

## ANCHORAGE PUBLIC WORKSHOP SUMMARY

May 5, 2009  
10:00am to 4:00pm

Z.J. Loussac Library  
2nd Floor Public Conference Room  
3600 Denali Street  
Anchorage, Alaska

### Attendees

Public Attendees:

Bill Bullock  
Lois Epstein  
Faye Sullivan  
Richard Fineberg  
Linda Swiss  
Marilyn Crockett  
Bill Britt  
Paul D. Kendall  
Gabriel Scott  
John French  
Walter Parker  
Vinnie Catalano  
Eric Lidji  
Yereth Rosen  
Tracy Whipple  
Beth Nodurft

National Academy of Sciences Attendees:

Winston Revie  
Beverly Huey  
Paul Fischbeck  
Richard Rabinow  
Chuck Vita  
Shirish Patil  
Mosleh Ali  
Tim Terry  
Robin McGuire

Project Technical Team

Attendees:  
David Montague  
Steve Harris  
Bettina Chastain  
Jennifer Cambron

State Agency Oversight Team Attendees:

Ira Rosen  
Sam Saengsudham  
Marcia Davis  
Allison Iverson  
Scott Pexton  
Marit Carlson-VanDort  
Mike Engblom-Bradley  
Marie Steele  
Timothy Law  
Randy Howell  
Tim Robertson

### 1. Introductions

A total of 40 individuals were in attendance including the project team, members of the State Agency Oversight Team (SAOT), industry representatives, local businesses, NGOs, members of the National Academy of Sciences (NAS) peer review committee, and the public.

The meeting began with an introduction by Ira Rosen, ADEC Project Manager, on the project background and status. Tim Robertson of Nuka Research communicated the objectives and ground rules for the meeting, and began introductions of those in attendance. The purpose of the meeting was to obtain input from the public on the Proposed Risk Assessment Methodology from public stakeholders who have interests in the existing Alaska oil and gas industry infrastructure, within the Anchorage area. The report describes the methodology inputs, infrastructure scope, technical methodology and a description of how the risk assessment results will be analyzed and compiled into a risk profile.

Presentations were given by Bettina Chastain, EMERALD Project Manager, and David Montague and Steven Harris from ABS Consulting. The meeting was scribed by Jennifer Cambron. The meeting was recorded and video posted on the project website by Nuka Research, as meeting facilitators. Opportunity was given to meeting participants to provide oral comments during the meeting or via video recorder, or written comments via email, fax, and mail. It was conveyed that all comments on the Proposed Methodology are due no later than June 2, 2009.

### 2. Proposed Risk Assessment Methodology Presentations

#### Overview Presentation

Bettina Chastain, the EMERALD Project Manager, gave an overview of the background, objectives, and current status of the project, including an overview of the scope of the infrastructure included in the risk assessment, a summary of the stakeholder consultation process and other inputs to the

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Proposed Methodology, and other details of the Proposed Methodology developed for the Alaska Risk Assessment.

The presentation is available on the project website at:

<http://www.dec.state.ak.us/spar/ipp/ara/documents/MethodologyWorkshopPresentationIntro-PrelimScrng.pdf>

### **Operational Hazards Risk Assessment & Risk Assessment Results Presentation**

David Montague from ABS Consulting presented on the methods that will be used to assess operational hazards, including the types of operational hazards, the approach for data gathering and what types of data will be sought, and the details of how operational hazards and their safety, environmental, and reliability risks will be assessed by the State to make decisions on the following questions: What risk management initiatives should be pursued? What risk management initiatives should not be pursued? How much money should reasonably be spent on risk management? How should that money be spent to obtain the most value?

The presentation is available on the project website at:

[http://www.dec.state.ak.us/spar/ipp/ara/documents/OpHazards\\_ABS.pdf](http://www.dec.state.ak.us/spar/ipp/ara/documents/OpHazards_ABS.pdf)

### **Natural Hazards Risk Assessment Presentation**

Steven Harris from ABS Consulting presented on the methods that will be used to assess natural hazards, including the types of natural hazards, the approach for data gathering and what types of data will be sought, and the details of how operational hazards and their safety, environmental, and reliability risks will be assessed. The natural hazards assessment will supplement the operational hazards assessment and help estimate the risk contribution to the infrastructure as a result of natural hazard events.

The presentation is available on the project website at:

[http://www.dec.state.ak.us/spar/ipp/ara/documents/NatHazards\\_ABS.pdf](http://www.dec.state.ak.us/spar/ipp/ara/documents/NatHazards_ABS.pdf)

### **3. Questions, Answers, and Comments**

Questions were taken both throughout the presentations and following the presentations. Questions asked and comments from public attendees are denoted by a "Q" or a "C" in the following discussion, while "A" represents the State or Project Team's effort to address the question or comment.

**Q:** How do you know when you're done postulating scenarios?

**A:** We will postulate knowledge-based, worst case scenarios. Consequences must meet the preliminary screening threshold for a scenario to be moved forward to detailed risk assessment.

**Q:** According to the revenue/reliability scale, is Cook Inlet excluded from the reliability assessment?

**A:** Yes. Cook Inlet produces a relatively small (~7,000 bbl/day) amount of oil compared to the North Slope. This does not reach the lowest threshold of the preliminary screening for the reliability assessment.

**Q:** Doesn't the methodology reduce consideration of CI, at least as far as reliability is concerned? This may overshadow safety and environmental consequences.

**A:** Cook Inlet safety and environmental consequences will be looked at through the preliminary screening process, and scenarios reaching the threshold will be moved forward to detailed

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analysis, in the same way as scenarios from other areas. Significant safety and environmental scenarios in the Cook Inlet will be given appropriate consideration.

**Q:** How are 2<sup>nd</sup>/3<sup>rd</sup> party activities that could impact infrastructure considered in the risk assessment?

**A:** External activities that could impact infrastructure are often included as a fraction of the failure frequency of the infrastructure itself, and would not be considered separately as initiating events. Failure rates themselves have external events built in, for example, the AGA has a database with outside impacts buried inside their numbers, and this is the case with other generic industry data as well. Postulating external events would turn into an unlimited exercise, any number of external events could occur to affect infrastructure. However, programmatic occurrences will be postulated and evaluated. Temporary project/construction activities are excluded from the study scope.

**Q:** How will human error be factored in and analyzed?

**A:** Human error will be postulated based on known data. Generic databases on human error will be used.

**Q:** Will the project review ADEC's situation reports?

**A:** Yes, this will be incorporated into the Bayesian update (see Proposed Methodology Report for more information).

**Q:** Will near misses be considered? It does not look like the methodology addresses near misses. A partial solution would be to lower safety threshold to include even serious injuries.

**A:** Yes, data on near misses will be incorporated into the analysis as it is available.

**Q:** Will the three consequence categories (Safety, Environmental, and Reliability) be kept as separate analyses or will they be merged?

**A:** The consequence categories will be kept as separate analyses.

**Q:** Will segmentation of the TAPS follow the breakdown done in previous assessments?

**A:** We may utilize previous segmentation for this risk assessment, if it proves to be beneficial.

**Q:** Will the brine line along the TAPS pipeline be considered?

**A:** Yes.

**Q:** Will secondary consequences of measures taken to mitigate a consequence be considered (such as consequences due to clean-up operations)?

**A:** The environmental index takes into consideration mitigating factors for consequences. A detailed analysis of these measures is beyond the scope of this project.

**Q:** How will ten 100 gallon spills be addressed vs. one 1000 gallon spill? Will the more frequent spills add up? Most industrial events are multi-causal. Very often, the common cause is economic, e.g., a maintenance function was not performed due to budget constraints.

**A:** An event which results in ten 100 gallon spills would be evaluated. However, singular, non-related events of 100 gallons would be screened out. Lower consequence events with higher likelihood would be captured as higher risk. Risk is composed of both consequence severity and likelihood.

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**Q:** How will recoverability of spills be quantified?

**A:** The Release Recovery/Remediation Factor Categories (Table 7-4 in the Proposed Risk Assessment Methodology Report) are a qualitative index of the ability to recover/remediate releases. It will take into account remoteness of the spill, wind, equipment, etc.

**Q:** Will hunters on access roads north of Glennallen in the vicinity of the pipeline be considered in the safety consequence to the public?

**A:** The assessment will not address whether people are in the wrong place at the wrong time (nothing would be screened out if this were the case), but safety consequences to the public will be based on existing population centers and census data.

**Q:** Does “facility siting studies from owner/operators” refer to original siting studies for facilities?

**A:** These are facility siting studies required for OSHA PSM-covered facilities, which we will use if we are able to acquire access to them.

**Q:** How will material stress characteristics unique to the North Slope (such as extreme environmental conditions and temperature differentials) be addressed and made specific to the Slope, when the methodology will be using industry-wide data from generic databases?

**A:** There are many ranges of industry data available for use by the risk assessment team. Additionally, different operations and maintenance practices exist for different environments. The team will err on the conservative side of the available data in the assessment. The Muhlbauer approach will be used to adjust these values as well.

**C:** When the TAPS pipeline was first constructed, many in the industry were unaware of the unique characteristics of the Arctic environment and had to be educated.

**Q:** Will incident reports from AOGCC be utilized in the risk assessment?

**A:** Yes.

**Q:** Why is “Ice” not included as a category in the list of 10 Natural Hazard categories?

**A:** The Natural Hazards categories may be modified as more information is known on where the higher risks are. Scenarios associated with severe storms/weather may include issues associated with “ice” in the overall assessment.

**Q:** How is asset vulnerability quantified? What is the screening threshold?

**A:** Please refer to the ALA guidelines (Appendix H of the Proposed Risk Assessment Methodology Report), which contain screening examples for natural hazards.

**Q:** Last year an incident occurred when an ice flow impacted a vessel and caused the vessel to collide with a platform. How would this be addressed in the risk assessment? Wouldn't it be difficult to obtain data for a hazard like this?

**A:** This type of hazard would be addressed in the operational hazards assessment, as it is more of an operational event. Data on the frequency of other vessel collisions could be used, adding in Alaska-specific factors. Other reasons for vessel collision with a platform could be equipment failure, loss of propulsion/steering, etc. In addition, a wider range of potential impacts to the platform structure from other causes will also be considered in the assessment, such as ice flows, current, etc.

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**Q:** Where are the definitions of revenue written down?

**A:** Please see the Request for Proposal and the Proposed Risk Assessment Methodology Report.

**Q:** Will evaluation of Pump Stations consider what the Pump Stations are currently used for and what operations they are performing?

**A:** Yes, we will evaluate each Pump Station and its activities and equipment individually.

**Q:** Who is in charge of the SAOT?

**A:** The SAOT is intended to be a consensus group of representative State agencies with an interest in the project.

**Q:** Will mitigating measures be recommended?

**A:** Possibly, if we are able to obtain information on existing mitigating measures.

**Q:** Why was the requirement for recommendations in the RFP changed after the contract was initiated?

**A:** There are multiple projects going on at the State level, including a Gap Analysis being performed by the PSIO to look at gaps and overlaps in state oversight activities. The results of the risk assessment study will be combined with the results of this Gap Analysis to make decisions on what to change and measures to implement. The State wants to be cost effective and focus on areas of higher risk as opposed to lower risk areas. A completely separate analysis after the risk assessment results are presented will be performed which includes input from the appropriate State agencies, contractor expertise, the public, and industry to determine how best to manage risks going forward.

**C:** It does not appear that the website reflects this process.

**Q:** How were decisions on infrastructure boundaries and excluded infrastructure made? There seems to be a large amount of infrastructure excluded from the scope.

**A:** The State defined the basic scope of the project. In 2007, the project was initiated in response to an incident on the North Slope in 2006, a failure of one component of the system (pipeline corrosion leak) which halted oil production. Alaska's infrastructure is aging and many of its components have exceeded their original design life.

This project is not intended to be an Environmental Impact Statement. Infrastructure boundaries were established early on in view of the project objectives. The objectives were originally to address loss of revenue to the State, and were expanded to include safety and environmental consequences. The physical boundaries of the project include existing and aging infrastructure in operation. New and planned infrastructure, and abandoned infrastructure not tied to operating infrastructure, is excluded. Infrastructure boundaries are included to the point of sale, and shipping is not included.

The outcome of the project will be a "snapshot" of the current state of the infrastructure and will highlight components with the highest relative risk. Results of the Risk Assessment will be summarized in the form of a risk profile. The SAOT will use this risk profile to develop appropriate mitigation measures.

**Q:** Please clarify whether abandoned infrastructure is excluded. Abandoned infrastructure is a risk and should be included.

**A:** Abandoned infrastructure that is still tied into the existing infrastructure will be included in the assessment. For example, the 4 platforms that are currently placed in "lighthouse mode" in the

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Cook Inlet will be assessed. However, abandoned infrastructure not tied to operating infrastructure is excluded from the scope of the risk assessment.

**Q:** Is Strategic Reconfiguration (SR) of the TAPS included?

**A:** We will be evaluating facilities in their current state, which may include newer equipment and configuration. However, future changes are excluded. Some of the proposed changes may not happen at all. Strategic Reconfiguration of infrastructure will be looked at on a case-by-case basis for each TAPS facility.

**Q:** Please describe what inputs from the owner/operator will change what the risk assessment study will do as far as field work is concerned.

**A:** Confidentiality concerns will need to be resolved before the project team has access to those details.

**Q:** Is there any indication that industry will provide information?

**A:** There are ongoing discussions with AOGA to reach agreement on a confidentiality structure that will give industry confidence that their information will be protected.

**Q:** How will the risk assessment results change over time? Would it benefit the State to have an ongoing process to keep the results current?

**A:** Typically, a risk assessment is a snapshot at a particular point in time. There are some industries which keep living models. It would be very expensive to keep this model current, and may not be worth it for the benefits that it would produce.

**Q:** Many stakeholders do not understand the impact of a study of this nature. It is a concern that people who may have a critical interest in the project were unaware of its importance and effects on them. What work was performed to identify important stakeholders that should be consulted? What outreach was done to notify critical stakeholders?

**A:** Meetings with the public and individual meetings with key stakeholders were held in 5 separate regions of the state; Anchorage, Fairbanks, Valdez, Kenai and Barrow. An expert in stakeholder relations was subcontracted to assist with the stakeholder consultation process and identification of key stakeholders. Key stakeholders with an interest in the project were identified, including representatives of state and local governments, regional citizens' advisory groups, and other interested organizations in each of the five locations. 39 meetings were held in all. Other communications included an up-to-date project website with extensive information on the project (including project importance), an online notification system, press releases, and contact by email and telephone.

**C:** The public was not adequately informed about this meeting (the Anchorage Public Workshop).

**A:** Multiple types of notice were given, including PSAs and a newspaper ad, as well as through the online website.

**Q:** What efforts did the project team make to consult industry workers?

**A:** Industry workers were reached out to as a citizens' group. Meetings with industry representatives were held through the AOGA forum, and technical contacts were identified and contacted. Owner/operators were consulted through an industry survey and individual meetings with operators.

**Q:** Has industry given input on the methodology yet?

**A:** Consultation is ongoing and will include industry input.

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**C:** Why does the scale for safety consequences exclude injuries? The preliminary screening scale for safety should be broadened to include serious injuries requiring hospitalization.

**C:** The occupational safety impact of 4 worker fatalities as a Category 1 risk seems high. Why is this consequence screened out?

**A:** The project team is not in the role of judging what level of safety consequence is acceptable. The study is intended to be focused on areas of high risk, and the levels of safety consequence that are deemed unacceptable will ultimately be determined by the State. Comments from the public are welcome on this topic.

**C:** Concern was raised regarding whether failures such as closing a valve will be considered, as these types of things are a major problem on the Slope. Using generic data will not take into account North Slope-specific problems.

**A:** If we are able to obtain information from industry, we will factor in more specific probabilities of events such as these which have occurred on the North Slope.

**C:** Human errors should include cutting of maintenance costs.

**C:** "Smaller" events can have huge consequences outside of the oil and gas industry. An example of this is when a small number of containers are contaminated in the commercial food products industry, which can result in significant economic damage to the brand and loss of sales. As far as environmental products critical to the State are concerned, there is a tendency for the public to view any spill as unacceptable. This makes it difficult to determine consequence levels. Some environmental consequences may be enormous to non-oil and gas industries. More work should have been done to determine environmental consequence levels.

**C:** The berms along the TAPS pipeline should not be considered secondary containment. Currently ADEC does define them as secondary containment, but they do not really act as secondary containment. This should be considered in the risk assessment.

**C:** Spills can have severe localized consequences. It does not appear that the methodology addresses this adequately.

**A:** One factor in consideration of the level of consequence that is assigned in the Environmental Consequence category is the sensitivity of the local environment. An index value will be assigned to this factor which will contribute to the overall environmental consequence ranking. However, the methodology is limited as far as how much detail can be achieved, given the scope, purpose and time limits of this project.

**C:** Environmentally sensitive areas are a wide ranging, broad category. The Environmental Sensitivity index should give consideration to highly sensitive habitats with endangered species. Other areas that should be considered include areas where commercial fishing or subsistence use could be affected. These concerns should have been brought up in stakeholder meetings.

**A:** These elements did come up in stakeholder meetings. A great deal of input was obtained from stakeholders on what constitutes a sensitive area and this input was used to outline the current environmental assessment categories within the methodology. Waterways were most frequently considered the most sensitive area where a spill would cause the worst consequences.

**C:** The study should broaden the environmental consequence categories/scale for environmental sensitivity. The full scope of environmental effects should be considered. The assessment should also find a way to assess the chronic environmental effects of oil that is not mitigated or remediated. This is typically a weak point in assessments of this type.

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**C:** Areas that support endangered species such as Beluga whales, orcas, etc. should be considered as more critically sensitive habitats than for example, salmon habitats.

**A:** Public input on this subject is appreciated and the project team will review the Environmental Sensitivity index in more depth.

**C:** Perceived risk is often different than what actually occurs, for example, the Prince William Sound spill still has lasting effects to public perceptions. The largest single damage of the PWS spill (more than everything else combined) was the perception of environmental damage.

**A:** Secondary effects often occur. The environmental index does not include indirect monetary losses. Indirect economic loss models perform this function, but this is outside of the scope of this assessment.

**C:** Secondary impacts should be considered. It is not difficult to assess economic impacts to commercial fisheries, and these effects should be included. This shouldn't add greatly to the workload. Copper River economic effects should be included.

**C:** Lack of consideration of human causation/human error factors and a lack of field research are a weakness of this methodology.

**C:** The term "gathering line" is not currently in use by ADEC. The project should remove references to "gathering lines" throughout the report, as this makes a difference as far as these components are regulated. The study should use ADEC's terms and definitions of "flowlines" and "transmission lines" instead.

**A:** The project team worked with ADEC to arrive at the current definitions in the report, which are specifically intended for use by the project team to perform the assessment. There are discrepancies in different state statutes, and it is important to recognize that the project team needs to move forward with the study with definitions that can be used by all members of the risk assessment team for consistency.

**C:** Will the public be able to review recommendations that come out of this project? Recommendations from the study should have a public review.

**A:** The intent of the risk assessment is to provide to the State a risk profile, identifying areas of highest risk, and identifying contributing factors to this risk. The State will be making decisions on what measures to implement based on this risk profile.

**C:** There needs to be clarification about why recommendations are not going to be issued by the study. There should also be an audit of the project itself. There needs to be a candid discussion of the problems that the project is encountering.

**C:** Clarity on the Gap Analysis and its relationship with the risk assessment should be provided, as well as how these studies will be utilized together. No public information has been provided on this.

**C:** The title of the study is misleading. Use of the word "comprehensive" implies that this study includes more than it actually does, given the infrastructure boundaries. This is a concern because it affects the public perception of this risk assessment. Suggest changing the name to better reflect the actual scope of the study.

**C:** There should be a strong continuing audit of maintenance of facilities after the final risk assessment report is released.

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**C:** Concerned that the methodology does not include the government oversight role as a priority, project should be discontinued if not able to adequately address risks. Government oversight should have similar priority as human error and field information.

**C:** A stronger regulatory presence by state and federal government is needed.

**C:** On pages 92-97 of the Interim Report, it appears that the project is having problems getting information from industry.

**C:** It seems that industry is responding to project with passive hostility by not cooperating. The project appears to be having problems because of this. The State should demand this information.

**C:** After the study is completed, the State should consider having an audit in 3-5 years to review the results of the study. It would be valuable to know what the State does with the information from the study, what measures it initiated and the progress on implementing them (example of previous Coast Guard Ports & Waterways Safety Analysis for Aleutian Islands).

**C:** The Risk Matrix model encourages people to just exclude low risk scenarios. The risk ranking exercise doesn't serve a purpose.

**A:** The purpose of risk ranking is to provide a profile that will help determine the best places to put limited resources.

**C:** Public input may be confused with public endorsement of this project. Rather than just taking comments, stakeholder input should be incorporated more. Ultimately, the solution is to have citizen oversight councils to audit and make recommendations on continuing basis.

**C:** Stakeholder education should be enhanced, as opposed to just getting stakeholder input. Most stakeholders can give better input if they are fully aware of the effects on their lives of studies like this.

**C:** The risk assessment should consider consulting the residents in areas of higher consequence, e.g., residents of the Copper River Valley (during discussion of Natural Hazards).

**C:** I propose to take whatever is left in funding for project and hire an ombudsman/whistleblower person for 5 years to deal with problems as they come up in the field rather than finish project as designed. Although the work remaining in this project should be completed as quickly as possible.

**C:** The State should increase funding for ombudsmen/ whistleblowers to be sent out into the field.

### Attachments

[Proposed Risk Assessment Methodology Overview Presentation](#)

[Operational Hazards Methodology & Risk Assessment Results Presentation](#)

[Natural Hazards Methodology Presentation](#)