

## ABATEMENT OF ELECTRICAL HAZARDS BY RELOCATING VAULTS

In 1994, an electrical mishap associated with vaults under Pier 23 at Public Works Center (PWC) Norfolk, VA resulted in a fatal injury. The configuration and condition of Pier 10 electrical vaults were similar to that of Pier 23 at the time of the fatality. Pier 23 had been supplied with electricity through under-pier vaults that were entered via a manhole in the pier deck (pictured at right). Vault entry was required during quarterly and annual vault maintenance and whenever electricity to a ship docked at that pier was interrupted.



Remnants of exploded switchgear



The under-pier vaults were exposed to leakage of seawater (below left), condensation and temperature variations due to changing amounts of moisture in them. This situation resulted in corrosion. The corrosion created an electrical shock, fire, and explosion hazard for high voltage transformers, switchgear, circuit breakers and cables in the vault. Navy Hazard Abatement Program Funds were approved and used to relocate electrical equipment from the vaults beneath the piers to the top of the piers. Relocating the electrical equipment from under the piers greatly decreased the risk of electrical shock to electrical maintenance workers and improved access to, working conditions inside, and exit from the vaults. Relocation also improved the life expectancy of electrical equipment in the vaults due to reduced dampness and corrosion and the elimination of extreme temperature variations in the vaults.

