



## Pipeline Pigging

Christopher Peters

*Petroleum Processes Safety Topic*

image ref: [travel.webshots.com](http://travel.webshots.com), Alaska 2006

## Incident

- October 26, 2000 | Undisclosed Location
- Pig lodged in pig receiver under pressure of 680 PSIG
- Receiver barrel door was open, but pressure was trapped upstream of pig
- Operator died at the scene

ref: Occupational Safety & Health Administration (USDOL)



## Findings

- Operator was receiving on-the-job training when he was killed
- No specific Pigging Operations safety program (No standard operating procedures for pigging operations)

ref: Occupational Safety & Health Administration (USDOL)



## Remedies

- Train employees on pigging SOP's before on-the-job training
- Post warning signs around pig receiver door
- Install pig indicator at end of pig receiver barrel (indicating that it is ready for safe removal)

ref: Occupational Safety & Health Administration (USDOL)



## Incident

- ~ Foam pig to displace water after hydrostatic test; 12" line under 400 PSIG pressure
- ~ No pig receiver; temporary trap used
- ~ Attempted to 'catch' pig using construction loader



ref: University of Vermont, Safety Information Resources

## Incident

- ~ Contractor confirmed no one stood in the path of the pig
- ~ Pig flipped the construction loader; flew 150 yards, destroying temporary wooden platforms in its way



ref: University of Vermont, Safety Information Resources

## Remedies

- ~ Pig launcher and receiver must be vented prior to removing/inserting pig
  - ~ Pig receiver must be isolated from main pipeline before being drained
- ~ Key Transfer Interlocking
  - ~ Forces operator to open valves in correct order
- ~ Argus® automatic pig launcher
  - ~ <http://argusmachine.com/automated-pig-launcher.cfm>
  - ~ (Video)

ref: Argus® and findarticles.com (Energy Industry section)