NORTH SLOPE BOROUGH

DEPARTMENT OF PUBLIC WORKS

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February 26, 2014

Mr. David De Gruyter
State Pipeline Coordinator
State Pipeline Coordinator's Office
411 West 4th Avenue
Anchorage, Alaska 99501-2343

Re: Right-Of-Way Lease 416202
Nuiqsut Natural Gas Pipeline
2013 Annual Comprehensive Report
Nuiqsut, Alaska

Dear Mr. De Gruyter:

In accordance with the State of Alaska Right-of-Way (ROW) Lease, ADL 416202, the North Slope Borough (NSB) hereby submits the attached Annual Comprehensive Report (ACR) for the Nuiqsut Natural Gas Pipeline Project (NNGP). This report is prepared in conformance to Stipulation 1.14.1 of Exhibit A of the ROW lease agreement, and as per State Pipeline Coordinator's Office (SPCO) required format.

I would be happy to address any questions or comments generated during your review of this report.

Sincerely,

Tom Nicolos
North Slope Borough Department of Public Works,
Program manager

Attachment: Annual Comprehensive Report, February 26, 2014

cc: John Haddow, DOT Pipeline Safety (via email – john.haddow@dot.gov)
Allison Iverson, SPCO (via e-mail – allison.iversen@alaska.gov)

Nuiqsut Natural Gas Pipeline
ADL 416202

ANNUAL COMPREHENSIVE REPORT

On Pipeline Activities and the State of the Pipeline System

Plan Period:	**January 1, 2013 through December 31, 2013**
Date Submitted:	**February 26, 2014**
Submitted by:	**North Slope Borough, Owner**

Table of Contents

Purpose

The Nuiqsut Natural Gas Pipeline Project (NNGP) Annual Comprehensive Report (ACR) is prepared to meet the requirements of ADL 416202, which requires an annual submittal describing the current status of the pipeline system and activities. The purpose of this report is also to meet additional requirements of the State of Alaska, State Pipeline Coordinator's Office (SPCO).

Exhibit A, Stipulation 1.14.1 of ADL 416202 reads as follows:

1.14.1 On or before January 31, amended to March 1st by letter #10-284-AS, of every year this lease is in effect following the first Lease Anniversary Date, the Lessee must submit an annual comprehensive report to the Commissioner on the state of the Pipeline System and its Pipeline Activities. This report shall address, at a minimum:

(1) Results of the lessee's surveillance and monitoring program during the preceding year

- Annual changes
- Cumulative changes in facilities and operations
- Effects of the noted changes
- Proposed actions resulting from those noted changes

<u>Surveillances</u>

- Scope
- Findings
- Action Items
- Other Observations
- Corrective actions (planned or implemented)
- Plans for next year by quarter

<u>Audits</u>

- Scope
- Findings
- Action Items
- Other Observations
- Corrective actions (planned or implemented)
- Plans for next year by quarter

<u>Self-Assessments</u>

- Scope
- Findings
- Action Items
- Other Observations
- Corrective actions (planned or implemented)
- Plans for next year by quarter

Internal Evaluations
- Scope
- Findings
- Action Items
- Other Observations
- Corrective actions (planned or implemented)
- Plans for next year by quarter

(2) Risk Management Program
- Status
- Changes
- Results

Quality Assurance Program
- Status
- Changes
- Results

Internal Safety Programs
- Status
- Changes
- Results

External Safety Programs
- Status
- Changes
- Results

(3) Performance under the lease
- Covenants
- Stipulations

(4) Complete information for the lease and pipeline system
- Construction
- Operations
- Maintenance
- Termination

(5) Summary of actual or potential adverse impacts and lessee response to:
- Pipeline system integrity
- Environment
- Worker or Public Safety

(6) Summary of oil and hazardous substances discharges including date, substance, quantity, location, cause, and clean-up actions undertaken.

The following report meets the requirements set forth above.

Introduction

The Nuiqsut Natural Gas Pipeline (NNGP) is located in the Colville River Delta on the North Slope of Alaska. It extends from the Alpine Development Project (ADP) oil and gas production facility to the village of Nuiqsut, located approximately 8 miles southwest of Alpine. The actual pipeline length is approximately 14.4 miles: 8.8 miles aboveground, 5.6 miles buried. The NNGP proceeds generally southwest and then southeast from the ADP, strung on the ADP's aboveground vertical support member (VSM) support system, to a point where the ADP pipelines transition below ground via a horizontal directional drilling (HDD) technique to cross the main channel of the Colville River. At this transition point, the NNGP also transitions to a buried mode but along a different route, which begins at the HDD transition point, runs south, then west, crossing the Nigliq Channel to the south and then west to Nuiqsut. Reference attached Exhibit A for routing of NNGP.

The project consists of one pipeline transporting conditioned natural gas from the ADP. The NNGP design is in accordance with ASME B31.8, Gas Transmission and Distribution Piping Systems and the Transportation Safety Institute, Pipeline Safety Regulations, 49 CFR Part 192. The NNGP is constructed utilizing 3-1/2" O.D. x 0.203" continuous electric resistance welded coiled pipe conforming to the requirements of API 5L-X52 grade line pipe. The pipeline design is based on a maximum operating pressure of 1440 psig. The pipeline is designed to provide a maximum flow rate of 3,500,000 cu ft/day of natural gas from the ADP facilities to the village of Nuiqsut.

The above-grade construction of the NNGP was completed during the 1998-1999 winter construction season. The buried portion was installed during the 2000-2001 winter construction season. Additional grading and vegetation efforts were conducted during the 2002 season. The Nuiqsut distribution system has been installed and tested to 49 CFR Part 192 specifications. The construction phases of the Alpine tie-in work, Alpine gas conditioning, and Nuiqsut handling facilities, including final installation of the electrical components and functional check out, were completed in 2007.

Start up and commissioning of the entire system was commenced in July 2008, and the system was put in service in September 2008 with the Nuiqsut Power Plant as the sole user of natural gas in the community. By fall of 2009, service had been extended to all those requesting service in the community, including 122 homes and 30 commercial buildings, including the power plant.

Plan year 2013 was the fifth year of full operations, and a total of 110,334,000 SCF of gas was transported to the Nuiqsut Utility Co-op and distributed to the community. Average delivery per day was 302,284.85 SCF, at an average pressure of 56 psi. This is an increase of 40,200 standard cubic feet per day of gas from 2012.

1.0 Surveillance & Monitoring Program

Note: A Surveillance and Monitoring plan, developed as part of a system wide commissioning, operations and safety program, was submitted to, and approved by, SPCO in 2008. No changes to this plan were made in the 2013 plan year.

Surveillances

Scope: The aboveground portion of the NNGP pipeline from the ADP to the ADP HDD is installed on the ADP VSMs, and is subject to observation under the current ADP observation program due to the proximity to the ADP pipelines. These observations took place throughout the year.

Findings: There were no findings reported during the year.

Scope: The NNGP gas stream from the ADP is monitored under the current ADP operating agreement with NSB. Monitoring took place throughout the year.

Findings: Monitoring detected increasing levels of H2S in the gas stream. See Section 5 for findings and corrective actions.

Scope: The NNGTPL was inspected by WHPacific Solutions Group to provide a Patrolling of Pipeline System Report. See attached report.

Findings: Supports, VSMs and attachments to adjacent pipelines are satisfactory. Some line markers will need to be added in random locations along the buried sections of the NNGTPL. The coated pipeline is damaged at various locations as documented by the report submitted by Taku Engineering dated 10-1-10.

Action Items: Based on the findings of the report, certain follow up actions are requested:

- Pipeline coating damage needs to be addressed.

Scope: The NNGP below ground section was inspected by WHPacific Solutions Group to provide a Surveillance and Leakage Report. See attached report.

Findings: No leaks were found. Insulation was damaged at above/below transition.

Action Items: Repairs to damaged insulation will be completed during warmer months, during summer/fall 2013 repair and maintenance activities, WHP Solutions Group stopped all operations and was unable to complete this task due to Tundra impact from overly wet conditions.

Scope: The NNGTPL was inspected by Taku Engineering to provide an assessment of the NNGTPL pipeline CP system. See attached CP Assessment by TAKU Engineering.

Findings: The following findings are detailed in the attached TAKU Report:

1. The 2013 CP survey was not completed in its' entirety. The segments from Test Station No. 3 to Test Station No. 7 were not surveyed due to bad weather, test station repairs, and access limitations.
2. The test station heads at Test Stations No. 6 and No. 7 were replaced to repair damage noted in the 2012 report.
3. The test station head at Test Station No. 1A is damaged.
4. Test Stations No. 1A, 6, & 7 each have a failed pipe lead wire. Test Station No. 6 has a failed anode lead wire.
5. Test Stations No. 4 and No. 6 are not functioning properly.
6. The CIS data shows that the pipeline now meets NACE criteria for adequate CP between Test Stations No. 1 and No. 2. This section of the pipeline did not meet NACE criteria in 2012 before Test Stations No. 2 and No. 3 were replaced.

Action Items: Based on the findings of the report, certain follow up actions are recommended:

Plans for 2014: Surveillance and Monitoring for 2013 is planned to follow frequency as detailed in Tables 7 and 8 of the Surveillance and Monitoring Plan.

Audits There is an External Audit of the NNGTPL Operations Manual Currently being conducted by an engineering firm, findings of this Audit will be filed with the state as they become available.

Self-Assessments

No Self Assessments were completed in 2013.

Plans for 2014: Assessment of operational procedures and practices will be continuous for 2014.

Internal Evaluations

No Internal Evaluations were completed in 2013.

2.0 Risk Management Program

Status:

The North Slope Borough has developed a Quality Assurance Program for implementation on this project. Within this Program are comprehensive programs which provide for:

- risk management,
- quality assurance,
- internal safety and
- external safety.

The North Slope Borough Mayor has the overall responsibility for implementation of the plan. Implementation of each of the twelve sections of the plan is delegated to the appropriate department within the North Slope Borough. Since the project is now in operation, all sections of the Quality Program are currently active and in place.

As the Nuiqsut Natural Gas System has now gone through start-up and commissioning, all sections of the Plan are currently implemented with the responsibility for implementation assigned as noted below:

Section 1 - Statement of Authority, North Slope Borough Mayor's Office
Section 2 - Program Introduction, North Slope Borough Mayor's Office
Section 3 - Organization
Section 4 - Leadership, Commitment, and Involvement, North Slope Borough Mayor's Office
Section 5 - Risk Management, NSB Risk Management Director
Design and Construction Activities, NSB CIPM department
O&M activities, Director of Public Works

Section 6 - Personnel and Training, Director of Public Works
Construction Contracts, Director of Public Works
O&M activities, Director of Public Works

Section 7 - Design and Construction, NSB CIPM department
Section 8 - Operations, Director of Public Works
Section 9 - Third Party Services;
Design and Construction Contracts, NSB CIPM department Third Party Services,
O&M activities, Director of Public Works

Section 10 - Incident Investigations, Director of Public Works
Section 11 - Emergency Preparedness, Director of Public Works
Section 12 - Assessment Process, North Slope Borough Mayor's Office

Changes:

By identifying the Nuiqsut Natural Gas Operations, Maintenance and Qualifications Manual as the singular document for carrying out the purpose of the Quality Assurance Program, an efficient and straightforward tool for providing means and methods is now available to the pipeline operator. Currently the Operations Manual is going thru a formal review by a 3rd party to evaluate its adherence to the regulations.

Results:

Operations and Management staff will continue to monitor and assess the effectiveness of the document in regards to ongoing operations and maintenance activities of the NNGP.

3.0 Performance Under Lease Stipulations

Covenants

The North Slope Borough certifies compliance with the ADL 416202 ROW lease covenants as noted in Section 8 of the ROW lease agreement. Below is a checklist addressing each covenant, item by item, with a description of the applicable activities or performance during the plan year.

a) Common Carrier

No requests for transport of natural gas during the plan year.

b) Interchange with other Common Carriers

No requests for interchange with other common carriers during the plan year.

c) Maintain books of account

All required reporting will be submitted.

d) Reasonable right of access to State of Alaska

All requests for access by the State of Alaska, during the plan year, have been accommodated.

e) Provide connections as required by APUC (RCA)

No requests for connections have been made during the plan year.

f) Provide connections to State of Alaska, at State of Alaska expense

No requests for connections have been made during the plan year.

g) Conduct operations in accordance with applicable laws and regulations

All operations and maintenance during the plan year has been per applicable laws and regulations.

h) Maintain and repair leasehold and pipeline system

Required maintenance and repair has been conducted or is being planned for. No damage to leasehold during the plan year.

i) No transfer, assign or sublease

No transfer, assignment or sublease has been made.

j) Registered agent

NSB has filed a named registered agent with the Commissioner.

k) Applicable law

The law of the State of Alaska is used.

l) No interference with management of State land

NSB has received no notice of interference with the State of Alaska in the plan year.

m) Liable for damages or injury from pipeline activities

NSB recognizes the terms under Section 11.

n) Insurance

NSB furnishes appropriate levels of liability and property damage insurance.

o) Eminent domain

No action under eminent domain during the plan year.

Stipulations

The North Slope Borough certifies compliance with the ADL 416202 ROW lease stipulations as noted in Exhibit A of the ROW lease agreement. Included herein is a stipulation checklist addressing each stipulation, item by item, with a description of the applicable activities or performance during the plan year.

STIPULATIONS

(The lease stipulation is presented with the performance/response noted below each section in Italics)

1. GENERAL STIPULATIONS

1.1. Definitions

The following definitions apply to terms used in these stipulations. They shall also apply to terms used in documents to which these stipulations are attached, unless specifically provided otherwise in such documents.

No Comment Required.

1.2. Communications

1.2.1. The Lessee shall provide a communication capability that ensures the transmission of information required for safe Pipeline Activities.

The source of supply at the Alpine Production Pad has capability to electronically monitor the conditioning operations and gas receiving and distribution operations, and control (shut down) gas supply as required for safe operation.

Telephonic communications have been established between the distribution system and the source of supply at the Alpine Production Pad.

1.2.2. Documents pertaining to the Leasehold and required by statute or regulation to be filed with a state agency other than the Department of Natural Resources must be filed as so required, with a copy concurrently provided to the Commissioner.

A copy of the NNGP permit compliance manual has been provided to the Coordinator's Office to ensure compliance with this stipulation.

1.3. Construction Plan

1.3.1. The Lessee shall not initiate any Pipeline Activities, unless otherwise authorized by the Commissioner, until a construction plan is reviewed and approved by the Commissioner as required by section 14 of this lease. The Lessee shall submit a construction plan that includes all work schedules, permits, or authorizations required and their interrelationship, construction sequencing, a map or maps depicting the boundaries of the construction zone, and, at a minimum, discussion of the following sections:

(1) blasting;
(2) erosion and sedimentation control;
(3) stream, river, and flood plain crossing;
(4) sanitation;
(5) waste management, including disposal;
(6) overburden and excess material disposal;
(7) cultural resource preservation;

(8) groundwater control;
(9) restoration and rehabilitation;
(10) fish and wildlife avoidance and interaction;
(11) access;
(12) safety and hazard prevention;
(13) equipment and material storage areas;
(14) housekeeping; and
(15) verification activities.

No Construction activities for the plan year.

1.4. Quality Assurance

1.4.1. The Lessee (including its agents, employees, Contractors, and the employees of each of them) shall comply with the approved Quality Assurance Program during Pipeline Activities. Any amendments to the Quality Assurance Program must be approved by the Commissioner prior to the amendment being implemented. The Quality Assurance Program shall document the Lessee's compliance with this lease.

Refer to Section 2.0 of this report for documentation of the NSB Quality Program.

1.5. Conduct of Operations

1.5.1. The Lessee shall be required to maintain the Pipeline System to the approved Design Criteria. Any changes from the approved Design Criteria must be approved by the Commissioner.

No changes to the approved design basis documents are proposed.

1.5.2. Unless the Commissioner approves otherwise, the Lessee shall ensure that wind vibration dampers installed on the Pipeline allow for a minimum of 5 feet clearance from the bottom of the damper to the tundra surface except within an area of existing pipeline that is elevated less than 5 feet.

No portion of the project pipeline, including vibration dampening systems, is or will be installed within 5 feet of the native tundra with the exception of the below ground transitions on both ends of the NNGP Phase II – Buried Portion construction.

1.6. Surveillance and Monitoring

1.6.1. The Lessee shall develop and submit a surveillance and monitoring program to detect and abate situations that endanger health, safety, environment, or the integrity of the Pipeline. The surveillance and monitoring program shall be approved by the Commissioner prior to Natural Gas being transported through the Pipeline. The Lessee shall implement the surveillance and monitoring program during maintenance, operation, and termination of the Pipeline System, at a minimum, on the following:

(1) river, stream, and floodplain crossings;
(2) valve pads;
(3) frost heave or thaw settlement/pipeline vertical movement;
(4) corrosion;
(5) restoration and rehabilitation;

(6) fish and wildlife protection;
(7) zones of restricted activity; and
(8) public access and safety.

A Surveillance and Monitoring plan has been submitted and approved.

1.7. Health and Safety

1.7.1. The Lessee shall notify the Commissioner of all accidents which occur on the Leasehold.

There are no new incidents to report.

1.7.2. The Lessee shall install and maintain reflector devices on the Pipeline System as required by the Commissioner.

Along the above grade route, reflector devices were installed by ADP on the ADP vertical support members. Line markers are installed along the entire length of the buried portion of the route.

1.8. Survey Monuments

1.8.1. The Lessee shall mark and protect all survey monuments encountered during Pipeline Activities. These monuments are not to be disturbed; however, if disturbance of a monument or any of its accessories becomes necessary, the Lessee will notify the Commissioner in writing before such disturbance occurs, and the Commissioner will provide instructions. A written report to the Commissioner will also be made immediately by the Lessee in the event that any monuments or accessories are inadvertently damaged.

No known monument disturbance has occurred.

1.8.2. If any public land survey monuments, corners, or accessories (excluding geodetic survey monuments) of the United States or survey monuments of others, are destroyed or damaged during Pipeline Activities, the Lessee shall employ a qualified land surveyor to reestablish or restore them in accordance with the *Manual of Instructions for the Survey of Public Lands* of the Bureau of Land Management and shall record such survey in the appropriate records. Additional requirements for the protection of monuments and comers on State lands may be prescribed by the Commissioner.

No known monument disturbance has occurred.

1.9. Fire Prevention and Suppression

1.9.1. The Lessee shall promptly notify the Commissioner of any fires on, or which may threaten any portion of, the Pipeline System and shall take all measures necessary or appropriate for the prevention and suppression of fires in accordance with applicable law. The Lessee shall comply with the instructions and directions of the Commissioner concerning the use, prevention, and suppression of fires on State lands. Use of open fires in connection with Pipeline Activities is prohibited on State land, unless approved by the Commissioner and performed in accordance with 18 AAC 50.030.

No fires have been reported.

1.10. Electronically Operated Devices

1.10.1. The Lessee shall screen, filter, or otherwise suppress any electronically operated devices installed as part of the Pipeline System which are capable of producing electromagnetic interference radiations so that such devices will not adversely affect the functioning of the communications systems.

All electronically operated devices, which are utilized as part of the pipeline system, are compatible with communication systems.

1.11. Regulation of Access

1.11.1. During construction, the Lessee may regulate or limit public access in the immediate vicinity of the Pipeline System and Related Facilities. The Lessee shall provide appropriate warnings, flagging, barricades, and other safety measures when the Lessee is regulating public access.

Excavation at CP test stations took place on the pipeline system in the plan year. Activities for the plan year also included operation and maintenance of the system. All appropriate warnings and other safety measures were taken during this process. All excavations were saved out during non-work hours.

1.11.2. Except as provided in paragraph 1. 11. 1 herein, Pipeline Activities may not interfere with the public's free and unrestricted access to and upon the Leasehold, except that, with the Commissioner's approval, the Lessee may regulate or limit access to and upon the Leasehold to the extent necessary to facilitate Pipeline Activities or to protect the public and wildlife from hazards associated with Pipeline Activities.

Activities at excavation sites were Safely marked while work was being completed.

1.12. Use of Existing Facilities

1.12.1. Subject to existing rights vested in other parties the Lessee shall use existing facilities, to the maximum extent feasible, in all Pipeline Activities.

Existing ADP Pipeline support system was utilized for the Phase I – Aboveground portion of the work. No existing facilities exist along the Phase II – Buried Portion of the route.

1.13. Storage

1.13.1. The Lessee shall seek and obtain authorization from the Commissioner before storing any machinery, equipment, tools, materials, and structures that are not being used, on the Leasehold.

The leasehold is not currently utilized for storage. Prior approval will be obtained prior to storage on the leasehold.

1.13.2. The Lessee shall not store any Waste or Hazardous Materials on the Leasehold.

No Hazardous or other waste is stored on the leasehold.

1.14. Reporting

1.14.1. On or before January 31 of every year this lease is in effect following the first Lease Anniversary Date, the Lessee must submit an annual comprehensive report to the Commissioner on the state of the Pipeline System and its Pipeline Activities. The report shall address, at a minimum:

(1) The results of the Lessee's surveillance and monitoring program during the preceding year, including annual and cumulative changes in facilities and operations, the effects of the changes, and proposed actions to be taken as a result of the noted changes;

(2) The state of, changes to, and results in the last year from the Lessee's risk management program, Quality Assurance Program, and internal and external safety programs;

(3) Lessee's performance under the lease stipulations;

(4) Other information on construction, operations, maintenance, and termination activities necessary to provide a complete and accurate representation of the state of the Pipeline System and Lessee's Pipeline Activities; and

(5) Lessee's current bond ratings as reported by Moody's Investor Service and Standard and Poor's Corporation.

The North Slope Borough bond rating capacity as determined by Moody's Investor Services, Standard and Poor's Rating Services and Fitch Ratings are as follows:

Moody's Investor Services (as of 10/2012): Issuer Rating Aa3
Standard and Poor's (as of 9/2011): Claims-Paying Ability Rating AA-
Fitch Ratings Services (as of 10/2012): Long-Term Issue Credit Ratings AA

2. Environmental

2.1. Environmental Briefings

2.1.1. The Lessee shall develop and provide environmental briefings for supervisory, field personnel, and field representatives. The briefings shall communicate, at a minimum, right-of-way lease and environmental permit requirements.

The permit compliance manual and project documents have been previously forwarded to the various Contractors responsible for current pipeline activities. These documents relay the information to the Contractors and compliance to these documents has been included in the contracting language for all work. Specific operation and maintenance activities are based on the approved Operations, Maintenance and Operator Qualifications Manual, including associated permit and regulatory requirements.

2.2. Thermal Pollution

2.2.1. The temperature of natural surface or ground water must not be significantly changed by the Pipeline System or by any construction related activities so as to adversely affect the natural surface or ground water, unless approved by the Commissioner.

Avoidance of thermal pollution is the principal criteria in the design of the Phase II – Buried Portion of the NNGP. The design intent is to maintain existing thermal profiles along the route.

2.3. Erosion and Sedimentation Control

2.3.1. General

2.3.1.1. The Lessee shall perform all Pipeline Activities in a manner to minimize disturbance to all surface areas.

Activities conducted along the pipeline have been conducted only when adequate snow cover for protection or with our ARGO equipped with special tracks that are permitted to travel on the tundra during summer months.

2.3.1.1.1. Construction of ice roads, snow/ice ramps, and ice work pads during operation, maintenance, and termination of the Pipeline System must be approved by the Commissioner.

No ice road construction was conducted during 2013.

2.3.1.2. Erosion control measures on State lands shall be maintained to limit induced and accelerated erosion, limit sediment production and transport, and lessen the possibility of forming new drainage channels during operation, maintenance and termination of the Pipeline System.

Erosion control measures are in place. Maintenance of the erosion control measures is incorporated into the Surveillance and Monitoring plan and future maintenance activities.

2.3.2. Crossings of Streams, Rivers, Flood Plains, and Wetlands

2.3.2.1. The Lessee shall minimize erosion and sedimentation at stream, river, and wetland crossings, and at flood plains.

Erosion control measures are in place.

2.3.2.2. Temporary access over stream banks prior to and following construction must be made through the use of snow/ice fill ramps rather than by cutting through stream banks, unless otherwise approved by the Commissioner after consultation with the Alaska Department of Fish and Game (ADF&G). If the Lessee obtains approval by the Commissioner to construct fill ramps, the Lessee shall remove such ramps upon termination of the activity. Ramp materials shall be disposed of in a manner approved by the Commissioner after consultation with the ADF&G.

No snow ramps or fill ramps were utilized in 2013.

2.3.3. Excavated Material

2.3.3.1. Excess excavated material must be disposed of in accordance with the approved construction plan during construction and as approved by the Commissioner during operation, maintenance, and termination of the Pipeline System.

No excavation took place in 2013.

2.4. Fish and Wildlife Protection

2.4.1. The Lessee shall conduct Pipeline Activities so as to assure free passage and movement of fish in streams designated by the Commissioner. Temporary blockages of fish necessitated by in stream activities must be approved by the Commissioner. The construction plan must include the time and place that such temporary blockages may occur.

No construction activities for 2013. Any future pipeline operations and maintenance activities which may impact fish passage and movement will be submitted to the commissioner for prior approval and permitted.

2.4.2. Pump intakes must be screened to prevent harm to fish. Screening specification must be approved by the Commissioner.

Water withdraws were completed using NSB's permitted pumping points.

2.4.3. When abandoned, water diversion structures shall be removed or plugged and stabilized, unless otherwise approved by the Commissioner.

Water diversion structures are not anticipated. Any water diversion structures will be submitted to the commissioner for prior approval and permitted.

2.4.4. Fish Spawning Beds. Fish Rearing Areas, and Overwintering Areas

2.4.4.1. The Lessee shall avoid disturbance to Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas designated by the Commissioner. However, where disturbances cannot be avoided, proposed modifications and appropriate mitigation measures must be designed by the company and approved by the Commissioner.

The NNGP avoids Fish Overwintering Areas.

2.4.4.2. The Lessee shall protect Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas from sediment where soil material is expected to be suspended in water as a result of Pipeline Activities. Settling basins or other sediment control structures shall be constructed and maintained to intercept sediment before it reaches rivers, streams, lakes, or Wetlands.

Erosion control measures have been installed at the channel crossing to encourage vegetation growing on the side slopes to limit erosion into the channel.

2.4.4.3. The Lessee shall comply with site-specific terms and conditions imposed by the Commissioner to protect Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas from the effects of Pipeline Activities. The Commissioner may require the Lessee to construct levees or berms or to employ other suitable means to protect fish and fish passage and to protect or minimize sedimentation. The Lessee shall repair damage caused by Pipeline Activities to the approval of the Commissioner.

No additional terms or conditions have been imposed.

2.4.4.4. The Lessee shall not take water from Fish Spawning Beds, Fish Rearing Areas, and Overwintering Areas or waters that directly replenish those areas during critical periods that will be defined by the Commissioner, unless approved by the Commissioner.

No future water withdrawals are anticipated at this time.

2.5. Zones of Restricted Activities

2.5.1. The Commissioner may restrict Pipeline Activities in fish and wildlife areas and in specific areas where threatened or endangered species of animals are found breeding, nesting, spawning, and calving, overwintering or during major migrations of fish and wildlife.

No specific areas have been restricted along the route.

2.5.2. Pipeline Activities must avoid grizzly bear dens by one-half mile, unless alternative measures to minimize disturbances are approved by the Commissioner and ADF&G. Known bear den locations shall be obtained from the ADF&G Division of Wildlife Conservation (Fairbanks @ 907-459-7213) or ADF&G Division of Habitat and Restoration (Fairbanks @ 907-459-7289) prior to starting operations. Occupied dens encountered in the field must be reported to the ADF&G Division of Wildlife Conservation at the above telephone numbers and must be subsequently avoided.

A Wildlife Interaction program will be incorporated into all construction plans for the project.

2.5.3. Pipeline Activities must avoid polar bear dens by one mile, unless alternative measures are approved by the Commissioner and U.S. Fish and Wildlife Service. Known den locations shall be obtained from the U.S. Fish and Wildlife Service (907-786-3800 or 800-362-5145) prior to starting operations. New dens encountered in the field shall be immediately reported to the U.S. Fish and Wildlife Service at the above telephone number and must be subsequently avoided by one mile.

A Wildlife Interaction program will be incorporated into all construction plans for the project.

2.6. Big Game Movements

2.6.1. The Pipeline System shall be maintained to avoid significant alteration of caribou and other ungulate movement patterns. The Commissioner may require additional measures to mitigate impacts to ungulate movement.

Additional measures have not been required.

2.7. Disturbance or Use of Natural Waters

2.7.1. Pipeline Activities that may create new lakes, drain existing lakes, significantly divert natural drainage and surface runoff, permanently alter stream or ground water hydrology, or disturb significant areas of stream beds are prohibited, unless such activities and necessary mitigation measures are approved by the Commissioner.

The design intent is to avoid creating any of these items.

2.8. Right-of-Way Traffic

2.8.1. The Lessee shall not operate mobile ground equipment on State Lands in the Leasehold, unless approved by the Commissioner, except in an emergency that threatens any person or property; or if there is a need to prevent immediate harm to any person or property.

Operations of ground equipment on State Lands followed approval protocol.

2.9. Use of Explosives

2.9.1. No blasting is allowed except as provided in the construction plan. No blasting may be done under water or within one-quarter (1/4) mile of streams or lakes with identified fisheries or wildlife resources without the approval of the Commissioner.

Blasting is not required on this project.

2.9.2. Timing and location of any blasting except as already approved in the construction plan must be approved by the Commissioner.

Blasting is not required on this project.

2.10. Lessee Shall Stabilize, Re-vegetate, and Restore Disturbed Areas

2.10.1. The Lessee shall immediately stabilize all disturbed areas of State Lands so that erosion in excess of natural rates will be minimized. Such stabilization shall be maintained by Lessee until the disturbed areas are restored. The results of Lessee's stabilization efforts must be approved by the Commissioner.

Maintenance of disturbed areas will be provided for under future maintenance activities. Maintenance will continue until all disturbed areas are restored.

2.10.2. The Lessee shall, as soon as practicable, re-vegetate all disturbed areas of State Lands. The results of Lessee's re-vegetation efforts must be approved by the Commissioner.

Refer to above comment.

2.10.3. Upon completion of use of all or a portion of the Leasehold, the Lessee shall restore all disturbed State Lands, in accordance with a plan and schedules approved by the Commissioner. The results of Lessee's restoration efforts must be approved by the Commissioner.

Refer to above comment.

2.11. Reporting, Prevention, Control, Cleanup, and Disposal of Natural Gas and Hazardous Substances Discharges

2.11.1. The Lessee shall give notice in accordance with applicable law of any spill, leakage, or discharge of Natural Gas or other Hazardous Material in connection with Pipeline Activities to state officials who are required by law to be given such notice, and to the Commissioner.

No spills were reported for 2013. Spill and leak reporting, as required to meet all applicable laws, are a requirement under the Operations, Maintenance and Operator Qualifications Manual.

2.12. Cultural Resources

2.12.1. The Lessee shall require its employees, agents, Contractors and their employees to comply with the Alaska Historic Preservation Act AS 41.35.200 while conducting Pipeline Activities. Should any sites be discovered during the course of field operations, activities that may damage the site must cease and the Office of History and Archaeology in the Division of Parks and Outdoor Recreation (907-269-8715) and the appropriate coastal district must be notified immediately.

No sites have been discovered during work to date.

2.13. Hunting, Fishing, and Trapping

2.13.1. The Lessee shall inform its employees, agents, Contractors and their employees, of applicable laws and regulations relating to hunting, fishing and trapping.

The North Slope Borough provides hunting, fishing, and trapping information through its Department of Wildlife Management and the Department of Public Safety.

2.14. Waste Removal

2.14.1 All Waste generated in connection with Pipeline Activities shall be removed or otherwise disposed of in a manner acceptable to the Commissioner. All applicable standards and guidelines of the Alaska Department of Environmental Conservation and other agencies shall be adhered to by Lessee. All incinerators shall meet the requirements of applicable state laws and regulations, and shall be used with maximum precautions to prevent tundra fires.

All waste is required to be disposed of in accordance with all applicable standards and guidelines.

3. Technical

3.1. Pipeline System Standards

3.1.1. General Standards

3.1.1.1. All design, including selection of material, and construction, operation, maintenance, monitoring, and termination practices employed with respect to the Pipeline System must be in accordance with sound engineering practice, Design Criteria and, with regard to the Pipeline, must meet or exceed the Department of Transportation Regulations, 49 CFR, and the application and supporting documents as approved by the Commissioner listed in Exhibit D.

The pipeline design is in conformance with the referenced standards.

3.1.1.2. Modifications to the Pipeline System and Pipeline Activities as described in Exhibit D shall require approval by the Commissioner.

No modifications to the Pipeline and Pipeline Activities, as described in Exhibit D, were made in 2013.

3.1.2. Specific Standards

3.1.2.1. All Pipeline Activities must be conducted so as to minimize surface modifications, and must be planned and executed in such a way that any resulting alteration of permafrost will not jeopardize pipeline integrity or the surrounding environment.

Pipeline activities conform to this requirement.

3.2. Pipeline Corrosion

3.2.1. The Lessee shall provide for early detection of corrosion in accordance with the application, State requirements, and 49 CFR 192.

Cathodic protection has been incorporated into the design of the Phase II portion of the NNGP. Monitoring for corrosion detection is included in the approved Surveillance and Monitoring Plan and the Operations, Maintenance and Operator Qualifications Manual.

4.0 Construction, Operation, Maintenance, & Termination Activities

Construction

Construction Activities on two CP Test stations occurred during 2013, attached is a detailed report of these activities by TAKU Engineering, (in Appendix A, "Test Station Upgrade Completion Report").

Operation

Operations activities follow practices and procedures as defined in the Nuiqsut Gas Utilities System Operations, Maintenance and Operator Qualifications Manual, Section 4.7 and 4.8.

The Nuiqsut Pressure Reducing Valve (PRV) Station provides the mechanism for reducing the high gas pressure of the Gas Transmission Pipeline (450+ psig) to a lower pressure that is suitable for use in the Distribution System (50 psig). Functions performed in the PRV Station on the gas stream include pressure reduction, heating of the gas, liquid separation, over pressure protection, odorization, metering and recording of the flow, pressure and temperature of gas leaving the PRV Station. Abnormal conditions monitored include fire and gas detection, liquid level, flow, temperature and pressure. These parameters are also monitored by the Alpine operators through the communications system. At the Alpine Control Room, communications through the PLCs to each monitored device at Nuiqsut is monitored each time it is scanned and a "counter algorithm" tracks the functionality of the communications link and end devices.

The Gas Utility Operator walks through the PRV Station at least twice daily (early and late in the work day) to observe the functionality of equipment, look for gas leaks and assure operating parameters are in the normal range. These readings are recorded on the Daily Operator Readings Checklist for the Nuiqsut PRV Station. Readings are taken twice daily unless otherwise directed by the Gas Utilities Manager. Also included are the Pipeline temperature.

Operations of the NNGTPL for 2013 were normal. Alpine did shut gas production *off* in July 2012 but with the line pack there was no shutdown in service to Nuiqsut.

Maintenance

Maintenance activities follow procedures as defined in the attached Nuiqsut Gas Utilities System Operations, Maintenance and Operator Qualifications Manual, Section 7. The three valves on the overland Transmission Pipeline are located at the HDD west. Valves TP-2-3 and TP-4-3 get stroked half way closed while valve TP-3-2 gets stroked full open and then returned to close. We do this work during the summer months and anticipate exercising them again in July 2013. The Surveillance is done twice, a year once in winter around February and late summer. During the late summer check we also do a comprehensive leakage survey with a Flame Ionization Gas Detector.

Termination

There were no termination activities performed during the year.

5.0 Actual & Potential Adverse Impacts

Pipeline System Integrity

Pipeline system integrity impacts are mitigated through surveillance and monitoring plans, and operation and maintenance plans.

Actual: None reported

Potential: The Nuiqsut Gas Utility obtains its gas source from the Alpine Production Facility operated by Conoco-Phillips. The original design basis for the Nuiqsut Gas Conditioning Module assumed the hydrogen sulfide (H2S) level in the natural gas to be 0 parts per million (ppm). Subsequent data obtained by the Nuiqsut Gas Utility indicates H2S levels for the Alpine Fuel Gas System that supplies the gas to Nuiqsut was ranging from 0 to 4 ppm from 2003 through 2006 and from 2007 through 2008 the H2S level sporadically ranged from 0 - 10 ppm. In 2011 and 2012, H2S levels ranged from 0- 15 ppm in the gas to Nuiqsut. Escalation of the H2S content of produced gas from water flooded oil fields can occur under certain circumstances and is expected to continue to increase at the Alpine Field.

H2S, as a constituent component of the natural gas delivered to Nuiqsut, can have adverse effects on people and equipment if concentrations achieve a sufficiently high level. For H2S gas to affect people, it must be inhaled in sufficiently high quantities for a short duration to have immediate effects or at low concentrations over an extended period of time to cause detrimental physiological effects. Also, H2S gas can affect gas pipeline systems and associated components through various means of corrosion.

It is important to understand that H2S gas concentrations are considered in two different contexts:

1. "In Pipe" refers to the H2S concentration in the process stream of the natural gas, i.e., 10 ppm relates to 10 parts of H2S per million parts of total gases in the process stream as confined in the piping system. "In Pipe" H2S limits in the process stream are the parameters measured and addressed as the "maximum allowable level of H2S"discussed in the Purpose statement above.

2. "Atmospheric" refers to the H2S in the atmosphere that could be part of the breathing air of personnel in the immediate location of exposure. OSHA Standards and Exposure Limits discussed below all reference the "Atmospheric" concentration of H2S that personnel respiratory systems could be exposed to in the course of breathing a mixture of air, natural gas and H2S.

3. Finally, for H2S to transition from "In Pipe" to "Atmospheric" breathing air, a piping system leak must occur. Relative to the Nuiqsut Natural Gas Pipeline, leakage would be focused on a Non-odorized gas leak at the Nuiqsut PRV Station - This facility is equipped with gas monitors set to alarm at a natural gas concentration of 20% Lower Explosive Limit (LEL) in the atmosphere. As an example, the H2S concentration of 50 ppm "In Pipe" leaking to the "Atmospheric" breathing air would be approximately (50 ppm * 20% LEL Alarm * 5% gas in air at LEL) 0.5 ppm H2S in the atmosphere at the time the gas monitors alarmed. This alerts the Utility Operator of a gas leak requiring corrective actions.

For industrial workers, OSHA establishes a Permissible Exposure Limits (PEL) of 20 ppm over an eight hour period or a maximum peak exposure of 50 ppm for a maximum duration of 10 minutes with no other measurable exposure. ***Current and foreseeable PEL levels of H2S are extremely unlikely to impact worker or public health or safety.***

At the Nuiqsut PRV Station where the gas is not yet odorized, ventilation systems and hydrocarbon gas detectors and alarms advise of a gas leak and if the leak is not corrected, the facility will automatically initiate an emergency shutdown (ESD). Nuiqsut Gas Operators are equipped with gas detectors to assess the gas content of facilities before entering to determine if additional ventilation is required. ***Current gas detection and alarm systems make it extremely unlikely that workers will have long term exposure to raised H2S PEL levels.***

H2S can also have detrimental corrosion effects on the pipeline and process facility equipment. H2S in a wet gas (water) environment can support sulfate reducing bacteria (SRB) and promote the localized deposit of sulfuric acid resulting in localized pitting corrosion of piping and vessels. ***For the gas transmission system, corrosive effects from H2S is extremely unlikely due to the extent of dehydration employed at the Conditioning Module to assure that dry gas (-60 F dew point) is sent to Nuiqsut.***

Another adverse H2S induced corrosion affect is sulfide stress cracking (SSC), a form of hydrogen embrittlement that results in micro-cracking of the crystalline structure of steel. Valve and instrument components throughout the Nuiqsut Gas System are protected for this form of corrosion by the incorporation of NACE 0175 standards in the material manufacture specified for the original construction materials. For piping systems, the Nuiqsut O&M Manual requires that any piping systems opened for repair, alteration or other reasons be internally inspected for corrosion effects. ***Gas transmission system valve and instrument component requirements make SSC extremely unlikely.***

Corrective Action: The potential adverse impacts of H2S in the gas transmission system can be significantly reduced by limiting the allowable level of H2S in the gas supply.

The North Slope Borough Conoco/Alpine are in the planning stage for a long term solution to this H2S issue. Once the Plan is completed we will forward it to the SPCO

Environment

Environmental impacts are mitigated through Health Safety and Environment planning.

Actual: None reported

Potential: See discussion of H2S levels above.

Worker and Public Safety

Worker and Public Safety impacts are mitigated through the use of proper Personal Protection Equipment and safety training.

Actual: None reported

Potential: See discussion of H2S levels above.

6.0 Oil & Hazardous Substances Discharge

No spills or discharges of oil or hazardous substances were experienced or reported in 2013.

Appendix A

WHPacific Solutions Group, LLC

Close-Out Report for NNGTPL work in 2013