

ADVISORY BULLETIN

Static Electricity Safety and Control

July 16, 2007

WUTC PSS AB 07/07

SUMMARY: The Pipeline Safety Section of the Washington Utilities and Transportation Commission (WUTC) is issuing this advisory bulletin to owners and operators of natural gas pipelines in the State of Washington. Owners and operators should review their plans and procedures to determine whether adequate processes are in place to prevent ignition of escaping gas caused by static electricity. High velocity, dry gas, can generate a static electric charge on polyethylene pipe surfaces that can discharge to the ground.

FOR FURTHER INFORMATION CONTACT: David Lykken, Senior Pipeline Safety Engineer (360) 664-1219

SUPPLEMENTARY INFORMATION:

A recent natural gas accident resulted in a fire and injuries to two Avista Utility workers. Preliminary investigation by the UTC indicates that the failure to adequately ground a leak clamp caused the escaping gas to ignite. The leak occurred on a section of 2-inch Aldyl-A polyethylene (PE) pipe that was being replaced.

The investigation disclosed that during the replacement process, a hole was cut in the PE pipe to purge the natural gas from the line being replaced. PE cutters were used to cut the hole directly into the pipe. The gas continued to blow for several minutes even though the amount of pipe was just a few feet. The crew checked all line stoppers and PE pipe squeezers to make sure they correctly seated. The decision was made to install a leak clamp temporarily over the hole to stop the flow of gas. The gas was ignited when one of the workers attempted to use a wrench to tighten the leak clamp bolts causing a spark between the wrench and the bolt. The employees were not wearing personal protective gear at the time. All indications are that the natural gas was ignited as a result of the discharge of static electricity.

RECOMMENDED ACTION: Each owner/operator of a natural gas pipeline in the State of Washington should review their grounding, static control and personal protection plans, policies and procedures to ensure that adequate processes are in place, to control the potential of static electricity discharge. In addition, owner/operators should periodically confirm those personnel, whether employees, contractors, or third-party providers, are adequately trained and properly follow procedures for the blow down and purging of polyethylene pipelines.