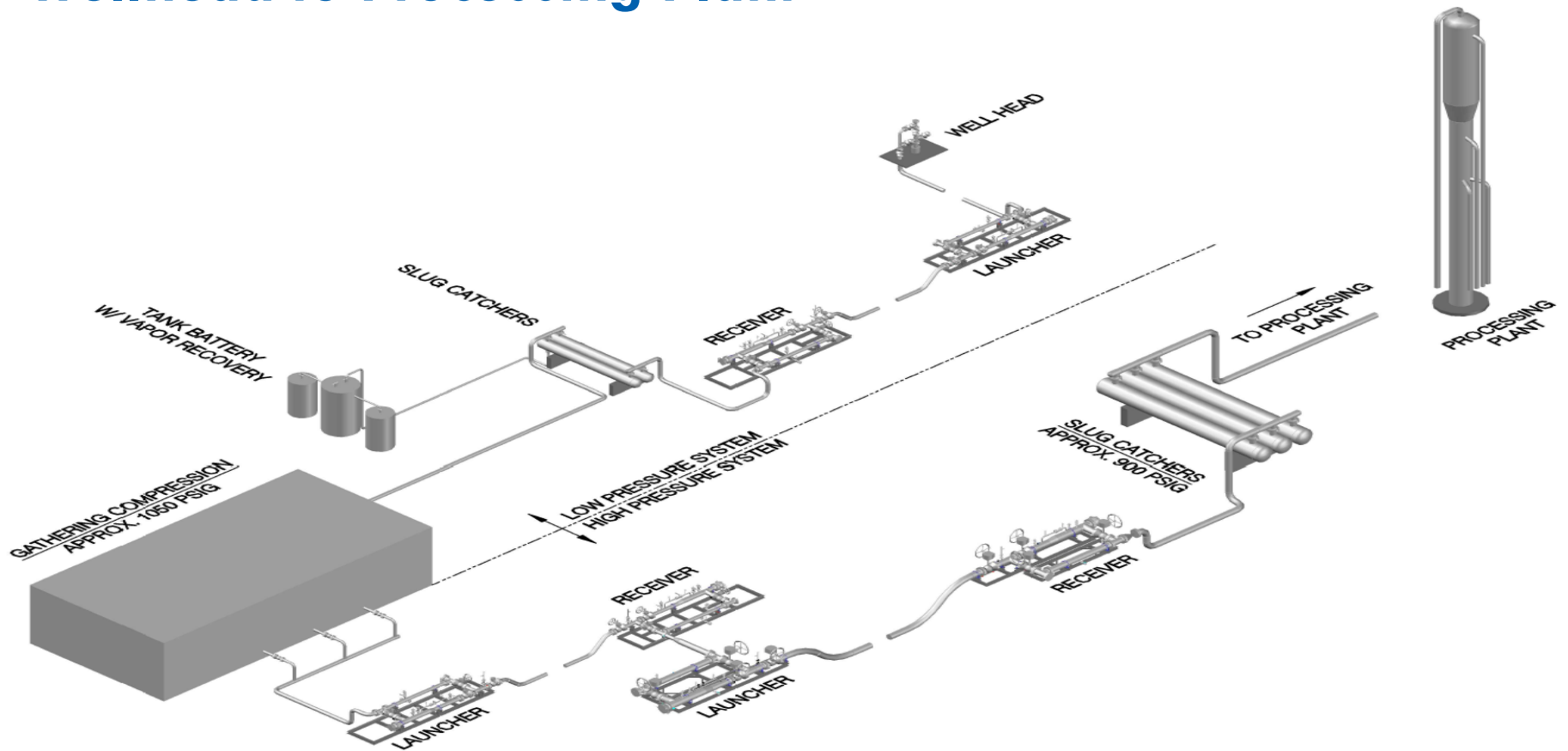


LAUNCHER AND RECEIVER OPERATIONAL ENHANCEMENTS: A CASE STUDY

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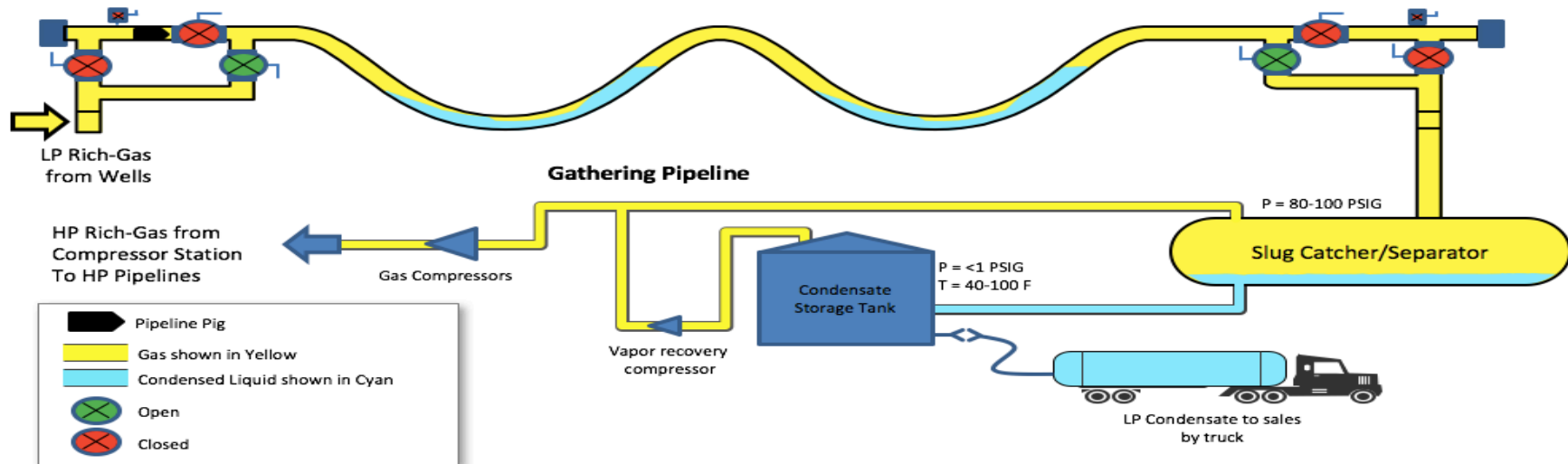


Wellhead to Processing Plant



The Focus: Piging Launcher/Receiver Operations

Gathering pipelines flow from well facilities to a compressor station



- Standard pipeline maintenance conducted for decades nationwide
- Uses a pig to sweep liquids
- Pig is inserted and removed from a small barrel (a “launcher” or “receiver”) that is isolated from the pipeline
- Launcher/receiver barrel is depressurized (“blown down”) for inserting, removing the pig: blowdowns accounted for 0.02% of gas gathered in PA prior to the start of this case

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PIG LAUNCHER AND RECEIVER SITE



SEARCH WARRANT

- Pipeline operators show up to perform routine maintenance at the stand-alone launcher/receiver site in Pennsylvania.
- The maintenance work involves receiving a pig from the pipeline and launching the same, a common daily activity.
- While performing this routine work, federal agents raid the site around 8 a.m. and proceeded to stop operations, perform questioning and take samples.
- The agents complete their inspection and make requests for production of documents, but no further action was taken by the agents at that time.

MISCONCEPTIONS

- Following execution of the federal search warrant, it becomes clear that the search warrant is based, in large part, upon a number of misconceptions.
- Launching and receiving operations are routinely scheduled, and were not occurring in secret.
- Launchers and receivers do not vent the volume of the entire pipeline segment to atmosphere – they only vent the volume of the launcher and/or receiver barrel when inserting or retrieving the pig tool.

MISCONCEPTIONS (Cont.)

- Employees capture any NGLs or other liquids that may be in the barrel in a storage vessel, not release them to the ground.
- The public is categorically not at risk from launcher or receiver operations and no evidence has ever been presented substantiating any claim to the contrary.
- Worker safety is protected during launcher/receiver operations as studies conducted pre-search warrant attest.

METHANE

- Premise for search warrant and initial discussions with both DOJ and EPA focuses on public and worker safety.
- Methane claim couched as §303 “Air Pollution Emergency” Claim
- Previous and subsequent scientific studies demonstrate that there is not imminent and substantial endangerment to workers or public.

BTEX

- Subsequent to § 303 discussions based upon methane, questions are raised regarding possible health-based exposures to BTEX.
- Leading worker exposure and emissions experts are enlisted – experts who provide advice to EPA on other air emission projects and enforcement matters – to evaluate BTEX at launcher/receiver sites.
- Experts conclude no health-based exposure issues for public or workers based upon BTEX.

VOCs

- EPA, states, and industry have traditionally been under the impression that launcher/receiver emissions were de minimis.
- During the course of reviewing launcher/receiver operations with respect to worker safety and public health after the raid, the company conservatively identifies a small subset (less than 10%) of launcher/receiver sites where emissions may be above applicable PA de minimis permitting thresholds.
- No motivation or benefit for not permitting
 - Permits relatively easy to obtain either as minor sources or RFDs under SIP
 - Design changes easy and inexpensive to make emissions fall below de minimis levels

EMISSIONS REDUCTION PROJECTS

■ Launchers/Receivers:

EMPLOY THE FOLLOWING DESIGN ENHANCEMENTS

- Piping from high pressure to low pressure where (1) located within 50 ft. of low pressure line and (2) practicable
- Installation of a pig ramp
- Where practicable, a shorter barrel design

■ Draft GP-5a in PA includes these design enhancements

COMBUSTION CONTROL DEVICES

■ Combustion control devices can be used when:

- jumper lines,
- pig ramps,
- and updated operating procedures

DO NOT REDUCE ACTUAL EMISSIONS BELOW APPLICABLE *DE MINIMIS* THRESHOLD

- Consider enclosed flares to minimize impact to public
- Also consider portable, trailer-mounted flares, in jurisdictions like Ohio given different operating constraints

STANDARD OPERATING PROCEDURES

■ Incorporate the following standard operating procedures into training materials:

- 1 minute/10' step-back
- Personal 4-gas monitor at chest height
- Process for ensuing barrel does not repressurize
- Protocol for response to LEL alarms
- Laminated job safety checklists for each site
- Respiratory protection for changing out charcoal filters at compressor stations

EMISSIONS REDUCTION

84.7% REDUCTION OF TOTAL EMISSIONS

- **800 mm ft³/day** processed in the PA system
- **0.02% of total volume** was emitted from launcher and receiver loading operations prior to EPA inspection
- **84.7% reduction in emissions** system wide post inspection
- **0.003% of total volume** is emitted from current launcher and receiver loading operations



QUESTIONS & ANSWERS