

# PRIMARY CONTAINMENT TESTING PROGRAM EFFICIENCY REVIEW

Graftel is offering a service to review which components need to be tested, how they are tested and the acceptance criterion used to determine the acceptance criterion both on an As Left and on a performance basis.

Due to recent initiatives and changes in interpretations, most plants now perform more Appendix J tests than are required. In addition, acceptance criteria that are more stringent than needed are used. This review focuses on the elimination of unneeded Type B and C tests and the relaxation of the acceptance criterion when appropriate. Both outage time and dose may be reduced. This allows the site to focus critical resources on needed activities.

By reviewing your existing program, Graftel can provide a detailed technical and regulatory basis on a case by case basis for reducing unneeded testing. In most cases, these are not changes requiring relief from code or any exemption from federal regulations. A site safety review and procedure change is all that is needed to begin immediate implementation.

Listed below are just some of the areas in which testing may be reduced while still maintaining an excellent Appendix J and IST program.

## **1. PWR Purge Valves**

Most PWR plants are required to test containment purge valves more than once per outage. Based upon a good performance history and other factors the testing interval can be extended. Other options to reduce testing also exist.

## **2. BWR Feedwater Check Valves**

It is possible to demonstrate that these lines are not potential air leakage paths, and thus not subject to Appendix J testing.

## **3. Water Filled Pathways**

Containment pathways that can be shown to be water filled and meet specific other criteria may be dropped from the Appendix J leakage rate testing program.

## **4. Water Sealed Pathways**

Containment pathways, which are water sealed by active systems and meet the required criteria may be dropped from the Appendix J program.

## **5. Flexible Metallic Bellows**

Methods to test these bellows to avoid unneeded replacement have been developed.

## **6. Closed Loops Inside and Outside Containment**

Some closed loops may be dropped from the Appendix J program as one of the two containment barriers. Large savings in draining water filled lines and valve repairs may be achieved especially in some BWR plants.

## **7. Appendix J Testing of Check and Solenoid Valves for IST**

Check valves and solenoid valves, which are Appendix J containment leakage paths are often tested every outage rather than at performance based intervals of up to 60 months due to IST requirements. It is often possible to put these components on the performance-based intervals. For some plants this change alone can result in a 20% reduction in outage Type C testing.

## **8. Periodic Valve Position Verification**

The requirement to verify the position of containment isolation valves every 30 days during operation may be minimized by procedure changes and other means.

## **9. Low Pressure Air Tests in Place of High Pressure Water Tests**

Some Appendix J containment isolation valves are also PIVs. Both a low-pressure air test and a high-pressure water test are required. It may be possible to perform only the low-pressure air test and use a correlation to demonstrate compliance with the high-pressure water test criterion.

## **10. As Found Testing**

As Found testing of components which are tested every outage could be eliminated in some cases. Also by formulating a uniform realistic criterion, as found tests prior to work on the other components may be minimized.

## **11. As Left Testing**

Though the use of a uniform realistic criterion, alternative testing methods and/or pre-work testing, as left testing may be minimized.

## **12. Draining and Venting**

Much time is spent on draining and venting some water filled systems prior to performing Type C tests. In fact, all that is need is to demonstrate that the required pressure differential expected under Post-LOCA conditions will exist in the pathways during performance of the Type C test. A potential for large timesaving exists here.