

Monitoring

How JPO monitors TAPS compliance with federal, state laws

Agencies participating in the Joint Pipeline Office

State

- Department of Natural Resources
- Department of Environmental Conservation
- Department of Fish and Game
- Department of Labor and Workplace Development
- Department of Public Safety
- Department of Transportation Public Facilities
- Division of Governmental Coordination

Federal

- Department of Interior Bureau of Land Management
- Department of Interior Minerals Management Service
- Department of Transportation Office of Pipeline Safety
- Department of Transportation U. S. Coast Guard
- Environmental Protection Agency
- Army Corps of Engineers

The Trans-Alaska Pipeline (TAPS) Federal Agreement and Grant of Right of Way (Grant) and State Right-of-Way Lease (Lease) were issued in 1974. After TAPS construction and prior to 1994, compliance monitoring and deficiency identification focused on surface and environmental protection, corrosion abatement, oil spill contingency (after Exxon Valdez) and land use permitting. JPO developed the Comprehensive Monitoring Program (CMP) to provide procedures and reporting mechanisms to enforce the stipulations and sections of the Grant and Lease for TAPS. The CMP does this, in addition, to the traditional compliance mechanisms employed by government agencies.

This chapter explains the purpose and processes of the CMP, discusses Grant and Lease requirements, defines compliance and clarifies the types of reports used to compile this Compliance CMP Report.

Comprehensive Monitoring Program and Grant and Lease Compliance

The basic purpose of the CMP is to systematically verify compliance with the Grant and Lease, in addition to the other traditional tools. The monitoring program identifies deficiencies and establishes formal notifications of those deficiencies and correction expectations to Alyeska Pipeline Service Company (Alyeska), imposes correction deadlines, tracks and retains information, and verifies results.

The Grant and Lease provides JPO authority to require corrective action.

Compliance Requirements and the Role of Government/JPO

JPO monitors TAPS and Alyeska's activities to identify deficiencies in performing obligations imposed by Grant and Lease and compel corrective action. JPO agencies receive its compliance authority through various sources:

- The Grant contains sections and stipulations under the authority of the Mineral Leasing Act, the Trans-Alaska Pipeline Authorization Act and the contractual terms of the Agreement between the Permittees and the Department of the Interior.
- The Lease contains sections and stipulations under the authority of Alaska Statute 38.35. These sections and stipulations often mirror those of the Grant.
- Federal and state agencies enforce regulations based upon several laws and published regulations each with its own enforcement protocol.
- Permits and authorizations issued by the JPO cover activities (e.g., ADF&G Title 16 permits), programs (e.g., oil spill contingency plans approved by BLM and the ADEC among other agencies) or land use authorizations (e.g., federal temporary use permits or state land use permits, mineral material sales and water use authorizations).

The JPO also ensure that Alyeska, as agent for the six TAPS owners, complies

JPO ensures that Alyeska:

- 1) Obtain all the necessary permits and authorizations to operate TAPS.
- 2) Know all the requirements whether from regulation, permit condition, Grant/Lease stipulation or other government process.
- 3) Reasonably detect deficiencies related to these requirements.
- 4) Correct deficiencies in a timely matter according to risk.

with specific responsibilities spelled out in the Grant /Lease.

Essential JPO compliance activities are:

1) Issuing all permits and authorizations to operate TAPS. These permits and authorizations have long-established protocols with minor modifications applied over time to improve the processes.

2) Monitoring TAPS and Alyeska's activities to identify compliance with the Grant and Lease, federal and state laws and regulations, identify deficiencies, and compel corrective action.

3) Responding to events and ensure adequacy of Alyeska's response.

Once JPO requires corrective action through the appropriate governmental process, Alyeska must perform the required action and satisfy the government that the deficiency is corrected. In some instances, performance may be completed through the Grant or Lease by the government and paid for by the owners. A failure by Alyeska to comply in a sufficient and timely manner may result in civil penalties where allowed by regulations or Grant/Lease termination using the process described in Grant Section 31 or Lease Section 30.

What is Compliance

The terms "noncompliance," "aspects of noncompliance," and "stipulation deficiency" are used virtually interchangeably in various JPO reports to describe a situation where Alyeska needs to remedy a specific condition or programmatic problem.

JPO's use of these terms should not be confused with the level of noncompliance (including a refusal to comply when

notified of noncompliance) that would be needed to reach the stage of formal action being brought for Grant/Lease termination or unilateral modification authority available under law. Rather, these are terms used to inform government policy makers and the public about the issues JPO is working on with Alyeska and how the issues relate to the Grant/Lease.

JPO component agency authorities vary. From these authorities, individual agencies also issue permits and authorizations. Some agencies are regulatory in nature and can impose punitive actions if necessary.

JPO History

JPO organization, structure and focus has metamorphosed over the course of almost three decades. The first joint agency office was formed during TAPS design and construction and contained three distinct bodies: the Alaska Pipeline Office (federal), the State Pipeline Coordinator (state), and the Joint Fish and Wildlife Advisory Council (federal and state environmental agencies).

The second transformational phase evolved to work on the Alaska Natural Gas Transportation System proposal and included an Office of the Federal Inspector. This phase integrated federal oversight and a separate and distinct State Pipeline Coordinator's Office.

The third and current JPO structure was formed in 1990 for three reasons:

- a new gas pipeline had been proposed, the Trans-Alaska Gas System (TAGS);
- Congress demanded a coordinated and comprehensive approach to monitoring and regulating TAPS after the Exxon Valdez oil spill in Prince William Sound

highlighted the need to upgrade the TAPS contingency and preparedness plan; and,

- the discovery of corrosion and the subsequent replacing of almost nine miles of mainline pipe near Atigun Pass.

The purpose of a joint agency office has always been to provide a coordinated voice whenever possible for oil and gas pipeline responsibilities.

The Bureau of Land Management and Alaska Department of Natural Resources came together in 1990 to form the JPO. Other state and federal agencies participated and voluntarily joined, reflecting today's structure of 13 agencies. The one-stop-shop, one-voice concept has proven efficient and beneficial to industry and the public.

Comprehensive Monitoring Program Functions

Active Monitoring. This monitoring approach is often used for consequential activities on projects returning the greatest value for the use of government resources. The activities that place pipeline integrity, public safety or the environment at a greater risk are subject to more frequent and more intensive compliance monitoring.

Passive Monitoring. This “trust but verify” approach uses Alyeska reports, records and quality audits in conjunction with some JPO verification, to evaluate compliance. This method is used where the public consequences are low and the use of government resources return low benefit.

System Integrity Monitoring. Reliability Centered Maintenance (RCM) is a highly rigorous process used to identify the maintenance needs of a

physical asset to ensure operational safety and functional reliability.

The RCM analysis provides quantified information about:

- the current functional state of TAPS;
- the adequacy of current system monitoring methods to identify potential functional failures (inclusive of hidden failure modes);
- the effectiveness of current Alyeska maintenance activities to ensure functional reliability (i.e., corrective actions taken to address potential failures); and
- suitability of TAPS current operating conditions to that of the original design.

Monitoring Processes and Reports

JPO's CMP documentary efforts include surveillance reports, engineering/technical reports and assessments. Information from these documents are analyzed and reviewed in CMP reports.

Surveillance reports usually break requirements into list form or measurable parts called “attributes.” Each attribute specifies the requirement, documents how it was measured or observed, and makes a judgment of whether the observation was satisfactory, unsatisfactory (deficiencies identified) or corrected on the spot. A surveillance looks at an individual item or action snapshots. It focuses on specific individual items and is not system wide.

Technical or engineering reports are the most flexible tool in the CMP tool box. These reports are used when the analyst needs to use scientific or engineering judgment and document calculations or rationale for professional opinion. They may include and attach surveillances to document aspects of the issue that are addressable by observation or

Over the years, events and individual actions have profoundly influenced the JPO. The office has evolved, reinventing itself as needed. Because of — or perhaps in spite of — these influences, the JPO is today a far different and more effective entity. Each influence has contributed to the development and continual upgrade of the CMP. The events and major influences (highlighted on page 1-5) were instrumental in JPO's progression. They partly explain why JPO oversees TAPS with its main monitoring tool, the CMP.

Grant and Lease termination

It is important to note that JPO never had to resort to the point where Grant and Lease termination was considered. When deficiencies or noncompliances were noted, Alyeska was allowed to make corrections. JPO views this relationship as similar to a landlord-tenant relationship where the tenant receives notifications of potential violations and then has an opportunity to correct them. If the tenant continues to violate “lease” agreements, then the landlord could start formal lease evictions, a step so far not needed in TAPS oversight.

documentation. The output of technical or engineering reports is often formal letters to Alyeska requesting specific information. Therefore, these reports may document the decision that additional or more extensive study of the issue is required. The reports can also use the “finding” protocol for compelling corrective action if a Grant/Lease deficiency is identified.

Assessment reports are broader in scope than surveillance reports and equivalent to the largest scope technical/engineering reports. Assessments usually consider the results of several surveillances or engineering reports to identify compliance deficiencies that are addressed by formally issuing “findings” and corrective expectations by letter to Alyeska. The purpose of assessments is to identify trends in deficiencies.

CMP reports are the broadest in scope. They are the key scheduled outputs of JPO work plans and are released after completing a defined scope of work. CMP reports often summarize JPO work products and are not intended to be self-auditable documents. The information used to draw conclusions in the CMP report is contained in JPO files, subordinate reports, and the CMP database.

CMP reports are designed to:

- Be readable by lay audiences and will often contain photos and background information not found in surveillance or assessment reports.
- Follow-up issues and deficiencies cited in previous JPO reports.
- Put issues and compliance into broader perspective and be JPO’s “scorecards” for a defined scope of work.
- Function as an assessment document and include findings and compliance conclusions.

Surveillance, technical, and assessment reports are written for technical staff both in government and Alyeska. They document work, address issues, and — most importantly — identify potential deficiencies, serving as the basis for required corrective action. With a few exceptions, these documents are not written or edited for lay audiences. Often they are not the “last word” on the subject because JPO anticipates further work.

Environmental Review

There are 59 environmental stipulations and sub-stipulations in the Grant/Lease. Areas of coverage include pollution control, buffer strips, erosion, fish passage, fish and wildlife protection, material sites, clearing, restoration, and contingency plans.

JPO annually inspects all material sites to determine if Alyeska is in compliance with Grant/Lease stipulations, provisions of the federal and state material sale contracts, and the Mining and Reclamation Plans for each site. At any given time, Alyeska uses about 68 active material sites along the TAPS corridor, 42 on federal land and 26 on state land.

Alaska’s Department of Fish and Game (DF&G) conducts surveillances at various locations along TAPS to evaluate Alyeska compliance with fish passage requirements for culverts and low water crossings.

The Grant/Lease, and federal (e.g. U. S. DOT Office of Pipeline Safety) and state statutes require oil spill contingency plans. Among JPO agencies, these requirements are administered by the ADEC, BLM, EPA and DOT/OPS. The DEC has the most prescriptive regulations. The JPO Oil Spill Prevention,

JPO Historical Events and Influences

- 1993 • Energy and Commerce subcommittees conducted hearings in July to examine safety-related issues on TAPS. Alyeska whistle blowers testified at the Congressional hearings. JPO expanded its oversight.
- 1994 • World-class consultants were retained to help reshape and train JPO staff. A three-tier monitoring program became the precursor for the current Comprehensive Monitoring Program.
- The JPO Oil Spill Prevention, Preparedness, and Response Coordination Team was formed.
 - The heads of 11 participating agencies signed the *Agreement to Support the State-Federal JPO*, thus forming the JPO Executive Council.
- 1995 • GAO released its report *Actions to Improve Safety are Under Way*. They concluded that JPO was on the right path to improve its oversight.
- JPO work plan mapped the transition of JPO.
- 1996 • JPO approved Revision 8.1 of Alyeska's Quality Program.
- JPO responded to the Check Valve 92 oil spill.
 - JPO retained Battelle Labs to help evaluate pipe vibration at Thompson Pass.
- 1997 • JPO audited Alyeska's Employee Concerns Program and compliance with the 1995 Alaska Native Utilization Agreement. These are considered the first two CMP reports.
- JPO and Alyeska entered into an MOU that addressed the testing of 177 mainline valves by 2000.
 - JPO established its Fairbanks field office and expanded the Valdez field office.
- 1998 • JPO issued three CMP reports covering environment, safety and project performance.
- JPO focused heavily on initial operations of Valdez Marine Terminal's Vapor Recovery System.
 - JPO monitored replacement of Remote Gate Valve 80 and Check Valve 122.
- 1999 • JPO issued two CMP reports covering operations and maintenance.
- Several orders were issued to Alyeska to bring it into compliance in some areas and to implement corrective actions.
 - Auditors from the Department of Interior evaluated oversight effectiveness to determine if the deficiencies were adequately resolved.
 - JPO monitored replacement of Remote Gate Valve 60.
- 2000 • JPO determined that Alyeska's Corrosion Control Management Program would serve as the basis for compliance with 49 CFR 195 and Stipulation 3.10.
- JPO conducted, compiled, and published employee concerns survey of TAPS workers.
 - JPO and US Coast Guard investigated Valdez Marine Terminal incidents.
 - JPO monitored replacement of Check Valve 74.
- 2001 • JPO issued three CMP reports covering construction, operations and maintenance.
- JPO refocused its work plan to ensure coverage of stipulations that address activities of relatively lower risk in TAPS operations.

Risk-based oversight

JPO oversight objectives—environmental protection, public and employee safety, and pipeline integrity—are in part, accomplished by understanding hardware condition, ensuring that hardware and systems meet requirements, requiring effective management controls, and insisting on sufficient failure planning and response capability.

The goal of risk-based oversight is to understand and observe those areas posing the greatest risk that can have the most profound negative effects. This approach justifies the greatest expenditure of government resource for oversight activities.

Understanding risks is vital, particularly when combined with JPO's other long-standing monitoring methods.

Preparedness, and Response Coordination Team comprised of representatives from these agencies, work together to continually evaluate response plans. The plans have undergone significant changes since 1991 when Alyeska's plan was substantially rewritten after the Exxon Valdez incident.

Alyeska's Oil Discharge Prevention and Contingency Plan embraces actions to prevent an oil spill and provides the necessary information in the event of a spill for effective cleanup. Once a spill happens, the ability to effectively clean and avoid impacts to the environment depends upon many variables.

Corrective Action

The monitoring and surveillance process is multifaceted. Areas that are in compliance are identified, issues under a specific agencies jurisdiction are referred to the appropriate agency and deficiencies are noted as "findings," and communicated to Alyeska for correction.

JPO addresses issues needing correction under the Grant/Lease using "notices" and "orders." Under Stipulation 1.6 of the Grant/Lease, notices and orders can be issued to Alyeska to complete repairs and address problems. Notices and orders are primarily issued if Alyeska is slow to respond or its activities are inadequate in correcting serious deficiencies.

What is the difference between a JPO "unsat" (i.e. a surveillance report attribute marked unsatisfactory) and a "finding?" Findings are formally communicated to Alyeska and require corrective action to JPO's satisfaction. While surveillance report attribute "unsats" are frequently the source of a finding, they can also serve to

capture issues or possible trends which may later rise to findings. Surveillance unsats are not formally communicated to Alyeska and do not, by themselves, require corrective action.

Adaptive Nature of Grant/Lease

Federal law gives the Department of the Interior and its officials broad power to add special requirements to the construction, operation, maintenance and termination of TAPS to protect the public interest. The federal Grant has specific processes and authority to accomplish this and the state Lease has mirror provisions. In 12 cases, special requirements were formally issued and now constitute compliance requirements. The special requirements are:

- Criteria for timely update of documents affecting critical systems, Stipulation 1.18.3;
- Zones of restricted activities for peregrine falcon and other raptors, Stipulation 2.5.3;
- Zones of restricted activities of key fish areas on TAPS on federally administered lands, Stipulation 2.5.3;
- Slope stability performance, Stipulation 3.2.1.2;
- Earthquake monitoring system, Stipulation 3.4.1.2 and Stipulation 1.3.2;
- Fault monitoring, imposing special provisions, Stipulation 3.4.2.3 and Stipulation 1.3.2
- Glacier surges, Stipulation 3.8
- Revised JPO brushing policy, various stipulations
- Performance requirements for depth of cover at buried mainline pipe side-bend and over-bend locations, imposing special provisions under authority of Stipulation 1.3.2

- Above ground system additional requirements pursuant to stipulation 3.2.1.2

- Restoration performance requirements pursuant to Stipulation 2.12.1

- Pipeline system standards for pipe curvature, imposing special standards under authority of Stipulation 3.2.1.2

Work Planning Process

JPO's work plan is developed annually. There are a number of drivers that influence these plans and they can change as circumstances warrant. Essentially, work on TAPS can be categorized as planned and unplanned.

Unplanned work is caused by incidents that range from floods, storms, oil spills, sabotage, significant equipment failure or operator error, and earthquakes. Deficiencies found during inspections, quality assurance audits and surveillances, whistle-blower allegations, concerned employee case investigation, and JPO monitoring results also can generate unplanned work. Response procedures and protocols usually exist for unplanned events. Where Incident Command Structure (ICS) protocols are used, JPO and the agencies have structured roles. For events not invoking an ICS, JPO must decide whether to employ active or passive monitoring.

Events often lead to follow-up activities. Deficiencies must be tracked and trended, and closure must be verified. Significant events often warrant lessons learned. JPO recognizes that reviews of events need to be timely to capture the most salient points. These lessons become after action reports and training tools.

Work Plan Drivers

- Alyeska projects that allow monitoring of construction and maintenance-type stipulations and following up on corrective actions.

- Alyeska quality assurance audits, surveillance, nonconformance reports and corrective action requests and other Alyeska internal controls.

- JPO findings and past CMP reports that identify unresolved issues.

- Employee concerns, however communicated, when they reveal compliance trends or concerns.

- Root cause or causal factor analysis of past incidents or events often expose compliance related risks and influence monitoring sampling or activity selection.

- JPO compliance database coverage and gaps which point out compliance requirements with little past monitoring.

- Public or external stakeholder concerns.

- JPO monitoring initiatives.

It's important to note that JPO often hears concerns that are not related to regulations, Grant/Lease requirements or even safety, integrity or environmental protection. JPO's goal is to listen carefully and to act appropriately considering requirements and the proper role of government. Fears of downsizing, concerns about internal reorganizations, geographic relocations of staff, and supervisor-employee relationship problems are usually business issues, not part of JPO's oversight role.

Work plans and JPO monitoring identify the need for government-compelled corrective action, they have not, prior to 2001, attempted to document compliance. With few exceptions, JPO staff, prior to 2001, spent little time

Compliance vs promise keeping

From 1994 through 1997, much of JPO's work was verifying that Alyeska kept the promises that the owner companies had made to Congress—particularly House oversight committees. Through the Audit Action Item (AAI) process, employee concerns and quality program implementation (JPO 1994-1997 Annual Reports), JPO expended much effort monitoring Alyeska internal processes rather than compliance to grant and lease requirements. JPO staff spent considerable energy mastering Alyeska processes and essentially providing an internal quality assurance function for Alyeska. This monitoring resulted in many surveillance report "unsats" that were not directly related to compliance requirements. Progressively through the late 1990s, JPO reoriented its monitoring to address grant and lease compliance requirements.

Identifying deficiencies

A trend of compliance problems in one area will invoke more intensive monitoring. Compliance monitoring is an ongoing process. A single report or individual incident would not constitute noncompliance with the Grant or Lease because they are both allowed opportunities to correct deficiencies. There may be many locations on TAPS where the individual item or action is present and not deficient. The annual JPO work plans address open deficiencies

documenting ongoing compliance. JPO staff routinely visited Alyeska facilities and spent a significant amount of time traveling the pipeline. Typically, except when conducting specific surveillances or assessments, staff note unsatisfactory conditions while no report was made of those items in satisfactory conditions.

Upcoming CMP

The CMP reports are public documents. The reports provide an excellent opportunity for citizen involvement and stakeholder—including the public—input. Since the work plan follows the CMP reports, the public can more effectively have a say early in the work planning process.

Two CMP reports were scheduled for publishing under the 2001 work plan: this report and the upcoming Integrity CMP report.

The Integrity CMP is essentially a critical systems audit. The formal Reliability Centered Maintenance protocol is used to examine critical systems and describe their function, determine how they can fail to perform that function, evaluate the consequences of this failure and determine how failure can be mitigated or prevented.

The Integrity CMP report will summarize the results of approximately 40 RCM studies, explain the RCM process, identify the required corrective actions, and outline the method to track these corrections to completion. Since many compliance issues were addressed by RCM studies, this report and the upcoming Integrity CMP report should be reviewed together.

This CMP will include significant agency compliance information but is not intended to fully cover regulatory agency compliance activities.

VMT incidents generate JPO follow-up monitoring

Two recent incidents at the Valdez Marine Terminal gave JPO an opportunity to review Alyeska's internal records and work plans and to monitor if promised improvements were operational. The incidents were a spark during tanker loading and significant vibration from a mis-designed replacement valve. Results of the monitoring were incorporated into the 2001 work plan and are discussed later in Chapter 3 of this publication.