

## CHRONOLOGY OF THE SOLVENT EXTRACTION AREA PROBLEMS

- 1979    Expansion occupied
- 1980    Dissolver, Acid recovery system, and concentrator fully operational. Numerous chronic leaks were routinely cleaned up and deconned. Floor pitting occurred.
- 1987    6/87    Major floor problem was noted and brought to management attention. Numerous problems with etched pitted concrete, holes evident, and loose deteriorated concrete due to acid corrosion. Talked with several vendors including General Polymers, Pearce Epoxy, and SCI regarding available floor coatings and repair techniques.
- 12/87    Corrective maintenance action initiated. Repaired 3600 square feet of concrete in solvent extraction area.
1.    Removed loose deteriorated concrete
  2.    Repaired holes as deep as 8 inches in two to four foot circumference areas maximum
  3.    Approximately eight 55 gallon drums of contaminated soil were removed from the area.
  4.    Concrete was neutralized with caustic soda.
  5.    Floor was cleaned.
  6.    Holes were backfilled with Swindless bond cement
  7.    Entire surface was backfilled with clear epoxy to about a 0-2 inch depth.
  8.    General Polymers resin #3660 used
  9.    Some spills occurred during repair and epoxy bubbled
- 1988    Maintenance returned area to operations. Floor was discolored from red to black. Vendor gave a one year warranty. Installed a second beige overcoat and it peeled up. Since 1988, vendors have returned four times for minor floor repair.
- 1989    December Pearce Epoxy replaced all floor in the containment by Dissolver #1. Removed 8 inches of concrete under dissolver tank in a 8'x 8' area around the tanks. Concrete

removed. Swindless Bond used to replace concrete. Enclosures were installed. The skid was covered with a layer of epoxy to prevent spills from leaking underneath. A dike was built to prevent leaks from migrating out of the enclosures.

In 1989 in response to a corporate audit by Ian Smith a plan was initiated to reduce leaks by installing the following: Schedule 80 304 L pipe (from schedule 40); remove all unions and elbows and go to T's; remove all unions and go to flanges; use inconel welding rods on all welds to prevent corrosion; discontinue distillation of nitric acid; remove unnecessary tanks to improve housekeeping. Dissolver pumps replaced with double seal pumps to minimize leaks. Most of these items were completed by end of 1990.

1991 NRC workshop held on Sequoyah contamination incident in April. Following meeting a plan developed to determine if we had any similar problems. Crude samples to be taken using hammer and pipe technique to sample soil to 3.5 foot level inside and out of building.

6/91 Pulled soil samples from inside the plant and outside the plant to approximately 3.5 foot depth. Sample inside the dissolver area contaminated to a maximum of 956 pCi/g. Outside the plant maximum level noted 314pCi/g. Held management meeting on results. Decided to get assistance from our consultant regarding appropriate soil sampling.

11/91 Initiated comprehensive sampling on November 18, 1991 at 13 locations using a consultant and split spoon technique. Westinghouse maintenance drilled through concrete and at least 7 inches depth of solid concrete was noted at all locations. Soil below borehole was noted to be dry and free of liquid. Highest sample 2711 pCi/g, underneath dissolver. Contamination noted to the 12 foot level.

1992 Task team formed to respond to the problem. NRC officially notified on 1/3/92. Procedure developed to terminate operations if any leak noted which could not be contained. Westinghouse Environmental and Geotechnical contacted on 1/16/92 to assist with presentation and response actions.