LANT ACCIDENT ABSTRACT

ACCIDENT TYPE: CONFINED SPACE ENTRY
INJURY: FOUR FATALITIES
TYPE OF WORK: SEWAGE REPAIRS
SAFETY EQUIPMENT: Emergency retrieval device, hard hats, gloves, safety glasses, safety harness, atmospheric testing, and ventilation equipment

DESCRIPTION OF THE ACCIDENT:
A utility contractor was contracted to repair various sewage stations. In order to apply a coating system in one of the sewage wet wells the contractor installed a by-pass system so that sewage could not enter while employees were working in the 18 foot deep X 9 foot wide X 20 foot long concrete wet well. The well was clearly identified as a confined space. One employee, the foreman, entered the well to remove a six inch rubber suction hose from a quick disconnect coupling in the well. The suction hose had been used to pump the sewage out of the existing 14 inch diameter gravity line that feeds sewage into the well. The contractor had not pumped the sewage out of the existing line for approximately one weeks time. When the foreman opened the quick disconnect coupling sewage was allowed to freely fill the wet well where he was located. Hydrogen Sulfide gas (H2S), a strong oxidizer filled the space. The employee was unable to breath and collapsed into the fluid and drown. Three employees positioned at the wet well manhole entry point attempted rescue and also died.

DIRECT CAUSE:
An introduction of a known hazard into the space. The line was allowed to fill up with sewage and left standing. This allowed the Hydrogen Sulfide gas (H2S) to build up. Once the suction pipe was removed the gas entered the confined space and quickly displaced the oxygen.

CONTRIBUTING CAUSES:
1. The competent person designated by the contractor to perform gas free testing and identify confined space hazards was not on the site.
2. The testing device was not used to gas free the space prior to entry.
3. The entry permit was not posted at the point of entry.
4. The designated confined space attendant had no confined space entry training.
5. The retrieval line stemming from a tripod was not attached to the foreman safety harness.
6. The tripod for the retrieval system was not installed properly.
7. The contractor did not follow safe procedures delineated in the contractors accepted confined space entry plan. Continuous monitoring was not performed while working in the sewage wet well and no ventilation equipment was provided.
8. The contractor did not perform pre-entry coordination for rescue.

LESSONS LEARNED:
1. Contractor accepted confined space entry plans must be retained on the site and reviewed prior to beginning work. Plan must be strictly adhered to.
2. Contractors must ensure that trained employs are on site capable of evaluating each space for potential hazards and implementing the controls necessary to eliminate the hazards.

CONSTRUCTION MISHAP TODAY=MISHAP PREVENTION TOMORROW