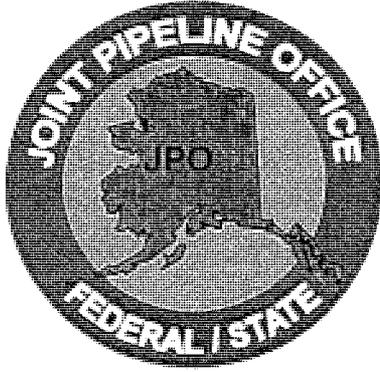


Attachment G



JOINT PIPELINE OFFICE

411 West 4th Avenue, Suite 2
Anchorage, Alaska 99501
(907) 257-1300
FAX # (907) 272-0690

TAPS TECHNICAL REPORT JPO No. ANC-06-E-026

Agreement and Grant of Right-of-Way and Right-of-Way Lease
Stipulation 1.7.4.3, Stipulation 3.2.1.1, Stipulation 3.2.1.2, Stipulation 3.2.2.2, Stipulation
3.4, Stipulation 3.9, Section 9 and 16

Trip Report on Site Visit to Witness the Commissioning of MLU Electric Motor and
Assessment of Functional Check Out Documentation at PS-9 Pipeline Strategic
Reconfiguration Project
30 & 31 October 2006

Prepared by John Governale and Joe Dygas

7 November 2006



411 West Fourth Avenue
Anchorage, Alaska 99501
(907) 257-1300

20061227-6

**Trip Report on Site Visit to Witness the Commissioning of MLU Electric Motor and
Assessment of Functional Check Out Documentation at PS-9 Pipeline Strategic
Reconfiguration Project
30 & 31 October 2006**

1.0 Purpose:

The purpose of the trip was to witness the commissioning of the MLU electric motor and assess the SR Functional Check Out (FCO) documentation. While on site we also made an assessment of the SR construction and FCO commissioning progress and performed a follow up review of outstanding items from our previous trip.

2.0 Scope:

This report concentrates on observations and assessments made during the site visit conducted on 30 & 31 October at PS-9. During the visit we observed the SR Commissioning work and performed a follow-up assessment of the mechanical completion binders for the three VFD modules and the three pump modules. We also reviewed the mechanical completion binders for the PDC module and the backup power.

3.0 Observations and Analysis:

Upon arrival at PS 9 the JPO Team consisting of Joe Dygas and John Governale coordinated with the Alyeska PS 9 O&M Supervisor Bob Bandy concerning our visit. We then met with Luann Cress SR Commissioning Engineer. The JPO team was escorted to the Pump Module #3 where we witnessed the electric motor test run. After a few motor trips due to "permissive issues" the motor was put through two calibration runs. After the calibration runs the motor was slowly brought up to half speed and run for 2.5 hours. Although there were a few minor technical issues the test appeared to be successful. An inspection was then made on the various FCO activities currently in progress.

After concluding our inspection with Luann Cress, we held a meeting with Carl Coulter of the FCO and Commissioning Group. We then performed reassessments of the six completed turn over binders for the three VFD modules and the three pump modules.

During a previous assessment it was discovered that some redline documentation listed on the Incomplete Work List did not get transferred to the FCO data base. See JPO surveillance Report No. ANC-06-S-423 for details. Some of the drawings that had been missing have now been added to the data base while others are still being processed.

Upon completion of the assessment we discussed selected portions of the binders with the FCO and Commissioning staff. Some sections of the binders still appeared to be incomplete. The items listed below were found deficient during this and a previous audit. Some have been completed while others are still in the process of being corrected.

Mechanical completion certificate- there were no MC1 numbers assigned.-item still open as some certificates have numbers assigned but others still need to be completed.

PS9 Site Visit 30&31 October 2006

No mechanical, electrical, or instrument subcontractor signatures were on mechanical completion certificate-some certificates are completed but others are still awaiting the proper signatures.

The Inspection and Test Report Summary not signed.-item corrected

Incomplete Work Lists weren't complete. Of special note was the lack of assigned priority and work assignments for some of the packages.-item complete

There were no reference drawing indexes or reference drawings.-item corrected

There was no status of FQRs on FQR list (note: 2 of the packages had hand written annotations of status on some of the FQRs). It would be desirable to link the FQR with the SI that it generated.-item corrected

There were no SI lists or their status contained in any of the packages.-item corrected

An ASPC audit performed subsequent the JPO visit confirmed the above findings. Angela Sorrentino has developed a recovery plan to accomplish the required corrective actions.

4.0 Conclusions and Recommendations:

The PS-9 SR Project work is nearing completion. With mechanical completion of the eight turnover packages it is apparent that the FCO and construction groups have coordinated package content and developed more complete and accurate turnover packages. The turnover packages however, still need additional work to correct the deficiencies noted above. The remaining incomplete items should be completed to accurately document and close out the construction phase of the project.

It will become increasingly important to stay in communication with the commissioning group. It should be noted that APSC needs to do a better job with keeping the JPO informed of the numerous changes in commissioning dates. The JPO should be notified of any changes in schedule so that appropriate travel arrangements can be made to witness the commissioning. The motor test is the first of many tests required to commission the remaining major equipment. The JPO will attempt to be present during commissioning of major equipment of interest unless there are multiple identical units in which case at least one of unit should be witnessed (more if problems are uncovered).

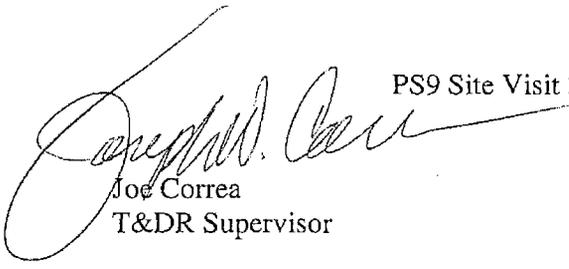
5.0 Signatures:



John Governale
General Engineer



Joe Dygas
Physical Scientist



PS9 Site Visit 30&31 October 2006

12/10/06

Joe Correa
T&DR Supervisor

Attachment H



RECEIVED
PO Box 196660 ANCHORAGE ALASKA 99516-6660
JOINT PIPELINE OFFICE

TELEPHONE (907) 787-8700

2006 NOV 28 AM 9 13

November 22, 2006

Government Letter No. 10439
APSC File No. 2.7
MAC Action 4714

Bureau of Land Management
411 West 4th Avenue, Suite 2C
Anchorage, Alaska 99501

Attention: Jerry Brossia, Federal Authorized Officer
Mike Thompson, Acting State Pipeline Coordinator
Dan O'Barr, State Electrical Inspector
Ron Watts, State Fire Marshal

Subject: Order for the inspection, removal and preparation of a report of corrective action:
Improperly qualified electrical equipment installed as part of Strategic Reconfiguration
(SR) and other projects
Pipeline Strategic Reconfiguration Project

Reference: Alyeska Letter No. 10404 dated November 16, 2006
BLM Letter No. 06-313-WW (MAC Issue 10377) dated November 6, 2006

Gentlemen:

Per the letter referenced above, Alyeska has been ordered to execute the following actions (summarized) following the discovery of a 15 kVA transformer at PS09 that did not have an approved marking:

- Inspect all electrical equipment, installed or to be installed, for evidence of proper approval to US standards as shown by proper marking.
- Complete the inspection prior to the start up at PS09 and at other locations by March 30, 2007.
- Immediately remove from service improperly labeled equipment.
- Prevent any improperly labeled equipment from being placed into service.
- By December 1, 2006, conduct an investigation to determine how improperly labeled equipment was purchased, installed, and placed into service.

Alyeska has moved quickly to perform the directed inspection. The first effort was to inspect the same and additional transformers at the other SR sites to see if similar problems exist at those locations. Following that, the next effort was to conduct a more thorough inspection at PS09. To date, more than 200 pieces of electrical equipment have been inspected at that location. The findings are summarized below, with the first bullet being line-wide and the rest for PS09. It should be noted that while some of the devices listed below are energized, they are not being used in the operation of the pipeline.

1. Seven transformers ranging in size from 9 kVA to 30 kVA have been found to have improper labels. Both Underwriters Laboratories (UL) and Square D (the manufacturer) have determined and verified that all the transformers are listed under UL (see Attachment 1) but have an improper label on them. Alyeska has commissioned a UL field representative to perform a field evaluation that will allow a Square D representative to apply the proper manufacturer's label on them. The initial field visit has been completed at PS09, a sticker has been applied to the units by the UL representative, and Alyeska is working with UL to expedite the field report.

20061128-3

2. One Liebert air conditioning unit was found to be missing any marking at all. The other Liebert units each had appropriate markings. Alyeska has had a UL representative evaluate and place a UL sticker on the unit.
3. The Hot Start glycol heaters in the 2.25 MW diesel generator modules have been field evaluated and had a UL sticker placed on them. The heaters were approved by UL but were missing the appropriate marking.
4. The neutral grounding resistor (NGR) for the 65 kW generator was found to not have an approved marking. It was field evaluated and the UL representative has placed a UL sticker on it.
5. The NGRs for the 2.25 MW generators were found to not have appropriate markings. The UL field representative is performing a field evaluation of the units. His report, including certified test documentation, requires review by other UL personnel before he can apply a field sticker to the equipment.
6. There are two control panels that do not have UL508 stickers (CAT Generator Panels) which need a UL field evaluation and an appropriate sticker applied.
7. There are also control panels that do not have a UL508 sticker but which are undergoing field wiring changes. This requires field evaluation and re-listing. This will be done when we are satisfied that all panel modifications are complete.
8. Cutler Hammer NGR Switchboard Sections in PDC Module are missing the appropriate UL marking. Cutler Hammer has stated that all of these switchboard sections are UL listed and were shipped with the appropriate label. Alyeska is working with Cutler Hammer to resolve this issue.
9. Two small motors for sump pumps have a CSA logo. However, listed on the nameplate is "UL File No. E54825". The file number has been verified to be a US only file number and the marking "UL File No. E54825" is an appropriate way to mark the motors per information from UL (Attachment 2). Alyeska is working with Reliance Electric to get copies of the Certification of Compliance for these.
10. The 24V resistor diodes for the fire suppressant releasing end-of-line resistors do not have a US approved UL marking. The fire system manufacturer (Notifier) supplies these as a standard device because they are needed to make the overall system perform to a more stringent Canadian certification than the equivalent UL certification. Alyeska is working with the office of the State Fire Marshal to resolve whether or not these devices will be acceptable.

On November 20, 2006, a meeting was held at the JPO offices to discuss status and resolution of the requirements in BLM Letter No. 06-313-WW dated November 6, 2006. Alyeska presented a draft inspection plan that will expand and extend the effort described above. It was agreed that as further inspection takes place, when non-compliant items are found, a determination of safety risk will be made by Alyeska engineering. If found to be unsafe, the equipment will be de-energized. If found to not pose a safety risk, the equipment will remain energized while approval is being sought through the Authority Having Jurisdiction.

Alyeska engineering has reviewed each of the items listed above that have not been corrected (items 1, 5-10) and determined that it is safe to allow these devices to continue in service until the listing and labeling issues have been resolved. By copy of this letter, we are requesting the Alaska Department of Labor to leave these devices energized until the listing and labeling issues are resolved, which will occur no later than December 31, 2006 or the start up of PS09, whichever comes first.

Alyeska appreciates the help that has been provided to us by the JPO, from finding the initial non-compliant item to providing research into approved markings. We recognize and appreciate the willingness to work with us as we resolve these issues.

If you have any questions, please contact Daniel O'Connell at (907) 787-8157.

Sincerely,



E. Lee Monthei
Strategic Reconfiguration Program Manager

DKO/kkr

Attachments:

- UL Certification No. E78380A
- UL Certification No. E54825

cc: Joe Correa MS 600
Joe Dygas MS 600
Daniel O'Connell MS 537
Mike Joynor MS 575
Rob Shoaf via MAC
Karen Wilbanks via MAC
JPO Records Center MS 600 & via email

Certificate of Compliance

Certificate Number 250703-E78380A
Report Reference E78380, February 2, 1981 Issue
Date 2003 July 25

Page 1 of 1



Underwriters
Laboratories Inc.

Issued to: Square D Co.

6 Commercial Rd. Huntington,
IN. 46750 USA

*This is to certify that
representative samples of:*

General Purpose Transformers
**Type S (single phase) in ratings of 3 through 25 kVA and Type ST (3 phase) in
ratings of 3 through 30 kV A.**

Standards for Safety:

*Have been investigated by Underwriter's Laboratories Inc .in
accordance with the Standards indicated on this Certificate.*

UL 506, Specialty Transformers
CSA C22.2 No.66-1988, Specialty Transformers

Additional Information:

These transformers are rated 600Vac maximum, 50/60 Hz, 3-10 kVA; 3- 15kV A.

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle Symbol with "C." and "US" Identifiers, the word "LISTED" a control number (may be alpha-numeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directive.

Look for the UL Listing Mark on the product

Issued By: *Dan Maher* /sr
Dan Maher, Engineering Group Leader
Underwriters Laboratories Inc.

Reviewed By: *Vince Fiorucci*
Vince Fiorucci, Sr. Project Engineer
Underwriters Laboratories Inc.



ONLINE CERTIFICATIONS DIRECTORY



ONLINE CERTIFICATIONS DIRECTORY

PRGY2.E54825 Motors - Component

Page Bottom

Motors - Component

See General Information for Motors - Component

RELIANCE ELECTRIC CO
MOTOR RESEARCH CENTER
ROCKWELL AUTOMATION (MGH)
PO BOX 499
GREENVILLE, SC 29602 USA

E54825

Motor, NEMA frame sizes 56C- 286T, or IEC frame sizes 80-180. Model S, followed by a letter, followed by three numbers or letters, followed by a number, followed by three letters.

Alternate Model P followed by two numbers, followed by a letter, followed by four numbers. May be provided with suffix letter.

Laminated AC motors, NEMA frame sizes+ 180 through 4461. Metric frame designations DL 1104 through DL2814. Identification number consisting of two numbers, followed by two or three letters, followed by five or six numbers. May be followed by additional suffix numbers. Alternate identification number consisting of a letter, followed by two numbers, followed by a letter, followed by additional numbers.

Alternate identification number consisting of seven to ten numbers.

Laminated DC motors, generators, motor/generators, NEMA frame sizes+ 199AT through 4414AT. Metric frame designations GK1104 through GK2810. Identification number consisting of two numbers, followed by two or three letters, followed by five or six numbers. May be followed by additional suffix numbers. Alternate identification number consisting of a letter, followed by two numbers, followed by a letter, followed by additional numbers.

Alternate Identification number consisting of seven to ten digits.

IEC motors, frame sizes 80 to 280 Model W Series, followed by any letter A-Z or number 1-9, followed by 3P4, 1Y5, 5Y5, 7Y5, 001, 011, or 110, followed by 2, 4, or 6, followed by F, followed by any letter A-Z or number 1-9, followed by 1-4.

Alternate Model M Series followed by 10, 11, 13, 16, 18, 20, 22, 25, 28, 80 or 90, followed by G or S, followed by 0000-9999.

Medium AC motors, NEMA Frame sizes 180T through 440T; IEC frame sizes 112M, 112S, 132M, 132S, 160L, 160M, 180L, 180M, 200L, 200M, 225M, 225S, 280H, 280K, 280M, 280S. Identification number *, consisting of a one to three digit number, followed by any three letters, followed by a five or six numbers. An alternate identification number *, may be used consisting of one letter, followed by two numbers, followed by one letter, followed by two to four numbers.

Alternate Identification number consisting of seven to ten numbers.

Motor, P followed by 14, 18, 21, 25, 28, 32, 36, 40 or 44, followed by G, followed by 46, 49 or 74, followed by 00 thru 17 or 58 thru 61.

Motor, Model WH or WJ, followed by four letters or numbers, followed by D, F or O, followed by a letter, may be followed by a letter.

Alternate letter followed by two numbers, followed by a letter, may be followed by suffix numbers.

Motor generator sets, Frame sizes 7MG through 80MG.

Small AC/DC motors, Frame sizes 48 through 180. Identification number consisting of two numbers, followed by two or three letters, followed by five or six numbers. May be followed by additional suffix numbers. Alternate identification number consisting of a letter, followed by two numbers, followed by a letter, followed by three or more additional numbers, followed by a letter.

Alternate identification number consisting of a seven to ten digits.

*May or may not be followed by 2 or 3 letter date code.

+With or without prefix or suffix designations.

Marking: "E54825", frame size and identification number designation.

Last Updated on 2004-06-28

[Questions?](#)

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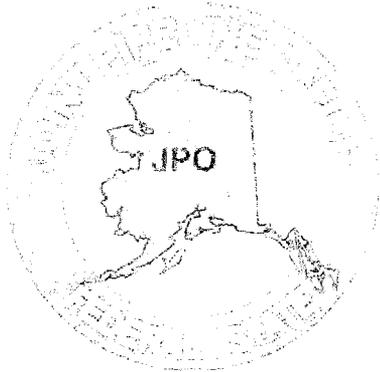
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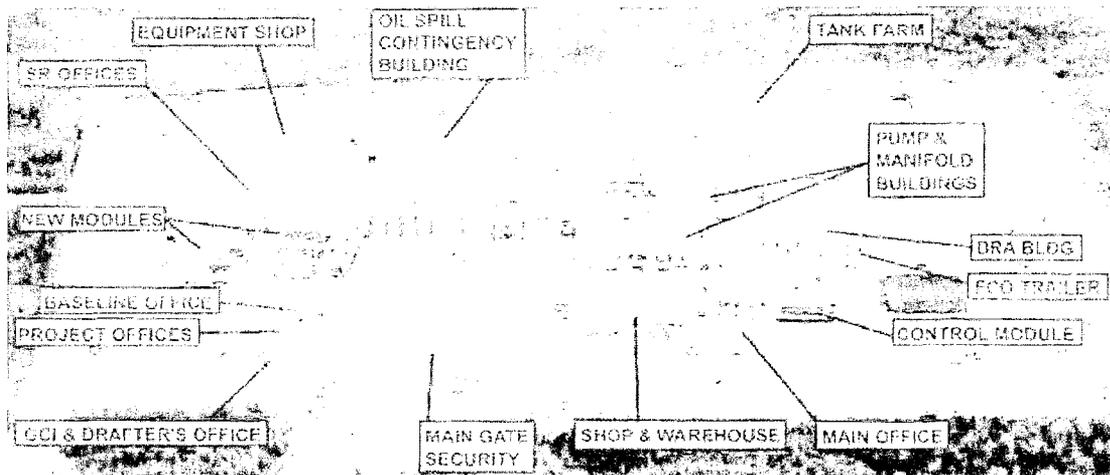


Attachment I ("eye")



JOINT PIPELINE OFFICE

Technical Report Number ANC-07-E-001



Investigation of the January 6, 2007 PS 9 Tank Farm Fire

Ray Elleven
Department of Labor Safety Liaison
March 7, 2007

411 West Fourth Avenue
Anchorage, Alaska 99501
(907) 257-1300

20070404-7

1.0 Executive Summary

On January 6, 2007, Alyeska Pipeline Service Company (APSC) reported a fire at Pump Station 9. The incident occurred while an APSC Electrician was conducting maintenance on Tank 190 2010 valve.

An unexpected pipeline shutdown due to an unrelated event at Pump Station 11 began relief operations at Pump Station 9. The relief system diverted crude oil flow from the pipeline to a relief tank during shutdown conditions. Tank 190 is the relief tank for Pump Station 9. The relief of crude oil from the pipeline surges into the relief tank results in displacement of flammable vapors from the tank.

Approximately one minute after the shutdown initiated, a portable industrial heater, located near one of the vents, ignited the flammable crude vapors. The fire burned for approximately five minutes and was extinguished when the pump station relief valves closed. There were no injuries or damage to equipment. This fire was caused by:

- an ignition source, a portable industrial heater, operating in the Tank Farm and;
- the unexpected release of flammable crude vapors, due to an unexpected pipeline shutdown.

The Tank Farm is a hazardous area due to the potential for an unexpected release of flammable vapors venting from the tanks. APSC uses a Hot Work Permit system to control activities that might provide a source of ignition such as energized electrical systems, open flames, grinding, or non-intrinsically safe tools.

In this instance, the Hot Work Permit system did not function as intended because two sources of ignition were present in the Tank Farm when the pipeline unexpectedly shutdown. The two sources of ignition were the portable industrial heater that ignited the fire and a running vehicle in the Tank Farm that also had the potential to ignite the vapors.

Since unexpected shutdowns of the pipeline system are not uncommon, authorization of the work in the Tank Farm using potential ignition sources should require isolation of the relief system. In this case the Hot Work Permit should have required isolation of Tank 190 to prevent oil from surging into Tank 190 and relieving at Pump Station 7.

Hot Work Permit system required a fire watch which was the APSC Electrician. This was not effective because he was not aware of the fire until he felt the heat. A dedicated fire watch would have seen the fire and expedited the Tank Farm evacuation.

The APSC Electrician evacuated the Tank Farm in his truck which was a violation of Pipeline Operating Procedures.

The use of hand held radios for Tank Farm evacuation is unreliable. In this case, the Control Room Operator gave the order to evacuate at the start of the pipeline shutdown and before fire ignited, however, the APSC Electrician did not hear the radio.

This investigation concluded that APSC was not in compliance with the Federal Agreement and Grant of Right of Way, Section 16, *Laws and Regulations* and Stipulation 1.20, *Health and Safety* as well as the State Right-of-Way Lease Stipulation 4.1, *State Laws, Regulations, Permits, and Authorizations* and Stipulation 1.20, *Health and Safety*. This report offers five recommendations to bring APSC into regulatory compliance.

2.0 Purpose, Scope, and Methodology

The purpose of this report is to investigate, determine cause, and recommended corrective action of the fire that occurred in the Pump Station 9 Tank Farm on January 6, 2007.

The scope of this report is to review objective evidence for compliance with the Federal Agreement and Grant of Right-of-Way and State Right-of-Way Lease, hereafter known as the Federal Grant and State Lease.

The Department of Labor Safety Liaison conducted the investigation utilizing his Department of Labor & Workforce Development authority and the authority of the Federal Grant of Right of Way and State Right of Way Lease. He was on-site January 9, 2007 to investigate, interview pump station personnel, and gather information.

3.0 Interviews

APSC PS 9 Manager	Scott Hicks
APSC Control Room Operator	JW Musgrove
APSC Electrician	Lyall Brasier
APSC Investigator	Jeff Strait
APSC Investigator	Mike Wellington
APSC Investigator	Grant Bedford

4.0 Description of Incident

The incident occurred on January 6, 2007 while preparation work was in process to prepare to set the 2010 valve limits and perform a DOT stroke test during the mini-shutdown scheduled for January 7, 2007. The wind was calm and the temperature was 25 below zero Fahrenheit.

The wiring to the valve was modified for the new Safety Integrity Pressure Protection System (SIPPS). An APSC Electrician was in the temporary structure verifying the wiring in preparation for the mini shutdown. The APSC Electrician was on the west side of the 36 inch inlet pipe when the incident occurred. This work was being performed under a Hot Work Permit issued by the Control Room Operator.

The temporary structure built over the valve used scaffolding for a frame, a fire resistant visqueen cover, and a portable industrial heater to supply heat. This is a common practice to protect employees from extreme cold weather conditions.

The portable industrial heater was operating approximately 15 feet from Tank 190, east of the 36 inch inlet pipe used fill and drain the tank.



The portable industrial heater was located where the three individuals are standing, the temporary structure is to the left, and the scorched vent is directly above the three individuals.

At approximately 15:06 hours, an unplanned pipeline shutdown was initiated due to unrelated conditions south at Pump Station 11. This resulted in a relief event with flammable vapors released from Tank 190 tank vents. The portable industrial heater provided an ignition source for the flammable vapors.

The APSC Electrician did not hear the radio call from the control room to evacuate the Tank Farm and continued to work. He heard the ignition of the flammable vapors and thought it was a sonic boom. Moments later he felt the heat and realized there was a fire, he ran for his truck, evacuated the area to the north, and notified the control room of the fire by radio. From the time the shutdown initiated to ignition of the flammable vapors was between 60 and 90 seconds.

Station relief valves were closed approximately five minutes after the event initiated extinguishing the fire. By 15:14 hours, the station shutdown was complete and there was no further indication of fire after this time.

The Fort Greely Fire Team dispatched an individual to the pump station with infrared heat detecting equipment to confirm there was no fire inside the tank. Once confirmed, the pipeline was restarted.

The only damage was to the temporary structure visqueen used for a weather break around the valve and scorching of the tank vent.

5.0 Analysis

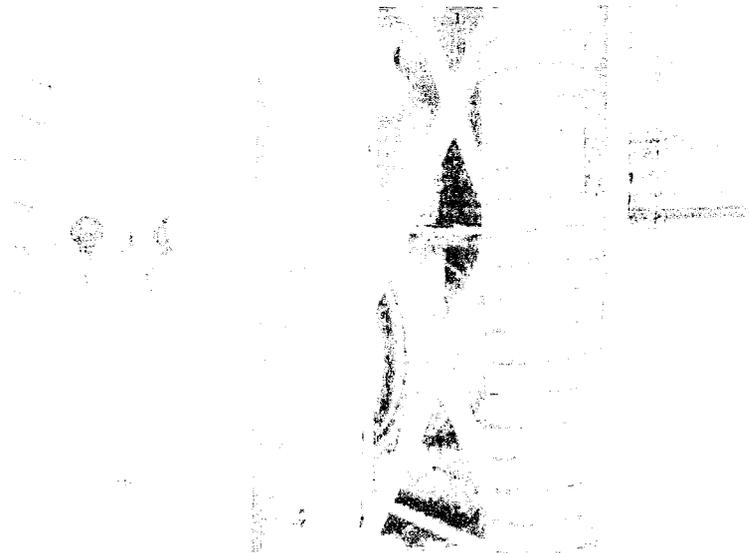
5.1 Work In Progress During the Incident

The wiring to the 20TO valve was modified for the new Safety Integrity Pressure Protection System (SIPPS). SIPPS has the following functions:

- Remote gate valve control;
- Pump station safety functions excluding fire; and
- Pipeline safety functions.

The APSC Electrician was verifying the wiring in preparation for the mini shutdown the next day when the limit switches were going to be set and a stroke test would be conducted.

This work had to be accomplished during a shutdown and prior to startup of the new electric driven pumps. It was not possible to complete the work this past summer or to delay the work until the temperatures are warmer.



Valve 2070 is the green portion of the 36" piping. The portable industrial heater was on the same side of the 36" pipe as photographer. The APSC Electrician was on the far side of the 36" pipe.

5.2 Pipeline Shutdown

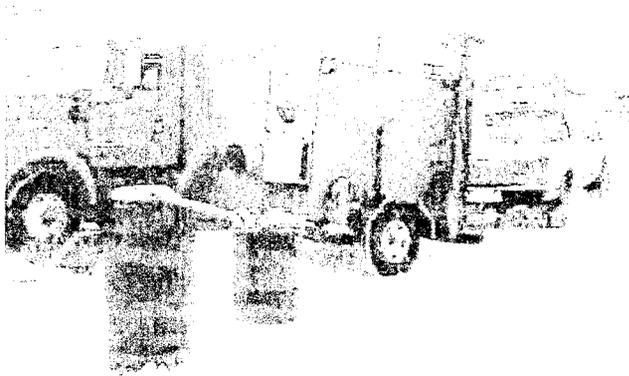
The pipeline shutdown was caused by an invalid signal from Pump Station 11's Block Valve 2 that triggered the auto logic to idle the turbine unit at Pump Station 9. This caused the pipeline to start the shutdown process resulting in a relief event and station shutdown of Pump Station 9. Pump Station 11 is approximately 137 miles south of Pump Station 9. There is a separate investigation on the cause of the shutdown.

5.3 Tank 190

Tank 190 has a capacity of 55,000 barrels and is 32 feet high with a diameter of 116 feet. It has seven vents and is located in a Tank Farm with two 20,000 barrel turbine fuel tanks, one of which is out of service. The Tank Farm conforms to state and federal secondary containment requirements. During normal operations Tank 190 contains approximately 13 feet of oil and the vents are closed.

there is a possibility of the leakage of a flammable hazardous liquid or of the presence of flammable vapors.”

OSHA Standard 29 CFR 1910.106(b)(6) *Sources of Ignition*. “In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions, and radiant heat.”



Tooga #35017 was the portable industrial heater that was involved in the fire.

Had the heater been farther from the tank, it is possible the fire may not have occurred or could have been larger because of the additional flammable vapors. An intrinsically safe portable industrial heater may have prevented this incident.

5.5 Hot Work Permit

This work was regulated by an Alyeska's Hot Work Permit system as defined in SA 38 Section 1.15, *Work Permit System* because the portable industrial heater and open electrical circuits were a source of ignition in a hazardous area as defined by the National Electric Code Area Classifications.

The Control Room Operator began procedures by having the Tank Farm tested for flammable vapors, reviewing the hazards, and addressing controls of those hazards. The Hot Work Permit was issued permitting the portable industrial heater operation in the Tank Farm and vehicle access to the Tank Farm. It also specified controls if a fire were to occur by requiring a fire extinguisher, fire resistant clothing, and a fire watch which was the APSC Electrician working in the Tank Farm. Energy isolation by de-energizing the electrical system the APSC Electrician was working on was required.

The Hot Work Permit was flawed because of the approval of the portable industrial heater in the Tank Farm is contrary of two Federal standards: DOT Standard 49 CFR 195.438 *Smoking or Open Flames* and OSHA Standard 29 CFR 1910.106(b)(6) *Sources of Ignition*.

The Hot Work Permit approved a vehicle to be in the Tank Farm but did not address leaving the vehicle running. The APSC Electrician stated that he left the vehicle running while he was working in the temporary structure. Again, this is contrary of 29 CFR 1910.106(b)(6) *Sources of Ignition* because a running vehicle is another source of ignition during a relief event.

The Hot Work Permit failed to address the unexpected release of flammable crude vapors venting from the tank should there be a pipeline shutdown. Unplanned pipeline shutdowns occur rapidly and without notice. APSC has procedures to close relief valves and isolate relief tanks for maintenance however these procedures were not implemented.

The Hot Work Permit required a fire watch which in this case was the same person doing the work, the APSC Electrician. The Control Room Operator initiated a radio call to evacuate the Tank Farm when he realized a shutdown was occurring. This radio call was not heard by the APSC Electrician and he continued to work as vapors were venting from Tank 190. He did not see the fire and did not realize there was a fire until he felt the heat. He then evacuated the Tank Farm. A dedicated fire watch would have heard the evacuation radio call and observed the fire shorting the evacuation time.

Had the isolation procedures been implemented, the pipeline would have relieved at Pump Station 7 and the flammable crude vapor would not have vented from Tank 190.

5.6 Evacuation

As stated Section 5.4, *Hot Work Permit*, the Control Room Operator initiated the radio call to evacuate the Tank Farm at the start of the pipeline shutdown that was not heard by the APSC Electrician. Once he realized there was a fire, he evacuated the Tank Farm and notified the Control Room Operator of the fire. The Control Room Operator was not aware of the fire and initiated the pump station evacuation alarm. An automatic alarm initiated by the shutdown would have alerted employees to evacuate.

The APSC Electrician did not turn off the portable industrial heater because it would have put him in harms way of the fire. He was located on one side of the 36" inlet pipe and the portable industrial heater was on the other side of the 36" inlet pipe. He stated he ran for his truck, which was running, and drove out of the Tank Farm to his assigned rally point.

As stated earlier, leaving the vehicle running is contrary of OSHA Standard 29 CFR 1910.106(b)(6) *Sources of Ignition*. Driving out of the Tank Farm was contrary to Pipeline Department Operating Procedure N-100.13 *Pump Station Tank Farm Access Control* Section 6.0 Procedure, subsection *Evacuation During a Relief Event* subparagraph 3:

"Personnel will turn off all ignition sources and motorized equipment and leave the Tank Farm on foot."

All other pump station personnel evacuated to their assigned rally points without incident.

6.0 Conclusion

The Tank Farm is a hazardous area because of the potential flammable vapors venting from the tanks, especially during a relief event. This fire was caused by:

- An ignition source, a portable industrial heater, operating in the Tank Farm and;
- The unexpected release of flammable crude vapors, due to an unexpected pipeline shutdown not being controlled.

The Hot Work Permit system used to control hot work activities did not function as intended because it:

- Permitted two sources of ignition, the operation of a portable industrial heater and the running vehicle.
- Did not adequately analysis the hazards, in this case, flammable vapors venting from Tank 190 and implementing existing procedures to isolate the tank, prevent oil from surging into the tank, and relieving into Tank 170 at Pump Station 7.
- Did not require a separate dedicated fire watch who would have monitored the radio in the event of pipeline shutdown and reported the fire.

The evacuation plan did not function as intended because it used an unreliable system, hand held radios, to notify employees to evacuate the Tank Farm instead of an audible alarm.

The APSC Electrician left his truck running and did not evacuate the Tank Farm on foot violating established Pipeline Operating Procedures.

APSC was not in compliance with the Federal Agreement and Grant of Right of Way, Section 16 *Laws and Regulations* as well as the State Right-of-Way Lease Stipulation 4.1 *State Laws, Regulations, Permits and Authorizations*:

1. A portable industrial heater in the Tank Farm is contrary to DOT Standard 49 CFR 195.438 *Smoking or Open Flames*:

“Each operator shall prohibit smoking and open flames in each pump station area and each breakout tank area where there is a possibility of the leakage of a flammable hazardous liquid or of the presence of flammable vapors.”

2. A portable industrial heater in the Tank Farm is contrary to 29 CFR 1910.106(b)(6) *Sources of Ignition*:

“In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions, and radiant heat.”

3. An unoccupied running truck running in the Tank Farm is contrary to 29 CFR 1910.106(b)(6) *Sources of Ignition*:

"In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions, and radiant heat."

APSC was not in compliance of Federal Agreement and Grant of Right of Way, Stipulation 1.20 *Health and Safety* as well as the State Right-of-Way Lease Stipulation 1.20 *Health and Safety* for because of items 1, 2, 3, and:

4. The a portable industrial heater within 25 feet of Tank 190 is contrary to SA-38, Corporate *Safety Manual* Section 2.1.4 Item 17:

"Portable industrial heaters must be kept 25 feet from any oil, gas, or electric process facilities."

5. The Hot Work Permit did not address controlling flammable vapors from an unexpected relief event.
6. The Hot Work Permit did not require a dedicated fire watch.
7. Driving out of the Tank Farm instead of on foot is contrary to Pipeline Department Operating Procedure N-1.00.13 *Pump Station Tank Farm Access Control* Section 6.0 Procedure, subsection *Evacuation During a Relief Event* subparagraph 3:

"Personnel will turn off all ignition sources and motorized equipment and leave the Tank Farm on foot."

8. The APSC Electrician was put at risk by having an unreliable notification system to evacuate the Tank Farm.

7.0 Recommendations

Recommendation 1

The portable industrial heaters currently used by APSC are not intrinsically safe. An intrinsically safe portable industrial heater may have prevented this incident because it would not have been a source of ignition. APSC should acquire intrinsically safe portable industrial heaters for hot work.

Recommendation 2

Controlling flammable crude vapors from unexpected relief tanks during hot work is just as important as controlling the sources of ignition. Had Tank 190 been isolated, this incident may not have occurred. APSC should require relief tanks to be isolated any time there is hot work in a Tank Farm.

Recommendation 3

The current Hot Work Permit system does not require a dedicated fire watch. Employees can not observe all activities around them while they are concentrating on the work they attempting to accomplish. APSC should revise their procedures to require a dedicated fire watch any time there is hot work.

Recommendation 4

The current method of notifying personnel in the Tank Farm of a relief event is by radio call from the Control Room Operator is unreliable. Relief events happen very quickly and in this incident it was less than 90 seconds from the event initiation to ignition of the crude vapors. At the same time, the Control Room Operator was initiating the pump station shutdown procedures and manually activating the Pump Station evacuation alarm. The APSC Electrician did not hear the radio call to evaluate the tank farm.

An automated alarm system that is activated by the onset of a pipeline shutdown could save precious moments in an emergency and expedite evacuation. When the pump station control rooms are eliminated after Strategic Reconfiguration there will no means of notifying workers in the Tank Farm of a relief event. An automatic evacuation alarm should be installed at all active pump stations.

Recommendation 5

Pipeline Department Operating Procedure N-1.00.13 *Pump Station Tank Farm Access Control* states a vehicle can enter a Tank Farm with a Hot Work permit but it does not address if the vehicle can be left running. This procedure should be revised to prohibit vehicles in the Tank Farm unless the relief tank is isolated.

8.0 Requirements**Grant/Lease Requirements**

Federal Agreement and Grant of Right of Way
Section 16 *Laws and Regulations*

Federal Agreement and Grant of Right of Way
Stipulation 1.20 *Health and Safety*

State Right-of-Way Lease
Stipulation 1.20 *Health and Safety*

State Right-of-Way Lease
Stipulation 4.1 *State Laws, Regulations, Permits and Authorizations*

Other Regulations

29 CFR 1910.147 *The Control of Hazardous Energy*

29 CFR 1910.106(b)(6) *Sources of Ignition*
29 CFR 1926.154 *Temporary Heating Devices*

49 CFR 195.438 *Smoking or Open Flames*

Alyeska Program Requirements

SA-38 Corporate Safety Manual
Section 1.15 *Work Permit System*

SA-38 Corporate Safety Manual
Section 2.1 *Portable Industrial Heaters*

EC-71-09 Emergency Contingency Action Plan
Section 7 *Evacuation Guidelines*

Pipeline Department Operating Procedure N-1.00.13
Pump Station Tank Farm Access Control

Pipeline Department Operating Procedure N-7.01.01
Requirements for Stroking Mainline Block Valves (RGV, BL, V972) During Maintenance Activities

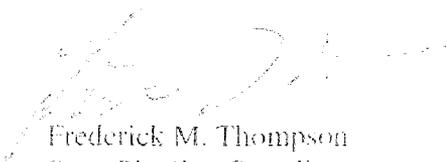
Department Operating Procedure Operations Control Center OCC-3.01
Pressure Controller Set Points (ATB 052)

Safe Operating Procedure 3.2.01a-09
Energy Isolation of Mainline PICV for Maintenance at PS09

SIM-215-3.5-PS9
Pump Station System Information Manual (SIM) System 3.5, PS 9 Tanks

Signatures


Ray Elleven
Department of Labor Safety Liaison


Frederick M. Thompson
State Pipeline Coordinator
ADNR/SPCO

Attachments

- A-1 Event Notification
- A-2 1-06-07 Incident at PS 9 – Timeline
- A-3 Hot Work Permit
- A-4 Material Safety Data Sheet for APSC Crude Oil
- A-5 SA 38 Section 1.15, *Work Permit System*
- A-6 SA 38 Section 2.1, *Portable Industrial Heaters*
- A-7 EC 71-09 Section 7 *Evacuation Guidelines*
- A-8 Pipeline Department Operating Procedure N-1.00.13
Pump Station Tank Farm Access Control

(Additional sheets from this attachment available on request.)

Attachment J

PRESIDENT'S MESSAGE

Moving into the New Year

Kevin Hostler
President and CEO



For Alyeska, the year started with two challenges that impacted our reputation—a tank vent fire at Pump Station 9 and a spill from a loose fitting on the six-inch bypass line at Remote Gate Valve 32. As a company placing high standards on safety and environmental performance, these events were unacceptable and warranted changes in how we approach our work. We launched the Unified Plan to improve upon how we execute work across the Trans Alaska Pipeline System (TAPS). Through this, we will identify improvement areas for safety, integrity management and risk management on TAPS. It is about ensuring we have the proper equipment, the proper processes and the proper behaviors.

In 2007, we reinforced a strong safety culture on TAPS. I am encouraged by people using the principles of our Loss Prevention System. It is essential to report system integrity concerns to safely operate and maintain TAPS.

In addition, we tackled two major improvement initiatives with our pipeline reconfiguration project and the upgrades to our ballast water treatment facility in Valdez. We began moving oil through the new pumps at PS 9 early in the year and so far, this upgrade is meeting our expectations. As the year comes

to an end, we anticipate moving oil through the new equipment at PS 3. At our ballast water treatment plant, we ran 600 feet of pipe through a solid rock wall to connect the water settlement tanks to our power vapor facility. This will give us two major benefits—eliminating a major emissions source and eliminating a safety hazard.

We are excited about the move of our Operations Control Center from Valdez to Anchorage. We are running tests with the control equipment now and should be controlling our system via the new center in January.

Moving into 2008, we turn our attention to upgrading PS 4, in the northern foothills of the Brooks Range, and we will tackle the next phase of our ballast water plant upgrades by replacing our biological treatment tanks.

Lastly, we will implement the action plans outlined in our Unified Plan. All of this helps us meet the elements of our vision—people dedicated to the integrity of TAPS. In the meantime, we wish you a safe and enjoyable holiday season and a happy new year.

PIPELINE RELIABILITY

November 2007 Reliability Factor

TAPS Reliability Factor for November 2007 = 100%.
TAPS Reliability Factor for year 2007 = 99.82%.

There were no prorations during the month of November which impacted the reliability factor.

Barrels pumped from PSI
November throughput:
22,984,031 BBLS*
Average:
766,134 BPD**

Barrels pumped from PST
Year 2007:
246,692,758 BBLS*
Average:
738,601 BPD**

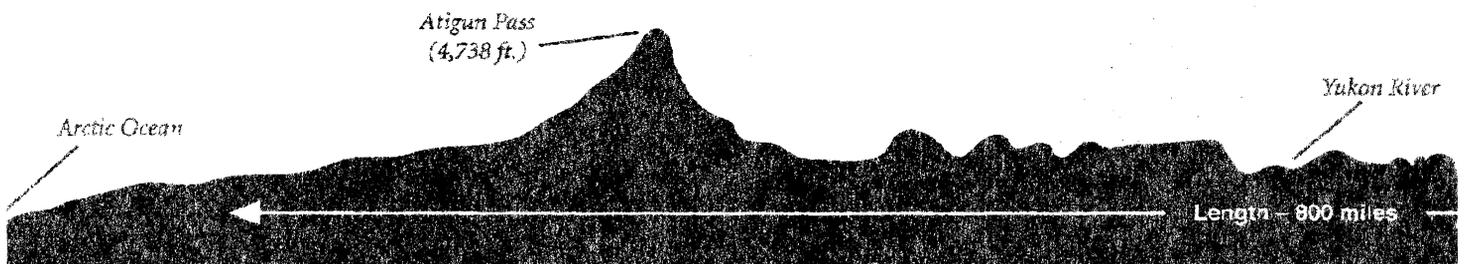
*BBLS [barrels] = 42 Gallons
**BPD = Barrels Per Day

COVER STORY

(continued from cover)

The flooding started October 10, 2006, and hit the Valdez area hard. Water washed out entire sections of road, closing many sections of the Richardson Highway. The storm also shut down Dayville Road to the Valdez Marine Terminal. Personnel had to be ferried across the bay to reach work.

A year later, damage from the storm is visible around Valdez, yet Alyeska crew repairs were a massive step toward recovery to date.



Attachment K

March 22, 2007

Pump Station 09

Shutdown Incident

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Executive Summary

On Thursday, March 22, 2007, Pump Station 9 (PS 09) experienced a communication failure in the Field Control Unit (FCU). The FCU malfunction did not provide the OCC or PS 09 Operator Work Stations (OWS) with operating parameter updates for PS 09. The OWS showed everything normal and no reason for the OCC to question the accuracy of the information. Despite the lack of visibility on the OWS, SIPPS recognized the malfunction (no system updates) as designed and initiated a mainline pump shutdown which resulted in the station suction relief valves opening. The maximum operating pressure (MOP) for the suction side of PS 09 was not exceeded at any time during this event. SIPPSS actions were not visible on the OWS.

Working together, OCC and the PS 09 control room operator (CRO) were able to safely manage the situation and maintain system integrity. The OCC and PS09 personnel were in direct contact with each other to analyze the abnormal situation and took appropriate action immediately after SIPPSS initiated a PS 09 station shutdown. OCC followed existing procedures and shut down the pipeline. RGVs 31-34 were closed to reduce suction head pressure at PS 09. OCC and PS09 had visibility of pressure data through legacy systems (e.g. MV-20000 and F370) and coordinated the manual closure of the relief block valves (RB) to prevent further relieving into the crude tank. The incident started with a tank level of 13.70 feet (\approx 50% working inventory) and reached 21.94 feet (\approx 80% working inventory). The tank's high level alarm is 29.16 feet. The on-call SCADA Project Commissioning Lead was called and arrived at PS09 shortly after the beginning of the incident.

The root cause of the SR SCADA system malfunction is inadequate design and development (from MORT table, recommendation included for improved testing). These inadequacies resulted in two primary contributing factors: (a) loss of SCADA functionality, and (b) insufficient warning methods. SR SCADA system elements (FCU's, OWS, etc.) have not had sufficient run-time to identify or expose shortcomings in design or development.

The fail-safe features of SIPPSS functioned as designed. While the SR SCADA system remains in the run-in phase there are alternative, although temporary, sources of data available to the OCC controller and CRO. Using this information and working together, OCC controller and the CRO were able to remain in control of the situation.

Key recommendations include further testing of FCU, enhance software to detect and alarm when process data is not updated and continue the current practice of staffing pump stations during run-in phases. There are more recommendations at the end in this report.

1 Investigation and Root Cause Analysis

A formal investigation and root cause analysis was conducted from April 4 – 13, 2007 in an effort to better understand the root causes behind the Pump Station 9 shutdown incident that occurred on the morning of March 22 and provide recommendations. A "Terms of Reference" document was developed and approved to provide a scope of work for the investigation and the root cause analysis (Attachment H)

A review team was formed consisting of the following members

Pat McDevitt	Team Lead
Jeff Streit	Process Safety
Paul Liddell	SCADA
Randy Kirkendoll	Automation Engineer
Dave Roberts	Automation Engineer
Mike Engblom-Bradley	Root Cause Analysis
Cal Gurney	PS Operations
John Hilgendorf	Root Cause Analysis / Risk Management
Jarid Kling	Oil Movements Team
Gregg Knutsen	Oil Movements Team

The Management Oversight and Risk Tree (MORT) process was utilized to conduct the root cause analysis. (Attachment I provides a description of this process.) The investigation included a number of interviews (Attachment E Personnel Interviewed) and reviews of various documentation and data

2 Background and Overview

This section of the report contains background and overview information relating to equipment, SCADA systems, SIPPS, staffing, data sources and software change control processes

2.1 Pump Station 9 (PS 09)

At the time of the PS 09 shutdown, the Alyeska Pipeline was (and still is) in the midst of implementing the Strategic Reconfiguration system at Pump Station 9. Strategic Reconfiguration (SR) is a line wide project being installed in phases on the pipeline to replace the old turbine pumps installed on the original pipeline with new variable speed, electric drive pumps. SR is also replacing and upgrading the major components of the pipeline control system. This includes modifications to the Supervisory Control and Data Acquisition (SCADA) system, line wide networks, and major control systems at each pump station for main pump station control, power control, safety systems, and mainline unit pump controllers. PS 09 is the first station to implement the new SR system

Implementing the SR system at PS 09 is an ongoing process that includes functional checkout (FCO), commissioning, startup and operational acceptance. PS 09 is currently in the operational acceptance phase for the main control systems and mainline pumps. The last quarter of 2006 through early February 2007 marked the period of peak activity in preparation of the Pump station 9 SR systems for startup. Extensive control system testing was performed in the Alyeska test lab before the first control system was installed. All systems were Factory Acceptance Tested (FAT) and Site Acceptance Tests (SAT) were performed before startup commenced in February 2007. Testing revealed the normal assortment of configuration problems and issues that a system of this complexity will have. These issues were captured via FAT test logs and were addressed prior to deployment to the field. PS 09 has been in the operational acceptance phase since February 9, 2007.

2.2 SCADA System

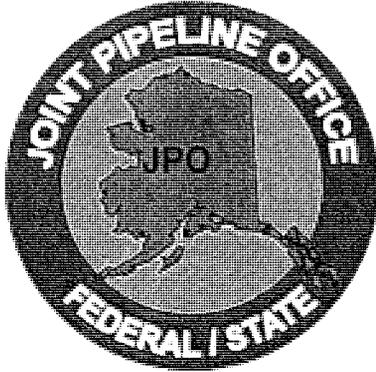
The SCADA system for TAPS is the Control Systems International (CSI) user configurable operating system (UCOS) SCADA system. The UCOS SCADA system was installed on TAPS in an earlier project (F370). The SR project further utilized and modified the UCOS SCADA system. The SR SCADA system will be installed system wide in the future and is operational for specific parts of the pipeline at this time. At the time of the event, PS 09 SR systems, the PS 05 relief system, the PS 11 BL-2 valve and all mainline RGVs were being controlled by the SR SCADA system. All other operations on the pipeline are still under the F370 SCADA control. Therefore, some parts of PS 09 were still under the F370 control and active (injection pumps, old MLU turbines, tank gauging Enraf level transmitters, and LEFM flow meters, etc). (See Attachment C block diagram)

The UCOS SCADA system is a distributed SCADA system. This means that at each pump station there is a redundant pair of Field Control Units (FCU). (See Attachment C, the system block diagram). The FCU's continuously monitor the health of the other FCU. One of the units is designated as primary and is the operational unit. The backup FCU continuously monitors the primary FCU through a redundant peer to peer link. If the backup FCU detects a failure in the primary, it automatically assumes control of the pump station SCADA system and reports that failover occurred to the alarm system.

In this configuration, all local pump station programmable controllers (station control panel (SCP), power control panel (PCP), and the safety system (SiPPS)) report their data to the pipeline operations control center (OCC) through the station FCU's. The mainline unit pumps have individual, integrated FCU's, which independently report to the OCC.

At each pump station and at the OCC, an operator can access information about the system using an operator workstation (OWS). OCC has multiple OWS.

Attachment L



JOINT PIPELINE OFFICE

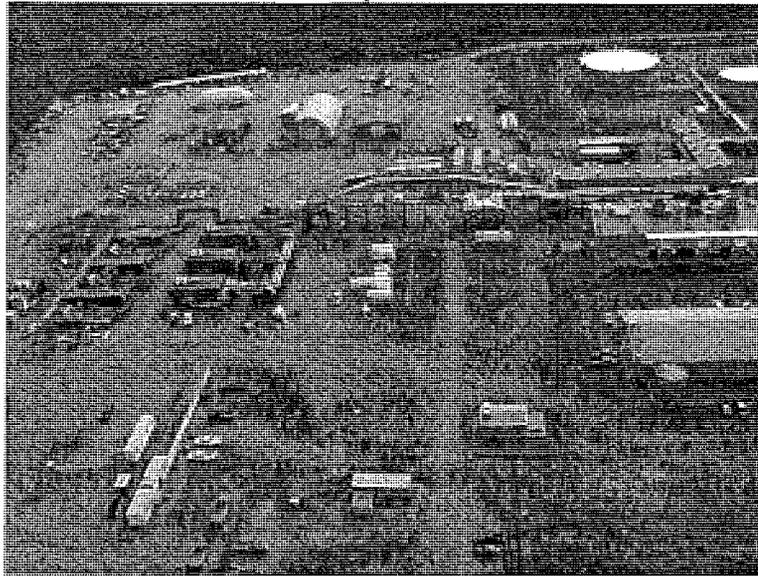
411 West 4th Avenue, Suite 2
Anchorage, Alaska 99501
(907) 257-1300
FAX # (907) 272-0690

TAPS TECHNICAL REPORT JPO No. ANC-07-E-012

Agreement and Grant of Right-of-Way and Right-of-Way Lease
Stipulation 1.7.4.3, Stipulation 3.2.1.1, Stipulation 3.2.1.2, Stipulation 3.2.2.2, Stipulation
3.4, Stipulation 3.9, Section 9 and 16

Site Visit to PS-9 for Post Startup Oversight of Pipeline Strategic Reconfiguration Project
5-6 April 2007

Prepared by John Governale
10 April 2007



411 West Fourth Avenue
Anchorage, Alaska 99501
(907) 257-1300

**Trip Report on Site Visit to PS-9 Pipeline Strategic Reconfiguration Project
5-6 April 2007**

1.0 Purpose:

The purpose of the trip was to observe the pump station operations post SR startup, discuss the status of the standby generators, and discern the progress on the redesign of the pump module main line motor air intake.

2.0 Scope:

This report concentrates on observations and assessments made during the site visit conducted on 5-6 April at PS-9.

3.0 Observations and Analysis:

Upon arrival at PS 9, the JPO Team consisting of Tom Finger and John Governale coordinated with the Alyeska PS 9 O&M Supervisor Lori Howard concerning the objectives of our visit. We were informed that there was to be a shutdown the next day to perform various electrical tasks associated with SR scheduled. Ms. Howard also discussed tentative manning changes at PS 9 that will occur over the next few months. We were also informed that a pig launcher and receiver would be installed at PS 9 in the summer of 2008. Preliminary work for the project would begin this summer. We then attended a meeting where the Energy Isolation and Return to Service of 13.8 kV Power System was reviewed and redlined for the work the following day.

Below are areas of concern that were uncovered during the visit and observations of the shutdown.

- Excessive vibration of pump modules causing lighting failures, fasteners loosening, excessive gauge vibration, possible wire fatigue, and the potential for loosening and shifting of the module support piles. Jerry Dehaas is scheduled to come to the site to make measurements and formulate a strategy to mitigate the problem.

- Various pump station personnel were interviewed about the unplanned shutdown on 22 March. At the conclusion of the interviews it was evident that more investigation was needed to determine the root cause. Several technicians have been assigned to PS 9 until the root cause of the shutdown is discovered and modifications to the system can be made. Of special concern is the fact that OCC lost control and monitoring capabilities with PS 9 and were unaware that they had lost control. Also that OCC lost all control of the relief valves. It has also been noted that excessive amounts of nitrogen are being used. We were informed that when the valve actuators were sized it was assumed that the valve would open and shut once per event. In reality the valves tend to modulate after each upset and therefore use large quantities of nitrogen. A proposal has been made to replace the nitrogen with instrument air. A system is available at PS 10 that is no longer in use that could be relocated.

PS9 Site Visit 5-6 April 2007

•Shutdown of 6 April to accomplish preparatory work to install the switch for the temporary load bank (and later the permanent load bank), attach permanent grounding to sheath on cable (IWL 39-CM2-031), make changes to breaker control in PLC ladder logic, test 138-13.8 KW hardwired interlock, connect substation inverter, and several other small jobs. All of the tasks were finished and everything was completed for the 14 April shutdown when the switch will be installed for the connection of the load bank.

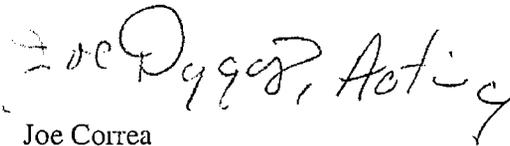
4.0 Conclusions and Recommendations:

Overall the PS-9 startup and run in period have gone smoothly. There are however, several significant issues that need to be resolved in order to have a high level of confidence that the station can run unmanned. The backup power issues need to be resolved, the failure of the FCU and the resulting problems, the redesign and replacement of the MLU motor intakes, and the vibration issues all require closure. Once these issues are resolved PS 9 will need to demonstrate a long period of uninterrupted operation before the legacy equipment is disconnected from the system.

5.0 Signatures:

Handwritten signature of John Governale, dated 20 Apr 07.

John Governale
General Engineer

Handwritten signature of Joe Correa, dated 20 Apr 07.

Joe Correa
T&DR Supervisor

Attachment M

Pump Station 9

**Suction Pipe Supported by Wooden Cribbing
To Protect it from Unanticipated Vibration**



– August 2007
(JPO Photograph)

Attachment N

Comprehensive Monitoring Program



Maintenance
Quality
Safety
Environment
Project Performance
Operations
Risk Management
Oil Spill Response
Construction

BLM added -
Employee Concerns
Native Employment
EEO

Attachment O

Interior Department Audit of JPO, February, 2001

U.S. Department of the Interior, Office of the Inspector General, "Survey Report: Oversight Activities of the Trans-Alaska Pipeline System, Bureau of Land Management," February 2001 (Report No. 01-I-206).

[Hard copy temporarily unavailable; on-line copy accessed via Google May 31, 2009 at <http://www.doioig.gov/upload/01-I-206.TXT>; copied with minor reformatting for printing.]

Report No. 01-I-206

Title: Survey Report on Oversight Activities of the Trans-Alaska
Pipeline System, Bureau of Land Management

Date: February 7, 2001

*****DISCLAIMER*****

This file contains an ASCII representation of an OIG report. No attempt has been made to display graphic images or illustrations. Some tables may be included, but may not resemble those in the printed version. A printed copy of this report may be obtained by referring to the PDF file or by calling the Office of Inspector General, Division of Acquisition and Management Operations at (202) 219-3841 .

U.S. Department of the Interior Office of Inspector General

EXECUTIVE SUMMARY

Oversight Activities of the Trans-Alaska Pipeline System,
Bureau of Land Management
Report No. 01-I-206
February 2001

The 800-mile Trans-Alaska Pipeline System (TAPS), which is operated by the Alyeska Pipeline Service Company, transports almost 20 percent of the Nation's domestically produced oil. Federal and State of Alaska agencies are required to ensure that TAPS operates safely, that oil spills are responded to timely, and that the environment is protected. One of these agencies, the Bureau of Land Management (BLM), enforces a Federal right-of-way Agreement on Federal lands, and another agency, the Alaska Department of Natural Resources, enforces the State's lease on State-owned and private land. In 1990, BLM and the Alaska Department of Natural Resources created the Joint Pipeline Office (JPO) to better coordinate Federal and State pipeline regulatory efforts.

The objective of the survey was to determine whether BLM adequately resolved deficiencies previously identified in TAPS.

We found that JPO took action to close all but 4 of 4,920 previously identified deficiencies, and after completion of our audit fieldwork, JPO reported that 1 of the remaining 4 items was closed. We also noted that JPO was developing a centralized data base to document its oversight activities, such as inspections conducted and deficiencies cited; JPO needs to take steps to ensure that information presented in its reports is accurate and supported; and JPO access to information from an Alyeska data base that identified TAPS maintenance records would aid in scheduling its monitoring of activities. Also, in July 1999, a private interest group made 44 allegations against JPO and Alyeska regarding the mismanagement of TAPS, which included electrical violations, materials that could not be traced to authorized suppliers, and improper inspector certifications. Based on our analyses of a matrix of these allegations prepared by JPO and a report

prepared by Alyeska's consultant, we determined that the allegations were not supported, were already known, or were being addressed by JPO or Alyeska.

We recommended that JPO (1) complete implementation of the centralized data base, (2) implement an internal quality control review process, and (3) obtain better access to maintenance data in Alyeska's data base.

AUDITEE COMMENTS AND OFFICE OF INSPECTOR GENERAL EVALUATION

BLM concurred with the report's three recommendations and agreed to take the recommended corrective actions. Based on the response, the recommendations were considered resolved but not implemented.

C-IN-BLM-002-99-R

SURVEY REPORT

February 7, 2001

Memorandum

To: Director, Bureau of Land Management

From: Roger La Rouché
Acting Assistant Inspector General for Audits

Subject: Survey Report on Oversight Activities of the Trans-Alaska Pipeline System,
Bureau of Land Management (No. 01-I-206)

INTRODUCTION

This report presents the results of our survey of the Bureau of Land Management's (BLM) oversight activities of the Trans-Alaska Pipeline System (TAPS). The objective of the survey was to determine whether BLM adequately resolved deficiencies previously identified in TAPS.

BACKGROUND

TAPS, which is operated by the Alyeska Pipeline Service Company, transports almost 20 percent of the Nation's domestically produced oil. The 800-mile pipeline extends from Prudhoe Bay, north of the Arctic Circle, over Federal, State of Alaska, and private lands, to the Port of Valdez on Prince William Sound. It crosses permafrost, 3 mountain ranges, about 800 rivers and streams, and 3 seismic fault zones. Alyeska operates the pipeline for seven owner companies.

Pursuant to the provisions of the Trans-Alaska Pipeline Authorization Act of 1973 (43 U.S.C. 1651), the United States, acting through the Secretary of the Interior, executed the

Agreement and Grant of Right-of-Way for Federal land on January 23, 1974 with the seven oil companies. The Agreement expires on January 22, 2004. In addition, the State executed a lease with the original seven oil companies for a right-of-way on State lands. The rights-of-way were granted for the purpose of constructing, operating, and maintaining an oil transportation pipeline consisting of one line of 48-inch-diameter pipe and related facilities. In addition, the Agreement for TAPS identifies the responsibilities, authorities, and requirements of all of the parties. According to the Agreement, the oil companies are required to ensure full compliance with all Federal laws and regulations and all provisions of the Agreement, including 47 stipulations that address areas such as fire prevention and suppression, health and safety, and contingency plans. Federal and State agencies are required to monitor and enforce the laws, requirements, and regulations intended to ensure that TAPS operates safely, that oil spills are responded to timely, and that the environment is protected. These agencies include BLM, which is responsible for enforcing the Federal right-of-way Agreement on Federal lands, and Alaska's Department of Natural Resources, which enforces the State's lease on State-owned and private land. The Department of Transportation's Office of Pipeline Safety is responsible for overseeing the operational safety of the entire pipeline under the Hazardous Liquid Pipeline Safety Act (49 U.S.C. 60108). In addition, the Environmental Protection Agency and the Alaska Department of Environmental Conservation are responsible for enforcing environmental regulations such as the Clean Water Act (33 U.S.C. 1251) along the pipeline and at the Valdez Marine Terminal in Valdez, Alaska. In 1990, BLM and the Alaska Department of Natural Resources created the JPO to better coordinate Federal and State pipeline regulatory efforts. JPO is funded primarily by BLM and the Alaska Department of Natural Resources. Alyeska is required, however, to reimburse BLM for all reasonable costs related to overseeing the pipeline, and by agreement, Alyeska began in 1990 to reimburse Alaska for part of its costs. Staff are provided by BLM, other Federal agencies, and several State agencies. JPO's costs were \$2.7 million in 1997 and \$3.3 million in 1998 (Federal and State agencies that have responsibilities regarding TAPS are in Appendix 1).

Previously Identified Pipeline Deficiencies

The July 1991 General Accounting Office report titled "Trans-Alaska Pipeline Regulators Have Not Ensured That Government Requirements Are Being Met" (No. GAO/RCED-91-89) stated that the grounding of the Exxon Valdez in March 1989 and its resultant oil spill and discovery of corrosion along the pipeline focused more attention and concern on the risks associated with transporting oil. The report also stated:

To successfully fulfill their oversight responsibilities, the five regulatory agencies can no longer be content with relying on Alyeska to police itself. The complacency that has existed in the past must be replaced with a systematic, disciplined, coordinated approach that will ensure TAPS' operational safety, oil spill response, and environmental protection. The formation of the joint office as well as recent increases in staffing levels by BLM and other agencies are encouraging signs that more oversight attention will be paid to TAPS' activities in the future.

In 1993, Alyeska and JPO each hired consultants to provide audits of the operations of the pipeline. These audit reports and subsequent technical reports (see Appendix 2) presented

4,920 audit action items that identified deficiencies in pipeline operations. In 1994, one consultant categorized the audit deficiencies based on priority levels and entered the information into the audit compliance tracking system, which was used by both Alyeska and JPO to track the audit findings. JPO uses definitions for the priority levels as follows:

Priority 1 (P-1) – Those structures, systems, and components which prevent or mitigate the consequences of an accident or natural event which could cause significant harm to the health and safety of the public, significant harm to the environment, or significant loss of pipeline integrity.

Priority 2 (P-2) – Those structures, systems, and components that do not meet the definition of P-1, but which are important for compliance with regulations regarding safety and the environment, and for the reliable transport of oil. This level requires selected application of quality program elements.

Priority 3 (P-3) -- Those structures, systems, and components that by themselves would have minimal impact on safety and the environment, and for the reliable transport of oil, but to which Alyeska elects to apply selected quality program elements.

Priority 4 (P-4) – Those structures, systems, and components not designated P-1, P-2 or P-3 and for which application of normal industry practices results in acceptable quality.

The General Accounting Office issued the report in August 1995 titled "Trans-Alaska Pipeline Actions to Improve Safety Are Under Way" (No. GAO/RCED-95-162) (see Prior Audit Coverage section of this report). The report stated that Alyeska had made progress in resolving the audit action items but that it was taking longer than originally planned. By the end of April 1995, Alyeska had corrected about 3,030 (62 percent) of the 4,920 audit action items identified.

As of March 2000, JPO had cleared all but 4, 1 of which consolidated 14 prior audit deficiencies, of the 4,920 audit deficiencies. The remaining four audit deficiencies consisted of two Priority 1 and two Priority 2 deficiencies.

Comprehensive Monitoring Program

Since 1995, JPO has been providing oversight of TAPS as part of the Comprehensive Monitoring Program developed by Booz-Allen & Hamilton, Inc., a consultant to improve the effectiveness of JPO's operation. The consultant determined that to address risk effectively, JPO needed to focus more on Alyeska's management of pipeline operations and maintenance activities. The Program has a three-tier approach to oversight. Surveillance, the first tier, is where the most basic monitoring occurs through observations in the field by verifying compliance with (1) grant and lease stipulations, (2) plans to correct pipeline deficiencies identified by audit, and (3) Alyeska's established procedures for specific TAPS activities. Tier two involves assessments that capture trends and identify findings from related surveillances and engineering reports. Assessments are the primary method JPO uses to issue findings to Alyeska that require corrective action. These assessments are more technical in nature and are designed primarily to communicate findings to Alyeska. Tier

three is reporting. That is, assessment findings, as well as Alyeska's responses to findings, trends, and conditions, are included in Comprehensive Monitoring Program reports, which normally cover an 18-month period.

The results of the Comprehensive Monitoring reports issued during the year are rolled up into JPO's annual report. The annual report presents JPO's work plan objectives and its accomplishments for the previous year, as well as the upcoming year's work program goals.

SCOPE OF SURVEY

The survey was performed during September 1999 through May 2000 at JPO's and Alyeska's offices in Anchorage and Fairbanks, Alaska, and at the Valdez Marine Terminal. To accomplish our stated objective, we interviewed JPO agency personnel, Alyeska personnel, members of the Regional Citizens' Advisory Council, and personnel associated with recent allegations of TAPS mismanagement. We also observed JPO's surveillances of slope stability on Treasure Creek north of Fairbanks and observed operations at the Valdez Marine Terminal Operations Control Center during scheduled pipeline repairs. As part of our review, we followed up on allegations concerning TAPS mismanagement (see section "Allegations" in this report) made in July 1999 related to the falsification of records, the harassment of employees, deficiencies in electrical systems, and deficiencies in Alyeska's quality assurance program and in the Valdez Marine Terminal Vapor Control System. The Acting Assistant Secretary for Land and Minerals Management responded to these allegations in an August 12, 1999 letter.

We also reviewed JPO's files on prior pipeline deficiencies that were classified as closed. We selected 28 audit action items (13 Priority 1 and 15 Priority 2) that were cleared by JPO from 1994 through 1998 to determine whether the closures were adequately supported. We selected closed audit action items that pertained to the allegations regarding TAPS, including those related to the Valdez Marine Terminal.

Our survey was conducted in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States. Accordingly, we included such tests of records and other auditing procedures that were considered necessary under the circumstances. As part of our review, we assessed JPO's systems of internal controls applicable to inspecting and tracking prior pipeline deficiencies and monitoring compliance with Federal and State regulations and found weaknesses relating to tracking and reporting compliance issues. These weaknesses are discussed in the Results of Survey section of this report. Our recommendations, if implemented, should improve the internal controls in these areas.

We also reviewed the Departmental Report on Accountability for fiscal year 1998, which includes information required by the Federal Managers' Financial Integrity Act of 1982, and BLM's annual assurance statements on management controls for fiscal years 1998 and 1999 to determine whether any reported weaknesses were within the objective and scope of our review. No reported weaknesses identified were within the scope of our review.

We also reviewed BLM's Annual Performance Plans for fiscal years 1999 and 2000, which include information required by the Government Performance and Results Act of 1993, to determine whether any goals or objectives related to JPO were within the scope of our

review. We found that no goals or objectives related to JPO were identified in the Annual Performance Plans.

PRIOR AUDIT COVERAGE

The Office of Inspector General has not issued any audit reports related to JPO. During the past 5 years, however, the General Accounting Office has issued one audit report on TAPS. The report, "Trans-Alaska Pipeline Actions to Improve Safety Are Under Way," (GAO/RCED-95-162) dated August 1995, focused on determining whether the planned corrective actions would address deficiencies in the pipeline's electrical systems, quality, and preventive maintenance and whether regulators had taken actions to improve oversight of the pipeline. The report also discussed the root causes of pipeline deficiencies. The report stated that Alyeska had corrected about 3,030 (62 percent) of the almost 4,920 deficiencies identified and that the root causes of the pipeline's deficiencies included Alyeska's philosophy of reacting to problems rather than conducting programs aimed at prevention and early detection and regulators' inadequate oversight of contractor operations. The report did not contain any recommendations.

RESULTS OF SURVEY

The results of our review are summarized as follows:

JPO's actions to close all but 4 of the 4,920 previously identified audit action items were adequately supported.

JPO was developing a centralized data base to document its oversight activities, such as inspections conducted and deficiencies cited. Because the data base was not yet compiled, we did not attempt to determine whether JPO effectively accomplished its inspection and oversight duties.

JPO needs to establish an internal quality control review process to ensure that information presented in its Comprehensive Monitoring Program reports and annual reports is accurate and supported.

JPO could more effectively schedule its monitoring activities if it had better access to information from an Alyeska data base that identified TAPS maintenance records.

Allegations of July 1999 concerning TAPS mismanagement were not supported, were already known, or were being addressed by JPO or Alyeska.

Previously Identified Pipeline Deficiencies

We found that except for the four remaining open items, JPO's actions to close the 4,920 pipeline deficiencies identified previously were adequately supported. We based our conclusion on a review of 28 Priority 1 and Priority 2 case files taken from JPO's Audit Compliance Tracking System data base. The case files contained sufficient documentation to address the deficiencies cited. For example, one audit action item identified 16 of 464 locations where the pipeline was initially in contact with the vertical support member.

Alyeska had subsequently moved the pipeline away from the supports. Alyeska, however, had not performed a technical review of the situation and did not have written procedures on how to involve engineering in analyzing the stresses put on the pipeline. Alyeska revised its maintenance and repair manual to include engineering involvement in any future contact evaluation/repair. Both the revised repair manual and the engineering analysis of the stresses involved were submitted to JPO for review. JPO accepted the corrective action based upon the development of procedures and manuals. In addition, JPO had conducted surveillances on 7 of the 28 cases.

A JPO official said that JPO's approach to closing the audit action items was to confirm that a corrective action plan by Alyeska addressed the apparent cause of the finding. Specifically, the official stated that JPO reviewed 100 percent of the corrective action plans and analyzed 100 percent of the supporting documentation for the Priority 1 audit action items, reviewed 100 percent of the corrective action plans and analyzed 20 percent of the supporting documentation for the Priority 2 audit action items, and reviewed 100 percent of the corrective action plans for the Priority 3 audit action items. The official also said that any review of the corrective action plans for Priority 4 audit action items was left for Alyeska's internal audit function. The JPO official also said that a verification of the effectiveness of these corrective actions would take place only as part of the surveillance process under the Comprehensive Monitoring Program. The surveillances are scheduled as part of JPO's annual work plan and can be either active or passive. An active surveillance consists of a site visit to confirm that a corrective action has been taken to monitor Alyeska's activities, or to follow up on a nonconformance report or corrective action request issued by Alyeska. A passive surveillance is a review of engineering reports or other data submitted by Alyeska.

The four remaining open audit action items are as follows:

-- Audit action item 1955 consolidated 14 action items (2 Priority 1, 10 Priority 2, 1 Priority 3, and 1 Priority 4) that captured improvements to the change management process and the engineering drawing program. The findings associated with this item discussed the as-built condition of TAPS, stating that TAPS drawings and data were not current and not representative of the installed facilities.

-- Audit action item 2076 (Priority 1) said that the remote gate valve control system needed to be upgraded to improve security against unauthorized intrusion and to prove remote diagnostic ability to detect and correct system impairments.

-- Audit action item 2113 (Priority 2) said that the measurement of performance and the training of technicians and controllers needed to be upgraded.

-- Audit action item 50528 (Priority 2) said that workpad bridges had to have adequate clearance to accommodate the 50-year flood clearance requirements, adequate load capacity, seismic integrity, and use of non-low-temperature steel.

We concluded that resolution of these four audit action items had not been accomplished because of the long-term nature of the improvements needed and the complexity of the improvements. For example, audit action item 50528 for improvements to workpad bridges resulted in Alyeska's removing one bridge in 1998 and replacing four bridges in 1997 and 1998. In addition, Alyeska said that it planned to replace one bridge and upgrade nine more

bridges in 2000. Alyeska estimated that the four open audit action items would be closed during 2000.

Inspection and Oversight

JPO has been conducting surveillances since 1995 as part of the Comprehensive Monitoring Program. JPO develops annual work plans to schedule planned work loads for the subsequent year by program area and to allocate personnel to perform its inspection and oversight activities of TAPS. The work loads are based on a list of planned projects submitted by Alyeska, problems identified by JPO during prior surveillances, open audit deficiencies, and nonconformance reports submitted by Alyeska that identify pipeline-related problems. In addition, JPO released seven Comprehensive Monitoring Program reports from 1997 through 1999. The issuance of these reports was recommended by a consultant, who said that JPO should focus its monitoring on 12 program areas. In 1999, JPO consolidated the 12 areas into 4 areas: maintenance, operations, construction, and culture. Comprehensive Monitoring Program reports are designed to provide information to concerned citizens and regulatory agencies on particular focus areas and discuss Alyeska's compliance with grant and lease stipulations. The reports are the bases for JPO's annual reports. JPO did not, however, develop a comprehensive compliance tracking system to centrally record its inspection and oversight activities and Alyeska's compliance with Agreement stipulations and Federal and State regulations along the pipeline and its related facilities until November 1999.

JPO began development of a new Comprehensive Monitoring Program data base in 1999 that would identify all the Agreement stipulations and Federal and State regulations by pipeline facility and by regulatory agency. As of November 1999, JPO had entered all of the 1999 surveillances into the data base and was in the process of entering all prior years' data. JPO estimated that 1997, 1998, and 2000 surveillances would be in the data base by September 30, 2000. When fully operational, according to JPO officials, the new data base should be able to document all oversight work performed, including assessment and engineering reports, from 1997 to 2000 by JPO and its related agencies and to provide JPO with sufficient information to effectively schedule future surveillances to determine whether all facilities are complying with the applicable stipulations and regulations.

Quality Control Over Reporting

JPO needs to institute an internal quality control review process to verify that findings in its annual and comprehensive monitoring reports on TAPS are adequately supported by accurate and reliable source documentation. Without such a process, JPO does not have assurance that information in its reports is accurate. For example, we found that JPO's April 1998 Comprehensive Monitoring Program report stated that Alyeska had complied with Agreement stipulations on both fire prevention and suppression and on health and safety at the Valdez Marine Terminal. JPO's compliance finding should have been qualified, however, to clearly state that a review of the operability of the fire suppression system review had not been conducted. In that regard, a 1999 JPO assessment found that sludge accumulations brought into question the operability of the subsurface fire suppression system and that, as a result, JPO ordered Alyeska to test the system.

Access to Alyeska Maintenance Records

We believe that direct access to Alyeska's passport system, a data base system that identifies all Alyeska maintenance work orders by facility, would enable JPO to more effectively plan its surveillances and evaluate Alyeska's compliance with the Agreement. In that regard, we noted that the system had a backlog of 3,345 uncompleted work orders as of November 1999. According to a JPO official, JPO can request Alyeska to provide JPO with maintenance data from Alyeska's passport system. We believe, however, that it would be more effective for JPO to have "read only" access for use in planning its inspection and oversight activities.

Allegations

Our review of the July 1999 allegations made against JPO and Alyeska consisted of our analyses of a matrix prepared by JPO that addressed each of the 44 allegations and a report prepared by Alyeska's consultant on the allegations. In addition, we had discussions with a representative of the personnel who initiated the allegations. Our review of JPO's matrix found that 2 allegations were not supported; 13 allegations had been previously identified as a pipeline deficiency by JPO, Alyeska, or a consultant; or Alyeska had corrected the problem for 10 allegations and had issued a plan for addressing the problem for 19 allegations. In addition, we reviewed documentation for JPO's matrix conclusions on a sample of 10 of the 44 allegations and determined that JPO had adequately addressed the 10 allegations. The report by Alyeska's consultant and JPO also identified recurring issues resulting from improper change management procedures, which is open audit action item 1955. In addition, the report identified recurring issues that are undergoing evaluation as follows:

National Electrical Code violations for electrical components of the Valdez Marine Terminal.

Use of project materials that, because of the lack of purchase order numbers, could not be traced to authorized suppliers.

Supplies and materials not being inspected for quality by engineering personnel.

Improper inspector certifications.

Other recurring allegations against Alyeska management by Alyeska's employees were those of "harassment," "intimidation," and "discrimination." A JPO comprehensive monitoring report on Alyeska's Employee Concerns Program and JPO's monitoring of the Program identified problems that resulted in 23 recommendations, which, according to a JPO official, had been reported as implemented. Additionally, the official stated that JPO intends to conduct another review of Alyeska's Employee Concerns Program in 2000 to confirm that the recommendations have been implemented and to assess the effectiveness of the Program.

Recommendations

We recommend that the Director, BLM, require the JPO to:

1. Complete implementation of the comprehensive monitoring program data base

to ensure effective monitoring of TAPS before the Agreement and Grant of Right-of-Way is renewed.

2. Implement an internal quality control review process to ensure that all external JPO reports on TAPS are supported by accurate and reliable source documentation.

3. Obtain better access to maintenance data in Alyeska's passport system to assist in effectively scheduling JPO surveillances. For example, JPO could obtain this information by obtaining "read only" access at either Alyeska's computer terminals or by an on-line link from JPO's computer system.

On August 11, 2000, we held an exit conference with BLM and JPO officials. Overall, the officials agreed with the report's three recommendations. The officials, however, suggested changes to the report, which we considered and incorporated as appropriate.

BLM Response and Office of Inspector General Reply.

In the November 3, 2000 response the (Appendix 3) to the draft report the Director, BLM, stated that the "report is factually correct and well written" and they concurred with the three recommendations. In subsequent communications, BLM officials informed us that the target date for implementation of the three recommendations was March 31, 2001.

Based on the responses, we consider the three recommendations resolved but not implemented. Accordingly, the recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

No further response to the Office of Inspector General is required (see Appendix 5).

Section 5(a) of the Inspector General Act (5 U.S.C. app. 3) requires the Office of Inspector General to list this report in its semiannual report to the Congress. In addition, the Office of Inspector General provides audit reports to the Congress.

APPENDIX 1

JOINT PIPELINE OFFICE

FEDERAL AND STATE AGENCIES LOCATED AT THE JOINT PIPELINE OFFICE

Federal Agencies

Department of the Interior, Bureau of Land Management
Environmental Protection Agency

State of Alaska Agencies

Department of Natural Resources
Department of Environmental Conservation

Department of Fish and Game
Department of Labor
Office of Management and Budget, Division of Government Coordination

COOPERATING FEDERAL AGENCIES NOT LOCATED AT
THE JOINT PIPELINE OFFICE

Department of Transportation, Office of Pipeline Safety
U.S. Coast Guard
U.S. Army Corp of Engineers

APPENDIX 2

REPORTS AND KEY EVENTS SINCE 1993
CONCERNING TRANS-ALASKA PIPELINE SYSTEM ACTIVITIES

- | | |
|----------------|---|
| July 1993 | Hearing on Trans-Alaska Pipeline System (TAPS), House Committee on Energy and Commerce. (Hearings held to examine Alyeska Pipeline Service Company's ability to manage and operate TAPS safely and the effectiveness of the Federal Government's oversight of Alyeska.) |
| August 1993 | BLM contracts with Quality Technology Company (QTC) to audit TAPS operations. |
| September 1993 | TAPS owners contract with Arthur D. Little, Inc., to perform an independent assessment of TAPS operations. |
| November 1993 | BLM issues Phase I audit report by QTC, which reports numerous problems with TAPS electrical systems. |
| November 1993 | House of Representatives Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, holds hearing on TAPS as followup to July hearings. |
| December 1993 | Arthur D. Little, Inc., issues its Phase I interim report on the assessment of TAPS operations. (The report identified 1,132 action items of the 4,920 action items.) |
| January 1994 | QTC completes Phase II report for the BLM audit. (The QTC audit identified 22 overall deficiencies, and Alyeska translated the 22 deficiencies into 208 audit action items.) |
| February 1994 | Joint Pipeline Office (JPO) hires Stone & Webster Engineering Corporation to assist with providing oversight of the pipeline system. |
| February 1994 | JPO hires Booz-Allen Hamilton to review JPO organization. |

June 1994	Booz-Allen Hamilton issues the "Final Report - Comprehensive Monitoring Program for JPO" and the "Final Report - Organization and Staffing for JPO."
July 1994	Arthur D. Little, Inc., issues its final report on TAPS. (The report identified an additional 3,100 audit action items. With these items and with additional findings from other audits, the audit action items totaled 4,920.)
August 1995	The General Accounting Office issues the report "Trans-Alaska Pipeline: Actions to Improve Safety Are Underway." (Report states that Alyeska corrected 3,030 of 4,920 identified audit action items.)
July 1999	Declaration letter dated July 9 to the Congress and the Secretary of the Interior transmits allegations concerning the integrity of TAPS.
August 1999	Alyeska hires Little Harbor Consultants to review the allegations in the declaration letter to the Congress.
September 1999	Little Harbor Consultants issue a report on TAPS that addresses the allegations in the declaration letter to the Congress.

APPENDIX 3

RESPONSE TO DRAFT REPORT FROM BLM

APPENDIX 4

STATUS OF AUDIT REPORT RECOMMENDATIONS

Finding/Recommendation
Reference
Status
Action Required

A.1, A.2, and A.3 Resolved; not implemented.

No further response to the Office of Inspector General is required.

The recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.