"Rosenthal, Amy"
<amy.rosenthal@urs.com>
11/06/2012 12:51 PM

To ArcticAR <arcticar@urscorp.com>
cc
bcc
Subject FW: Submittal - Draft G2G CAR

From: Rosenthal, Amy
Sent: Friday, April 20, 2012 11:08 AM
To: Candace Nachman (Candace.Nachman@noaa.gov); jolie.harrison@noaa.gov; Michael.Payne@noaa.gov
Cc: Isaacs, Jon; Bellion, Tara; Kluwe, Joan; Fuchs, Kim; ArcticAR
Subject: Submittal - Draft G2G CAR

Hi all –

Attached is the Draft government-to-government comment analysis report for your review. While we do have a separate report for G2G comments, there is only one SOC that is new from the Public CAR that you, BOEM, and NSB are currently working from – NEP 3.

Please let me know if you have any questions.
Thanks,
Amy

***** Please note my new email address: amy.rosenthal@urs.com *****

Amy C. Rosenthal
Environmental Planner
URS Corporation

503-948-7223 (direct phone)
503-222-4292 (fax)

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.


Draft G2G CAR_Arctic EIS (042012).pdf

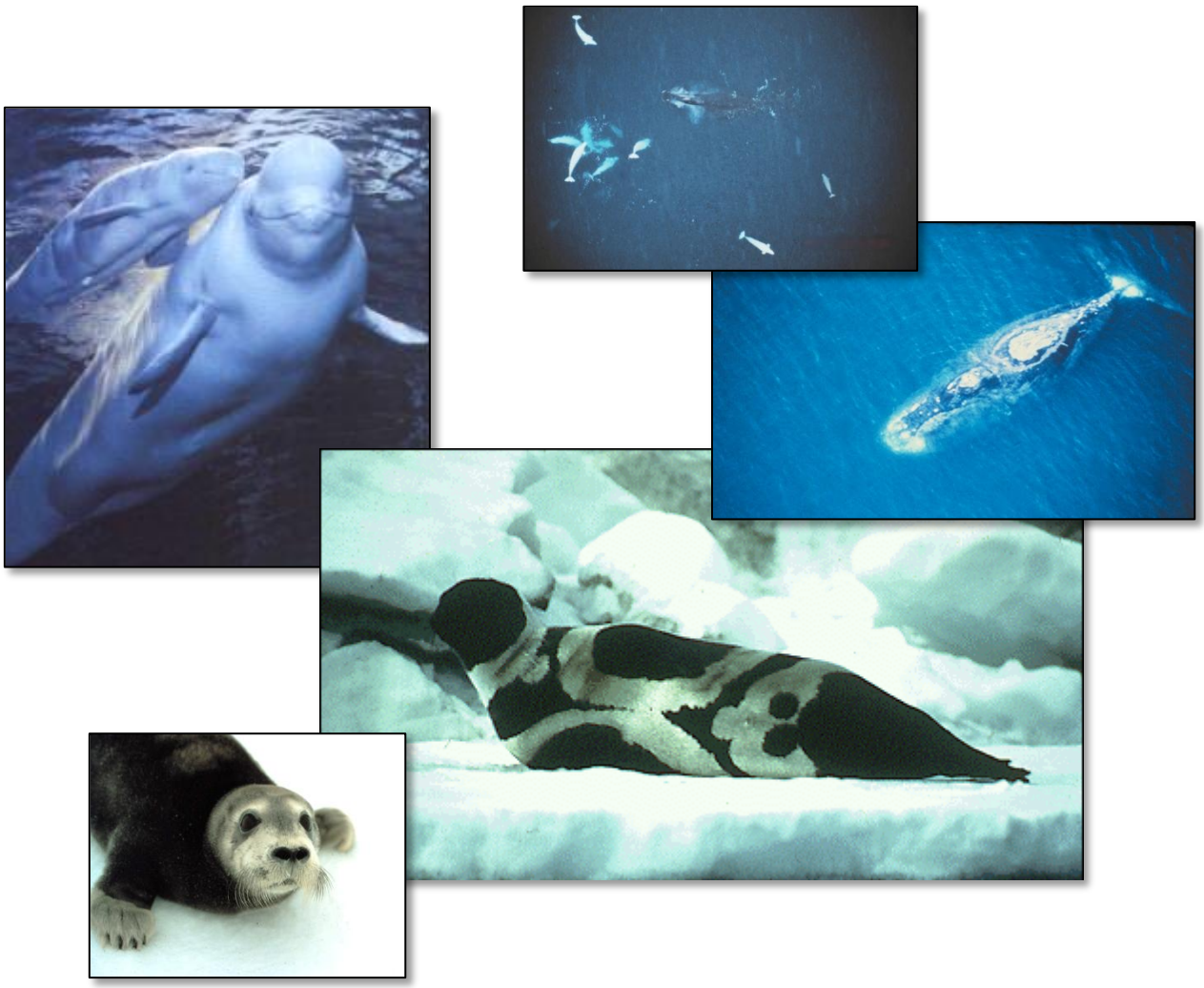

Draft G2G CAR_Arctic EIS (042012).docx

Effects of Oil and Gas Activities in the Arctic Ocean

Draft

Government-to-Government

Comment Analysis Report



April 20, 2012

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Protected Resources

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

AEWC	Alaska Eskimo Whaling Commission
APA	Administrative Procedure Act
BOEM	Bureau of Ocean Energy Management
CAA	Conflict Avoidance Agreement
CAR	Comment Analysis Report
CASy	Comment Analysis System database
DEIS	Draft Environmental Impact Statement
ESA	Endangered Species Act
IEA	Important Ecological Area
IHA	Incidental Harassment Authorization
ITAs	Incidental Take Authorizations
ITRs	Incidental Take Regulations
MMPA	Marine Mammal Protection Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
PAM	Passive Acoustic Monitoring
SOC	Statement of Concern
TK	Traditional Knowledge
USC	United States Code
USGS	U.S. Geological Survey
VLOS	Very Large Oil Spill

1.0 INTRODUCTION

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) and the U.S. Department of the Interior's Bureau of Ocean Energy Management (BOEM) have prepared and released a Draft Environmental Impact Statement (DEIS) that analyzes the effects of offshore geophysical seismic surveys and exploratory drilling in the federal and state waters of the U.S. Beaufort and Chukchi seas.

The proposed actions considered in the DEIS are:

- NMFS' issuance of incidental take authorizations (ITAs) under Section 101(a)(5) of the Marine Mammal Protection Act (MMPA), for the taking of marine mammals incidental to conducting seismic surveys, ancillary activities, and exploratory drilling; and
- BOEM's issuance of permits and authorizations under the Outer Continental Shelf Lands Act for seismic surveys and ancillary activities.

2.0 BACKGROUND

NMFS is serving as the lead agency for this EIS. BOEM (formerly called the U.S. Minerals Management Service) and the North Slope Borough are cooperating agencies on this EIS. The U.S. Environmental Protection Agency is serving as a consulting agency. NMFS is also coordinating with the Alaska Eskimo Whaling Commission pursuant to our co-management agreement under the MMPA.

The Notice of Intent to prepare an EIS was published in the *Federal Register* on February 8, 2010 (75 FR 6175). On December 30, 2011, Notice of Availability was published in the *Federal Register* (76 FR 82275) that NMFS had released for public comment the ''Draft Environmental Impact Statement for the Effects of Oil and Gas Activities in the Arctic Ocean." The original deadline to submit comments was February 13, 2012. Based on several written requests received by NMFS, the public comment period for this DEIS was extended by 15 days. Notice of extension of the comment period and notice of public meetings was published January 18, 2012, in the *Federal Register* (77 FR 2513). The comment period concluded on February 28, 2012, making the entire comment period 60 days.

NMFS intends to use this EIS to: 1) evaluate the potential effects of different levels of offshore seismic surveys and exploratory drilling activities occurring in the Beaufort and Chukchi seas; 2) take a comprehensive look at potential cumulative impacts in the EIS project area; and 3) evaluate the effectiveness of various mitigation measures. NMFS will use the findings of the EIS when reviewing individual applications for ITAs associated with seismic surveys, ancillary activities, and exploratory drilling in the Beaufort and Chukchi seas.

3.0 THE ROLE OF CONSULTATION WITH INDIAN TRIBAL GOVERNMENTS

Executive Order 13175 is intended to establish regular and meaningful consultation and collaboration between federal agencies and federally-recognized tribal governments in the development of federal regulatory practices that significantly or uniquely affect their communities. The goal of government to government collaboration for this DEIS is to work collaboratively with tribal governments within the EIS project area in order to explore ways that the energy development in the Arctic can best co-exist with the subsistence culture and way of life.

Tribal governments in each community, with the exception of Anchorage, were notified of the availability of the DEIS and invited to give comments. The first contact was via letter that was faxed, dated December 22, 2011; follow-up calls and emails were made with the potentially affected Tribal governments, and in the communities listed above, each government was visited during the comment

period. Because NMFS was not able to make it to the communities of Nuiqsut, Kaktovik, and Point Lay on the originally scheduled dates, a follow-up letter was sent on February 29, 2012, requesting a teleconference meeting for government to government consultation. Nuiqsut and Point Lay rescheduled with teleconferences. However, the Native Village of Nuiqsut did not call-in to the rescheduled teleconference. The comments received during government to government consultation between NMFS, BOEM, and the Tribal governments are included in this Comment Analysis Report (CAR).

A total of five government to government public meetings were held to inform and to solicit comments on the DEIS. The meetings consisted of a brief presentation, and then a comment opportunity. Transcripts of each public meeting are available on the project website: http://www.nmfs.noaa.gov/pr/permits/eis/arctic.htm. The five government to government meetings that were held are identified in Table 1.

Table 1. Government to Government Meetings, Locations and Dates

Meeting	Date	Location
Iñupiat Community of the Arctic Slope (ICAS)	January 31, 2012	ICAS office, Barrow, AK
Native Village of Barrow	January 31, 2012	Native Village of Barrow office, Barrow, AK
Native Village of Kivalina	February 6, 2012	Native Village of Kivalina office, Kivalina, AK
Native Village of Kotzebue IRA	February 7, 2012	IRA Council building, Kotzebue, AK
Native Village of Point Lay	April 3, 2012	Via teleconference Point Lay, AK; Silver Spring, MD; Anchorage, AK

NMFS and the cooperating agencies will review all comments, determine how the comments should be addressed, and make appropriate revisions in preparing the Final EIS. The Final EIS will contain the comments submitted and a summary of comment responses.

The Final EIS will include public notice of document availability, the distribution of the document, and a 30-day comment/waiting period on the final document. NMFS and BOEM are expected to each issue a separate Record of Decision (ROD), which will then conclude the EIS process in early 2013. The selected alternative will be identified in each ROD, as well as the agency's rationale for their conclusions regarding the environmental effects and appropriate mitigation measures for the proposed project.

4.0 ANALYSIS OF SUBMISSIONS

The body of this report provides a brief summary of the comment analysis process and the comments that were received during the public comment period. Appendix A follows this narrative, and includes the Comment Index.

Comments were received on the DEIS in several ways:

- Oral discussion or testimony from the government to government meeting transcripts;
- Written comments submitted electronically by email or through the project website.

NMFS received a total of seven unique submissions on the DEIS from tribal entities (five government to government meeting transcripts and two written comment letters). The complete text of comments received will be included in the Administrative Record for the EIS.

This CAR provides an analytical summary of these submissions. It presents the methodology used by NMFS in reviewing, sorting, and synthesizing substantive comments within each submission into common themes. As described in the following sections of this report, a careful and deliberate approach has been undertaken to ensure that all substantive public comments were captured.

The coding phase was used to divide each submission into a series of substantive comments (herein referred to as 'comments'). All submissions on the DEIS were read, reviewed, and logged into the Comment Analysis System database (CASy) where they were assigned an automatic tracking number (Submission ID). These comments were recorded into the CASy and given a unique Comment ID number (with reference to the Submission ID) for tracking and synthesis. The goal of this process was to ensure that each sentence and paragraph in a submission containing a substantive comment pertinent to the DEIS was entered into the CASy. Substantive content constituted assertions, suggested actions, data, background information, or clarifications relating to the content of the DEIS.

Comments were assigned subject issue categories to describe the content of the comment (see Table 2). The issues were grouped by general topics, including effects, available information, regulatory compliance, and Iñupiat culture. The relative distribution of comments by issue is shown in Figure 1.

A total of 19 issue categories were developed for coding during the first step of the analysis process as shown in Table 2. These categories evolved from common themes found throughout the submissions. Some categories correspond directly to sections of the DEIS, while others focus on more procedural topics. Several submissions included attachments of scientific studies or reports or requested specific edits to the DEIS text.

The public comment submissions generated 185 substantive comments, which were then grouped into ***Statements of Concern*** (SOCs). SOCs are summary statements intended to capture the different themes identified in the substantive comments. SOCs are frequently supported by additional text to further explain the concern, or alternatively to capture the specific comment variations within that grouping. SOCs are not intended to replace actual comments. Rather, they summarize for the reader the range of comments on a specific topic.

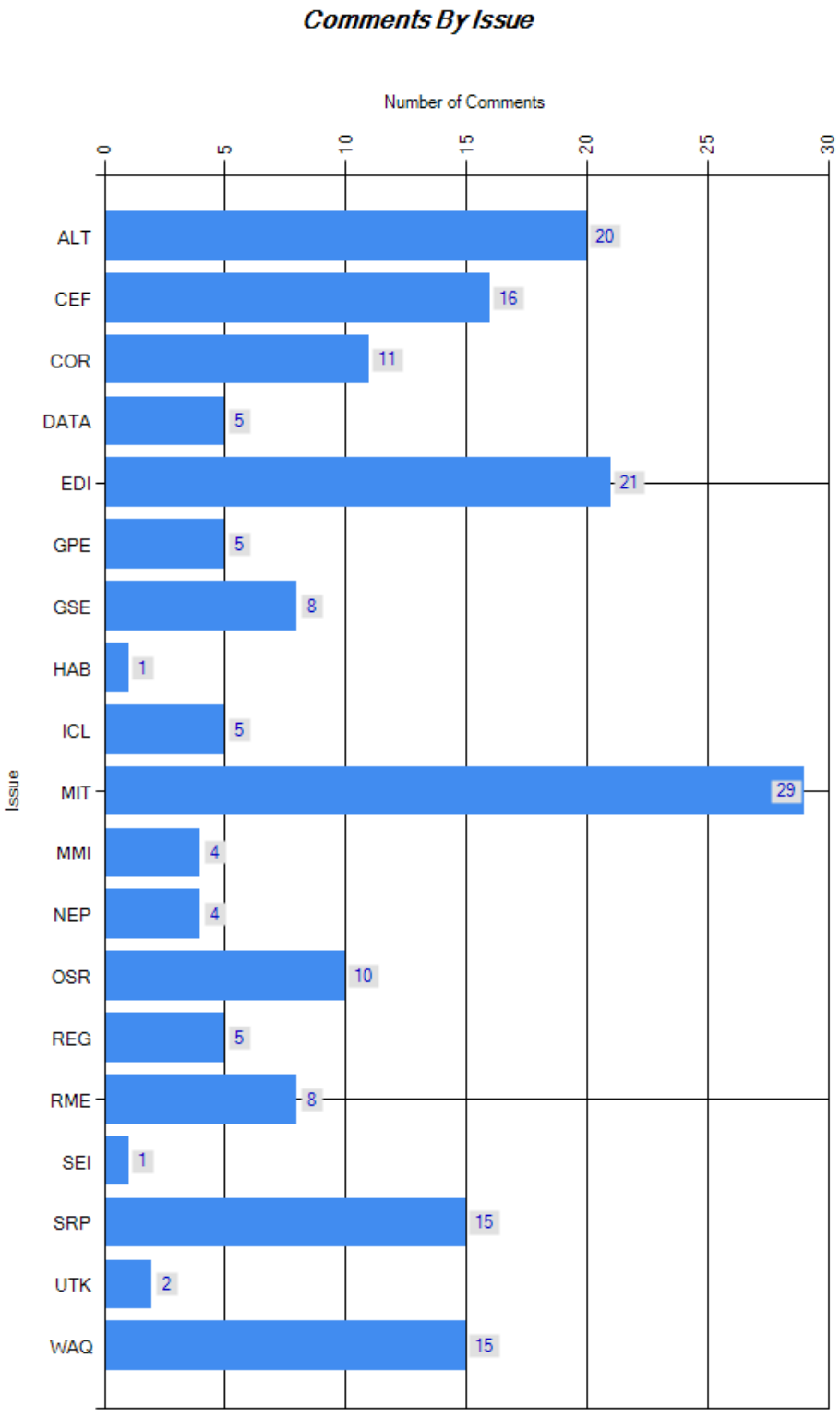
Every substantive comment was assigned to an SOC; a total of 82 SOCs were developed. Each SOC is represented by an issue category code followed by a number. NMFS will use the SOCs to respond to substantive comments on the DEIS, as appropriate. Each issue category may have more than one SOC. For example, there are 6 SOCs under the issue category "Cumulative Effects" (CEF 1, CEF 2, CEF 3, etc.). Each comment was assigned to one SOC. The complete list of SOCs can be found in Section 5.0.

Table 2. Issue Categories for DEIS Comments

GROUP	Issue Category	Code	Summary
Effects	Cumulative Effects	CEF	Comments related to cumulative impacts in general, or for a specific resource
	Physical Environment (General)	GPE	Comments related to impacts on resources within the physical environment (*Physical Oceanography, Climate, Acoustics, and Environmental Contaminants & Ecosystem Functions*)
	Social Environment (General)	GSE	Comments related to impacts on resources within the social environment (*Public Health, Cultural, Land Ownership/Use/Management, Transportation, Recreation and Tourism, Visual Resources, and Environmental Justice*)
	Habitat	HAB	Comments associated with habitat requirements, or potential habitat impacts from seismic activities and exploratory drilling. Comment focus is habitat, not animals.
	Marine Mammal and other Wildlife Impacts	MMI	General comments related to potential impacts to marine mammals or other wildlife, unrelated to subsistence resource concepts.
	Oil Spill Risks	OSR	Concerns about potential for oil spill, ability to clean up spills in various conditions, potential impacts to resources or environment from spills.
	Socioeconomic Impacts	SEI	Comments on economic impacts to local communities, regional economy, and national economy, can include changes in the social or economic environments.
	Subsistence Resource Protection	SRP	Comments on need to protect subsistence resources and potential impacts to these resources. Can include ocean resources as our garden, contamination.
	Water and Air Quality	WAQ	Comments regarding water and air quality, including potential to impact or degrade these resources.
Info Available	Data	DATA	Comments referencing scientific studies that should be considered.
	Research, Monitoring, Evaluation Needs	RME	Comments on baseline research, monitoring, and evaluation needs

GROUP	Issue Category	Code	Summary
Process: NEPA, Permits, the DEIS	Alternatives	ALT	Comments related to alternatives or alternative development.
	Coordination and Compatibility	COR	Comments on compliance with statues, laws or regulations and Executive Orders that should be considered; coordinating with federal, state, or local agencies, organizations, or potential applicants; permitting requirements.
	Mitigation Measures	MIT	Comments related to suggestions for or implementation of mitigation measures.
	NEPA	NEP	Comments on aspects of the NEPA process (purpose and need, scoping, public involvement, etc.), issues with the impact criteria (Chapter 4), or issues with the impact analysis.
	Regulatory Compliance	REG	Comments associated with compliance with existing regulations, laws, and statutes.
General	Editorial	EDI	Comments associated with specific text edits to the document.
Iñupiat Culture	Iñupiat Culture and Way of Life	ICL	Comments related to potential cultural impacts or desire to maintain traditional practices (PEOPLE).
	Use of Traditional Knowledge	UTK	Comments regarding how traditional knowledge (TK) is used in the document or decision making process, need to incorporate TK, or processes for documenting TK.

Figure 1: Comments by Issue



5.0 STATEMENTS OF CONCERN

This section presents the SOCs developed to help summarize comments received on the DEIS. To assist in finding which SOCs were contained in each submission, a Submission and Comment Index (Appendix A) was created. The index is a list of all submissions received, presented alphabetically by the last name of the commenter, as well as the Submission ID associated with the submission, and which SOCs responds to their specific comments. To identify the specific issues that are contained in an individual submission: 1) search for the submission of interest in Appendix A; 2) note which SOC codes are listed under the submissions; 3) locate the SOC within Section 5.0; and 4) read the text next to that SOC. Each substantive comment contained in a submission was assigned to one SOC.

Alternatives (ALT)

ALT Comments related to alternatives or alternative development.

ALT 1 NMFS should adopt the No Action Alternative (Alternative 1) as the preferred alternative, which represents a precautionary, ecosystem-based approach. There is a considerable amount of public support for this alternative. It is the only reliable way to prevent a potential catastrophic oil spill from occurring in the Arctic Ocean, and provides the greatest protections from negative impacts to marine mammals from noise and vessel strikes. Alternative 1 is the only alternative that makes sense given the state of missing scientific baseline, as well as long-term, data on impacts to marine mammals and subsistence activities resulting from oil and gas exploration.

ALT 2 The "range" of action alternatives only considers two levels of activity. The narrow range of alternatives presented in the DEIS and the lack of specificity regarding the source levels, timing, duration, and location of the activities being considered do not provide a sufficient basis for determining whether other options might exist for oil and gas development with significantly less environmental impact, including reduced effects on marine mammals. NMFS and BOEM should expand the range of alternatives to ensure that oil and gas exploration activities have no more than a negligible impact on marine mammal species and stocks, and will not have adverse impacts on the Alaska Native communities that depend on the availability of marine mammals for subsistence, as required under the Marine Mammal Protection Act.

ALT 3 The levels of oil and gas exploration activity identified in Alternatives 2 and 3 are not accurate. In particular, the DEIS significantly over estimates the amount of seismic exploration that is reasonably foreseeable in the next five years, while underestimating the amount of exploration drilling that could occur. The alternatives are legally flawed because none of the alternatives address scenarios that are currently being contemplated and which are most likely to occur. For example:

- Level 1 activity assumes as many as three site clearance and shallow hazard survey programs in the Chukchi Sea, while Level 2 activity assumes as many as 5 such programs. By comparison, the ITR petition recently submitted by AOGA to USFWS for polar bear and walrus projects as many as seven (and as few as zero) shallow hazard surveys and as many as two (and as few as one) other G&G surveys annually in the Chukchi Sea over the next five years.
- The assumption for the number of source vessels and concurrent activity is unlikely.
- By 2014, ConocoPhillips intends to conduct exploration drilling in the Chukchi Sea. It is also probable that Statoil will be conducting exploration drilling on their prospects in the Chukchi Sea beginning in 2014. Accordingly, in 2014, and perhaps later years depending upon results, there may be as many as three exploration drilling programs occurring in the Chukchi Sea.

The alternatives scenarios should be adjusted by NMFS to account for realistic levels of seismic and exploratory drilling activities, and the subsequent impact analyses should be substantially revised. The DEIS does not explain why alternatives that would more accurately represent likely levels of activity were omitted from inclusion in the DEIS as required under 40 C.F.R. Sections 1500.1 and Section 1502.14.

ALT 4 NMFS should include a community-based alternative that establishes direct reliance on the Conflict Avoidance Agreement (CAA), and the collaborative process that has been used to implement it. The alternative would include a fully developed suite of mitigation measures similar to what is included in each annual CAA. This alternative would also include:

- a communications scheme to manage industry and hunter vessel traffic during whale hunting;
- time-area closures that provide a westward-moving buffer ahead of the bowhead migration in areas important for fall hunting by our villages;
- vessel movement restrictions and speed limitations for industry vessels moving in the vicinity of migrating whales;
- limitations on levels of specific activities;
- limitations on discharges in near-shore areas where food is taken and eaten directly from the water;
- other measures to facilitate stakeholder involvement; and
- an annual adaptive decision making process where the oil industry and Native groups come together to discuss new information and potential amendments to the mitigation measures and/or levels of activity.

NMFS should also include a more thorough discussion of the 20-year history of the CAA to provide better context for assessing the potential benefits of this community-based alternative.

ALT 5 NMFS should include an alternative in the Final EIS that blends the following components of the existing DEIS alternatives, which is designed to benefit subsistence hunting:

- Alternative 2 activity levels;
- Mandatory time/area closures of Alternative 4;
- Alternative technologies from Alternative 5;
- Zero discharge in the Beaufort Sea;
- Limitation on vessel transit into the Chukchi Sea;
- Protections for the subsistence hunt in Wainwright, Point Hope, and Point Lay;
- Sound source verification;
- Expanded exclusion zones for seismic activities; and
- Limitations on limited visibility operation of seismic equipment.

ALT 6 The analysis in the DEIS avoids proposing a beneficial conservation alternative and consistently dilutes the advantages of mitigation measures that could be used as part of such an alternative. NEPA requires that agencies explore alternatives that "will avoid or minimize adverse effects of these actions upon the quality of the human environment." Such an alternative could require all standard and additional mitigation measures, while adding limits such as late-season drilling prohibitions to protect migrating bowhead whales and reduce the harm from an oil spill. NMFS should consider analyzing such an alternative in the Final EIS.

Cumulative Effects (CEF)

CEF Comments related to cumulative impacts in general, or for a specific resource.

CEF 1 NMFS should review the cumulative effects section; many "minor" and "negligible" impacts can combine to be more than "minor" or "negligible."

CEF 2 A narrow focus on oil and gas activities is likely to underestimate the overall level of impact on the bowhead whale. Bowhead whales are long-lived and travel great distances during their annual migration, leaving them potentially exposed to a wide range of potential anthropogenic impacts and cumulative effects over broad geographical and temporal scales. An Ecosystem Based Management approach would better regulate the totality of potential impacts to wildlife habitat and ecosystem services in the Arctic.

CEF 3 NMFS should include more in its cumulative effects analysis regarding the impacts caused by:

- Climate change;
- Oil Spills;
- Ocean noise;
- Planes;
- Transportation in general;
- Discharge;
- Assessments/research/monitoring;
- Dispersants; and
- Invasive species.

CEF 4 The cumulative effects analysis overall in the DEIS is inadequate. Specific comments include:

- The DEIS fails to develop a coherent analytical framework by which impacts are assessed and how decisions are made;
- The cumulative impact section does not provide details about what specific methodology was used;
- The cumulative effects analysis does not adequately assess the impacts from noise, air/water quality, subsistence, and marine mammals;
- The list of activities is incomplete;
- The assessment of impacts to employment/socioeconomics/income are not considered in assessment of cumulative impacts for any alternative other than the no action alternative;
- The industry has not shown that their activities will have no cumulative, adverse and unhealthy effects upon the animals, the air, the waters nor the peoples of the Coastal Communities in the Arctic;
- The analysis on seals and other pinnipeds is inadequate and is not clear on whether potential listings were considered;
- Recent major mortality events involving both walrus and ice seals must be considered when determining impacts. A negligible impact determination cannot be made without more information about these disease events.

CEF 5 Adverse cumulative effects need to be considered in more depth for marine mammals and habitat, specifically regarding:

- Oil and gas activities in the Canadian Beaufort and the Russian Chukchi Sea;
- Entanglement with fishing gear;
- Increased vessel traffic;
- Discharge;
- Water/Air pollution;
- Sources of underwater noise;
- Climate change;
- Ocean acidification; and
- Production structures and pipelines.

CEF 6 NMFS should include the following in the cumulative effects analysis:

- Current and future activities including deep water port construction by the military, the opening of the Northwest Passage, and production at BP's Liberty prospect;
- Past activities including past activities in the Arctic for which NMFS has issued IHAs; commercial shipping and potential deep water port construction; production of offshore oil and gas resources or production related activities; and commercial fishing;
- A baseline for analysis of current activities and past IHAs;
- Recent studies: a passive acoustic monitoring study conducted by Scripps, and NOAA's working group on cumulative noise mapping;
- Ecosystem mapping of the entire project.

Coordination and Compatibility (COR)

COR Comments on compliance with statues, laws or regulations and Executive Orders that should be considered; coordinating with federal, state, or local agencies, organizations, or potential applicants; permitting requirements.

COR 1 Continued government to government consultation needs to include:

- Increased focus on how NMFS and other federal agencies are required to protect natural resources and minimize the impact of hydrocarbon development to adversely affect subsistence hunting.
- More consultations are needed with the tribes to incorporate their traditional knowledge into the DEIS decision making process.
- Direct contact between NMFS and Kotzebue IRA, Iñupiat Community of the Arctic Slope (ICAS) and Native Village of Barrow should be initiated by NMFS.
- Tribal organizations should be included in meeting with stakeholders and cooperating agencies.
- Consultation should be initiated early and from NOAA/NMFS, not through their contractor. Meetings should be in person.

COR 2 Data and results that are gathered should be shared throughout the impacted communities. Often, adequate data are not shared and therefore perceived inaccurate. Before and after an IHA is authorized, communities should receive feedback from industry, NMFS, and marine observers.

COR 3 There needs to be a permanent system of enforcement and reporting for marine mammal impacts to ensure that oil companies are complying with the terms of the IHA and threatened and endangered species authorizations. This system needs to be developed and implemented in collaboration with the North Slope Borough and the ICAS and should be based on the CAAs.

COR 4 NMFS should adopt an ecosystem based management approach consistent with the policy objectives of the MMPA and the policy objectives of the Executive Branch and President Obama's Administration.

Data (DAT)

DATA Comments referencing scientific studies that should be considered.

DATA 1 NMFS should review the references below regarding air pollution:

Environmental Protection Agency (EPA) Region 10, Supplemental Statement of Basis for Proposed OCS Prevention of Significant Deterioration Permits Noble Discoverer Drillship, Shell Offshore Inc., Beaufort Sea Exploration Drilling Program, Permit No. R10OCS/PSD-AK-2010-01, Shell Gulf of Mexico Inc., Chukchi Sea Exploration Drilling Program, Permit No. R10OCS/PSD-AK-09-01 at 65 (July 6, 2011) (Discoverer Suppl. Statement of Basis 2011), available at http://www.epa.gov/region10/pdf/permits/shell/discoverer_supplemental_statement_of_basis_chukchi_and_beaufort_air_permits_070111.pdf. 393 EPA Region 10, Technical Support Document, Review of Shell's Supplemental Ambient Air Quality Impact Analysis for the Discoverer OCS Permit Applications in the Beaufort and Chukchi Seas at 8 (Jun. 24, 2011)(Discoverer Technical Support Document), available at http://www.epa.gov/region10/pdf/permits/shell/discoverer_ambient_air_quality_impact_analysis_06242011.pdf. 394 EPA, An Introduction to Indoor Air Quality: Nitrogen Dioxide, available at http://www.epa.gov/iaq/no2.html#Health Effects Associated with Nitrogen Dioxide 396 EPA, Particulate Matter: Health, available at http://www.epa.gov/oar/particlepollution/health.html

DATA 2 NMFS should review the reference below regarding characterization of subsistence areas/activities for Kotzebue:

Whiting, A., D. Griffith, S. Jewett, L. Clough, W. Ambrose, and J. Johnson. 2011. Combining Inupiaq and Scientific Knowledge: Ecology in Northern Kotzebue Sound, Alaska. Alaska Sea Grant, University of Alaska Fairbanks, SG-ED-72, Fairbanks. 71 pp, for a more accurate representation, especially for Kotzebue Sound uses.

Crawford, J. A., K. J. Frost, L. T. Quakenbush, and A. Whiting. 201.2. Different habitat use strategies by subadult and adult ringed seals (Phoca hispida} in the Bering and Chukchi seas. Polar Biology 35{2):241-255.

DATA 3 NMFS should review the references below regarding Ecosystem-Based Management:

Environmental Law Institute. Intergrated Ecosystem-Based Management of the US. Arctic Marine Environment- Assessing the Feasibility of Program and Development and Implementation (2008)

Siron, Robert et al. Ecosystem-Based Management in the Arctic Ocean: A Multi- Level Spatial Approach, Arctic Vol. 61, Suppl 1 (2008) (pp 86-102)2

Norwegian Polar Institute. Best Practices in Ecosystem-based Oceans Management in the Arctic, Report Series No. 129 (2009)

The Aspen Institute Energy and Environment Program. The Shared Future: A Report of the Aspen Institute Commission on Arctic Climate Change (2011)

Editorial (EDI)

EDI	Comments associated with specific text edits to the document.
EDI 1	NMFS should consider incorporating the following edits into Chapter 1.
EDI 2	NMFS should consider incorporating the following edits into Chapter 2.
EDI 3	NMFS should consider incorporating the following edits into Chapter 3 – Physical Environment.
EDI 4	NMFS should consider incorporating the following edits into Chapter 3 – Biological Environment.
EDI 5	NMFS should consider incorporating the following edits into Chapter 3 – Social Environment.
EDI 6	NMFS should consider incorporating the following edits into Chapter 4 – Physical Environment.
EDI 7	NMFS should consider incorporating the following edits into Chapter 4 – Biological Environment.
EDI 8	NMFS should consider incorporating the following edits into Chapter 4 – Social Environment.
EDI 9	NMFS should consider incorporating the following edits into Chapter 4 – Oil Spill Analysis.
EDI 10	NMFS should consider incorporating the following edits into Chapter 4 – Cumulative Effects Analysis.

Physical Environment – General (GPE)

GPE Comments related to impacts on resources within the physical environment (Physical Oceanography, Climate, Acoustics, and Environmental Contaminants & Ecosystem Functions).

GPE 1 The EIS should include an analysis of impacts associated with climate change and ocean acidification including:

- Addressing threats to species and associated impacts for the bowhead whale, pacific walrus, and other Arctic species.
- Effects of loss of sea ice cover, seasonally ice-free conditions on the availability of subsistence resources to Arctic communities.
- Increased community stress, including loss of subsistence resources and impacts to ice cellars.

Social Environment – General (GSE)

GSE Comments related to impacts on resources within the social environment (Public Health, Cultural, Land Ownership/Use/Management, Transportation, Recreation and Tourism, Visual Resources, and Environmental Justice).

GSE 1 The current environmental justice analysis is inadequate, and NMFS has downplayed the overall threat to the Iñupiat people. The agency does not adequately address the following:

- The combined impacts of air pollution, water pollution, sociocultural impacts (disturbance of subsistence practices), and economic impacts on Iñupiat people;
- The baseline health conditions of local communities and how it may be impacted by the proposed oil and gas activities;
- Potential exposure to toxic chemicals and diminished air quality;
- The unequal burden and risks imposed on Iñupiat communities; and
- The analysis fails to include all Iñupiat communities.

GSE 2 Current and up to date health information should be evaluated and presented in the human health assessments. Affected communities have a predisposition and high susceptibility to health problems that need to be evaluated and considered when NMFS develops alternatives and mitigation measures to address impacts.

Habitat (HAB)

HAB Comments associated with habitat requirements, or potential habitat impacts from seismic activities and exploratory drilling. Comment focus is habitat, not animals.

HAB 1 NMFS should consider an ecosystem-based management plan to protect habitat for the bowhead whale and other important wildlife subsistence species of the Arctic.

Iñupiat Culture and Way of Life (ICL)

ICL Comments related to potential cultural impacts or desire to maintain traditional practices.

ICL 1 Industrial activities (such as oil and gas exploration and production) jeopardize the long-term health and culture of native communities. Specific concerns include:

- Impacts to Arctic ecosystems and the associated subsistence resources from pollutants, noise, and vessel traffic;
- Community and family level cultural impacts related to the subsistence way of life;
- Preserving resources for future generations.

ICL 2 Native communities would be heavily impacted if a spill occurs, depriving them of subsistence resources. NMFS should consider the impact of an oil spill when deciding upon an alternative.

ICL 3 Native communities are at risk for changes from multiple threats, including climate change, increased industrialization, access to the North Slope, melting ice, and stressed wildlife. These threats are affecting Inupiat traditional and cultural uses and NMFS should stop authorizing offshore oil and gas related activities until these threats to Iñupiat culture are addressed.

Mitigation Measures (MIT)

MIT Comments related to suggestions for or implementation of mitigation measures.

MIT 1 If Kotzebue is included in the EIS area because it is an eligible area for exploration activities, then the DEIS needs to include recommendations for mitigating impacts through exclusion areas, or timing issues, including:

- remove the Hope Basin from the EIS area; and
- develop and include additional area/time closures/restrictions for nearshore Kotzebue Sound and for Point Hope and Kivalina in the Final EIS.

MIT 2 There should be no on-ice discharge of drilling muds due to the concentrated nature of waste and some likely probability of directly contacting marine mammals or other wildlife like arctic foxes and birds. Even if the muds are considered non-toxic, the potential for fouling fur and feathers and impeding thermal regulation properties seems a reasonable concern.

MIT 3 There should be communication centers in the villages during bowhead and beluga hunting if subsistence hunters find this useful and desirable.

MIT 4 The benefits of concurrent ensonification areas need to be given more consideration in regards to 15 mile vs. 90 mile separation distances. It is not entirely clear what the cost/benefit result is on this issue, including:

- Multiple simultaneous surveys in several areas across the migratory corridor could result in a broader regional biological and subsistence impact -deflection could occur across a large area of feeding habitat.
- Potential benefit would depend on the trajectory of migrating animals in relation to the activity and total area ensonified.
- Consideration needs to be given to whether mitigation is more effective if operations are grouped together or spread across a large area.

MIT 5 Use mitigation measures that are practicable and produce real world improvement on the level and amount of negative impacts. Do not use those that theoretically sound good or look good or feel good, but that actually result in an improved situation. Encourage trials of new avoidance mechanisms.

MIT 6 Trained dogs are the most effective means of finding ringed seal dens and breathing holes in Kotzebue Sound so should be used to clear path for on-ice roads or other on-ice activities.

MIT 7 The potential increased risk associated with the timing that vessels can enter exploration areas needs to be considered:

- A delayed start could increase the risk of losing control of a VLOS that will more likely occur at the end of the season when environmental conditions (ice and freezing temperatures) rapidly become more challenging and hazardous.
- Operators could stage at leasing areas but hold off on exploration activity until July l5 or until Point Lay beluga hunt is completed.

MIT 8 The DEIS should definitively establish the full suite of mandatory mitigation measures for each alternative that will be required for any given site-specific activity, instead of listing a series of mitigation measures that may or may not apply to site-specific actions.

- NMFS should ensure that mitigation measures are in place prior to starting any activity rather than considering mitigation measures on a case by case basis later in the process when it is more difficult as activities have advanced in planning.
- Make additional mitigation measures standard and include both for any level of activity that includes, at a minimum, those activities described in Section 2.4.9 and 2.4.10 of the DEIS.
- Mitigation measures required previously by IHAs (e.g., a 160dB vessel monitoring zone for whales during shallow hazard surveys) show it is feasible for operators to perform these measures.
- NMFS should require a full suite of standard mitigation measures for every take authorization issued by the agency and they should also be included under the terms and conditions for the BOEM's issuance of geological and geophysical permits and ancillary activity and exploratory drilling approvals.
- A number of detection-based measures should be standardized (e.g., sound source verification, PAM).
- Routing vessels around important habitat should be standard.

MIT 9 Vessel restrictions and other measures need to be implemented to mitigate ship strikes, including:

- Vessels should be prohibited from sensitive areas with high levels of wildlife presence that are determined to be key habitat for feeding, breeding, or calving.
- Ship routes should be clearly defined, including a process for annual review to update and re-route shipping around these sensitive areas.
- Speed restrictions may also need to be considered if re-routing is not possible.
- NMFS should require use of real-time PAM in migratory corridors and other sensitive areas to alert ships to the presence of whales, primarily to reduce ship-strike risk.

MIT 10 Time/area closures should be included in any alternative as standard avoidance measures and should be expanded to include other deferral areas, including:

- North of Dease Inlet to Smith Bay.
- Northeast of Smith Bay.
- Northeast of Cape Halkett where bowhead whales feed.
- Boulder patch communities.
- Particular caution should be taken in early fall throughout the region, when peak use of the Arctic by marine mammals takes place.
- Add the Coastal Band of the Chukchi Sea (~50 miles wide) [Commenting on the original Lease Sale 193 draft EIS, NMFS strongly endorse[d] an alternative that would have avoided any federal leases out to 60 miles and specifically argued that a 25-mile buffer [around deferral areas] is inadequate].
- Expand Barrow Canyon time/area closure area to the head of Barrow Canyon (off the coast between Point Barrow and Point Franklin), as well as the mouth of Barrow Canyon along the shelf break.
- Areas to the south of Hanna Shoal are important to walrus, bowhead whales, and gray whales.

- Encourage NMFS to consider a time/area closure during the winter and spring in the Beaufort Sea that captures the ice fracture zone between landfast ice and the pack ice where ringed seal densities are the highest.
- Nuiqsut has long asked federal agencies to create a deferral area in the 20 miles to the east of Cross Island. This area holds special importance for bowhead whale hunters and the whales.
- NMFS should consider designing larger exclusion zones (detection-dependent or -independent) around river mouths with anadromous fish runs to protect beluga whale foraging habitat, insofar as these areas are not encompassed by seasonal closures.
- Final EIS must consider including additional (special habitat) areas and developing a mechanism for new areas to be added over the life of the EIS.
- Any protections for Camden Bay should extend beyond the dimensions of the Bay itself to include areas located to the west and east, recently identified by NMFS as having special significance to bowhead whales.
- Additional analysis is required related to deferral areas specific to subsistence hunting. Any Final EIS must confront the potential need for added coastal protections in the Chukchi Sea.
- There should be a buffer zone between Burger and the coast during migration of walrus and other marine mammals.
- Future measures should include time/area closures for IEAs (Important Ecological Areas) of the Arctic.

MIT 11 Additional Mitigation Measure D7 must be deleted or clarified:

- The transit restrictions are not identified, nor are the conditions under which the transit might be allowed.
- Some hunting of marine mammals in the Chukchi Sea occurs year round making this measure impracticable.

MIT 12 Barrow Canyon merits considerable protection through time/area closures. In the spring, a number of marine mammals use this area, including bowhead whales, beluga whales, bearded seals, ringed seals, and polar bears. In the summer and fall this area is also important for gray whales, walrus, and bearded seals.

MIT 13 NMFS needs to expand and update its list of mitigation measures to include:

- zero discharge requirement to protect water quality and subsistence resources.
- require oil and gas companies who are engaging in exploration operations to obtain EPA issued air permits.
- more stringent regulation of marine vessel discharge for both exploratory drilling operations, support vessels, and other operations to eliminate possible environmental contamination through the introduction of pathogens and foreign organisms through ballast water, waste water, sewage, and other discharge streams
- the requirement that industry signs a Conflict Avoidance Agreement (CAA) with the relevant marine mammal co-management organizations
- Another Standard Mitigation Measure should be developed with regards to marine mammal monitoring during darkness and inclement weather. This should require more efficient and appropriate protocols. If more appropriate monitoring methods cannot be developed, NMFS should not allow for seismic surveys during times when monitoring is severely limited.

- NMFS should consider for mitigation a requirement that seismic survey vessels use the lowest practicable source levels, minimize horizontal propagation of the sound signal, and/or minimize the density of track lines consistent with the purposes of the survey. Accordingly, the agencies should consider establishing a review panel, potentially overseen by both NMFS and BOEM, to review survey designs with the aim of reducing their wildlife impacts
- A requirement that all vessels undergo measurement for their underwater noise output per American National Standards Institute/Acoustical Society of America standards (S12.64); that all vessels undergo regular maintenance to minimize propeller cavitation, which is the primary contributor to underwater ship noise; and/or that all new vessels be required to employ the best ship quieting designs and technologies available for their class of ship
- NMFS should consider requiring aerial monitoring and/or fixed hydrophone arrays to reduce the risk of near-source injury and monitor for impacts
- Make MMOs (PSOs) mandatory on the vessels.
- Unmanned flights should also be investigated for monitoring, as recommended by NMFS's Open Water Panel.
- Mitigation and monitoring measures concerning the introduction of non-native species need to be identified and analyzed

MIT 14 Both the section on water quality and subsistence require a discussion of mitigation measures and how NMFS intends to address local community concerns about contamination of subsistence food from sanitary waste and drilling muds and cuttings.

MIT 15 The most effective means of creating mitigation that works is to start small and focused and reassess after a couple of seasons to determine what works and what doesn't work. Mitigation measures could then be adjusted to match reality.

MIT 16 There should be a mechanism by which the public can be apprised of and provide input on the efficacy of mitigation efforts. Suggestions include:

- Something similar to the Open Water meetings
- Put out a document about the assumptions upon which all these NEPA documents and permits are based and assess mitigation: Are they working, how did they work, what were the problems and challenges, where do we need to focus attention.
- Include dates if something unusual happened that season that would provide an opportunity to contact NOAA or BOEM or whoever and say, hey, by the way, during this thing we noticed this or whatever.
- This would just help us to again refine our mitigation recommendations in the future.

MIT 17 If explosives are used, there needs to be mitigation to ensure that the explosives are accounted for.

Marine Mammal and other Wildlife Impacts (MMI)

MMI General comments related to potential impacts to marine mammals or wildlife, unrelated to subsistence resource concepts.

MMI 1 Loss of sea-ice habitat due to climate change may make polar bears, ice seals, and walrus more vulnerable to impacts from oil and gas activities, which needs to be considered in the EIS. The DEIS needs to adequately consider impacts in the context of climate change:

- The added stress of habitat loss due to climate change should form a greater part of the DEIS analysis.
- Both polar bears and ringed seals may be affected by multiple-year impacts from activities associated with drilling (including an associated increase in vessel traffic) given their dependence on sea-ice and its projected decline.
- Shifts in distribution and habitat use by polar bears and walrus in the Beaufort and Chukchi seas attributable to loss of sea ice habitat is insufficiently incorporated into the DEIS analysis. The DEIS only asserts that possible harm to subsistence and to polar bear habitat from oil and gas operations would be negligible compared to the potential for dramatic sea ice loss due to climate change and changes in ecosystems due to ocean acidification. For walrus and ice seals, the DEIS simply notes potentially catastrophic climate effects without adequately considering how oil and gas activities might leave species more vulnerable to that outcome.
- Sub-adult polar bears that return to land in summer because of sea-ice loss are more likely to be impacted by activities in the water, onshore support of open water activities, and oil spills; this could represent potentially major impacts to polar bear populations and should be considered in any final EIS.
- Walrus feeding grounds are being transformed and walrus are hauling out on land in large numbers, leaving them vulnerable to land-based disturbances.

MMI 2 Impacts from ship-strikes (fatal and non-fatal) need to be given greater consideration, especially with increased ship traffic and the development of Arctic shipping routes.

- Potential impacts on beluga whales and other resources in Kotzebue Sound needs to be considered with vessels traveling past this area.
- There is great concern for ship strikes of bowhead and other whales and these significant impacts must be addressed in conjunction with the project alternatives.

MMI 3 NMFS should include a discussion of the recent disease outbreak affecting seals and walrus, include this outbreak as part of the baseline, and discuss how potential similar future events (of unknown origin) are likely to increase in the future.

NEPA (NEP)

NEP Comments on aspects of the NEPA process (purpose and need, scoping, public involvement, etc.), issues with the impact criteria (Chapter 4), or issues with the impact analysis.

NEP 1 The DEIS analysis should consider the frequency component, nature of the sound source, cetacean hearing sensitivities, and biological significance when determining what constitutes Level B incidental take. The working assumption that impulsive noise never disrupts marine mammal behavior at levels below 160 dB (RMS), and disrupts behavior with 100 percent probability at higher levels has been repeatedly demonstrated to be incorrect, including in cases involving the sources and areas being considered in the DEIS. The reliance on the 160 dB guideline for Level B take estimation is antiquated and should be revised by NMFS. The criteria should be replaced by a combination of Sound Exposure Level limits and Peak (not RMS) Sound Pressure Levels or other metric being considered.

NEP 2 The communities are feeling overwhelmed with the amount of documents they are being asked to review related to various aspects of oil and gas exploration and development activities. The system of commenting on EIS documents needs to be revised. However, the forums of public meetings are important to people in the communities so their concerns can be heard before they are implemented in the EIS.

NEP 3 The EIS project area boundary should be extended through the Bering Straits to accommodate impacts resulting from vessel transit to and from lease areas.

Oil Spill Risks (OSR)

OSR Concerns about potential for oil spill, ability to clean up spills in various conditions, potential impacts to resources or environment from spills.

OSR 1 A large oil spill in the extreme conditions present in Arctic waters would be extremely difficult or impossible to clean up. Current cleanup methods are unsuitable and ineffective. Oil spill responses need to be developed in advance of offshore development. NMFS and BOEM need to consider the following:

- Current technology only allows rescue and repair attempts during ice free parts of the year. If an oil spill occurs near or into freeze-up, the oil will remain trapped there until spring. These spring lead systems and melt pools are important areas where wildlife collect.
- How would oil be skimmed with sea ice present?
- How would rough waters affect oil spill response effectiveness and time, and could rough seas and sea ice, in combination, churn the surface oil?

OSR 2 An oil spill being a low probability event is optimistic and would only apply to the exploration phase. Once full development or production goes into effect, an oil spill is more likely. Are there any data suggesting this is a low probability? NMFS should assume a spill will occur and plan accordingly.

OSR 3 An oil spill in the arctic environment would be devastating to numerous biological systems, habitats, communities and people. There is too little known about Arctic marine wildlife to know what the population effects would be. Black (oiled) ice would expedite ice melt. The analysis section needs to be updated. Not only would the Arctic be affected but the waters surrounding the Arctic as well.

OSR 4 The oil spill section needs to be reworked. NMFS should consider also working the discussion of oil spills in the discussion the alternatives. No overall risks to the environment are stated, or severity of spills in different areas, shoreline oiling is inadequate, impacts to whales may be of higher magnitude due to important feeding areas and spring lead systems. Recovery rates should be re evaluated for spilled oil. There are no site-specific details. The trajectory model needs to be more precise.

OSR 5 The DEIS confirms our [the affected communities] worst fears about both potential negative impacts from offshore drilling and the fact that the federal government appears ready to place on our communities a completely unacceptable risk at the behest of the international oil companies. Native people in Alaska depend on the region for food and economical support. An oil spill would negatively impact the local economies and the livelihoods of Native people.

Regulatory Compliance (REG)

REG Comments associated with compliance with existing regulations, laws and statutes.

REG 1 NMFS should revise the DEIS to encompass only those areas that are within the agency's jurisdiction and remove provisions and sections that conflicts with other federal and state agency jurisdictions (BOEM, USFWS, EPA, Coast Guard, and State of Alaska). The current DEIS is felt to constitute a broad reassessment and expansion of regulatory oversight. Comments include:

- The EIS mandates portions of CAAs, which are voluntary and beyond NMFS jurisdiction.
- The EIS proposes polar bear mitigations measures that could contradict those issued by USFWS under the MMPA and ESA.
- Potential requirements for zero discharge encroach on EPA's jurisdiction under the Clean Water Act regarding whether and how to authorize discharges.
- Proposed mitigation measures, acoustic restrictions, and "Special Habitat" area effectively extend exclusion zones and curtail lease block access, in effect "capping" exploration activities. These measures encroach on the Department of the Interior's jurisdiction to identify areas open for leasing and approve exploration plans, as designated under OCSLA.
- The proposed requirement for an Oil Spill Response Plan conflicts with BOEM, Bureau of Safety and Environmental Enforcement and the Coast Guard's jurisdiction, as established in OPA-90, which requires spill response planning.
- NMFS does not have the authority to restrict vessel transit, which is under the jurisdiction of the Coast Guard.
- Proposed restrictions, outcomes, and mitigation measures duplicate and contradict existing State lease stipulations and mitigation measures.

REG 2 The DEIS needs to be changed to reflect the omnibus bill signed by President Obama on December 23, 2011 that transfers Clean Air Act permitting authority from the EPA Administrator to the Secretary of Interior (BOEM) in Alaska Arctic OCS.

REG 3 Until there an indication that BOEM intends to adopt new air permitting regulations for the Arctic or otherwise adopt regulations that will ensure compliance with the requirements of the Clean Air Act, it is important that NMFS address the worst case scenario- offshore oil and gas activities proceeding under BOEM's current regulations.

Research, Monitoring, Evaluation Needs (RME)

RME Comments on baseline research, monitoring, and evaluation needs.

RME 1 The DEIS does not address or acknowledge the increasingly well-documented gaps in knowledge of baseline environmental conditions and data that is incomplete in the Beaufort and Chukchi seas for marine mammals and fish, nor how baseline conditions and marine mammal populations are being affected by climate change. Information regarding information regarding the composition, distribution, status, ecology of the living marine resources and sensitive habitats in these ecosystems needs to be better known. Baseline data are also critical to developing appropriate mitigation measures and evaluating their effectiveness. It is unclear what decisions over what period of time would be covered under the DEIS or how information gaps would be addressed and new information incorporated into future decisions. The information gaps in many areas with relatively new and expanding exploration activities are extensive and severe enough that it may be too difficult for regulators to reach scientifically reliable conclusions about the risks to marine mammals from oil and gas activities.

To complicate matters, much of the baseline data about individual species (e.g., population dynamics) remains a noteworthy gap. It is this incomplete baseline that NMFS uses as their basis for comparing the potential impacts of each alternative.

RME 2 Throughout the DEIS, there are additional acknowledgements of missing information, but without any specific findings as to the importance to the agencies' decision making, as required by Section 1502.22, including:

- Foraging movements of pack-ice breeding seals are not known.
- There are limited data as to the effects of masking. The greatest limiting factor in estimating impacts of masking is a lack of understanding of the spatial and temporal scales over which marine mammals actually communicate.
- It is not known whether impulsive noises affect marine mammal reproductive rate or distribution.
- It is not currently possible to predict which behavioral responses to anthropogenic noise might result in significant population consequences for marine mammals, such as bowhead whales, in the future.
- The potential long-term effects on beluga whales from repeated disturbance are unknown. Moreover, the current population trend of the Beaufort Sea stock of beluga whales is unknown.
- The degree to which ramp-up protects marine mammals from exposure to intense noises is unknown.
- Chemical response techniques to address an oil spill, such as dispersants could result in additional degradation of water quality, which may or may not offset the benefits of dispersant use.
- There is no way to tell what may or may not affect marine mammals in Russian, U.S., or in Canadian waters.

RME 3 There is too little information known about the existing biological conditions in the Arctic, especially in light of changes wrought by climate change, to be able to reasonably understand, evaluate and address the cumulative, adverse impacts of oil and gas activities on those arctic ice environments including:

- Scientific literature emphasizes the need to ensure that the resiliency of ecosystems is maintained in light of the changing environmental conditions associated with climate change. Uncertainties exist on topics for which more science focus is required, including physical parameters, such as storm frequency and intensity, and circulation patterns, and species response to environmental changes.
- There is little information on the potential for additional stresses brought by oil and gas activity and increased shipping and tourism and how these potential stressors may magnify the impacts associated with changing climate and shrinking sea ice habitats. There are more studies that need to be done on invasive species, black carbon, aggregate noise.
- It was noted that a majority of the studies available have been conducted during the summer and there is limited data about the wintertime when there is seven to eight months of ice on the oceans.

Socioeconomic Impacts (SEI)

SEI Comments on economic impacts to local communities, regional economy, and national economy, can include changes in the social or economic environments.

SEI 1 The analysis of socioeconomic impacts in the DEIS is inadequate. Comments include:

- The analysis claims inaccurately many impacts are unknown or cannot be predicted and fails to consider the full potential of unrealized employment, payroll, government revenue, and other benefits of exploration and development, as well as the effectiveness of local hire efforts.
- The analysis is inappropriately limited in a manner not consistent with the analysis of other impacts in the DEIS. Potential beneficial impacts from development should not be considered "temporary" and economic impacts should not be considered "minor". This characterization is inconsistent with the use of these same terms for environmental impacts analysis.
- NMFS did not provide a complete evaluation of the socioeconomic impacts of instituting the additional mitigation measures.
- The projected increase in employment appears to be low;
- The forecasts for future activity in the DEIS scope of alternatives, if based on historical activity, appear to ignore the impact of economic forces, especially resource value as impacted by current and future market prices. Historical exploration activity in the Chukchi and Beaufort OCS in the 1980s and early 1990s declined and ceased due to low oil price rather than absence of resource;
- Positive benefits were not captured adequately.

Subsistence Resource Protection (SRP)

SRP Comments on need to protect subsistence resources and potential impacts to these resources. Can include ocean resources as our garden, contamination.

SRP 1 The DEIS is lacking in an in-depth analysis of impacts to subsistence. NMFS should analyze the following in more detail:

- Effects of oil and gas activities on subsistence resources and how climate change could make species even more vulnerable to those effects;
- The discussion of subsistence in the section on oil spills;
- Long-term impacts to communities from loss of our whale hunting tradition;
- Impacts on subsistence hunting that occur outside the project area, for example, in the Canadian portion of the Beaufort Sea;
- Impacts associated with multiple authorizations taking place over multiple years.

SRP 2 Many people depend on the Beaufort and Chukchi seas for subsistence resources. Protection of these resources is important to sustaining food sources, nutrition, athletics, and the culture of Alaskan Natives for future generations. The EIS needs to consider not only subsistence resources, but the food, prey, and habitat of those resources in its analysis of impacts.

SRP 3 NMFS should use the information acquired on subsistence hunting grounds and provide real information about what will happen in these areas and when, and then disclose what the impacts will be to coastal villages.

SRP 4 Subsistence resources could be negatively impacted by exploratory activities. Specific comments include:

- Concerns about the health and welfare of the animals, with results such as that the blubber is getting too hard, as a result of seismic activity;
- Reduction of animals;
- Noise from seismic operations, exploration drilling, and/or development and production activities may make bowhead whales skittish and more difficult to hunt;
- Aircraft associated with oil and gas operations may negatively affect other subsistence resources, including polar bears, walrus, seals, caribou, and coastal and marine birds, making it more difficult for Alaska Native hunters to obtain these resources;
- Water pollution could release toxins that bioaccumulate in top predators, including humans;
- Increased shipping traffic (including the potential for ship strikes) and the associated noise are going to impact whaling and other marine mammal subsistence activities.

SRP 5 Bowhead whales and seals are not the only subsistence resource that Native Alaskan communities rely upon. Fishing is also an important resource and different species are hunted throughout the year. Subsistence users have expressed concern that activities to support offshore exploration will change migratory patterns of fish and krill that occur along the coastlines. The DEIS analysis should reflect these concerns.

Use of Traditional Knowledge (UTK)

UTK Comments regarding how traditional knowledge (TK) is used in the document or decision making process, the need to incorporate TK, or processes for documenting TK.

UTK 1 It is important that both Western Science and TK be applied in the EIS. There needs to be a clear definition of what TK is, and that it protects traditional ways of life but also provides valuable information. TK that is used in NEPA documents should be used with consent.

UTK 2 To be meaningful, NMFS must obtain and incorporate TK before it commits to management decisions that may adversely affect subsistence resources.

Water and Air Quality (WAQ)

WAQ Comments regarding water and air quality, including potential to impact or degrade these resources.

WAQ 1 The air quality analysis on impacts is flawed and needs more information. Reliance on recent draft air permits is not accurate especially for the increases in vessel traffic due to oil and gas exploration. All emissions associated with oil and gas development need to be considered not just those that are subject to direct regulation or permit conditions. Emissions calculations need to include vessels outside the 25 mile radius not just inside. Actual icebreaker emissions need to be included also. This will allow more accurate emissions calculations. The use of stack testing results and other emissions calculations for Arctic operations are recommended.

WAQ 2 Many operators have agreed to use ultra-low sulfur fuel or low sulfur fuel in their operations, but those that do not agree have to be accounted for. The use of projected air emissions for NOx and SOz need to be included to account for those that do not use the lower fuel grades.

WAQ 3 Since air permits have not yet been applied for by oil companies engaging in seismic or geological and geophysical surveys, control factors should not be applied to them without knowing the actual information.

WAQ 4 Concerns about the potential for diversion of bowhead whales and other subsistence species due to water and air discharges. The location of these discharges, and waste streams, and where they will overlap between the air and water needs to be compared to the whale migrations and discern the potential areas of impact.

APPENDIX A

Submission and Comment Index

Commenter	Submission ID	Comments
Iñupiat Community of the Arctic Slope *(written comments)*	3776	ALT 1, ALT 2, ALT 4, ALT 5, CEF 2, CEF 3, CEF 4, CEF 5, CEF 6, COR 1, COR 4, DATA 1, DATA 3, EDI 8, GPE 1, GSE 1, GSE 2, HAB 1, ICL 2, ICL 3, MIT 8, MIT 9, MIT 13, MIT 14, MMI 2, MMI 3, OSR 1, OSR 2, OSR 3, OSR 4, OSR 5, REG 2, REG 3, SRP 1, SRP 3, WAQ 1, WAQ 2, WAQ 3, WAQ 4
Iñupiat Community of the Arctic Slope *(Government to Government Meeting)*	13149	COR 1, ICL 1, MIT 17, RME 1, SEI 1, SRP 2, SRP 3
Native Village of Barrow *(Government to Government Meeting)*	13150	ALT 5, COR 1, COR 2, COR 3, NEP 1, NEP 2, NEP 3, RME 1, RME 2, RME 3, SRP 2, SRP 5
Native Village of Kivalina *(Government to Government Meeting)*	13151	COR 1, SRP 4, UTK 1, UTK 2
Native Village of Kotzebue IRA *(written comments)*	3751	ALT 3, ALT 5, ALT 6, DATA 2, EDI 1, EDI 2, EDI 3, EDI 4, EDI 5, EDI 6, EDI 7, EDI 8, EDI 9, EDI 10, GPE 1, MIT 1, MIT 2, MIT 3, MIT 4, MIT 5, MIT 6, MIT 7, MMI 2, REG 1
Native Village of Kotzebue IRA *(Government to Government Meeting)*	13148	ALT 5, CEF 1, GPE 1, ICL 3, MIT 3, MIT 4, MIT 5, MIT 10, MIT 15, MIT 16, OSR 1, OSR 3
Native Village of Point Lay *(Government to Government Meeting)*	13152	CEF 5, MIT 11, MMI 1, OSR 3, SRP 4