



Alaska Risk Assessment of Oil & Gas Infrastructure



STAKEHOLDER BRIEFING

Alaska's Risk Assessment

Version: v.0.07



Briefing Overview

- Project team
- Project background
- Project overview & timeline
- Stakeholder input process
- Your input





Project Team

- **State of Alaska**
ADEC Project Manager - Ira Rosen
State Agency Oversight Team (SAOT)
- **Emerald Consulting Group LLC**
Project Manager - Bettina Chastain
Subcontractor - ABS Consulting





Project Objectives



- Assess the current state of infrastructure & systems in place to operate
- Identify and rank areas of greatest risk
- Present results



What is a Risk Assessment?

- Organized and systematic effort to identify and analyze hazardous scenarios;
- Starts with answering the question **“What can go wrong?”**
- Evaluate **“how likely”** it is that a significant event will occur;
- Evaluate **“how damaging”** the event would be to people, the environment, or production and state revenue if the event were to occur; and
- Combine the factors to determine an objective risk level.





General Project Scope

**North Slope
TAPS
Cook Inlet**





Project Scope

Geography

Included:

- ⌘ **North Slope Infrastructure** , including production facilities and pipelines up to Pump Station 1
- ⌘ **Trans Alaska Pipeline System (TAPS)**, including the Valdez Marine Terminal (VMT) up to the marine terminal loading arms
- ⌘ **Cook Inlet Infrastructure** , including production facilities, the Cook Inlet Gas Gathering System (CIGGS) up to the Nikiski LNG Plant and the Cook Inlet Pipeline (CIPL) up to the Drift River Marine Terminal loading arms (Cook Inlet will be considered in the initial phase of this project.)

Excluded:

- ⌘ **Areas of future oil and gas development** (i.e., areas where production operations begin after the commencement of this project, July 1, 2008)





Project Scope



Infrastructure Components

Included:

- ✘ **Production wells**
- ✘ **Gathering lines** (*flowlines from wells upstream of processing center*)
- ✘ **Facility piping**
- ✘ **Crude oil pipelines**
- ✘ **Gas and water injection systems** (*including wells*)
- ✘ **Gas transport pipelines integral to operating infrastructure** (*Cook Inlet*)
- ✘ **Oil and gas processing and treatment**
- ✘ **Waste management and disposal** (*re-injection materials*)
- ✘ **Storage tanks**
- ✘ **Terminals**
- ✘ **Marine loading facilities**
- ✘ **Support systems** (*e.g. utility systems, electric power, fuel systems, water supplies, control/communications systems*)

Excluded:

- ✘ **Marine transportation** (*e.g., tankers and other marine infrastructure*)
- ✘ **Refineries and product distribution lines not integral to operating infrastructure**
- ✘ **Exploration and other future development infrastructure** (*e.g., drilling rigs*)
- ✘ **Reservoir maintenance**
- ✘ **Future facilities or projects** (*i.e., production operations with planned start -up after the commencement of this project, July 1, 2008*)





Project Scope

Factors/Considerations for the Engineering Study

Included:

- ⌘ **Original design/operating life**
- ⌘ **Natural aging process** (*corrosion, abrasion, wear, and fatigue*)
- ⌘ **Operating procedures and standards**
- ⌘ **Maintenance and management**
- ⌘ **Regulations and agency oversight**
- ⌘ **Foreseeable changes in operations** (*such as changes in throughput and heavy oil production*)
- ⌘ **Natural hazards** (*earthquake, tsunami, severe weather, ice, volcanic, etc.*)

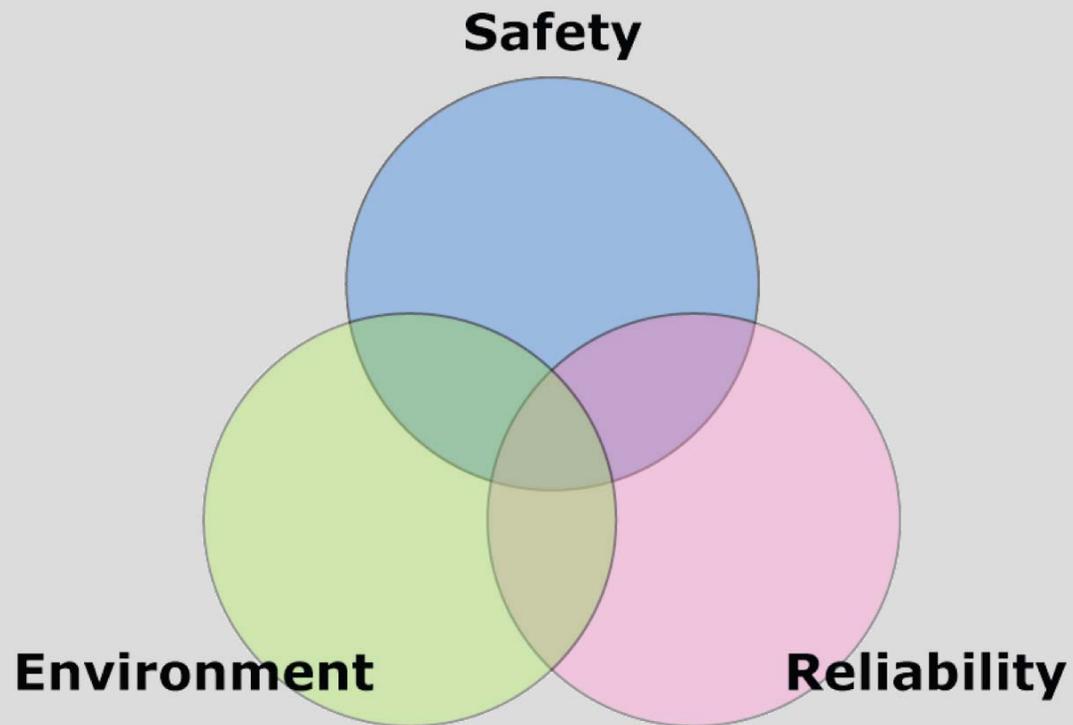
Excluded:

- ⌘ **Market conditions** (*e.g., commodity prices that drive the economics of shutting in operations*)
- ⌘ **Security issues / Intentionally man-made hazards** (*e.g., terrorist attacks or sabotage*)





Three Filters





Three Filters

Safety:

Consequences to the safety of life and health of both the general public and industry employees.





Three Filters

Environment:

Consequences to the natural resources of the State.





Three Filters

Reliability:

Events that result in disruptions of the production of oil and gas, from which the State receives the majority of its revenues.





Project Timeline





Your Input

Stakeholder Input for Designing the Risk Assessment...





Overview of Phase 1

- Develop a Project Plan
- **Consult with Stakeholders**
- Review Best Practices to Consider in Methodology Design
- Develop Interim Report
- Propose a Risk Assessment Methodology
- **Public** and **Peer Review** of Proposed Methodology
- Finalize Risk Assessment Methodology





Overview of Phase 2

- Implement the Risk Assessment according to the Risk Assessment Methodology
- Will require coordination and cooperation with:
 - Oil and Gas Infrastructure Operators
 - State and Federal Agencies





Overview of Phase 3



- Analyze Phase 3 Risk Assessment Results
- Produce Draft Report
- Produce Final Report & Presentation



Stakeholder Questions

1. What is the primary reason you are interested in the Alaska Risk Assessment of Oil & Gas Infrastructure Project?
2. What components of the existing oil and gas industry infrastructure warrant the most attention from the project team?





Stakeholder Questions

- 3. Within the categories of production/revenue loss, impact to human safety, and impact to the environment, what kinds of events would you consider to be the most significant?**
- 4. Do you have any other specific concerns or priorities in the areas of production, safety, or the environment that should be considered in the risk assessment study?**





Stakeholder Input Avenues

- ➔ Organization Specific Meetings
- ➔ Regional Meetings
- ➔ Web Site Survey Form





Your Input

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- 2. What components of the existing oil and gas industry infrastructure warrant the most attention from the project team?**
- 3. Within the categories of production/revenue loss, impact to human safety, and impact to the environment, what kinds of events would you consider to be the most significant?**
- 4. Do you have any other specific concerns or priorities in the areas of production, safety, or the environment that should be considered in the risk assessment study?**

