50-397, CPPR-93

REPORTABLE DEFICIENCY AND
CORRECTIVE ACTION FOR PIPE WHIP RESTRAINTS
QA RECORDS AND FABRICATION DEFICIENCIES

Nature of Deficiency

Deficiencies discovered in Pipe Whip Restraint documentation have been previously identified in detail. Some of the more significant were:

1. Improper welder qualification
2. Weld procedures not properly qualified
3. Incomplete and/or conflicting NDE records
4. Use of filler metal other than that specified in the weld procedures

In addition, visual, ultrasonic, and magnetic particle reinspection of the Pipe Whip Restraints shows that weld deficiencies, such as lack of penetration, undercut, inclusions, linear defects, cold lap and lack of fusion, do exist.

Safety Implications

If the defects were left uncorrected and were subjected to design loads, as a result of a pipe rupture, the weld defects could propagate causing the Pipe Whip Restraints to fail. The failure of the Pipe Whip Restraints could allow the ruptured pipe to whip and damage surrounding safety related components and equipment. This, in turn, would adversely affect the safety of the nuclear power plant.

Corrective Action

Corrective action has proceeded as planned, and consists of the following basic steps:

8004020 305

1. A comprehensive review of existing data packages for the individual Pipe Whip Restraints has been conducted. Documentation deficiencies have been identified.
2. A field sample of Pipe Whip Restraints have been reinspected per original inspection criteria. This reinspection has affirmed that prior inspection documentation is unreliable and that unacceptable Pipe Whip Restraint weld deficiencies exist.
3. A program has been developed to completely reinspect all Pipe Whip Restraints by ultrasonic, magnetic particle, and visual methods.
4. The QA records produced during this reinspection will become the NDE documentation of record on the Pipe Whip Restraints.
5. Weld deficiencies noted during this reinspection are being documented on Nonconformance Reports (NCRs) for evaluation and disposition in accord with established QA procedures.
6. Discrepancies of a documentary nature which can affect Pipe Whip Restraint design or structural characteristics (e.g., use of weld rod type other than required by procedure) are also being documented on NCRs for evaluation and disposition.
7. Pipe Whip Restraints will be reworked or replaced and other appropriate actions taken, as required by NCR, to assure structurally adequate restraints.
8. An approved procedure has been issued to govern the Pipe Whip Restraint reinspection and rework program.

Corrective action is ongoing at the site and is available for NRC Region V inspection review.