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SECTION 6 RESPONSE TO PUBLIC COMMENTS

6.1 SUMMARY OF COMMENTS ON THE DRAFT EIS

Approximately 40,000 individual comments on the Draft EIS were received during the public comment period of January 16, 2004 through March 8, 2004 via letters, e-mails, faxes, website forms, and formal public hearings.

Approximately 39,700 comments were received in response to solicitations from advocacy groups, and many of those were identical statements or slight variations thereof. Each of the form letters was read and substantive issues were identified.

Six public meetings/subsistence hearings were held during February 2004 in Anaktuvuk Pass, Anchorage, Atkasuk, Barrow, Fairbanks, and Nuiqsut, Alaska. A more detailed list of public hearing participation is provided in Section 6.2.

6.1.1 Response-to-Comment Process

Comment letters and hearing transcripts were assigned tracking numbers, entered into a database, and entered into the Administrative Record. Individual tracking numbers were assigned to only one representative letter for identical or nearly identical form letters.

A team of BLM specialists reviewed all comment letters and hearing transcripts and substantive comments (as defined in H-1790-1 BLM NEPA Handbook) requiring specific responses were identified. A comment received a specific response if it 1) was substantive and related to inadequacies or inaccuracies in the analysis or methodologies used; and/or 2) identified new impacts or recommended reasonable new alternatives or mitigation measures; and/or 3) involved “substantive disagreements on interpretation of significance”. After comment letters were reviewed, each substantive comment was assigned a comment issue code and letters were annotated to identify each coded substantive comment. The original and annotated letters have been entered into the Administrative Record.

Specific comments and responses are provided in Section 6.3. The text of the FEIS has been revised where appropriate to address the comments. Additional information, either requested or provided by public input, has been incorporated into the FEIS. Information on how specific comments were addressed and where they are addressed within the FEIS is detailed in the response to each issue statement in Section 6.3.

The approximately 40,000 comments received and the transcripts of the six public hearings have not been reproduced in this FEIS document. The issue statements presented in Section 6.3 summarize the substantive comments received. The comment letters are part of the Administrative Record and can be inspected upon request to the BLM, the lead federal agency for this EIS.

6.2 COMMENTING AGENCIES, ORGANIZATIONS, AND INDIVIDUALS

6.2.1 Written Comments

Written comments on the DEIS were received from the agencies, organizations, and individuals listed in Table 6.2-1. The document identification number and a list of codes for substantive issues that have been identified and annotated within the letter or transcript follow the Name/Organization. A definition of each Issue Code is provided in Section 6.3, Table 6.3-1. The number following the name of the organization or individual(s) in

Table 6.3-1 is an identification number that was used in the Response-to-Comments process (as described in Section 6.1.1). The specific comments and responses are presented in Section 6.3. As noted previously, all comment letters received are part of the Administrative Record and can be inspected upon request to the BLM.

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
Addison, David	DEIS0256	—
Ahkiviana, Dorcas	DEIS0215	FS-2, SH-1
Ahmaogak, George N. Sr. (North Slope Borough)	DEIS0236	See North Slope Borough (DEIS0236)
Ahnupkana, Marjorie	DEIS0234	BC-2, SH-1, SH-5
Ahtuanguaruak, Johnny	DEIS0210	FS-3, MM-2, RI-1
Ahtuanguaruak, Rosemary (City of Nuiqsut)	DEIS0237	See Nuiqsut, City of (DEIS0237)
Akpik, Joseph K	DEIS0204	AQ-26, PP-1
Alaska Coalition	DEIS0240	AA-4, AA-5, AA-9, AA-10, AA-11, AQ-1, AQ-2, AQ-3, AQ-4, AQ-5, AQ-21, AQ-22, AQ-23, AQ-24, AQ-27, BC-6, BD-35, BD-36, BD-37, BD-38, BD-39, BD-40, BD-41, BD-42, BD-43, BD-44, BD-45, BD-46, BD-72, BD-73, BD-74, BD-75, BD-76, BD-77, BD-78, BD-79, BD-103, BD-104, CM-1, CM-2, CZ-2, EI-1, EJ-4, FG-2, FG-3, FG-12, FG-13, FG-16, FS-1, FS-11, FS-12, FS-13, FS-14, FS-15, IC-2, IC-13, IS-6, IS-19, IS-20, IS-21, IS-22, IS-23, IS-24, IS-25, IS-26, IS-27, IS-28, LA-9, LA-10, LA-11, LA-12, LA-28, LA-38, MM-14, MM-17, MM-18, MM-19, MM-20, MM-26, MS-29, MS-30, MS-31, MS-32, MS-33, MS-34, MS-35, MS-43, MS-44, MS-52, MS-53, NZ-2, NZ-3, NZ-7, PL-14, PN-1, PN-3, PN-10, PN-13, PP-13, PS-1, RD-1, RD-6, RD-16, RI-1, RI-14, RI-21, SC-1, SC-15, SG-2, SG-3, TE-14, TE-15, TE-16, TE-17, TE-18, TE-19, TE-20, TE-21, TE-22, TE-23, TE-24, TF-6, VS-2, VS-3, VS-4, VS-5, VS-6, VW-1, VW-5, VW-6, WR-17, WR-18, WR-19
Alaska Coalition	DEIS0257	AA-12, AA-13, AB-4, BD-94, IC-2, IC-4, IS-6, IS-20, LA-17, MS-6, PN-10, SC-1, SH-4
Anadarko Petroleum Corporation	DEIS0113	—
Anchorage Chamber of Commerce	DEIS0124	—
Anchorage Economic Development Corporation	DEIS0130	—
Arctic Connections	DEIS0239	AA-6, AA-7, BD-4, CO-2, EP-1, IC-3, IS-13, IS-14, IS-15, IS-16, LA-13, LA-14, LA-20, LA-21, LA-24, MM-21, MM-22, MM-23, MS-46, OS-11, PN-13, PN-15, PN-16, RI-9, SH-77, SP-5, WR-20, WR-21, WR-22, WR-49
Arctic Slope Regional Corporation	DEIS0261	BC-3, BC-18, IS-3, PL-1, PL-13, RD-15, UT-7
Arendell, Randy (AT&S, Inc.)	DEIS0007	See AT&S Inc. (DEIS0007)
ASRC Energy Services	DEIS0133	—

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
ASTAC	DEIS0219	—
AT&S Inc.	DEIS0007	—
AT&S Inc.	DEIS0008	—
AT&S Inc.	DEIS0009	—
Beck, Peter	DEIS0245	—
Benoit, John	DEIS0168	—
Bier, Jeff	DEIS0183	—
Blankenship, Darren	DEIS0156	—
Bowling-Schaff, Kristin	DEIS0157	—
Boyd, Brian Carter (Community of Nuiqsut)	DEIS0082	See Nuiqsut, Community of (DEIS0082)
Boyd, Brian Carter (Kuukpik Corporation, Kuukpikmiut Subsistence Oversight Panel, City of Nuiqsut, Native Village of Nuiqsut)	DEIS0081	See Kuukpik Corporation (DEIS0081)
Britt, Edith	DEIS0178	RI-1
Brower, Carl S.	DEIS0209	PL-12
Brown, Rodney (UA Local Union 375)	DEIS0109	See UA Local Union 375 (DEIS0109)
Cabinboy, Olivia	DEIS0226	MM-3
Casady, Bruce (AT&S, Inc.)	DEIS0009	See AT&S Inc. (DEIS0009)
Cascadia Wildlands Project	DEIS0233	AQ-19, IS-6, LA-3, LA-4, MS-7, MS-40, NZ-1, OS-2, OS-3, RA-1, TE-3, VW-2, VW-16, WR-4
Catherine Lambath	DEIS0162	RI-1, RI-3
Chaput, Dave	DEIS0160	—
Christensen, Reed	DEIS0174	—
Conam Construction Co.	DEIS0004	—
confidential	DEIS0161	—
confidential	DEIS0172	—
Cosgriff, Mark	DEIS0141	—

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
CPAI	DEIS0238	AA-2, AQ-15, AS-3, AS-5, AS-6, BB-1, BD-82, BD-83, BD-84, BD-85, BD-86, BD-87, BD-88, BD-89, BD-90, BD-91, BD-92, BD-93, BD-106, CO-4, CR-1, CZ-3, CZ-4, EJ-2, FG-18, FG-19, FG-20, FG-21, FG-22, FG-23, FG-24, FG-25, FG-26, FG-27, FG-28, FG-29, FG-30, FG-31, FG-32, FG-33, FG-34, FG-35, FG-36, FG-37, FG-39, FG-63, FG-64, FS-18, FS-19, FS-20, FS-21, FS-22, FS-23, FS-24, FS-25, IC-10, IC-11, IS-31, LA-7, LA-25, LA-29, MM-6, MM-7, MM-32, MM-33, MS-38, MS-39, MS-40, MS-54, NZ-1, NZ-5, NZ-6, OS-35, OS-36, OS-37, OS-38, OS-39, PF-4, PF-6, PF-7, PL-9, PL-10, PL-11, PN-21, PP-2, PP-3, PP-9, PP-10, PP-11, PP-12, PP-19, RD-2, RD-8, RD-9, RD-10, RD-11, RD-12, RD-13, RD-21, RD-22, RE-1, RE-17, RE-18, RE-19, RI-6, RI-19, RI-20, RR-4, SC-11, SC-12, SC-13, SC-14, SH-12, SH-13, SH-14, SH-40, SH-41, SH-42, SH-43, SH-44, SH-45, SH-46, SH-47, SH-48, SH-49, SH-50, SH-51, SH-52, SH-53, SH-54, SH-55, SH-66, SH-67, SH-68, SH-69, SH-70, SH-71, SH-72, SH-73, SH-79, SH-80, SH-83, TF-10, TF-11, TP-3, TP-4, UT-6, VS-9, VS-10, VS-11, VS-12, VW-9, VW-10, VW-11, VW-12, VW-14, VW-15, WQ-4, WQ-5, WQ-6, WQ-7, WR-46
Crawford, Larry (Anchorage Economic Development Corporation)	DEIS0130	See Anchorage Economic Development Corporation (DEIS0130)
Dalton, David	DEIS0253	RI-1, RR-2
Denison, Mr & Mrs James	DEIS0013	RI-1
Denton, Steve W. (Usibelli Coal Mine, Inc.)	DEIS0224	See Usibelli Coal Mine, Inc. (DEIS0224)
Dexter, Diana	DEIS0151	—
Dittrich, John	DEIS0132	—
Dittrich, John (ASRC Energy Services)	DEIS0133	See ASRC Energy Services (DEIS0133)
Doyon Drilling, Inc.	DEIS0118	—
Edelson, Jim	DEIS0221	RI-1
Eng, Ron (The Mountaineers)	DEIS0260	See Mountaineers, The (DEIS0221)
Fagnani, Matthew (NANA Oilfield Service Company)	DEIS0191	See NANA Oilfield Service Company (DEIS0191)
Fairbanks Chamber of Commerce	DEIS0125	—
Fairbanks Economic Development Corporation	DEIS0011	—
Fields, Mary	DEIS0184	—
Ford, Merritt	DEIS0149	—
Freeman, Samuel	DEIS0243	RI-1
Garvin, James	DEIS0147	—
Garvin, James (AT&S, Inc.)	DEIS0008	See AT&S Inc. (DEIS0008)
Gil, Steve	DEIS0232	RI-1

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
Gregory, Jeff (Sourdough Express, Inc.)	DEIS0003	See Sourdough Express, Inc. (DEIS0003)
Grimm, Ronald	DEIS0153	—
Gulik, Amy	DEIS0190	RI-1
H.C. Price Co.	DEIS0005	—
Harcourt, Alexander	DEIS0170	—
Harris, Scott	DEIS0265	—
Harrison, Deborah (Annie)	DEIS0218	RI-1
Haugen, David W. (Lynden, Inc.)	DEIS0006	See Lynden, Inc. (DEIS0006)
Hebert, David M. (Nabors Alaska Drilling, Inc.)	DEIS0055	See Nabors Alaska Drilling, Inc. (DEIS0055)
Helmericks, James	DEIS0198	BD-2, BD-3, FS-7, FS-8, MM-10, MS-9, MS-10, MS-11, PL-12, SH-16, SH-62, SH-63, TE-3, TE-4, TE-5, TP-1, VS-1, VW-3
Helmericks, Teena	DEIS0263	BD-1, IS-8, PL-1, SH-61, VS-1
Hickey, Joe	DEIS0159	—
Higgins, William	DEIS0146	—
Hoffman, David	DEIS0247	RI-1
Holden, Grace	DEIS0246	RI-1
Hudgens, Patric	DEIS0136	—
Huggins, William	DEIS0269	RI-1
Humowiecki, Jennifer	DEIS0180	RI-1
Humowiecki, Jennifer	DEIS0267	—
Imm, Teresa (Arctic Slope Regional Corp.)	DEIS0261	See Arctic Slope Regional Corp. (DEIS0261)
James, Rachel (Alaska Coalition)	DEIS0240	See Alaska Coalition (DEIS0240)
James, Rachel (Alaska Coalition)	DEIS0257	See Alaska Coalition (DEIS0257)
Jones, Andrew	DEIS0152	—
Jouthas, Lori	DEIS0169	RI-1
Kaigelak, Bernice	DEIS0207	PL-12, RE-21, RI-1
Kaigelak, Isaac	DEIS0213	—
Karnos, Nick	DEIS0258	—
Kasak, David, Sr.	DEIS0214	SH-9
Keifer, Daniel	DEIS0259	—
Kennedy, Susan (NOAA)	DEIS0270	See NOAA (DEIS0270)
Kokjohn, Tyler	DEIS0264	AB-6

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
Kostival, Ben	DEIS0187	RI-1
Kreig, Ray	DEIS0173	—
Kroehler, Corbett	DEIS0227	RI-1
Kuehne, Glenn	DEIS0255	—
Kuukpik Corporation	DEIS0081	SH-15, SH-15, WR-3, WR-5
Kuukpik Corporation	DEIS0083	BC-6, BC-7, LA-27, MS-36, PL-1, RI-4, SH-1, SH-3, SH-15, TF-1, UT-7, WR-3, WR-5
Kuukpik Corporation	DEIS0230	AQ-6, AQ-7, AQ-16, AQ-17, BC-6, BC-13, BC-17, BC-20, FS-6, FS-17, GG-1, IC-4, LA-1, LA-16, LA-27, MM-27, MS-2, MS-4, MS-36, MS-46, PL-8, PN-17, PN-18, PN-19, PN-20, PP-16, RE-1, RI-1, RI-4, RI-11, RI-12, RI-15, RI-16, SC-10, SC-15, SG-3, SH-12, SH-60, SH-78, TF-7, TF-8, VW-7, WR-3, WR-5, WR-32, WR-33, WR-48
Kuukpikmiut Subsistence Oversight Panel (Kuukpik Corporation)	DEIS0081	See Kuukpik Corporation (DEIS0081)
Laiti, J.A. (UA Local Union 375)	DEIS0080	See UA Local Union 375 (DEIS0080)
Lam, Sunny	DEIS0201	CO-1, RR-2
Lamb, Alexandra	DEIS0175	RI-1
Lambeth, Catherine	DEIS0268	—
Lambeth, Larry	DEIS0155	RI-1
Lampe, Doreen	DEIS0262	IS-6, LA-27
Lampe, Leonard (Native Village of Nuiqsut)	DEIS0229	See Nuiqsut, Native Village of (DEIS0229)
Lampe, Norman and Annie	DEIS0217	MM-2, PL-12, RE-21
Landmann, Eric	DEIS0182	—
leaveitwild.org form letter (Farrand, Jim)	DEIS0001	RI-1
Leavitt, Steve E.	DEIS0206	RI-1, SH-3
Ledgerwood, Chris	DEIS0165	—
Lenahan, David	DEIS0186	RI-1
Light, Ted	DEIS0145	—
Lincoln, Tom	DEIS0176	—
Lively, Brit	DEIS0138	—
Londe, Susan	DEIS0194	RI-1
Lynden, Inc.	DEIS0006	—
Lyons, Laura	DEIS0249	RI-1
Martens, Christine, Ph.D.	DEIS0203	—
Masuleak, Mae	DEIS0225	IS-2
Matthews, David L. (H.C. Price Co.)	DEIS0005	See H.C. Price Co. (DEIS0005)

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
May, Donald F (ASTAC)	DEIS0219	See ASTAC (DEIS0219)
McCanless, Sean	DEIS0251	—
McClymont, Ashley	DEIS0248	—
McIntyre, Gilbert	DEIS0018	—
Meyer, Tony (Anadarko Petroleum Corporation)	DEIS0113	See Anadarko Petroleum Corporation (DEIS0113)
Miller, Brenda	DEIS0250	RI-1
Miller, Pamela A. (Arctic Connections)	DEIS0239	See Arctic Connections (DEIS0239)
Minerals Management Service	DEIS0200	AQ-20, BD-32, BD-33, BD-34, EJ-3, EJ-6, EJ-7, FG-5, FG-6, FG-7, FG-8, FG-9, FG-10, FG-11, IC-5, IC-6, IC-7, IS-10, IS-11, IS-12, IS-17, IS-18, LA-19, LA-22, LA-23, LA-35, MM-5, OS-4, OS-12, OS-13, OS-14, OS-15, OS-16, OS-17, OS-18, OS-19, OS-20, OS-21, OS-22, OS-23, PN-6, PN-7, PN-8, PN-9, PN-10, PY-1, PY-2, RE-2, RE-2, RE-3, RE-8, RE-9, RE-10, RE-11, RE-12, RE-13, RE-14, RE-15, RE-20, SC-4, SG-4, SH-58, SH-59, TF-4, WR-23, WR-24
Mitchell, Michael	DEIS0139	—
Morgan, Kevin D, Chief (USACE)	DEIS0241	See USACE (DEIS0241)
Mountaineers, The	DEIS0260	RI-1
Nabors Alaska Drilling, Inc.	DEIS0055	—
NANA Oilfield Service Company	DEIS0191	—
NOAA	DEIS0270	BC-4, BC-5, FS-5, FS-6, IS-6, LA-1, MM-5, MS-6
North Slope Borough	DEIS0236	AA-2, AA-3, AB-5, AQ-26, BC-6, BC-7, BC-11, BC-12, BC-19, BD-47, BD-48, BD-49, BD-50, BD-51, BD-52, BD-53, BD-54, BD-55, BD-56, BD-57, BD-58, BD-59, BD-60, BD-61, BD-62, BD-63, BD-64, BD-65, BD-66, BD-67, BD-68, BD-69, BD-70, BD-71, BD-95, BD-96, BD-97, BD-98, BD-99, BD-100, BD-101, BD-102, CZ-1, EI-3, EI-4, EJ-1, FG-4, FG-15, FS-16, GM-1, IC-1, IS-4, IS-5, IS-6, LA-31, MM-11, MM-12, MM-13, MM-14, MM-25, MS-17, MS-18, MS-19, MS-20, MS-21, MS-22, MS-23, MS-24, MS-25, MS-26, MS-27, MS-28, MS-42, MS-45, OS-10, OS-33, OS-34, PL-15, PN-11, RD-19, RE-5, RE-6, RE-7, RI-1, RI-3, RI-5, RI-7, RI-23, RI-24, SC-6, SC-7, SC-8, SC-9, SG-1, SG-5, SH-22, SH-23, SH-24, SH-25, SH-26, SH-27, SH-28, SH-29, SH-30, SH-31, SH-32, SH-33, SH-34, SH-35, SH-36, SH-37, SH-38, SH-57, SH-74, SH-81, TE-12, TE-13, TF-5, WR-5, WR-7, WR-8, WR-31
Northern Alaska Environmental Center	DEIS0110	IS-1, IS-2, RI-1, SH-3, SH-4
Northwest Technical Services	DEIS0131	—
NRDC.org form letter (McLeod, Lewis A.)	DEIS0002	RI-1
Nuiqsut (City of)	DEIS0017	AQ-26, EJ-1, RE-21, SH-1, SH-2

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES¹
Nuiqsut (City of)	DEIS0237	IS-2, IS-9, MM-8, SH-1, SH-8
Nuiqsut, City of (Kuukpik Corporation)	DEIS0081	See Kuukpik Corporation (DEIS0081)
Nuiqsut, Community of	DEIS0082	BC-6, BC-7, MM-9, MS-36, PL-1, RI-4, SH-1
Nuiqsut, Native Village of	DEIS0229	PL-2, RI-1, SH-1, SP-2
Nuiqsut, Native Village of (Kuukpik Corporation)	DEIS0081	See Kuukpik Corporation (DEIS0081)
Nuiqsut, Native Village of (Kuukpik Corporation)	DEIS0230	See Kuukpik Corporation (DEIS0230)
Nukapigak, Ruth	DEIS0212	FS-2, RE-21, RI-1, SH-1, WR-2
O'dea, Jennifer	DEIS0185	—
Ogroogak, Paul	DEIS0208	FS-2, PL-12, RE-21, SH-9
Olsen, Susan	DEIS0120	RI-2
Onstad, Julianna	DEIS0252	—
Owens, Tadd (Resource Development Council for Alaska)	DEIS0111	See Resource Development Council for Alaska (DEIS0111)
Patwari, Neal	DEIS0144	—
Peak Oilfield Service Co.	DEIS0127	—
Perry, George	DEIS0143	—
Pierce, Melinda	DEIS0135	RI-1
Poinsette, Derek	DEIS0231	—
Postema, Albert	DEIS0128	—
Public Hearing – Atqasuk	DEIS0202	FS-4, MS-1, MS-3, SH-6, SH-7, SH-8
Public Hearing – Barrow	DEIS0116	LA-5, LA-6, MS-8, PN-5, RI-2, RI-5, SC-3, SH-10, SH-11
Public Hearing – Nuiqsut	DEIS0114	AQ-18, AS-1, BC-1, BC-2, BC-3, BC-19, IS-4, LA-27, MM-4, MS-4, MS-46, OS-1, PL-1, RE-21, RI-4, RI-23, SC-2, SH-1, SH-56, SH-61, SP-2, TF-1, TF-2, TP-2, UT-7, WR-3, WR-47
Public Hearing – Anaktuvuk Pass	DEIS0115	RD-1, SH-5, SP-1
Public Hearing – Anchorage	DEIS0195	AB-1, BC-18, BD-1, BD-94, IC-12, IS-1, IS-4, IS-5, IS-6, IS-7, MS-5, PL-12, PL-13, RI-1, SC-1, SH-3, SH-4
Public Hearing – Fairbanks	DEIS0117	AB-1, IS-1, IS-3, IS-4, RI-1, SC-1, SH-1, SH-4
Rankin, Billy	DEIS0148	—
Rechel, Eric	DEIS0228	RI-1
Reinbold, Gary	DEIS0142	—
Resource Development Council for Alaska	DEIS0111	—
Santucci, Melissa	DEIS0171	—

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
Scanlon, Kelly Hill (Northern Alaska Environmental Center)	DEIS0110	See Northern Alaska Environmental Center (DEIS0110)
Schok, Daniel	DEIS0166	—
Schulbert, Stacy (Anchorage Chamber of Commerce)	DEIS0124	See Anchorage Chamber of Commerce (DEIS0124)
Scott, Gabriel (Cascadia Wildlands Project)	DEIS0233	See Cascadia Wildlands Project (DEIS0233)
Senior, Mr.	DEIS0254	—
Seyfried, William M., Jr.	DEIS0054	—
Seyfried, William M., Jr.	DEIS0158	—
Sharp, Catherine	DEIS0220	—
Shields, Mary (Northwest Technical Services)	DEIS0131	See Northwest Technical Services (DEIS0131)
Shuttles, Robert	DEIS0244	—
Sourdough Express, Inc.	DEIS0003	—
Stagman, Robert G., M.D.	DEIS0010	RI-1
Stamps, Bill (Peak Oilfield Service Co.)	DEIS0127	See Peak Oilfield Service Co. (DEIS0127)
Stanley, Patricia	DEIS0177	RI-1
State of Alaska DNR	DEIS0242	AA-8, AB-2, AB-3, AQ-25, AS-3, BC-8, BC-9, BC-10, CZ-5, EI-2, FG-1, FG-14, FG-38, FG-40, FG-41, FG-42, FG-43, FG-44, FG-45, FG-46, FG-47, FG-48, FG-49, FG-50, FG-51, FG-52, FG-53, FG-54, FG-55, FG-56, FG-57, FG-58, FG-59, FG-60, FS-10, FS-26, FS-27, FS-28, IC-8, IC-9, IC-14, LA-30, LA-34, LA-36, LA-37, MM-15, MM-16, MM-24, MS-12, MS-13, MS-14, MS-15, MS-16, MS-41, MS-47, MS-48, MS-49, MS-50, MS-51, OR-1, OR-2, OS-5, OS-6, OS-7, OS-8, OS-9, OS-10, OS-24, OS-25, OS-26, OS-27, OS-28, OS-29, OS-30, OS-31, OS-32, OS-40, OS-41, PF-1, PF-2, PF-3, PF-4, PF-8, PF-9, PL-3, PL-4, PL-5, PL-6, PL-7, PL-16, PN-2, PN-12, PN-14, PN-22, PP-4, PP-5, PP-6, PP-7, PP-8, PP-14, PP-15, PP-16, PP-17, PP-18, PY-3, RD-2, RD-3, RD-4, RD-5, RD-14, RD-17, RD-18, RD-23, RE-1, RE-15, RI-2, RI-8, RI-10, SC-1, SH-17, SH-18, SH-19, SH-20, SH-21, SH-64, SH-65, SH-75, SH-76, SL-1, SP-3, SP-4, SP-6, SP-7, WQ-1, WR-9, WR-10, WR-11, WR-12, WR-13, WR-14, WR-15, WR-16, WR-25, WR-26, WR-27, WR-28, WR-29, WR-30, WR-50, WR-51
Stein, Seth	DEIS0266	—
Stewart, Scott	DEIS0137	—
Stinson, Robert W. (Conam Construction Co.)	DEIS0004	See Conam Construction Co. (DEIS0004)
Stokes, Pete	DEIS0134	—
Stuart, Julie	DEIS0140	—

**TABLE 6.2.1-1 LIST OF COMMENTORS ON THE ASDP DRAFT EIS
(ALPHABETICALLY BY NAME) (CONT'D)**

NAME/ORGANIZATION	DOCUMENT NUMBER	LIST OF ISSUE CODES ¹
Taylor, Kenton (State of Alaska DNR)	DEIS0242	See State of Alaska DNR (DEIS0242)
Theodoru, Corrinne	DEIS0179	—
Tukle, Frederick and Della	DEIS0205	—
UA Local Union 375	DEIS0080	
UA Local Union 375	DEIS0109	—
USACE	DEIS0241	AA-1, AB-7, AS-4, AS-7, AS-8, BC-1, BC-14, BD-80, BD-81, CR-2, FG-61, FG-62, GM-2, GY-1, IS-29, LA-1, LA-26, LA-32, LA-33, MM-28, NZ-4, NZ-8, PF-5, PL-16, RA-3, RA-4, RD-7, RD-20, RE-4, RI-17, RI-22, SC-5, SP-8, TF-9, UT-1, UT-2, UT-3, VS-7, VS-8, VW-4, VW-8, VW-13, WQ-2, WQ-3, WR-6, WR-34, WR-35, WR-36, WR-37, WR-38, WR-39, WR-40, WR-41
USEPA	DEIS0271	AA-14, AB-1, AQ-8, AQ-9, AQ-10, AQ-11, AQ-12, AQ-13, AQ-14, BC-1, BC-15, BC-16, CO-3, EJ-5, FG-17, GM-3, GM-4, GM-5, GY-2, IS-30, LA-1, LA-2, LA-18, LA-21, LA-33, MM-1, MM-29, MM-30, MM-31, MS-37, OR-3, PN-4, RE-16, RI-13, RI-18, SH-39, SH-82, UT-4, UT-5, UT-8, WR-5, WR-41, WR-42, WR-43, WR-44, WR-45
USFWS	DEIS0216	AA-4, AS-2, BC-1, BC-19, BD-5, BD-6, BD-7, BD-8, BD-9, BD-10, BD-11, BD-12, BD-13, BD-14, BD-15, BD-16, BD-17, BD-18, BD-19, BD-20, BD-21, BD-22, BD-23, BD-24, BD-25, BD-26, BD-27, BD-28, BD-29, BD-30, BD-31, BD-105, FG-4, FS-9, GM-1, IS-5, IS-6, LA-8, LA-15, PL-16, RA-2, SH-10, TE-6, TE-7, TE-8, TE-9, TE-10, TE-11, TF-3, WR-5, WR-6, WR-7, WR-8
Usibelli Coal Mine, Inc.	DEIS0224	—
Vallone, Cheryl	DEIS0154	—
Voorhies, Bill & Marilyn	DEIS0012	RI-1
Walker, Charlie K., CecD (Fairbanks Economic Development Corporation)	DEIS0011	See Fairbanks Economic Development Corporation (DEIS0011)
Whitehead, John (CPAI)	DEIS0238	See CPAI (DEIS0238)
Whitmore, Susan	DEIS0167	RI-1
Whitmore, Susan	DEIS0192	RI-1
Wilmarth, David	DEIS0150	—
Wilson, Ron (Doyon Drilling, Inc.)	DEIS0118	See Doyon Drilling, Inc. (DEIS0118)
Woods, Joeb, Sr.	DEIS0211	PL-12, RI-1, WR-1
Wyberg, Kenneth and Sharon	DEIS0235	RI-1, RI-3
Yockey, Ken	DEIS0164	—
Zukoski, E.B.	DEIS0163	RR-1, TE-1, TE-2

Notes:

¹A definition of each Issue Code Prefix is provided in Table 6.3.1-1.

6.2.2 Public Meeting Testimony

Substantive comments received during the six public hearings have been addressed in the same manner as written comments. The public hearing written transcripts have been assigned document numbers, and are listed in the Name/Organization column in Table 6.2.1-1 by the location of the Public Hearing (e.g. Public Hearing – Barrow). The list of Issue Codes identified from the transcript of each meeting is also indicated in the table. A summary of each public hearing, including a table listing individuals who provided oral testimony (see Table 6.2.2-1) at each hearing follows.

6.2.2.1 Anaktuvuk Pass, AK

The public hearing in Anaktuvuk Pass was held on February 17, 2004 in the Village Council Hall at 7:00 o'clock p.m. Approximately 20 people attended this hearing and 2 attendees provided comments for the record.

6.2.2.2 Anchorage, AK

The public hearing in Anchorage was held on February 23, 2004 in the Z. J. Loussac Library at 7:00 o'clock p.m. Approximately 60 people attended this hearing and 20 attendees provided comments for the record.

6.2.2.3 Atkasuk, AK

The public hearing in Atkasuk was held on February 24, 2004 in the Village Community Center at 7:00 o'clock p.m. Approximately 25 people attended this hearing and 4 attendees provided comments for the record.

6.2.2.4 Barrow, AK

The public hearing in Barrow was held on February 19, 2004 in the NSB Assembly Chambers at 7:00 o'clock p.m. Approximately 25 people attended this hearing and 5 attendees provided comment for the record.

6.2.2.5 Fairbanks, AK

The public hearing in Fairbanks was held on February 18, 2004 in the Noel Wien Public Library at 7:00 o'clock p.m. Approximately 60 people attended this hearing and 30 attendees provided comments for the record.

6.2.2.6 Nuiqsut, AK

The public hearing in Nuiqsut was held on February 10, 2004 in the Village Council Hall at 7:00 o'clock p.m. Approximately 40 people attended this hearing and 11 attendees provided comments for the record. The commentators are listed in Table 6.6.2-1.

6.2.3 Public Hearings Oral Testimony

**TABLE 6.2.2-1 LIST OF INDIVIDUALS WHO PROVIDED ORAL TESTIMONY
AT PUBLIC HEARINGS**

ANAKTUVUK PASS 02/17/04	ANCHORAGE 02/23/04	ATQASUK 02/24/04	BARROW 02/09/04	FAIRBANKS 02/18/04	NUIQSUT 02/10/04
Raymond Paneak	Tom Maloney	Doreen Simmons	Mark Ireland	John Whitehead	Isaak Nukapigak
Sollie Hugo	Bob Elder	Virginia Brower	Geoff Carroll	John Binkley	Joe Nukapigak
	John Whitehead	Kate Aiken	George Oemaun	Steve Thompson	Leonard Lampe
	Tadd Owens	Tom Brower, Jr.	Marie Carroll	Steve Frank	Rosemary Ahtuangularuk
	Maynard Tapp		Charles Hopson	Mark Hanley	Isaac Nukapigak
	Lynn Johnson			Ken Martin	Dora Nukapigak
	Deborah Williams			Don Lowry	Ruth Nukapigak
	Rachel James			Tim Sharp	Sarah Kunaknana
	Larry Houle			Loretta Lolnitz	Mark Ireland
	Jack Laasch			Sean Rice	Annie Lampe
	John Minier			Cathy Miller	
	Jim Gilbert			Paul Metz	
	Lee Smith			Kimberly Cordes	
	Michael O'Connor			John E Swortfiguer	
	Pamela A. Miller			Norm Phillips	
	Mark Huber			Lucy Beach	
	George Veralis			Terry Wornath	
	Joe Nakapigak			Jennifer Flower	
	Theresa Imm			Chris Johansen	
	James Udelhoven			Randall Frank	
				Dale D. Riley	
				Garry Hutchinson	
				Jeanine St. John	
				Howard Maillard	
				Franz Mueter	
				Don Shannon	
				Nick Turenne	
				Brian Maher	
				Erving Anderson	
				Buzz Otis	

Notes:

Oral testimony from Draft EIS public hearings and meetings is provided in the Administrative Record and can be inspected upon request to the BLM.

6.3 SPECIFIC ISSUES AND RESPONSES

6.3.1 Comment Categories and Issue Statements

Table 6.3.1-1 provides a list of 51 Comment Categories by which approximately 921 issues raised by substantive public comments have been organized. The number of coded issue statements included in each category is listed in the table. Each of the Issue Statements reflects one (or several similar) substantive comments identified through review of letters and transcripts during the Response-to-Comments process. Following Table 6.3-1, each issue statement is provided, as well as a response to each.

TABLE 6.3.1-1 ISSUE STATEMENTS BY COMMENT CATEGORY

COMMENT CATEGORY (ALPHABETICAL ORDER)	ISSUE CODE PREFIX	TOTAL NUMBER OF ISSUES
Abandonment and Reclamation	AB	7
Agency Policies and Authorities	AA	14
Air Quality	AQ	27
Airstrips	AS	8
Alternatives	LA	38
Bibliography	BB	1
Birds	BD	106
Boat Ramps and River Access	RA	4
Bridges and Culverts	BC	20
Climate and Meteorology	CM	2
Cultural Resources	CR	2
Cumulative Impacts Structure, Methodology and Scope	IS	31
Endangered and Threatened Species	TE	24
Environmental Justice	EJ	7
Existing Infrastructure in the Plan Area	EI	4
Figures	FG	64
Fish	FS	28
Formal Scoping	CO	4
General Impact Concerns	IC	14
Geology	GY	2
Government-to-Government Consultation	GG	1
Gravel Mines	GM	5
Intent of this Environmental Impact Statement (EIS)	RI	24
Land Uses and Coastal Management	CZ	5
List of Preparers	PS	1
Mammals	MS	54
Mitigation and Monitoring	MM	33
Noise	NZ	8
Off-Road Travel	OR	3
Oil Spill Prevention, Detection and Response	SP	8
Oil, Seawater, and Hazardous Materials Spills	OS	41
Permafrost	EP	1
Physiography	PY	3
Pipelines	PL	16
Processing Facilities	PF	9
Production Pads	PP	19
Purpose and Need	PN	22

TABLE 6.3.1-1 ISSUE STATEMENTS BY COMMENT CATEGORY (CONT'D)

COMMENT CATEGORY (ALPHABETICAL ORDER)	ISSUE CODE PREFIX	TOTAL NUMBER OF ISSUES
Recreation Resources	RR	4
Regional Economy	RE	21
Roads	RD	23
Sand and Gravel	SG	5
Socio-Cultural Resources	SC	15
Soils	SL	1
Subsistence Harvest and Uses	SH	83
Surface Water Quality	WQ	7
Traffic	TF	11
Transportation	TP	4
Utilities	UT	8
Vegetation and Wetlands	VW	16
Visual Resources	VS	12
Water Resources	WR	51

6.3.2 Issue Statements and Responses by Comment Category

6.3.2.1 Abandonment and Reclamation

AB-1

This issue was raised in the following letters: DEIS0117, DEIS0195, and DEIS0271.

ISSUE

Stipulation 58 requires that all facilities shall be removed and sites rehabilitated. The Final EIS should discuss this requirement under Features Common to Alternatives for abandonment of gravel roads, airstrips, production pads, etc.

RESPONSE

Stipulation 58 actually allows much flexibility to the AO in regards to abandonment and reclamation by saying that the AO may determine that it is in the best interest of the public to retain some or all of the facilities. Wording very similar to Stipulation 58 does appear in Section 2.3.

AB-2

This issue was raised in the following letter: DEIS0242.

ISSUE

The DEIS (Section 2) assumes that gravel roads will be left in place upon abandonment. It is certain that some sections of road will be required to be removed by permit stipulation. Potential impacts associated with gravel removal also may be worth discussion.

RESPONSE

Sections 2 and 4 have been modified to address the impacts of both removing gravel roads and pads and retaining them.

AB-3

This issue was raised in the following letter: DEIS0242.

ISSUE

In terms of rehabilitation/reclamation, a plan (not specific, but general) to reclaim the Clover gravel mine site concurrent with construction should be addressed.

RESPONSE

A proposed plan for mining and reclamation of Clover has been included as Appendix O. Concurrent reclamation is the preferred method.

AB-4

This issue was raised in the following letter: DEIS0257.

ISSUE

The DEIS did not fully address the Dismantling Removal and Reclamation requirements.

RESPONSE

Abandonment (which includes dismantling, removal, and reclamation) is discussed in Section 2.3 (see Sections 2.3.1.4, 2.3.2.4, 2.3.3.5, 2.3.6, and 2.3.9.3). A more specific plan would be developed by the holder of the permit prior to abandonment activities and would be approved by the AO after additional NEPA analysis.

Additionally, Sections 2 and 4 have been modified to address the impacts of both removing gravel roads and pads and retaining them.

AB-5

This issue was raised in the following letter: DEIS0236.

ISSUE

The EIS should include analysis of impacts of leaving roads/pads/airstrips in place versus gravel removal and potential re-use.

RESPONSE

Section 4 was modified to analyze the impacts of both removing gravel roads and pads and retaining them.

AB-6

This issue was raised in the following letter: DEIS0264.

ISSUE

All the action alternatives state that sand and gravel could be re-used on abandonment, although it also states there is no such plan. A portion of the sand and gravel is likely to be contaminated and it may not be feasible for re-use.

RESPONSE

Contaminated materials would be removed and treated in the prescribed manner before disposal or re-use.

AB-7

This issue was raised in the following letter: DEIS0241.

ISSUE

A mining and rehabilitation/reclamation plan must be included in the FEIS and analysis of mining impacts must be completed.

RESPONSE

A proposed mining and reclamation plan for Clover is included as Appendix O and additional impact analysis reflecting the plan has been added to the EIS.

6.3.2.2 Agency Policies and Authorities

AA-1

This issue was raised in the following letter: DEIS0241.

ISSUE

Coordination for endangered species and the Stevens-Magnuson Act is necessary before the Corps can complete their permit evaluation process. The biological assessment should be included in the FEIS.

RESPONSE

The Biological Assessment was filed with the USFWS in May 2004 and is currently available on the Alpine Satellite Development Plan website: www.alpine-satellite.com.

AA-2

This issue was raised in the following letters: DEIS0236 and DEIS0238.

ISSUE

The EIS should include local zoning and permitting authority in the Table of Authorities at 1.1.4-1 and Appendix C.

RESPONSE

Table 1.1.4-1 and Appendix C have been edited to address this concern.

AA-3

This issue was raised in the following letter: DEIS0236.

ISSUE

The EIS fails to provide any analysis to support the implied statement that the North Slope Borough has no authority to place conditions on the development of the National Petroleum Reserve-Alaska .

RESPONSE

The EIS has been modified to explain that application of the NSB's land management regulations to oil and gas exploration and development activities on federal land within the National Petroleum Reserve-Alaska is subject to significant legal constraints, and therefore must be evaluated on a case-by-case basis as particular activities are proposed.

AA-4

This issue was raised in the following letters: DEIS0216 and DEIS0240.

ISSUE

Special Condition 10 of the 1998 permit issued by the Corps of Engineers to ARCO Alaska, Inc. specified that further satellite field development within the Delta would be roadless.

RESPONSE

At the request of the permittee, ARCO Alaska Inc., Special Condition 10 (SC10) was included in the USACE permit which authorized the placement of fill associated with the construction of the Alpine Development Project facilities. The position of the USACE was that the condition was not directly related to the impacts of the proposal (since it related to potential future proposals) and therefore, did not meet the requirements for conditioning permits under 33 CFR 325.4(a). However, in accordance with the latter code, the District Engineer is authorized to add special conditions at the applicant's request. Consequently, the condition was added pursuant to ARCO Alaska Inc.'s February 6, 1998, written request. Since CPAI assumed the responsibility for complying with the terms and conditions of the Alpine Development Project permit, they would be required to comply with the intent of SC10. Information submitted by ARCO Alaska Inc. for the development established a clear presumption that roadless satellite production facilities would be practicable. Therefore, this presumption would have to be overcome before a Section 404 permit could be issued for any such future development with a gravel road, i.e., the proposed road to CD-4. Section 2 has been modified to reflect this.

AA-5

This issue was raised in the following letter: DEIS0240.

ISSUE

Section 12 of the Federal Oil and Gas leases for the Reserve requires removal of any improvement "not deemed necessary by lessor for preservation of producible wells." Leaving roads and pads in place upon abandonment also is inconsistent with Stipulation 58 of the 1998 ROD and may also be inconsistent with state leases for the Colville River Delta lands. The DEIS should discuss the provisions of all these potentially applicable legal requirements.

RESPONSE

Federal and state leases provide that removal and rehabilitation are the responsibilities of the lessee and that they must be accomplished to the satisfaction of the BLM's AO for federal leases and to the satisfaction of the Commissioner of Natural Resources for state leases. Section 12 of the Federal Leases state that "lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by the lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by the lessor for preservation of producible wells." The Federal Leases also require that, "Upon field abandonment or expiration of a lease or oil- and gas-related permit, all facilities shall be removed and sites rehabilitated to the satisfaction of the AO, in consultation with appropriate Federal, State, and NSB regulatory and resource agencies. The AO may determine that it is in the best interest of the public to retain some or all of the facilities. Lessees shall comply with all exploration and development bonding required by law and regulation (43 CFR 3154.1 and 3134.1). No exceptions shall be granted to this provision." Similar requirements apply to state leases. The EIS describes that abandonment requirements will not be finalized until an abandonment plan has been developed and approved by the responsible state or federal agencies (see Sec. 2.3.1.4).

AA-6

This issue was raised in the following letter: DEIS0239.

ISSUE

If the planned Alpine capacity expansion modifications are needed to accommodate the Alpine satellites, this EIS process must be completed first. Otherwise, that construction might prejudice the outcome of the permitting process for which NEPA analysis has not yet been completed.

RESPONSE

There are three aspects of ACX—ACX-1, ACX-2, and ACX-3. ACX-1 and ACX-2 support the existing APF-1 and are independent of the ASDP. ACX-3 is necessary for the operation of the production pads and was analyzed as part of the EIS. ACX-1 and ACX-2 were considered in this EIS as part of the cumulative case. See the discussion in Section 2.3.12.2.

AA-7

This issue was raised in the following letter: DEIS0239.

ISSUE

The FEIS should not be completed until contingency plans are released for public review for all the proposed satellites, not just CD-3 and CD-4 as indicated in the state's public notice for ACMP review.

RESPONSE

State and federal laws and regulations require contingency plans. State ODPCPs are reviewed for consistency with state laws, including the Alaska Coastal Management Act, and are approved prior to the issuance of any permits for project construction. The FEIS discusses spill prevention and response in Section 2.3.4.

AA-8

This issue was raised in the following letter: DEIS0242.

ISSUE

Table 1.1.4-1, Page 1-17. In the AOGCC section, move the last paragraph in the Regulatory Intent column to the top. That is essentially the AOGCC mission statement. In addition to the drilling permits, AOGCC also issues sundry notices that are authorizations to perform work on existing wells.

RESPONSE

The table has been edited as suggested.

AA-9

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 1-20: indicates that should transfer of lease administration occur, ASRC “must” administer the lease in accordance with the same laws that would be applicable to BLM. DEIS does not cite to any case or legal opinion supporting the statement.

RESPONSE

The EIS has been modified to explain that ASRC would become the successor to the interests of the United States in any leases that ASRC assumes as a consequence of the conveyance of leased land within the National Petroleum Reserve-Alaska to Kuukpik Corporation and ASRC under ANCSA. Waiver of federal administration of a lease is not permitted if only a portion of the leasehold interest is conveyed. Even if the entire land area of a particular federal lease is conveyed, however, ensuring the continuation of adequate environmental protection measures would be one of the important interests of the United States that must be considered before any decision would be made by the BLM to waive lease administration on the conveyed lands. If lease administration were ever waived based on the BLM’s determination that the interests of the United States would be protected by such a waiver, the laws generally applicable to oil and gas leases on private lands would then apply. At a minimum, changes to any lease stipulations at that point would still require a renegotiation of the lease by all the parties in interest. Given all the contingencies that would have to occur for the situation to arise, specific changes to individual lease stipulations that might occur in the future if lease administration is ever waived are too remote and speculative to predict with any reasonable accuracy at this time. In any event, adequate environmental safeguards would continue to apply through the terms and conditions of permits and other approvals issued by federal, state, and local government agencies under numerous environmental laws. These environmental requirements would continue to ensure that any significant harm to the environment is avoided and that the levels and types of development impacts remain similar to those predicted in the EIS.

AA-10

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS must discuss the possibility that ASRC may waive Stipulations and otherwise agreed to changes that may adversely impact the environment, and make an “informed judgement” about what ASRC may do with its lands and the leases on them.

RESPONSE

The EIS has been modified to explain that ASRC would become the successor to the interests of the United States in any leases that ASRC assumes as a consequence of the conveyance of leased land within the National

Petroleum Reserve-Alaska to Kuukpik Corporation and ASRC under ANCSA. Waiver of federal administration of a lease is not permitted if only a portion of the leasehold interest is conveyed. Even if the entire land area of a particular federal lease is conveyed, however, ensuring the continuation of adequate environmental protection measures would be one of the important interests of the United States that must be considered before any decision would be made by the BLM to waive lease administration on the conveyed lands. If lease administration were ever waived based on the BLM's determination that the interests of the United States would be protected by such a waiver, the laws generally applicable to oil and gas leases on private lands would then apply. At a minimum, changes to any lease stipulations at that point would still require a renegotiation of the lease by all the parties in interest. Given all the contingencies that would have to occur for the situation to arise, specific changes to individual lease stipulations that might occur in the future if lease administration is ever waived are too remote and speculative to predict with any reasonable accuracy at this time. In any event, adequate environmental safeguards would continue to apply through the terms and conditions of permits and other approvals issued by federal, state, and local government agencies under numerous environmental laws. These environmental requirements would continue to ensure that any significant harm to the environment is avoided and that the levels and types of development impacts remain similar to those predicted in the EIS.

AA-11

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS must discuss what remedies third parties who might object to the administration of a lease have after the waiver of administration to ASRC occurs.

RESPONSE

If administration of any existing oil and gas lease issued by the BLM were waived in the future, the BLM would no longer have administrative responsibility for that particular lease. The successor in interest, ASRC, would succeed and become entitled to all the interests of the United States in the lease. Discussion of legal remedies that third parties might have against ASRC in the event of a future dispute is beyond the scope of this EIS.

AA-12

This issue was raised in the following letter: DEIS0257.

ISSUE

Site restoration may be economically or technically impossible. It should be made clear who is ultimately responsible.

RESPONSE

Leaseholders are required to restore lands they use to the satisfaction of the authorizing agency. The discussions of abandonment in Section 2 have been edited to clarify the lessees' financial responsibility for restoration.

AA-13

This issue was raised in the following letter: DEIS0257.

ISSUE

The BLM must describe how they intend to conduct long-term monitoring that includes biological control areas within the ASDP Area.

RESPONSE

The BLM intends to develop a resource-monitoring plan using a Research and Monitoring Team established pursuant to the ROD for the Northeast National Petroleum Reserve-Alaska IAP/EIS. The team is in the initial stages of developing that plan.

AA-14

This issue was raised in the following letter: DEIS0271.

ISSUE

To meet EPA's NEPA compliance requirements, the FEIS should include a copy of the applicant's NOI, topographic or aerial photographs showing the general location of the facility, and expected flow of NPDES discharge.

RESPONSE

This information is provided in Appendix M.

6.3.2.3 Air Quality**AQ-1**

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS should not claim that road dust would be kept down by winter use of roads, when it claims that CD-4 would be built in the summer and there is no proposal that would restrict the use of permanent gravel roads to winter-only traffic. The DEIS admits that Alternative A does not lend itself to quantification of traffic impact (example p. 4A4-52).

RESPONSE

Section 3.2.3.1, Section 4A.2.3, and Section 4A.2.3.2 have been amended in the FEIS to indicate that construction is not limited to winter months. Section 4F.2.3.2 has been written to indicate the same.

AQ-2

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS only provides a quantitative estimate of air pollutant emissions from estimated aircraft use. It needs to also provide an estimate of emission from other equipment, and correlated all the emissions estimates to potential impacts, including those impacts to Nuiqsut residents whose children already suffer high rates of asthma.

RESPONSE

Section 4A.2.3 includes air pollutant emissions for proposed construction, drilling, and operation activities, and Section 4A.2.3.2 includes estimated air pollutant emissions from aircraft operations. New Sections 4F.2.3 and 4F.2.3.2 have been written to indicate the same information. State and federal air quality regulations are in place

to minimize potential air impacts, and all pollutant emissions, including fugitive dust, expelled during construction and operation, will be subject to permit regulations of state and federal air quality regulations.

AQ-3

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS erroneously claims that because construction would not occur at a single location for any “significant length of time,” there would be no significant impact from construction emissions. The NAAQS and corresponding State air quality regulatory standards are hourly, daily and annual standards (example: p. 4A.2-42).

RESPONSE

Section 4A.2.3.2 has been amended for the FEIS to indicate that the ADEC requires construction emissions to comply with NAAQS. Alternative F – Preferred Alternative (Section 4F.2.3.2) has been written to indicate the same information.

AQ-4

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS must undertake a facility, equipment, and site-specific analysis of emissions to determine the true impacts from the alternatives on air quality and other resources.

RESPONSE

The FEIS provides an analysis in Sections 4A.2.3.2 and 4F.2.3.2, which utilized the results of the air quality impact analyses for CD-3 and CD-4 to define the impacts of the proposed sites.

AQ-5

This issue was raised in the following letter: DEIS0240.

ISSUE

BLM has the first obligation to identify and discuss all possible and reasonable mitigation measures to air quality, even if it has no intention of requiring their adoption. The EIS suggest no mitigation measures to reduce the impacts on air quality (example: p. 4A.2-46).

RESPONSE

Mitigation measures would be included to reduce or eliminate potential impacts identified in the impact analysis. Upon further review, and in response to comments received, mitigation measures have been added to Section 4A.2.3.2, Air Quality. New Section 4F.2.3.2 has been written to indicate the same.

AQ-6

This issue was raised in the following letter: DEIS0230.

ISSUE

S.4.2.3 Should state that there is a particular concern by the local population on the number and frequency of flights, both during construction and production.

RESPONSE

This concern was acknowledged in Section 3.2.3.3 of the FEIS.

AQ-7

This issue was raised in the following letter: DEIS0271.

ISSUE

Impacts to air quality cannot be analyzed without first conducting dispersion modeling. How can the DEIS purport to analyze impacts of a CPF in the sensitive area between Fish and Judy Creek without first knowing the impacts that each new pad will have on air quality?

RESPONSE

Dispersion modeling, as discussed in Section 4A.2.3.2, Air Quality, and new Section 4F.2.3.2, Air Quality, was conducted for the Alpine Development Project, including APF-1. The results of the modeling were used to evaluate impacts to air quality as required under the construction permit application.

AQ-8

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should provide quantitative estimates of non-criteria pollutants (188 HAPS listed under Section 112 of the CAA) emissions such as volatile organic chemicals (VOCs) from drilling or operational phases. In addition, this information should be incorporated as part of the Ambient Air Quality Analysis for each proposed production satellite.

RESPONSE

The proposed sites do not qualify as major sources of HAPs based upon the comparable CD-3 and CD-4 emission analysis.

AQ-9

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should provide full disclosure of GHG via a standard emission summary, which may include baseline emissions, project related emissions and emissions from reasonably foreseeable activities. The GHG emission summary should include carbon dioxide, methane, nitrous oxide, ozone, per fluorocarbons, hydrofluorocarbons, and sulfur hexafluoride.

RESPONSE

No GHG emission inventory is readily available for the project.

AQ-10

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include a table similar to Table 4A.2.3-4 for each alternative.

RESPONSE

Sections 4B.2.3, Atmospheric Environment, and 4C.2.3, Atmospheric Environment, have been updated for the FEIS to reflect that estimated aircraft traffic emissions are within the ranges of those estimated under Alternative A. New tables depicting aircraft emissions have been added to Sections 4D.2.3 and 4F.2.3.

AQ-11

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should provide additional quantitative data, information, and analysis to ensure that exceedences of PSD are avoided as required by the Clean Air Act.

RESPONSE

The FEIS provides an analysis in Sections 4A.2.3.2 and 4F.2.3.2 that utilizes the results of the air quality impact analyses for CD-3 and CD-4 to define the impacts of the proposed sites.

AQ-12

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include an inventory of potential emission sources and dispersion modeling of predicted impacts from all five satellites. This analysis should be incorporated as an appendix in the FEIS.

RESPONSE

The emission inventory for each site is presented in the FEIS in Tables 4A.2.3-2 through 4A.2.3-4. The potential air quality impacts from all sites is discussed in the cumulative impact section of the FEIS, Section 4G.2.3.

AQ-13

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include mitigation measures using Best Available Control Technology and Maximum Available Control Technology standards.

RESPONSE

All process equipment is assumed (pursuant to existing operating permit) to be fitted with BACT as required by the air agency of authority under the CAA.

AQ-14

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include appropriate types of mitigation, control technologies, and level of monitoring required to demonstrate that potentially significant adverse impacts to air quality are adequately minimized.

RESPONSE

Specific mitigation measures, control technologies (i.e., BACT) and level of monitoring will be dictated by the ADEC, which is the agency of authority pursuant to the CAA. Such measures are discussed in the FEIS in Sections 4A.2.3.2, Air Quality, and 4F.2.3.2, Air Quality.

AQ-15

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.3-30: 4.3.3.3 Resource Specific Impact Assessment/Air Quality. Recommend addition of a discussion of impacts to air quality if a spill was to occur and was accidentally ignited, or a decision was made to burn it.

RESPONSE

Section 4.3, Impacts of Oil, Seawater, and Hazardous Material Spills analyzes such potential impacts. Section 4.3.3.3, Air Quality, specifically discusses potential impacts to air quality from spills. Air quality impacts from ignition of the spilled product are not included, but would depend on the type of product and quantity, location, and meteorological conditions. Overall, spills would be localized, short-term, and have little impact on air quality. The applicant's proposed action does not include any proposal to burn any spilled products.

AQ-16

This issue was raised in the following letter: DEIS0230.

ISSUE

The EIS is misleading in discussing the impacts of a proposed 1.2 to 2.5 MW power plant at CD-6 at only the 1.2 MW level.

RESPONSE

The discussion of air emissions in Section 4 has been modified to fully address air emissions.

AQ-17

This issue was raised in the following letter: DEIS0230.

ISSUE

If the generator at CD-6 is powered off the test separator, there would be a natural gas flare, which the DEIS does not address.

RESPONSE

The applicant has not proposed a gas flare at CD-6.

AQ-18

This issue was raised in the following letter: DEIS0114.

ISSUE

The DEIS needs to examine flaring natural gas, chemical discharges, greenhouse effect and if any of this is dangerous to humans and animals.

RESPONSE

Flaring of natural gas would be conducted at HPF-1 and HPF-2, and would operate under the conditions set forth in the air quality operating permit. Estimated emissions for the HPFs are included in Section 4A.2.3, Atmospheric Environment. Air quality impacts are discussed in Section 4A.2.3.2, Air Quality. Section 4.3, Impacts of Oil, Seawater, and Hazardous Material Spills, analyzes such potential impacts. Section 4.3.3.3, Air Quality, specifically discusses potential impacts to air quality from spills. GHG effects are discussed in Sections 3.2.3.1, Climate and Meteorology, and 4G.5.8, Air Quality [Cumulative Impacts], and 4A.2.3.1, Climate and Meteorology.

AQ-19

This issue was raised in the following letter: DEIS0233.

ISSUE

The EIS should evaluate the air impacts of burning the fossil fuels that will be recovered, flaring natural gas, and exhaust from generators and pipeline pump stations.

RESPONSE

The applicant's proposed action does not include any proposal to burn any products or recovered by-products. Flaring of natural gas would be conducted at HPF-1 and HPF-2, and would operate under the conditions set forth in the air quality operating permit. Estimated emissions for the HPFs are included in Section 4A.2.3, Atmospheric Environment. Emissions from generators proposed are included in Section 4A.2.3, Atmospheric Environment. Air quality impacts are discussed in Section 4A.2.3.2, Air Quality. Pipeline pump stations may emit fugitive emissions, which would not affect air quality, but these are also included in the emission evaluation for the air quality operating permit.

AQ-20

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 4F.7.1: Authors of this section are referred to the Global Climate Change section that appears in the subsistence-harvest patterns cumulative effects assessment in the Northwest National Petroleum Reserve-Alaska IAP/EIS. We believe that the increasing body of climate change research can no longer be excluded from any discussion of cumulative effects on subsistence resources, subsistence practices, socio-cultural systems, and environmental justice with regard to North Slope development. Also note that CEQ considers the scientific evidence adequate to indicate that climate change is a “reasonably foreseeable” impact of green house gas emissions (CEQ 1997).

RESPONSE

The effects of global climate change are discussed in Section 3.2.3.1, Climate and Meteorology.

In its *Draft Guidance Regarding Consideration of Global Climate Change in Environmental Documents Prepared Pursuant to the National Environmental Policy Act*, October 8, 1997, the CEQ recommends addressing this issue at the program level rather than at the project level, such as the ASDP EIS. Nonetheless, a discussion of impacts from climate change is addressed in the cumulative impacts analysis of the FEIS (Section 4G.4.8).

AQ-21

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to quantify GHG from the various alternatives as required by NEPA. It cannot accurately assess the cumulative impacts from GHG of the alternatives.

RESPONSE

Cumulative impacts of GHG are discussed in Section 4G.5.8, Global Climate Change.

AQ-22

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-26: it is inadequate to state that it expects “higher, localized” air pollutant concentrations in the immediate vicinity of facilities, without specifying locales and projected pollutant concentrations.

RESPONSE

The statement referring to higher, localized concentrations of air pollutants has been omitted from Section 4G.5.8, Air Quality.

AQ-23

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-26: indicates “it is not known to what extent local [oil industry] sources in Alaska contribute to Arctic [pollution] haze” without substantiation.

RESPONSE

This comment has been removed from Section 4G.5.8.1 and the remaining language has been amended to avoid a generalizing statement.

AQ-24

This issue was raised in the following letter: DEIS0240.

ISSUE

The discussion of the Alternatives does not provide enough detail with respect to GHG emission, and discussion of energy requirements and natural or depletable resource requirements. If the discussion exists, it is not obvious in the text of the EIS.

RESPONSE

GHG emissions are discussed in Section 4G.5.8. Global Climate Change. Depletable resource requirements are discussed in Section 4H.

AQ-25

This issue was raised in the following letter: DEIS0242.

ISSUE

4A.2.2.2. DEC believes the statement that there will be negligible effect of respirable particles (dust) being created because most of the time it is frozen and covered with snow isn't accurate. Sublimation will occur. Track-out from gravel mine site over snow/ice covered haul roads, blasting, and handling of bulk materials will all expose uncovered material. It would be more accurate to say that the frozen soil and snow cover will reduce fugitive dust emissions.

RESPONSE

Section 4A.2.3.2, Air Quality has been amended to indicate that frozen soil and snow cover would reduce respirable PM. Section 4F.2.3.2, Air Quality has been written to indicate the same.

AQ-26

This issue was raised in the following letters: DEIS0017, DEIS0204 and DEIS0236.

ISSUE

An insurance bond and a subsistence conflict avoidance agreement must be developed with Nuiqsut. Existing state and federal bonding requirements are not remotely sufficient to cover the cost of restoration.

RESPONSE

Additional bonding with Nuiqsut, the Kuukpik Corporation, or ASRC may be arranged, though it is not subject to NEPA review. The lease places a legal obligation on the lessee to remove facilities and rehabilitate the land. Federal and state leases provide that removal and rehabilitation are the responsibilities of the lessee and that they must be accomplished to the satisfaction of the BLM's AO for federal leases and to the satisfaction of the Commissioner of Natural Resources for state leases. Section 12 of the Federal Leases state that "lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by the lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by the lessor for preservation of producible wells." The Federal Leases also require that, "Upon field abandonment or expiration of a lease or oil- and gas-related permit, all facilities shall be removed and sites rehabilitated to the satisfaction of the AO, in consultation with appropriate Federal, State, and NSB regulatory and resource agencies. The AO may determine that it is in the best interest of the public to retain some or all of the facilities. Lessees shall comply with all exploration and development bonding required by law and regulation (43 CFR 3154.1 and 3134.1). No exceptions shall be granted to this provision." Similar requirements apply to state leases. The DEIS reflects (see Section 2.3.1.4) that abandonment requirements will not be finalized until an abandonment plan has been developed and approved by the responsible state or federal agencies.

Potential mitigation measures discussed under "Subsistence" includes establishment of a committee that would help identify and resolve conflicts between subsistence and development.

AQ-27

This issue was raised in DEIS0240.

ISSUE

The DEIS relies on Kuparuk River and Alpine data as surrogates of existing air quality in the Plan Area. DEIS p. 3-37. It claims that air quality is good, but in fact Alpine air pollutant numbers in the DEIS shows that ozone concentrations are ½ of the NAAQS, and a higher proportion of the particulate matter NAAQS. Building two new pads and associated components in the Colville River Delta area could will worsen air quality, an impact that the DEIS needs to take into account.

RESPONSE

As indicated in the DEIS, ambient levels of both ozone and PM10 are well below the respective NAAQS (with the noted exception of a high PM10 concentration due to a wind-driven fugitive dust event in 1999). The addition of new pads with associated emissions will, indeed, affect air quality. The FEIS has included an air quality impact analysis (Section 4A.2.3.2, Air Quality) that provides a summary of project impacts relative to the NAAQS for all criteria pollutants. In each case, it was shown that project impacts did not approach respective NAAQS and maximum concentration values occur at the facility boundary (i.e., pad edge) and decrease with distance from the facility (Table 4A.2.3-8).

6.3.2.4 Airstrips**AS-1**

This issue was raised in the following letter: DEIS0114.

ISSUE

Nuiqsut's airstrip was to be enlarged so that it could take a bulk of storage pad issues related to the development in the National Petroleum Reserve-Alaska & Alpine sites.

RESPONSE

The concept of a Nuiqsut Operations Center is discussed in Section 2.6.8. Enlargement of Nuiqsut's airstrip is not a part of the applicant's proposed action nor action alternatives. Use of the existing Nuiqsut airstrip for the ASDP is a component of Sub-Alternative C-2, as described in Section 2.4.3.1.

AS-2

This issue was raised in the following letter: DEIS0216.

ISSUE

An airstrip at CD-3 would be vulnerable to erosion during spring breakup flooding and fall storms. The subsequent dispersal of gravel would impact spectacled eider habitat.

RESPONSE

All gravel structures would be designed and built to withstand anticipated environmental conditions. Periodic erosion due to significant events could occur and damage would be repaired.

AS-3

This issue was raised in the following letters: DEIS0238 and DEIS0242.

ISSUE

Page 2-26, 1st paragraph. The reference to HERC helicopters should be modified as there is no such thing.

RESPONSE

Text has been changed to Hercules aircraft (or C-130). See Section 2.3.6, Airstrips, for this change.

AS-4

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.6 – Airstrips: Last paragraph: “Unscheduled helicopter traffic, overwhelmingly in summer, will likely occur. It is not part of CPAI’s proposal, though. Rather, this traffic will largely be associated with scientific studies and monitoring of development. The frequency of this traffic and the areas in which it will take place are unpredictable.” Define “overwhelmingly.” We disagree that the number of flights and areas of disturbance are totally unpredictable. There are flight logs for all helicopter usage on the North Slope.

RESPONSE

Based on previous experience, the number of non-operational helicopter flights is projected to be 2,500 per summer season (1,250 takeoffs from the Alpine Development Project, and 1,250 return landings). There are no non-operational helicopter flights projected for the winter season. This information has been added to Section 2.3.10, Traffic.

AS-5

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-25: Airstrips. Dimensions would range from a short airstrip of “approximately” 3,400 feet by 100 feet used by a CASA or Otter...” Delete reference to DC 6 aircraft. Although it is possible to land a DC 6, safety concerns would likely disallow it and a 3,400-foot runway is too short for a DC 6 to take-off. DC 6s will not be allowed to land on 3,400-foot runways.

RESPONSE

Reference to DC-6 aircraft has been deleted from Section 2.3.6.

AS-6

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-26: Explain why airstrips would be aligned to maximize the distance traveled over marine waters instead of tundra.

RESPONSE

The primary airstrip take-off/landing approach concern is disturbance of spectacled eider nesting habitat. This explanation has been added to Section 2.3.6, Airstrips.

AS-7

This issue was raised in the following letter: DEIS0241.

ISSUE

2.4-1. Air Supported Pads: Last sentence “. . . would access the CD-3 drill site via . . . gravel airstrip” or by ice roads during the winter. This paragraph indicates that year-round access would be by air.

RESPONSE

Year-round access could be by air, but access via ice road would also be available in winter. For clarification, Section 2.4.1.1 has been modified.

AS-8

This issue was raised in the following letter: DEIS0241.

ISSUE

Table 2.4.4-4 – Alternative D-1 – Estimated Traffic: Estimated helicopter traffic (personnel and summer research) needs to be included.

RESPONSE

Non-operational helicopter traffic has been estimated. This information has been added to Section 2.3.10, Traffic.

6.3.2.5 Alternatives

LA-1

This issue was raised in the following letters: DEIS0216, DEIS0230, DEIS0240, DEIS0266, DEIS0270 and DEIS0271.

ISSUE

The State of Alaska has submitted plans and permit applications to the U.S. Army Corps of Engineers to build the Colville River Road extending to Nuiqsut. This road would be located only a few miles south of ConocoPhillips Proposed road and bridge. The final EIS should consider using the proposed state bridge over the Colville River and delete the Nigliq Channel Bridge. Two larger bridges within 15 miles of each other appears to be redundant and would double the potential impacts to fish habitats. A permanent road would connect CD-1, 2 and 4. An ice road would serve as winter connections to the permanent road. CD-5, 6 and 7 could be connected to the permanent state road. This alternate location should be evaluated for purposes of meeting CWA Section 404 requirements

RESPONSE

The FEIS introduces Sub-Alternative C-2, which would delete the Nigliq Channel Road Bridge and link CD-5, CD-6, and CD-7 to the proposed state road and bridge across the Colville River.

LA-2

This issue was raised in the following letter: DEIS0271.

ISSUE

EPA recommends that the ADOT&PF's proposed Colville River Road and Bridge project and the Nuiqsut Operations Center (NOC) be included in the scope of this EIS and considered within the range of actions, alternatives, and impacts to be evaluated. The State's proposed project appears to be a reasonable alternative to the applicant's Nigliq Channel crossing under Alternatives A and C.

RESPONSE

The FEIS introduces Sub-Alternative C-2, which would delete the Nigliq Channel Road Bridge and link CD-5, CD-6, and CD-7 to the proposed state road and bridge across the Colville River. Sub-Alternative C-2 would include a 2-acre pad near Nuiqsut to be used primarily as a storage area for vehicles. This includes some of the essential features and provides some of the benefits of a Nuiqsut Operations Center.

LA-3

This issue was raised in the following letters: DEIS0233 and DEIS0257.

ISSUE

The EIS should include an additional alternative that invests in renewable energy sources. Such an alternative would have far greater potential benefits to residents of Nuiqsut, would be compatible with subsistence lifestyles, and would move this nation closer to true energy independence.

RESPONSE

An alternative such as that described would not meet the purpose and need as described in Section 1, which is to allow the applicant to produce oil from five oil accumulations the company has leased. Consequently, it is not within the scope of the EIS.

LA-4

This issue was raised in the following letter: DEIS0233.

ISSUE

The EIS should consider an alternative that evaluates permitting one, two or several of the pads, rather than all five.

RESPONSE

The DEIS addressed this alternative in Section 2.6.7. It does not meet the purposes of the proposed project and, therefore, is not a reasonable alternative and is not analyzed in detail.

LA-5

This issue was raised in the following letter: DEIS0116.

ISSUE

Facilities for CD-1, 2 and 3 are too close to river channels and water bodies; the location should be moved further away to minimize impacts damaging wildlife and subsistence hunting in these areas; especially in the event of an oil spill.

RESPONSE

CD-1 and CD-2 are already constructed and their locations are not subjects of this EIS. All three sites are within the Colville River Delta, which offers few locations that are not within a short distance of river channels and lakes. Directional drilling from outside of the Delta would not reach the oil accumulations at CD-3 that the applicant wishes to develop, and, therefore, such relocation would not fulfill the purpose of the proposal.

LA-6

This issue was raised in the following letter: DEIS0116.

ISSUE

The best alternative would be the following combination of B and D: From Alternative B: does not violate the Fish Creek buffer zone, roads would not extend outside of the National Petroleum Reserve-Alaska (traffic would be reduced, roads would be limited). From Alternative D: support using horizontal directional drilling in lieu of a pipeline bridge - this would eliminate the need for a bridge across the Nigliq Channel (avoid dangerous flooding) and would avoid overhead pipelines. These options would help to minimize impacts on wildlife and subsistence activities due to development.

RESPONSE

In developing the Preferred Alternative, combinations of features from the various alternatives in the DEIS were considered. The components of the alternative that is suggested in this comment all fall within the range of the alternatives considered in the DEIS.

LA-7

This issue was raised in the following letter: DEIS0238.

ISSUE

Alternatives B through D are not “practicable” alternatives because costs are too high to support these marginal projects (increases of \$119 million to \$472 million).

RESPONSE

The EIS’s role is to identify impacts of a range of alternatives that seek to address issues. The BLM and the cooperating agencies are further evaluating practicability and environmental impacts through the EIS, and their decisions in the permitting process will reflect this consideration.

LA-8

This issue was raised in the following letter: DEIS0216.

ISSUE

Road and field abandonment must be addressed in the FEIS, especially with regard to the comparison of alternatives should economics become a factor. The cost of field abandonment, including the removal of gravel, should be addressed in the development of the Alternatives.

RESPONSE

Appendix J provides estimates of the cost of each alternative, including cost estimates for abandonment.

LA-9

This issue was raised in the following letter: DEIS0240.

ISSUE

BLM must explain why access by non-permanent means (e.g., ice road) to each CD facility is not practical. It is not valid to reject the alternative based on a narrowed definition of purpose and need.

RESPONSE

The BLM considered development with access provided by “non-permanent means” such as ice roads, low-pressure vehicles, and boat. Section 2.6.9 explains why these means were not considered feasible.

LA-10

This issue was raised in the following letter: DEIS0240.

ISSUE

BLM should frame an alternative(s), which might allow for CPAI's pad development(s) and which also imposed setbacks from waterbodies. FLPMA and NPRPA mandate this kind of alternative in order to avoid unnecessary damage to surface resources.

RESPONSE

The BLM's leasing EISs impose setbacks from certain waterbodies. This EIS examines various access routes and locations for the appropriate placement of proposed facilities. The BLM and the cooperating agencies were cognizant of water body and wetlands locations when alternatives to facility placement and access routes were developed. Roads were sited on higher terrain in all alternatives to minimize potential impacts to wetlands and water bodies wherever possible.

LA-11

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to describe the size or other parameters of the fields that CPAI wants to develop, or explain why alternative pad locations could not be used in lieu of the proposed locations.

RESPONSE

Small changes in pad locations may be required by the permit process. These adjustments are common as the USACE processes wetlands permit applications, and will seek to minimize impacts while providing for practicable development. Substantial relocations of pads are discussed at Section 2.6.7.

LA-12

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS proposes no alternative that would satisfy ANILCA section 810.

RESPONSE

ANILCA 810 imposes procedural requirements. The BLM is complying with these procedural requirements in assessing and making findings and determinations. See Appendix B.

LA-13

This issue was raised in the following letter: DEIS0239.

ISSUE

There should be one alternative analyzed that has no permanent facilities in the buffer zones, including all future field expansions.

RESPONSE

Alternative B would authorize no permanent facilities within buffer zones as designated in the Northeast National Petroleum Reserve-Alaska IAP/EIS. Future proposals would be analyzed in future NEPA documents. Alternative B – FFD theorized that a pipeline might cross the setback, consistent with setback Stipulation 39 from the 1998 Northeast National Petroleum Reserve-Alaska IAP/EIS ROD.

LA-14

This issue was raised in the following letter: DEIS0239.

ISSUE

Most of the proposed access road to CD-4 is in a long, narrow lake. An alternative of extended reach drilling from the existing Alpine production pad needs to be evaluated.

RESPONSE

Figure 2.4.1.1-3 (now Figure 2.4.1.1-7) has been corrected to more accurately represent the road route to CD-4 proposed by the applicant. The road is on a slight rise west of the lake. Current drilling technology would not enable the applicant to access most of the oil accumulation at CD-4 from CD-1 nor CD-2.

LA-15

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 2-2, Section 2.2, Development of Alternatives. Additional information regarding the current stipulations of the Northeast National Petroleum Reserve-Alaska lease sale should be included in the Alternatives section. The Service recommends that BLM provide specific explanations of how and when exceptions to these stipulations will be applied, with particular regard to the Preferred Alternative.

RESPONSE

The stipulations are listed in their entirety in Appendix D. The discussion of the Preferred Alternative at 2.4.6 includes explanations regarding exceptions relevant to that alternative.

LA-16

This issue was raised in the following letter: DEIS0230.

ISSUE

The EIS should include an alternative that includes different locations for the CD-6 generator and load capacities/locations for the Nigliq bridge.

RESPONSE

Different generator locations are considered in conjunction with the different locations of CD-6. Additionally, different Nigliq bridge locations are analyzed. The EIS considered the heaviest (drill-capable) and lightest (pipeline-only) load bridges.

LA-17

This issue was raised in the following letter: DEIS0257.

ISSUE

The DEIS does not provide an adequate range of alternatives; there is no alternative that includes more restrictive and protective measures. The four action alternatives are focused on meeting the economical goals of CPAI.

RESPONSE

The purpose and need includes developing the applicant's leases. All the alternatives to the applicant's proposal address concerns raised in scoping and offer protection to address those concerns.

LA-18

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include additional consideration of alternate technologies for pad construction such as synthetic reinforcement; insulating materials to decrease gravel thickness, and soil stabilizing agents.

RESPONSE

Alternate technologies for pad construction are possible and are listed at Section 2.3.3.1 and in an analysis of impacts added in Section 4.

LA-19

This issue was raised in the following letter: DEIS0200.

ISSUE

The DEIS does not provide the applicant's reasons for requesting exemptions to the 1998 ROD stipulations, other than a comparison of potential impacts under the compliance (Alternative B) and the non-compliance (Alternative A) scenarios.

RESPONSE

The applicant's letter requesting exceptions to the stipulations, with their reasons for doing so, is furnished in Appendix I.

LA-20

This issue was raised in the following letter: DEIS0239.

ISSUE

The oil fields and reservoirs that are proposed for development are not mapped, nor their resources quantified; therefore, the requisite site-specific analysis has not been done.

RESPONSE

The specific location and quantities of oil are proprietary and cannot be revealed in a public document. Section 4A.4.2.1, however, does provide the ADR's estimates of oil production from the pads. Impacts on surface resources and uses are based on surface facilities and actions that the applicant proposes to undertake; economic analysis is based upon the best available estimates of production from the proposed facilities.

LA-21

This issue was raised in the following letters: DEIS0239 and DEIS0271.

ISSUE

No economic analysis or discussion of technological problems is provided to justify why extended-reach drilling is not feasible for moving pads out of the buffer zone.

RESPONSE

Extended reach, or directional, drilling would be used from all of the pads under all alternatives. A discussion of the limitations of directional drilling to avoid placing CD-6 within the Fish Creek setback is provided at 2.4.6.

LA-22

This issue was raised in the following letter: DEIS0200.

ISSUE

The DEIS description of the No-Action Alternative is misleading and incomplete. It suggests that if ASDP does not occur, then there would be no activities or impacts in the foreseeable future in the study area. A more realistic assumption would be that the No-Action Alternative would result in a continuation of the Preferred Alternative as adopted in the 1998 ROD.

RESPONSE

Discussion of the No Action Alternative has been revised in Section 2, particularly at 2.4.5. However, any activities that would occur would be encompassed in the cumulative analysis.

LA-23

This issue was raised in the following letter: DEIS0200.

ISSUE

The No-Action Alternative should briefly describe the negative effect on the balance of trade and negative environmental effects that would occur elsewhere in the world since any oil production foregone under the No-Action Alternative would be replaced by tanking of foreign imports to the U.S.

RESPONSE

Section 4E has been modified to acknowledge the impacts to the nation's domestic oil supply and potential impact on the balance of trade.

LA-24

This issue was raised in the following letter: DEIS0239.

ISSUE

The EIS does not adequately address an impact analysis for the “no action” alternative. Description of this alternative should include all activities both in the Alpine Plan area and elsewhere in National Petroleum Reserve-Alaska, adjacent state leases both onshore and offshore, Federal OCS lease activities, and planning for ADOT road to Nuiqsut.

RESPONSE

Impacts of activities other than the development of the five oil accumulations for which the applicant is requesting authorization are addressed under Cumulative Impacts in Section 4G.

LA-25

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4E-1: Alternative E – Physical Environment, last paragraph. The natural gas pipeline to Nuiqsut is complete. The village hookups and gas-conditioning skid, being managed by the NSB, are not complete.

RESPONSE

Section 4E’s text has been corrected.

LA-26

This issue was raised in the following letters: DEIS0230, DEIS0241 and DEIS0266.

ISSUE

2.5 Comparison of Features of Alternatives: This section needs a written summary and comparison in paragraph form, not just an 8-page table or a 12-page table (2.7.1 – Comparison of Impacts).

RESPONSE

We disagree that a written summary is needed for Tables 2.5-1 or 2.7.1. The features of the alternatives are written in Section 2.3 Features Common to Alternatives and in Section 2.4, Description of Alternatives. Table 2.7.1 provides text side by side in a table format and impact summaries can be found in written form in Section 4.

LA-27

This issue was raised in the following letters: DEIS0083, DEIS0114, DEIS0230 and DEIS0262.

ISSUE

The state road to Nuiqsut and proposed Colville Bridge are foreseeable impacts, yet there were not included in DEIS. There’s no need for both.

RESPONSE

Sub-Alternative C-2 has been added to the FEIS and it addresses the proposed state road and bridge crossing of the Colville River. Under this Sub-alternative the pipeline/vehicle bridge at the Nigliq Channel would be replaced with a pipeline-only bridge. The State's road and proposed Colville River bridge are also considered as part of the cumulative impacts analysis (Section 4G).

LA-28

This issue was raised in the following letter: DEIS0240.

ISSUE

BLM should not reject required local employment and training as an alternative. See CEQ Forty Questions #2b about the issue of legal authority.

RESPONSE

Local employment and training is actually a mitigation measure, not an alternative or component of an alternative. Therefore, local employment and training has been deleted from Section 2.6 of the DEIS and added as a possible mitigation measure in Sections 4A.4.2.5 and 4F.4.2.4, Regional Economy and in Sections 4A.4.1.4 and 4F.4.1.3, Socio-Cultural Resources.

LA-29

This issue was raised in the following letter: DEIS02038.

ISSUE

The term "alternative" is used incorrectly in some cases. Section 2.6 refers to buried pipelines and employee training as alternatives. It should be clarified that these are component options that have been eliminated.

RESPONSE

Section 2.6 includes alternatives and suggested elements of alternatives, as stated. Local employment and training is actually a mitigation measure, not an alternative or component of an alternative. Therefore local employment and training has been deleted from Section 2.6 of the DEIS and added as a possible mitigation measure in Sections 4A.4.2.5 and 4F.4.2.4, Regional Economy and Sections 4A.4.1.4 and 4F.4.1.3, Socio-Cultural Resources.

Buried pipelines are discussed in Section 2.6.1 as a potential element considered but eliminated from detailed analysis. However, pipeline burial has been considered as a potential mitigation measure in Sections 4A.3.4.1 and 4F.3.4.1.

LA-30

This issue was raised in the following letter: DEIS0242.

ISSUE

2.6.10. The text states that KIC was...“under utilized and dismantled...” It was partially dismantled and is still in use but not in the original manner. ARCO bought it and CPAI is utilizing it. Portions of the sleeping quarters were moved over to KOC.

RESPONSE

The text in Section 2.6 has been revised to reflect the comment.

LA-31

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 2-90, 2.6.1 This section should include discussion of the findings of the final Buried Pipeline report issued in November 2003 by CPAI. Recent problems with bank erosion at the site of the Colville River crossing of the Alpine pipeline should also be discussed in detail here.

RESPONSE

Buried pipelines were considered as a potential mitigation measure for caribou migration under Alternatives A and F. A discussion of buried pipelines is located in Sections 4A.3.4.1 and 4F.3.4.1. The Buried Pipeline Report is cited in the discussions. Bank erosion at the site of the Colville River crossing of the Alpine pipeline has occurred, and could be attributable to the pipeline. This language has been added to Section 2.6.1.

LA-32

This issue was raised in the following letter: DEIS0241.

ISSUE

2.6.1 - Buried Pipelines: There needs to be a discussion on burying the pipeline within caribou migration routes as a mitigation measure.

RESPONSE

The last sentence of Section 2.6.1 states that pipeline burial will be considered as appropriate mitigation for particular site-specific impacts. Mitigation Measure 4 in Sections 4A.3.4.1 and 4F.3.4.1 does specifically discuss burying sections of pipeline for caribou movements.

LA-33

This issue was raised in the following letters: DEIS0241 and DEIS0271.

ISSUE

The EIS should include additional evaluation to determine if the NOC could reasonably serve as a staging area and transportation hub to support construction, drilling, and operation of CPAI's proposed drill sites at CD-5, CD-6, and CD-7 within the Northeast National Petroleum Reserve-Alaska. NOC may be economically viable after ADOT&PF constructs the Colville River Road and Bridge.

RESPONSE

Sub-Alternative C-2 has been added to the FEIS. This Sub-Alternative analyzes a scaled-down version of the Nuiqsut Operations Center and would include warehousing and vehicle operations areas. See also Section 2.6.8.

LA-34

This issue was raised in the following letter: DEIS0242.

ISSUE

S2.2 1st paragraph. There is an incorrect figure reference in the 2nd line. The correct reference is 1.1.1-1.

RESPONSE

The figure reference in question is actually located at S2.3. The text has been changed to show Figure 1.1.1-1.

LA-35

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 2.6.8, Page 2-92: This paragraph states “placing production pads at points more distant from the locations proposed by CPAI will make production of the oil economically and technologically infeasible...”Given this statement would the relocation of CD-6 under Alternative B cause development of those resource to become infeasible?

RESPONSE

Moving CD-6 as described in Alternative B would not necessarily make it infeasible. As discussed in Section 2, it will, however, raise development costs and make approximately 10 to 30 percent of the product at this site unrecoverable.

LA-36

This issue was raised in the following letter: DEIS0242.

ISSUE

Table 2.1-1, page 2-2, “C”: The last sentence should read, ”...and higher pipelines are included.”

RESPONSE

The text has been modified to indicate that higher pipelines are included.

LA-37

This issue was raised in the following letter: DEIS0242.

ISSUE

2.4.3. It is stated there will be no 2-inch products line (variously called a utility line)--but it doesn't say why not. If highline power is proposed, it should be so stated.

RESPONSE

The product line is discussed in Section 2.3.2.3. It states that the line would distribute product to pads not served by gravel roads. Gravel roads would serve all production pads under Sub-Alternative C-1 and Sub-Alternative C-2. The EIS specifically states at 2.4.3 “powerlines on separate poles rather than VSMs.”

LA-38

This issue was raised in the following letter: DEIS0240

ISSUE

The DEIS is often inconsistent in its description of its alternatives, with the description varying depending on where in the DEIS an alternative is discussed. For example, in the description of Alternative A at DEIS Section 2.2.2.1, the DEIS does not mention 256 miles of ice roads and insulated ice pads, yet they are mentioned in Section 4’s discussion of this alternative. Off road tundra travel and other operations are also discussed in Section 4 but not in Section 2. The number of bridges is not discussed in Section 2 but seven bridges are discussed on page 4A.3-22.

The description of alternatives in Section 2 must be complete and fully informative, and match those descriptions given in Section 4.

RESPONSE

Section 4 used the information provided in Section 2 in order to assess impacts. The 256 miles of ice road noted in Section 4 came directly from Table 2.5.1 in Section 2. The off-road tundra travel in Section 4 came from Section 2.3.7.2, Low-Pressure Vehicle Tundra Traffic. Section 2.3.9 has been changed to reflect the seven bridges anticipated.

6.3.2.6 Bibliography**BB-1**

This issue was raised in the following letter: DEIS0238.

ISSUE

The Bibliography is missing citations for ADNR 1999 and Haskell et al 2002.

RESPONSE

The Bibliography has been updated to reflect any changes made within the document, and also to provide full references for every in-text literature reference.

6.3.2.7 Birds**BD-1**

This issue was raised in the following letters: DEIS0195 and DEIS0263.

ISSUE

The EIS should address exceptions to stipulations regarding facilities in the National Petroleum Reserve-Alaska for critical species such as the eider.

RESPONSE

Alternatives which include components that would require relief from existing stipulations are described in the Project Description (Section 2). The Northeast National Petroleum Reserve-Alaska IAP/EIS stipulation that could impact birds is the setback for permanent facilities within the 3-mile Fish Creek Buffer Zone. Habitats and species occurring at locations within the 3-mile buffer were analyzed for alternatives where pads and roads would be within the buffer.

BD-2

This issue was raised in the following letter: DEIS0198.

ISSUE

Dust fallout from roads and pads can create micro-habitat that can be both beneficial and detrimental to returning waterfowl in the spring.

RESPONSE

Table 4A.3.3-1 identifies that habitat alteration due to dust fallout results in habitat loss during nesting and gain during foraging. These detriments and benefits are further described and referenced in Section 4A.3.3.1.

The commentor suggests that the availability of this habitat influences arrival of waterfowl within the Plan Area such that they arrive earlier than they would normally arrive on the Arctic Coastal Plain. While there are indications that migratory birds have initiated migration at earlier dates across North America in recent decades, it is most generally accepted that these earlier migration initiation dates are most directly effected by early warming and spring arrival at wintering habitats, not at breeding habitats or along migration routes.

BD-3

This issue was raised in the following letter: DEIS0198.

ISSUE

The supporting figures and maps in the EIS underestimate the number of birds that would be displaced through habitat loss or alteration.

RESPONSE

The best available site-specific information has been compiled and presented as completely as possible in the figures. Site-specific nesting densities were used to calculate the estimated numbers of nests lost due to gravel placement. The indirect impact area was expanded from 11 to 50 meters and considered as if this area was "lost" to nesting birds. The mine site area was also added as lost habitat. The proportion of nests lost due to air traffic disturbance was increased from 50 to 67 percent within 500 meters of airstrips and helipads. These changes more than tripled the estimated number of nests impacted. The purpose of these nest estimates is to compare alternatives and they are presented as estimates, with descriptions of source data and the calculation methods added to Section 4A.3.3.

BD-4

This issue was raised in the following letter: DEIS0239.

ISSUE

The source of mapped data and number of years of data collection should be stated (see Figure 3.3.3.2-2 to 3.3.3.2-5). Was USFWS breeding pair survey information analyzed?

RESPONSE

A reference to Johnson et al. (2004) (and references therein) was added to all figures displaying data collected by ABR, Inc. for CPAI, and presented in figures.

USFWS breeding pair survey information is presented for the North Slope context for all applicable species. Estimated densities based on USFWS data were not used for analyses, because site-specific density information was available.

BD-5

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 3-73, Section 3.3.3 paragraph 2. See comments for Table 3.3.3-3 and adjust text in this paragraph accordingly.

RESPONSE

Section 3.3.3 was revised to indicate that 1986 to 2002 population trends from Mallek et al. (2003) were used for waterfowl and loons, except for eiders; and the 1992 to 2002 population sizes and trends for eiders seabirds, owls, and common ravens were based on Larned et al. (2003a) surveys.

BD-6

This issue was raised in the following letter: DEIS0216.

ISSUE

The status of birds listed in Table 3.3.3-1 should be based on recognized regional and national bird lists.

RESPONSE

There are many lists prepared by many groups at world, national, regional and sub-regional levels. To address the BLM's conservation issues, sensitive species designation as appears in Appendix E, BLM Sensitive Species List for Alaska was included in Table 3.3.3-1. To address the USFWS Section 7 (ESA) regulatory requirements, federally listed threatened or endangered species are also designated in Table 3.3.3-1. To address this comment USFWS Region 7 (Alaska) Birds of Conservation Concern Status designations were included in Table 3.3.3-1.

BD-7

This issue was raised in the following letter: DEIS0216.

ISSUE

Data for shorebirds listed in Table 3.3.3-2 are lacking.

RESPONSE

There are no shorebirds listed in Table 3.3.3-2. To address this issue, we have added categories for representative abundant dry habitat nesting shorebirds (black-bellied plover) and moist-wet habitat nesting shorebirds (semipalmated sandpiper).

BD-8

This issue was raised in the following letter: DEIS0216.

ISSUE

Data incorrectly identified for source of loon population estimates.

RESPONSE

Poor word order for a source citation was corrected to identify Mallek et al. (2003) as the source of loon population estimates as footnote “a” of Table 3.3.3-3.

BD-9

This issue was raised in the following letter: DEIS0216.

ISSUE

Table 3.3.3-3 should identify mean values for Arctic Coastal Plain populations in column three as based on 1986-2001 averages.

RESPONSE

Table 3.3.3-3 was altered by adding footnote “b” to include the description for population estimate means as based on long-term averages from 1986–2001.

BD-10

This issue was raised in the following letter: DEIS0216.

ISSUE

Incorrect population estimate for common eiders should be 2,580 not 2,500 in Table 3.3.3-3.

RESPONSE

The population estimate in column three of Table 3.3.3-3 was corrected for common eiders from 2,500 to 2,580.

BD-11

This issue was raised in the following letter: DEIS0216.

ISSUE

Footnote to Table 3.3.3-3 for common eider population estimate should indicate this is an average for 1999-2002 data.

RESPONSE

The footnote in Table 3.3.3-3 has been re-worded to describe the population mean as from 1999–2003 data and the estimate updated, based on an October 2003 survey report (Larned et al. 2003b).

BD-12

This issue was raised in the following letter: DEIS0216.

ISSUE

Table 3.3.3-3 should identify mean values for Arctic coastal Plain eider, seabird, raptors, owls and common ravens as an average from 1999-2002.

RESPONSE

The Table 3.3.3-3 footnote “c” was revised to include the description for population estimate means as based on long-term averages from 1992–2002, as presented in Larned et al. (2003a).

BD-13

This issue was raised in the following letter: DEIS0216.

ISSUE

Table 3.3.3-3 footnote should clarify that estimates for Larned et al. (2003a) are not adjusted for visibility and are minimum population estimates used to track population trend.

RESPONSE

The Table 3.3.3-3 footnote “c” was clarified by adding that visibility correction factors not applied, averages are minimum population estimates used to track population trend.

BD-14

This issue was raised in the following letter: DEIS0216.

ISSUE

Clarify the USFWS surveys may not reflect true population size and distribution for snow goose and brant due to clumped distributions for these colonial nesting species.

RESPONSE

The suggested clarification was added to footnote “b” in Table 3.3.3-3, “Population estimates for colonial nesting species, snow goose and brant, may not reflect true population size.”

BD-15

This issue was raised in the following letter: DEIS0216.

ISSUE

Add footnote to Table 3.3.3-5 that nest densities for small shorebirds and passerines are presented in Table 3.3.3-7.

RESPONSE

The requested footnote was added to Table 3.3.3-5.

BD-16

This issue was raised in the following letter: DEIS0216.

ISSUE

Many species excluded from Table 3.3.3-6 are common in the Plan Area. If this omission is due to the lack of habitat associates data for these other taxa it should be indicated with a footnote.

RESPONSE

The reports used to produce Table 3.3.3-6 are clearly identified in footnotes “b,” “c” and “d.” This table is not intended to be comprehensive for all species that occur within the Plan Area. Thus, no change was made.

BD-17

This issue was raised in the following letter: DEIS0216.

ISSUE

Correct date range for mean population size for Canada goose.

RESPONSE

The referenced portion of Section 3.3.3.2 was corrected and now indicates that the 2002 population estimate was 52 percent lower than the mean population size calculated from the surveys conducted from 1986 through 2001 (Mallek et al. 2003).

BD-18

This issue was raised in the following letter: DEIS0216.

ISSUE

Provide more detailed clarification for inaccuracy of breeding pair survey population estimate for black brant.

RESPONSE

Text in Section 3.3.3.2 has been revised to indicate that due to the clumped distribution of colonial nesting species such as brant and snow geese, population estimates from standard aerial breeding pair surveys may not reflect the true population size and distribution (Mallek et al. 2003).

BD-19

This issue was raised in the following letter: DEIS0216.

ISSUE

The discussion should also mention that there are four shorebird species that would be classified as rare breeders.

RESPONSE

Section 3.3.3.6 has been revised to indicate that nine shorebird species are common breeders, seven species are uncommon breeders and four species are rare breeders in the Plan Area (see Table 3.3.3-1).

BD-20

This issue was raised in the following letter: DEIS0216.

ISSUE

Black-bellied plovers are indicated as being common in the Plan Area, but they are listed as a U/B in Table 3.3.3-1.

RESPONSE

The abundance designation for black-bellied plovers in Table 3.3.3-1 was revised from U/B to C/B.

BD-21

This issue was raised in the following letter: DEIS0216.

ISSUE

Pages 3-93 through 3-94. Plovers and buff-breasted sandpipers are described as species that use dry habitats for nesting. These drier habitats also typically are the areas where roads and runways are built. We recommend that additional analyses be conducted in the EIS to evaluate the impacts on drier habitats, especially relating to the buff-breasted sandpiper, a species of concern. The continued use of drier habitats for construction of pads, roads, and airstrips may eventually impact some species of shorebirds, especially those populations that already number <25,000 birds worldwide.

RESPONSE

Footprint and buffer analyses currently quantify direct and indirect impacts to all tundra habitat types, including dry habitats. Site-specific nest densities have been used in estimating impacts to nesting shorebirds. References to specific habitat types used by the “upland” shorebird species guild were added in Sections 4A–F, specifically: “Moist Tussock Tundra, Dryas Dwarf Shrub Tundra, Moist Sedge-shrub Meadow” both as percents of available and total impact areas. A summary was added to cumulative impacts to birds, including a description of a 5 percent reduction/displacement of nesting shorebirds at Prudhoe Bay.

BD-22

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A 3-29, Section 4A. This section does not explain how disturbance effects were quantified. The Service recommends that the discussion describe how aircraft and vehicular traffic, and the amount and duration of noise translates into disturbance impacts for each species.

RESPONSE

A paragraph describing source data and the process followed to arrive at disturbance impacts was added to Section 4A.3.3. The air traffic disturbance was quantified as a 67 percent reduction in nesting (based on site-specific nest densities) within a 500-m buffer around the airstrip or helipad for all waterfowl, loons, ptarmigan and seabirds. This disturbance displacement was additive to reductions in nesting due to habitat alteration within 50 meters of the airstrip. No additional disturbance impacts from air traffic were calculated for shorebirds or passerines. Vehicle traffic disturbances were considered to influence nesting for all species within the 50-m buffer used to estimate nests lost due to habitat alteration, and no additional disturbance impacts due to vehicle traffic were quantified. The amount and duration air traffic were considered to be analogous to levels experienced at the Alpine Development Project during construction and thus representative of the 67 percent reduction in nesting with the 500-m buffer of airstrips. Thus, no additional quantitative analyses based on traffic levels or duration were completed.

BD-23

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-31, Table 4A.3.3-2. Footnote “a” does not indicate the size of airstrip buffer or how disturbance affects nesting within this area.

RESPONSE

Footnote “a” was revised in Tables 4A.3.3-2; 4A.3.3-4; 4A.3.3-5; 4B.3.3-1; 4B.3.3-2; 4B.3.3-3; 4B.3.3-4; 4C.3.3-1; 4C.3.3-2; 4C.3.3-3; 4C.3.3-4; 4D.3.3-5 and 4D.3.3-6 to refer to Section 4A.3.3 for analysis methods. A 500-m airstrip buffer was consistently used to calculate disturbance impacts as a 67 percent reduction in nesting, based on site-specific nest densities.

BD-24

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-31. The text mentions that there are disturbance effects proximate to roads; yet this source of disturbance was not accounted for in estimates of nest displacement in any of the tables that present quantitative information (e.g., Table 4A.3.3-2). Analysis of disturbance effects should not be limited to airstrips. The DEIS should account for disturbance within a buffer around proposed roads, drill pads and airstrips. Without this information, it is impossible to compare disturbance effects among alternative that have varying lengths of roads proposed. By failing to address road related disturbances, the document leads to the conclusion that disturbance is greater in Alternatives (D) where road access is replaced with air access. This misrepresentation of disturbance effects is most apparent on page 2-98, Table 2.7-1.

RESPONSE

Information on the disturbance impacts due to roadway vehicle traffic does not allow for distinguishing quantitatively between habitat alteration and disturbance effects. Data on effects of air traffic are available for distinguishing these effects. It is unlikely that vehicle traffic would effect nesting beyond the 50-m buffer used to calculate habitat impacts along roadways. An estimate of nests lost within the 50-m buffer was used to represent both habitat loss and disturbance effects. This area was increased from the 11 meter buffer originally used in the DEIS, and should fairly represent predicted impacts from the proposed alternatives. The noted text in Section 4A.3.3 was clarified to indicate that additional loss due to disturbance from vehicle traffic was

calculated because losses within 50 meters of roads were considered sufficient to account for disturbance as well as habitat alteration impacts.

BD-25

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-34. The size of the “airstrip buffer” should be identified in this section. We also recommend that the methodologies involved in developing the buffer and calculating the disturbance analyses within the buffer be explained in the EIS.

RESPONSE

A description of how the 67 percent reduction in nesting within the 500 meter buffer figure was derived from Johnson et al. (2003a) was added. Text indicates that waterfowl, loon, ptarmigan, and seabird nests lost due to disturbance by air traffic were estimated using a maximum of a 67 percent reduction in nests within a 500-m buffer around each airstrip or helipad. This percentage was derived from review of Figures 15-17 for greater white-fronted geese in Johnson et al. (2003a).

BD-26

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-35, paragraph 2. The text in this section mentions that waterfowl hazing in the vicinity of airstrips may be necessary to reduce likelihood of aircraft/bird strikes. This analysis of disturbances related to airstrips should include hazing.

RESPONSE

Section 4A.3.3.1 was clarified to better describe that hazing would cause additional disturbance, but that this disturbance would be limited to areas already considered “disturbed” by air traffic. No details are available on timing, duration, expected intensity, or methods that would potentially be used.

BD-27

This issue was raised in the following letter: DEIS0216.

ISSUE

Yellow-billed loons did not shift nest distribution in response to the construction of Alpine, as described in DEIS, but there is no indication of how far yellow-billed loon nests were from facility.

RESPONSE

Revised sentence in Section 4A.3.3.1 was revised to clarify that all yellow-billed loon nests were >700 meters from the airstrip. The sentence indicates that nesting yellow-billed loons also did not exhibit any measurable changes during construction of the Alpine Development, but only a few pairs nested in the area and all nests were more than 700 meters from the airstrip.

BD-28

This issue was raised in the following letter: DEIS0216.

ISSUE

While text in Section 4A.3.3.1 indicates that swans nested within 500 meters of the Alpine airstrip during construction, it did not mention that biological studies within existing oilfields showed that nest success is positively related to distance from roads (Ritchie and King 2000).

RESPONSE

This reference describes reduced nest success with distance from roads and assumes disturbance due to vehicle traffic, not air traffic. As stated in the DEIS, disturbance from vehicular traffic may affect activity and energy budgets of waterfowl and loons and could have negative impacts on nesting success for some birds by increasing the length of time birds are away from the nest during incubation (Johnson et al. 2003a). A new sentence has been added to clarify that successful tundra swan nests average further from roads than unsuccessful nests (Ritchie and King 2000).

BD-29

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-48. The analyses of disturbance impacts within the EIS are inconsistent. For example, Table 4A.3.3-4 contains a footnote indicating that nesting could be reduced 50 percent within 500 meters of an airstrip, Table 4B.3.3-2 has a similar footnote indicating that nesting could be reduced 50 percent within 1 km of an airstrip. By comparison 4A.3.3-2 does not indicate buffer size, or how nesting effort may be affected within the buffer. Airstrip buffer size and the impact on nesting effort within this zone should be clearly and consistently reported and supported by cited data analyses.

RESPONSE

Impacts were consistently calculated, however errors were found in the footnotes. Footnote "a" was revised in the following tables: 4A.3.3-2; 4A.3.3-4; 4A.3.3-5; 4B.3.3-1; 4B.3.3-2; 4B.3.3-3; 4B.3.3-4; 4C.3.3-1; 4C.3.3-2; 4C.3.3-3; 4C.3.3-4; 4D.3.3-5 and 4D.3.3-6 to refer to Section 4A.3.3 for analysis methods. Airstrip buffer was 500 meters and impacts represented a 67 percent reduction in nesting based on site-specific nest densities.

BD-30

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-25, Mortality. There is no comparison of potential mortality due to bird/aircraft collisions between the two development scenarios under Alternative D (fixed-wing runways versus helipad construction). The likelihood of collisions is higher under D-1 due to the greater overlap of habitat and fixed-wing approach trajectories relative to D-2 (helicopter landings).

RESPONSE

Recorded mortality due to airstrikes for operations at Kuparuk and Alpine (both fixed-wing and helicopter) are very low (1 glaucous gull and 5 ptarmigan killed over 16 years of reporting). It is doubtful that there are any

measurable, detectable or defensible differences in mortality due to flight trajectories. The more important differences will be related to disturbance; the main difference in areas impacted along with the reduced amount of traffic lies with the difference between Sub-Alternative D-2, with helicopter access and winter-only drilling and Sub-Alternative D-1, with fixed-wing access and year-round drilling.

BD-31

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 4A.3-41 and 4.3-33/34 Shorebirds. The DEIS does not adequately analyze impacts of the proposed development on post-breeding shorebirds that stage on the Colville River Delta.

RESPONSE

Section 3.3.3.6 was revised to indicate that post-breeding shorebirds (150 birds/km²) use the lower Colville River Delta, with 6 km of the Delta's northern edge, more heavily than any other North Slope site (Andres 1994). Approximately 41,000 post-breeding shorebirds, assuming a complete turnover every 7 days, use primarily shoreline silt barrens (Tidal Flat) and sparsely vegetated salt marsh (Salt Marsh) in the lower Colville River Delta during July and August (Andres 1994) was added. Andres (1994) found that dunlins (48 percent) dominated post-breeding shorebird use of the lower Colville River Delta followed by semipalmated sandpipers (22 percent), red-necked phalarope (10 percent), western sandpiper (6 percent), pectoral sandpiper (4 percent) and stilt sandpiper (4 percent). This text was added to Section 3.3.3.6.

Section 4A.3.3 was revised with additional quantification of the exposure of 41,000 total or 150 birds/km² (Andres 1994) within 500 meters of airstrips at CD sites in the lower Colville River Delta (CD-3, CD-12, CD-14, CD-20, and CD-21), and estimated areas of preferred foraging habitats (Tidal Flats and Salt Marsh) within 500 meters of airstrips.

BD-32

This issue was raised in the following letter: DEIS0200.

ISSUE

Section Table 4A.3.3-2 quick calculation indicates that 41 column or row totals are incorrect in this table. The right most column should not be included under the Disturbance header and should be labeled as a Grand Total – otherwise it is confusing what total it represents.

RESPONSE

Table 4A.3.3-2 and analogous tables in Alternatives B through D (4B.3.3-1; 4C.3.3-1; 4D.3.3-1 and 4D.3.3-2) were substantially reorganized. A "Grand Total" header was included which was properly separated from the "Disturbance" header. Footnote "b" was added to all "Group Total" rows, reading: "Totals rounded to include birds with <0.1 nests/km²." A review of all revised tables was completed to verify the accuracy of all total figures.

BD-33

This issue was raised in the following letter: DEIS0200.

ISSUE

Section Table 4A.3.3-2. Similar tables for the other Alternative suffer from the same inaccuracies. We recommend all tables that involve totals or other calculations be checked for accuracy.

RESPONSE

Table 4A.3.3-2 and analogous tables in Alternatives B through D (4B.3.3-1; 4C.3.3-1; 4D.3.3-1 and 4D.3.3-2) were substantially reorganized. A “Grand Total” header was included which was properly separated from the “Disturbance” header. Footnote “b” was added to all “Group Total” rows, reading: “Totals rounded to include birds with <0.1 nests/km2.” A review of the revised tables was completed, including a verification of the accuracy of all total figures.

BD-34

This issue was raised in the following letter: DEIS0200.

ISSUE

Section Table 4A.3.3-5 total for shorebirds in the CPAI portion is 133 rather than 132.

RESPONSE

Analyses for all alternatives have been revised due to changes in the gravel footprints and increases in the buffer areas used to calculate habitat alteration/vehicle disturbance areas. The totals figures repeated in Tables 4A.3.3-2 to Table 4A.3.3-5 were reviewed for accuracy and consistency.

BD-35

This issue was raised in the following letter: DEIS0240.

ISSUE

In habitat destruction or modification and in disturbance discussions, the DEIS makes unsupported blanket statements that certain species will be relocated to other suitable habitat. These findings ignore habitat biodiversity, the different natural histories of species, and removal of birds from preferred breeding habitats that provide optimal nutrient availability. No scientifically defensible sources are offered.

RESPONSE

This statement in Section 4A.3.3 cites Troy and Carpenter (1990) and Johnson et al. (2003a) when this topic is first introduced. In subsequent sections, the statements are generally qualified with “if suitable habitat is available.” The commentor is assuming the “suitable habitat” is limiting. While various reviews have attempted to determine specific habitat requirements, none of the reviewed habitat analyses of nesting habitats on the North Slope indicate limiting for any species, although several authors have concluded through inference that nesting habitats may be saturated. These studies documented displacement to adjacent habitats for specific individuals (Troy and Carpenter 1990) and for nests of a given species (Johnson et al. 2003a).

BD-36

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS limits its analysis by looking at the number of nests potentially lost or changes in nest site selection, overlooking the loss of productivity.

RESPONSE

While reductions in nesting success for some species have been documented for areas adjacent to infrastructure (Tundra Swan in Ritchie and King 2000), a more conservative approach was taken which assumed that nests in areas adjacent to infrastructure (50 meters would be lost). There is no accurate quantification of reduced productivity directly associated with distance of a nest from oilfield infrastructure for the range of species analyzed. A quantitative analysis that could be used to objectively compare the proposed alternatives was provided with the understanding that additional, unquantifiable sources of potential impacts, including decreased productivity in relation to increased depredation, may exist (NRC 2003).

BD-37

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to take a “hard look” at the impacts of increased predation.

RESPONSE

While the NRC (2003) concluded that increased predators in the oilfields had created “population sinks” in the Prudhoe Bay Oilfields, they failed to acknowledge that the conditions that lead to this perceived increase in mammalian predators (access to garbage through an open landfill and open dumpsters) have been corrected over the last 4–5 years. Section 4A.3.3 was revised to provide a discussion of predators and impacts to groundnesting birds. The text now indicates that increased numbers of arctic foxes, bears, common ravens and glaucous gulls attracted to developed areas would decrease productivity of nesting birds (see mortality sections for all species groups). Potential mitigation measures, including discouraging nesting and predator control to reduce impacts from common ravens, were also added.

BD-38

This issue was raised in the following letter: DEIS0240.

ISSUE

In discussing impacts to white-fronted geese, the DEIS fails to recognize this species is particularly sensitive to disturbance during critical pre-nesting and early brooding periods, and therefore fails to analyze impacts from expanded development within the context.

RESPONSE

Pre-nesting impacts will be reflected in nesting distributions and are accounted for by the habitat alteration and airstrip disturbance impact area calculations in Sections 4A-F.3.3. Brood-rearing habitat impacts are included for all species with available Plan Area specific data and identification of the specific habitats used for brood-rearing in Table 3.3.3-6 and again in Tables 4A.3.3-3; 4B.3.3-2; 4C.3.3-2 and 4D.3.3-2. The fact that disturbance and mortality for brood-rearing waterfowl and loons could be potentially mitigated by reducing traffic speeds in areas used by brood-rearing waterfowl was indicated in Sections 4A–F.3.3.

BD-39

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to discuss impacts to brant in any in-depth manner as required by NEPA. The DEIS does not address in detail how industrial disturbance may impact brant and other species, during their sensitive molting period, which may reduce energy intake and lead to the inability to complete molting and migration to the staging area.

RESPONSE

A discussion of observed responses of brood-rearing waterfowl to disturbances during construction (Johnson et al. 2003a), and a simulation model of disturbance leading to the potential inability of brant to molt and migrate Miller et al. (1994) was added to Section 4A.3.3. Waterfowl molt during brood-rearing, and distributions of brood-rearing brant, (see Figures 3.3.3.2-4 and 3.3.3.2-5) are representative of molting distributions near proposed facilities within the Plan Area. Air traffic over the Teshekpuk Lake Molting Goose LUEA is not expected to increase with the proposed developments.

BD-40

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to account for, and discuss the past promises that noise and other disturbance would not impact nesting birds.

RESPONSE

This issue cites an estimate of 13 flights per month during the summer nesting season originally developed by ARCO Alaska, Inc. for the Alpine Development Project, and compares this to the measured 1,980 flights reported in 2000. Results of disturbance monitoring and the actual number of landings and takeoffs were used to deduce the level of expected disturbance from air traffic for the proposed alternatives. The purpose of the EIS is to evaluate the disturbances due to air traffic indicated in Table 2.3.10-1.

BD-41

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4A.3-28: It is unclear as to whether a site-specific census of bird species was undertaken, and it does not indicate what it means by “around the area of each proposed development.”

RESPONSE

The sentence in Section 4A.3.3: “To determine the level of effect for each proposed action, we evaluated the densities of bird species and species groups around the area of each proposed development and determined the number of nests or birds potentially exposed to the action.” was revised to indicate that site-specific nest densities for bird species and species groups (see Table 3.3.3-5 and Table 3.3.3-7) were used to estimate the number of nest exposed to each alternative. Footnotes referencing specific data sources, which provide details

on the extent of survey coverage, were added to Tables 3.3.3-5 and 3.3.3-7. Additional details on the data used and rationales for analyses were added to Section 4A.3.3.

BD-42

This issue was raised in the following letter: DEIS0240.

ISSUE

Table 4A.3.3-2: in effect asserts that only pads, dust, ice roads, and airstrip buffers will have a bird nest displacement impact, but this is inconsistent with the discussion of impacts on nesting on Pages 4A.3-33 through 4A.3-35.

RESPONSE

Table 4A.3.3-2's headings were revised to include "Habitat Loss," "Habitat Alteration," "Ice Road Habitat Loss," and "Air Traffic Disturbance." The methods used for analyses in Section 4A.3.3 were clarified and are consistent with the descriptions of impacts presented.

BD-43

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4A.3-33: the DEIS does not take into account the potential for delays in nesting caused by ice roads that could occur year after year in the same areas, but instead asserts that ice roads would only last one season.

RESPONSE

Ice roads are not proposed to occur year after year in the same area. The primary impact of ice roads is considered to be annual displacement of birds due to delayed melt-out. This habitat loss has been calculated as per the average area lost each year to ice roads. Specific ice road impacts to vegetation are further discussed in Section 4A.3.1.

BD-44

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS should acknowledge the potential unreliability of using single or even multiple sampling and population count years as a basis for the extrapolation of quantitative estimates of nesting and bird population numbers in similar habitats that might be the site of facilities. This is insufficient under NEPA.

RESPONSE

Site-specific nest densities were used in analyses and are the best available data for evaluating impacts. Multiple year averages are available for most sites. Clarified methods and data were used in analyses in Sections 4A-F3.3 and clarified that the nest numbers are estimates, as shown in Tables 4A.3.3-2; 4A.3.3-4; 4A.3.3-5; 4B.3.3-1; 4B.3.3-3; 4B.3.3-4; 4C.3.3-1; 4C.3.3-2; 4C.3.3-3; 4C.3.3-4; 4D.3.3-1; 4D.3.3-2; 4D.3.3-3; 4D.3.3-4; 4D.3.3-5 and 4D.3.3-6.

BD-45

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to adequately address potential impacts of the Alpine expansion on waterbird breeding populations on their ranges outside the North Slope.

RESPONSE

Analyses were limited to North Slope breeding populations, but cumulative impacts to these species were considered throughout their migratory ranges.

BD-46

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to address the impacts of development, including noise disturbance related to overflights and o the associated activities on international wildlife treaties (e.g., Migratory Bird Treaty Act) with Canada, Mexico, Japan and Russia.

RESPONSE

No violations of wildlife treaties, including the Migratory Bird Treaty Act, are anticipated because of the protective measures that will be applied. Impacts to birds are described and quantified for nesting birds in Sections 4A–E.3.3. Disturbance due to air traffic is evaluated for migratory waterfowl (including spectacled eiders), loons and seabirds. “Take” would be monitored by the USFWS in response to both the Migratory Bird Treaty Act and Section 7 of the ESA.

BD-47

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-74, Table 3.3.3-1: the scientific name for Snow Geese is incorrect. The genus was changed from Chan to Anser. Also, check the Inupiaq names in this table. Greater White-fronted Goose, Brant, King Eider, Glaucous Gull are wrong and others may be as well.

RESPONSE

Authorities for scientific names used in Table 3.3.3-1 are cited. According to the American Ornithologists Union, the genus designation for snow geese is currently “Chen.” Inupiaq names were corrupted with loss of the Inupiaq font; these were corrected following designations received from the NSB.

Document software applications limit use of the Inupiaq font. “Anglicized” versions of Inupiaq words are required, and were used in the FEIS.

BD-48

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-77, Table 3.3.3-3: the Table heading needs to be clarified. The estimated population sizes are biased downward; they are minimal. The numbers presented by Larned et al. and Mallek et al. do not account for birds that are not seen during the surveys. Thus, the populations are going to be considerably larger than what is presented. Also, the footnotes point out that Steller's Eider population estimate is not accurate when there is no Steller's Eider Population estimate given. An estimate for Steller's Eiders and other species not listed in the Table that are given by Larned et al. and Mallek et al. should be included. The table should be greatly expanded.

RESPONSE

The footnote indicating that population numbers are minimal estimates, and annually variable with standard errors ranging from 5 percent to over 75 percent of the estimated population was added to Table 3.3.3-3. The reference to Steller's eider population estimates in the footnote to Table 3.3.3-3 was removed. Spectacled and Steller's eiders are addressed in Sections 3.3.5.2 and 3.3.5.3, respectively. The species listed in Table 3.3.3-3 follow the level of presentation in the Northeast National Petroleum Reserve-Alaska IAP/EIS.

BD-49

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-85, 3.3.3.2 Waterfowl/Geese Section. There is no description of the molt migration made by failed- and non-breeding Black Brant geese from the Yukon-Kuskokwim Delta in SW Alaska to the National Petroleum Reserve-Alaska Teshekpuk Lake Region.

RESPONSE

Section 3.3.3.2 currently describes the area north and east of Teshekpuk Lake as being used by large numbers of brant. Text indicates that large numbers of molting and brood-rearing brant use lakes located north and east of Teshekpuk Lake in the National Petroleum Reserve-Alaska (Derksen et al. 1982). The described molting area is outside of the ASDP Plan Area and the origin of these geese has no bearing on the proposed project.

BD-50

This issue was raised in the following letter: DEIS0236.

ISSUE

Text describes king eider populations as increasing, but should also note that migration counts at Barrow showed a 50 percent decrease in numbers from the 1970s to the 1990s (Suydam et al. 2000).

RESPONSE

A sentence that indicates fall migration counts at Barrow had decreased by 50 percent between the 1970s and 1990s (Suydam et al. 2000a) was added to Section 3.3.3.2.

BD-51

This issue was raised in the following letter: DEIS0236.

ISSUE

Add sentence that says common eiders migrating past Barrow decreased by 50 percent from 1970s to 1990s (Suydam et al. 2000a).

RESPONSE

The suggested sentence was added to Section 3.3.3.2.

BD-52

This issue was raised in the following letter: DEIS0236.

ISSUE

Text says that glaucous gull population has remained stable since 1992, add “however, local residents indicate that glaucous gull numbers have increased markedly on the North Slope in the past 30 years (R. Suydam, NSB, pers. comm).

RESPONSE

Without further documentation and descriptions of the scale and location of these observations, they cannot be placed in the proper context. To complicate matters, human developments, including villages, cause gulls to aggregate, especially near open landfills. Additional first-hand information was received noting that glaucous gulls nesting in the area has doubled or tripled over the past 40 years (J. Helmericks 2004). This observation was added to Section, 3.3.3.7. A description of coastal distribution patterns identifying that coastal surveys indicate that many glaucous gulls occur on transects adjacent to coastal villages (Dau and Anderson 2002) was also added Section 3.3.3.7.

BD-53

This issue was raised in the following letter: DEIS0236.

ISSUE

The number of nests estimated to be affected by gravel placement is too low. More nests will be affected by habitat loss or alteration. The estimated number of nests needs to be modified or qualified in this section and others where appropriate.

RESPONSE

A paragraph was added to Section 4A.3.3, describing quantification of the estimated number of nests affected by habitat loss or alteration. Nest estimates due to habitat alteration were calculated with an 11 meter buffer in the DEIS. This area was increased to a 50-meter buffer for calculations in the FEIS. We have used an objective analysis for comparison of alternatives.

BD-54

This issue was raised in the following letter: DEIS0236.

ISSUE

Table 4A.3.3-3 title should read “Loons” rather than “Loonsa”.

RESPONSE

The title of Table 4A.3.3-3 was corrected.

BD-55

This issue was raised in the following letter: DEIS0236.

ISSUE

Effects to tundra by gravel fill due to gravel spray, dust fallout, thermokarst and ponding would not be temporary.

RESPONSE

In this Section 4A.3.3, and others (Sections 4B.3.3.1, 4C.3.3.1, and 4D.3.3.1), “temporary” has been removed.

BD-56

This issue was raised in the following letter: DEIS0236.

ISSUE

While ponding may create new feeding and brood-rearing habitat for waterfowl and loons, nests in these areas suffer higher predation rates (Kertell 1993, 1994).

RESPONSE

Section 4A.3.3.1 was revised to acknowledge that ponding may create new feeding and brood-rearing habitat that may be used by some waterfowl and loons, although nests established on impoundments that drain before hatch had higher depredation rates than nests on natural ponds (Kertell 1993, 1994).

BD-57

This issue was raised in the following letter: DEIS0236.

ISSUE

Purpose for culverts mitigating ponding unclear. Besides creation of foraging and brood-rearing habitat, maybe increase depredation. Paragraph should be divided and both benefits and detriments described.

RESPONSE

Section 4A.3.3.1 was re-structured for clarity. Text was added to indicate that there might be a chance for increased nest depredation from loon nests on impoundments that drain prior to hatch (Kertell 1993, 1994).

BD-58

This issue was raised in the following letter: DEIS0236.

ISSUE

Ice road or pad will persist into summer regardless of the timing of melt.

RESPONSE

A sentence in Section 4A.3.3.1 was added to indicate ice roads and ice pads built during the winter to support construction and drilling activities would affect habitat for nesting waterfowl by delayed melt and altered surface water flow and reducing the availability of tundra nesting habitat.

BD-59

This issue was raised in the following letter: DEIS0236.

ISSUE

Paragraph unclear, expand discussion of impacts of hazing to birds. What will be the duration and hazing techniques.

RESPONSE

Section 4A.3.3.1 was revised restructured for clarity. The sentence stating that while some studies have suggested that helicopters may be more disturbing to wildlife than low flying fixed-wing aircraft, others have indicated that both may elicit disturbance reactions (Gollop et al. 1974b, Johnson et al. 2003a), has been relocated. Text has been revised to clarify that hazing would cause additional disturbance, but that this disturbance would be limited to areas already considered “disturbed” by air traffic. No details are available on timing, duration, or expected intensity of the methods that would potentially be used.

BD-60

This issue was raised in the following letter: DEIS0236.

ISSUE

Misleading that pair of ravens nesting at Alpine did not cause an increase in nest depredation.

RESPONSE

This issue is contentious, with disagreement over the magnitude of impacts to tundra nesting birds. The interesting point is that this pair did depredate nests, but that the impacts were observed nearly 14 miles away. A description of the USFWS Predator Workshop and NRC (2003) report’s conclusions were added, along with text to clarify depredation effects on nesting waterfowl in the lower Colville River Delta in Section 4A.3.3.

BD-61

This issue was raised in the following letter: DEIS0236.

ISSUE

Garbage handling and worker training would only “partially” mitigate real not potential impacts related to increase depredation.

RESPONSE

Section 4A.3.3.1 has been re-worded to indicate that practices would “minimize” impacts.

BD-62

This issue was raised in the following letter: DEIS0236.

ISSUE

100-m setbacks not appropriate.

RESPONSE

Removed all references to Rodgers and Smith (1994) in all Section 4 alternative descriptions.

BD-63

This issue was raised in the following letter: DEIS0236.

ISSUE

Collisions with power lines would effect more than a few individuals, lines could be marked with bird flight diverters as a mitigation measure.

RESPONSE

Revised Section 4A.3.3 to reflect that small flocks would collide with powerlines and that collisions could be minimized by marking powerlines with “bird flight diverters.” Text was also revised to note that over the life of the field, impacts would be greatest during operations.

BD-64

This issue was raised in the following letter: DEIS0236.

ISSUE

Inconsistent acreage estimates among sections.

RESPONSE

Acreage estimates were recalculated in response to project description changes and the accuracy and consistency of Bird discussions within Sections 4A–F.3.3 was verified.

BD-65

This issue was raised in the following letter: DEIS0236.

ISSUE

Total number of estimated shorebird nests is a minimal estimate. Types of surveys used to locate shorebird nests are negatively biased and numbers should be qualified as a minimal estimate.

RESPONSE

The estimates are based on the best available data, collected using standard methods, and are identified as estimates. Thus, no change was made.

BD-66

This issue was raised in the following letter: DEIS0236.

ISSUE

Numbers of nests not numbers of birds in Table 4A.3.3-4.

RESPONSE

Table 4A.3.3-4 and analogous tables in Sections 4B–4D were revised in title to “Alternative A – FFD, Estimated Number of Bird Nests Potentially Displaced by Habitat Loss, Habitat Alteration and Disturbance.”

BD-67

This issue was raised in the following letter: DEIS0236.

ISSUE

Rewording, loons should not require hazing.

RESPONSE

Section 4A.3.3.2 has been re-worded as suggested. Removed “loon” from sentence regarding hazing.

BD-68

This issue was raised in the following letter: DEIS0236.

ISSUE

Increased access may lead to decreased subsistence hunting pressure if hunters avoid areas with oil field developments.

RESPONSE

Section 4A.3.3.2 was revised to note that subsistence hunting could decrease if hunters avoid developed areas.

BD-69

This issue was raised in the following letter: DEIS0236.

ISSUE

Predator numbers are expected to increase and a resulting increase in depredation of waterfowl and other tundra nesting birds will result.

RESPONSE

The Mortality discussion in Section 4A.3.3.2 was clarified to read: “other than ravens.”

BD-70

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4A.3-52, Section 4A.3.3.3, last paragraph third sentence: This sentence states that there will be no adverse effects to bird populations. The sentence is an overstatement. Contrary to the first sentence in the paragraph, certain effects are not potential, but certain. If gravel is placed on the tundra, habitat will be lost and the density of nesting birds in the project area will be decreased, as affected birds would move out of the area. Also, an increase in predators, such as ravens, will occur and they will feed on something, most likely to include nesting birds. This predation could easily affect local populations of birds, and certainly more than a few individuals would be impacted. The analysis appears flawed because an increase in predators does not seem to have been appropriately evaluated. The current techniques used to evaluate impacts might not be sufficiently robust to detect declines in bird populations from an increase in predators. This summary paragraph needs to be modified to reflect the shortcomings of the data.

RESPONSE

Section 4A.3.3.3 was revised to indicate that in most cases, effects would be localized, and no adverse effects to North Slope populations would be expected. Sections 4A–F.3.3.3 were revised to express estimated nests lost due to habitat losses to Plan Area populations (based on Table 3.3.3-3) and the extrapolated totals of 178,100 shorebird nests and 109,100 passerine nests.

Section 4A.3.3.3: “Alternative A – CPAI Development Plan would reduce nesting by 2 percent or less for Plan Area waterfowl, loon and seabird populations and less than 1 percent for Plan Area shorebird and passerine populations. Alternative A – FFD Scenario would reduce nesting by 3 to 6 percent for Plan Area waterfowl, loon and seabird populations and 1 percent for Plan Area shorebird and passerine populations.” The habitat basis for analysis was clarified by adding a concluding sentence (and reference) to the summary table, stating that the results of effects of these activities on estimated bird production due to loss, alteration or disturbance of nesting habitat for Alternative A – CPAI Development Plan and Alternative A – FFD Scenario are presented in Table 4A.3.3-5.

Sections 4A–F.3.3.3 were revised to indicate that impacts to birds associated with construction and operation of the proposed development include habitat loss, alteration, or enhancement; disturbance and displacement; obstructions to movement; and mortality. The text also states that additional impacts due to lost productivity are not quantified in this analysis, including impacts due to increased nest depredation caused by increased predator populations.

BD-71

This issue was raised in the following letter: DEIS0236.

ISSUE

Impacts from increased predator numbers have not been quantified.

RESPONSE

This issue is contentious. Studies show jaegers are the most abundant and prevalent nest predators in the Plan Area. There is no clear indication that developments increase the number of predators, and if they did, that tundra nesting birds would be impacted at the population level. While local populations may be impacted, it does not appear reasonable that these local effects would result in measurable North Slope population effects. There is not sufficient data to quantify impacts due to the suspected increase in “predators” attracted to the development area.

BD-72

This issue was raised in the following letter: DEIS0240.

ISSUE

Yellow-billed loons do not breed across the North Slope.

RESPONSE

Re-worded “across” to “on”. Breeding concentrations and distributions for yellow-billed loons are further illustrated and described in the Loons discussion in Section 3.3.3.3, and in Figure 3.3.3-3.

BD-73

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to take the following differences into account when discussing impacts to yellow-billed loons: unlike many species of waterfowl, they have much lower population numbers, different distributions, and much different natural histories.

RESPONSE

The level of presentation is consistent with that of the red-throated loon, also a species with low total population numbers on the Arctic Coastal Plain (see Table 3.3.3-3), restricted breeding distributions, and a much different natural history than that of other waterfowl. The yellow-billed loon is not currently a federally listed threatened or endangered species, nor a candidate species.

BD-74

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-33: DEIS admits that water withdraw could affect nesting but then incorrectly suggest this does not matter since all species are “not limited by habitat”. The statement is untrue for yellow-billed loons and possibly other species.

RESPONSE

Section 4F.6.3.1 was revised to indicate that water withdrawn from lakes during winter for construction of ice roads and pads is replaced rapidly by snowmelt runoff in spring. Water withdrawal could potentially affect nesting, brood-rearing or foraging habitats for waterbirds by altering surface water elevations or water quality resulting in nest sites left far from the water’s edge, reduced invertebrate populations due to changes in bottom saturation, or reduced fish populations due to changes in water quality. Water withdrawal has not been shown to result in lowered spring surface water elevations, or significant changes in water quality parameters (Michael Baker Jr. 2002e) which could impact invertebrate or fish populations.

BD-75

This issue was raised in the following letter: DEIS0240.

ISSUE

By failing to consider the specific impacts of water draw-down on the yellow-billed loon, the BLM has eliminated an important factor in terms of identifying and evaluating potential mitigation restrictions.

RESPONSE

Water withdrawal is currently permitted and regulated by the State of Alaska. Under current regulations, studies have shown that no additional mitigation would be required. The Waterfowl and Loons discussions within Sections 4A–D.3.3 were revised to clarify as follows:

Water withdrawal from permitted water sources for the construction of ice roads could affect nesting, brood-rearing or foraging habitats for waterfowl and loons, by altering surface water elevations or water quality which could result in nest sites being left far from the water’s edge, in reduced invertebrate populations due to changes in bottom saturation, or in reduced fish populations due to changes in water quality. Water surface elevations increased to above pre-pump levels in all studied lakes as a result of snowmelt runoff in spring (Michael Baker Jr. 2002e). Water withdrawal has not been shown to result in lower spring surface water elevations, nor in significant changes to water quality parameters (Michael Baker Jr. 2002e) that potentially impact invertebrate or fish populations. State of Alaska permitting restrictions regulate the volume of water that may be withdrawn from each lake, and recharge of ponds and wetlands, by snowmelt runoff in spring, has been shown to more than replenish surface water elevations (Rovansek et al. 1996, Burgess et al. 2003b, Michael Baker Jr. 2002e).

BD-76

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to present adequate information on the size of the yellow billed loon nesting population in the Fish/Judy Creek Area.

RESPONSE

The estimated population of yellow-billed loons within the Plan Area (including the Fish/Judy Creek Area) is 296 birds (see Table 3.3.3-3). Distributions and associated densities across the North Slope are illustrated in Figure 3.3.3.3-3 and within the Plan Area in Figure 3.3.3-4 and Figure 3.3.3-5. These are the best available data on yellow-billed loons for these areas at this time.

BD-77

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS dismisses impacts to the yellow-billed loon, but fails to recognize that a number of experts suggest that its population is limited by available habitat, such that any habitat loss would result in population reduction to an already perilously small population.

RESPONSE

Impacts to yellow-billed loons are described, as well as quantified in Sections 4A–D.3.3. No habitat-based studies were used in drawing the conclusion of nesting “habitat limitation,” rather this was inferred from observations of adult birds in nearby marine environments (Fair 2002, Center for Biological Diversity 2004).

BD-78

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4A.3-41: the DEIS makes the vague statement that “the alteration of habitats could be detrimental to some shorebird species, but beneficial to others,” but does not identify which species these are.

RESPONSE

The following paragraph in Sections 4A–D.3.3 was removed: “Removal of gravel from the ASRC and Clover gravel sites would result in a temporary loss of habitat while the mine sites are active and an alteration in habitat types when the gravel sites are reclaimed. The alteration of habitats could be detrimental to some shorebird species but beneficial to others.”

Gravel extraction at Clover was quantified as a permanent loss of tundra habitat. Clover will become aquatic habitat with a goal of creating waterbird resting, feeding, and nesting habitat.

BD-79

This issue was raised in the following letter: DEIS0240.

ISSUE

An information void exists regarding how brooding or incubating birds may react to aircraft noise from fixed-winged aircraft or helicopter noise.

RESPONSE

Actual documented responses of incubating birds are summarized in Section 4A.3.3 as presented below. Detailed descriptions of responses of incubating waterfowl are presented in Johnson et al. (2003a).

Responses of birds to aircraft include alert and concealment postures, interruption of foraging behavior, flight, and decreases in nest attendance (Johnson et al. 2003a). While some studies have suggested that helicopters may be more disturbing to wildlife than low-flying fixed-wing aircraft, others have indicated that both may elicit disturbance reactions (Gollop et al. 1974b; Johnson et al. 2003a). Nesting greater white-fronted geese took more and longer recesses from incubation as the number of airplanes increased and at nest sites closer to the airstrip (Johnson et al. 2003a). Of the various disturbance types, helicopters were the least predictable because they did not have a restricted flight pattern. Incubating greater white-fronted geese and tundra swans reacted more often to fixed-wing aircraft than to helicopters, although monitored nests were closer to the airstrip than to the helipad. Airplanes and pedestrians elicited the highest rates of response from incubating geese and vehicles the lowest. These behavioral responses to disturbances did not appear to affect nest outcomes (Johnson et al. 2003a). Greater white-fronted geese shifted nests from areas within 1 km of the airstrip at the Alpine Development to areas within 1 to 1.5 km during a period of heavy construction activity (Johnson et al. 2003a).

Language indicating that 1) because brood-rearing birds can move away from disturbances, disturbance may cause further displacement of brood-rearing flocks, and 2) analysis of 15 years of tundra swan nest and brood distributions in the Kuparuk Oilfield indicate that there was no significant relationship between the intensity of disturbance and nest or brood densities within 1 km of roads (Anderson and Stickney 2004) was added to Section 4A.3.3:

BD-80

This issue was raised in the following letter: DEIS0241.

ISSUE

Unclear use of location “Alpine site”.

RESPONSE

Throughout the document, references to “Alpine”, “Alpine Development Project” (original CD-1 and CD-2 development) and “Alpine Field” (oilfield from which CD-1 and CD-2 draw oil) were changed to APF-1, as appropriate.

BD-81

This issue was raised in the following letter: DEIS0241.

ISSUE

Buff-breasted sandpiper is the only section to include a discussion that cross-references use with habitat type.

RESPONSE

This statement is incorrect. Table 3.3.3-6, Habitat Use and Selection for Ground-based Nest Searches and Aerial Surveys in the Plan Area presents habitat selection and use by for waterfowl, loons and seabirds. Habitat use information is presented for each bird species discussed.

BD-82

This issue was raised in the following letter: DEIS0241.

ISSUE

Need to describe methods for determining the number of nests effected.

RESPONSE

A paragraph was added to Section 4A.3.3 that describes data and methods used to estimate the number of bird nests potentially affected by gravel cover, habitat alteration, ice roads and disturbance due to air traffic. GIS overlays were not used in analyses. Nest densities by species used in analyses are presented in Tables 3.3.3-5 and 3.3.3-7. Area-wide densities for the Colville River Delta or Plan Area were used for all FFD-related calculations.

BD-83

This issue was raised in the following letter: DEIS0238.

ISSUE

Mitigation to reduce traffic levels by limiting access to industry only is against CPAI agreement with Kuukpik Corporation, which requires access by Nuiqsut residents.

RESPONSE

In Sections 4A–D, access limitation as a potential mitigation for obstructions of bird movements was removed. Alternative B reviews industry and government-only access.

BD-84

This issue was raised in the following letter: DEIS0238.

ISSUE

Bird Figure: all Plan Area bird figures using ABR data need to examine if data points can be separated to show seasonal distribution – pre-nesting, nesting, breeding, brood-rearing, molt or fall staging.

RESPONSE

All Plan Area bird figures have been revised to indicate pre-nesting, nesting, brood, and molt period distributions. Specific information on years of data collection is included in legend notes.

BD-85

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 3.3.3-3 footnote “d”. These population estimates are based on waterfowl breeding pair surveys not ABR data – Estimates for non-waterfowl species should be dropped.

RESPONSE

This footnote in Table 3.3.3-3 is correct. Plan Area population estimates based on USFWS breeding pair survey data were not available. In addition, the sampling intensity of USFWS data is insufficient to accurately estimate numbers of breeding pairs within the Plan Area. Population estimates were calculated for the Plan Area by extrapolating densities recorded during 2002 surveys for the Colville River Delta and for the National Petroleum Reserve-Alaska area. These estimates were derived by multiplying densities by species for the Colville River Delta and the National Petroleum Reserve-Alaska area by the Plan Area size.

BD-86

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 3.3.3-5 footnotes need correction. CD South source is Burgess et al. 2003a. Table 3.3.3-7 add 2003 data especially for red polls. Table 3.3.3-8 correct footnote sources of this information not Burgess et al.

RESPONSE

The source information used to compile Table 3.3.3-5 were reviewed and verified as correct. Data from Burgess et al. 2003a and b; Johnson et al. 2003a and b; and Johnson et al. 2004 were used to produce averages for CD-3, CD-4, CD-5, CD-6 and CD-7. All densities were updated with results of 2003 surveys (Johnson et al. 2004). Source data in Table 3.3.3-7 for all species, not just red polls as suggested, were reviewed and all densities updated. The references to Burgess et al. (2002a, 2002b, 2003a, 2003b) in the footnote of Table 3.3.3-8 were removed.

BD-87

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 3.3.3-6 Retitle: Habitat Use or Selection for Ground-Based Nest Searches or Aerial Surveys in the Plan Area. (Important to note that data type and source are not combined.) Set order of seasonal use as pre-nesting, nesting, brood-rearing, and fall staging. Reformat column width and number to match column header. There are only 26 data columns for 30 header columns. Selection data requires a third code – “N=use not significantly different from availability”. Add this code to footnote and “N” should replace blanks for species with selection analyses. Selection data is available for GWFG nesting Brant nesting, TUSW nesting and brood-rearing King Eider pre-nesting, Spectacled Eider pre-nesting (only National Petroleum Reserve-Alaska 2003), YBLO nesting and brood-rearing, Change habitat use footnote: Habitat Use codes U=use designated by occurrence >10 percent of all nests or broods, blank = occurrence of <10 percent of all nest or broods.

RESPONSE

Table 3.3.3-6 was revised to correct formatting errors (headers not matching columns) and additional data for 2003 were added. Replaced “and” with “or” in the table title. Selection or use abbreviations are identified in both the title and footnotes. The suggested “N” code was not added because the table is already too complex. It is also possible that readers would interpret this designation as “Non-Use.”

BD-88

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 4A.3.3-2 this is an important table need to explain how these numbers were generated. Impossible to verify numbers. What about disturbance from traffic around roads. Are ice roads considered permanent or ongoing habitat alteration.

RESPONSE

A paragraph describing the calculation methods and source data was added to Section 4A.3.3. Disturbance from vehicle traffic was considered to be most important within the 164 feet of roadways used to calculate indirect vegetation impacts. Nest impacts within this area are considered to be caused by a combination of habitat alteration and disturbance. Ice roads are considered temporary habitat loss, but because ice road construction would continue under all alternatives for 5 or more years, nest impacts were calculated assuming that the average area per year covered by ice was “lost” as nesting habitat.

BD-89

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 4A.3.3-4 what are the units, birds or nests? What is the source data? Citation for Johnson et al. 2003b for lack of effects on shorebirds/passerines is incorrect.

RESPONSE

Nests are the units for Table 4A.3.3-4; the heading was revised accordingly. . A description of the source data and analysis method was added to Section 4A.3.3. The Johnson et al. (2003a) citation was re-checked, and is correct.

BD-90

This issue was raised in the following letter: DEIS0238.

ISSUE

Note source of nest data in Table 4A.3.3-5 citation of Johnson et al. (2003b) incorrect.

RESPONSE

A description of the source data and calculation methods was added to Section 4A.3.3. The citation for Johnson et al. (2003b) was corrected to Johnson et al. (2003a) in Table 4A.3.3-5.

BD-91

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 4A.3.5-1 data requires a third code – “N=use not significantly different from availability”. Add this code to footnote and “N” should replace blanks for species with detection analyses. Change habitat use footnote: Habitat Use codes: U=use designated by occurrence >10 percent of all nests or broods, blank = occurrence of <10 percent of all nest or broods. Notes on habitat selection and use should be the same as Table 3.3.3-6. See more comments in text. Table 4A.3.5-2 same as Table 4A.3.5-1.

RESPONSE

Tables 4A.3.5-1 and 4A.3.5-2 were revised in the following manner: replaced “and” with “or” in table titles. The selection or use abbreviations are now identified in both the title and footnotes. However, the “N” codes were not added, as the tables are already too complex. It is possible that readers would interpret this designation as “Non-Use”.

BD-92

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 4A.3.5-3. It seems unlikely that more nests would be displaced than pre-nesting birds. Birds are more than 2x as abundant and more mobile. If 4 nests were displaced would not 8 birds be displaced during pre-nesting? The density estimates for nests and pre-nesting birds were calculated over 2 very different areas (18 km² and 520 km²) and are not comparable. I would just report nests. However, how are nests being estimated for areas where there are no surveys? I would expect more nests and birds to be displaced given the number of pads and locations near the coast in the CRD, Fish, and Kogru areas.

RESPONSE

Pre-nesting bird disturbances were removed from Table 4A.3.5-3. FFD impacts were recalculated based on mean densities for ground search areas in the Colville River Delta and in the National Petroleum Reserve-Alaska. Habitat alteration area was increased from an 11 meter buffer in the DEIS to a 50 meter buffer in the FEIS.

BD-93

This issue was raised in the following letter: DEIS0238.

ISSUE

Table 4B.3.3-1 correct footnotes, source of data? Table 4B.3.3-3 units birds or nests? Source data for Table 4D.3.3-2. What is disturbance zone for helipads? Is this stated somewhere? Provide footnote.

RESPONSE

The citation in Table 4B.3.3-1 (Johnson et al. (2003a)) is correct for the source of the disturbance information used to calculate disturbance due to air traffic. This is clarified in Section 4A.3.3, Birds. Source data used in calculations are presented in Section 3.3 Birds, Sections 4A to D.3.1, Vegetation and Wetlands, and methods for calculations were added to Section 4A.3.3, Birds. Disturbance areas for airstrips and helipads were 500 meter buffers around the gravel footprint, as described in Section 4A.3.3, Birds.

BD-94

This issue was raised in the following letter: DEIS0257.

ISSUE

The DEIS does not address the wildlife and social impacts of increased aircraft access.

RESPONSE

Disturbance due to air traffic is calculated and discussed in relation to birds in Sections 4A–D.3.3 and 4A–D.3.5 for eiders. Private aircraft will not be allowed to use the airstrips developed to support the proposed oil and gas facilities, so increased access would only be in relation to the proposed development which has already been analyzed.

BD-95

This issue was raised in the following letter: DEIS0236.

ISSUE

Section 4F: The analysis of cumulative effects on birds requires major revisions. Not cited is the NRC report that spent a significant amount of effort to evaluate the cumulative effects from oil and gas activities on birds. The DEIS does provide some analysis of potential impacts to birds from the ASDP alone. These same analyses could and should be applied to the cumulative case. Without justification, the section states that subsistence hunting will be the most significant cumulative impact. The discussion regarding cumulative impacts on declining populations reaches an unjustified conclusion. Added impacts will cause the declining populations to decline more rapidly and not “slow recovery.” See below for more detailed comments.

RESPONSE

Section 4G.6.3 Birds has been substantially revised to include a summary of NRC findings for birds. Habitat loss and alteration numbers (extrapolated to estimates of birds lost based on nesting densities) in the Prudhoe Bay area were added. Total habitat loss due to gravel fill and mining in the NRC report was 17,769 acres and habitat alteration affects were 10,500 acres (see Table 4F.5.1-1, NRC 2003). These cumulative impacts would affect an estimated 4 to 5 percent of waterfowl, shorebird and passerine nests in the unitized area between the Colville River and Sagavanirktok Rivers, and less than 1 percent of the Arctic Coastal Plain waterfowl population (see Table 3.3.3-3) based on nesting densities of 5.7 nests/km² for waterfowl, 43 nests/km² for shorebirds, and 17 nests/km² for passerines (TERA 1993b). A clarification was added noting that impacts related to “reasonably foreseeable” future development are quantified under the FFD discussions.

A quantification of subsistence impacts in the Plan Area, based on reported 79 percent Plan Area harvest (see Figure 3.4.3.2-15) and a total subsistence take for Nuiqsut of 3,558 birds and eggs in 1993 (of which 1,459 or 41 percent were geese and 2,099 or 59 percent were other waterfowl and eggs), was added (see Table 3.4.3-2 and 3.4.3-3). Based on the reported subsistence harvests applied to Plan Area populations (see Table 3.3.3-3), subsistence mortality affects 22 percent of goose resources in the Plan Area and 29 percent of other waterfowl resources in the Plan Area. Note although these population estimates probably under represent the total number of birds in the Plan Area, this is the same context as presented for habitat related impacts due to development. This compares to maximums of 2 percent of waterfowl resources affected by CPAI development alternatives and 8 percent of waterfowl resources affected by FFD alternatives. A justification for noting subsistence hunting as the most significant cumulative impact was added to Section 4G.6.3, Birds. The discussion of cumulative impacts was revised to indicate that added impacts will cause declining populations to decline more rapidly. It was further clarified that the threatened spectacled eider population on the North Slope is not currently in decline, and that in this instance cumulative habitat related impacts are most likely to affect the North Slope population by slowing recovery.

BD-96

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-32, Section 4F.6.3.1 Evaluation, second paragraph first sentence: this sentence is confusing. Section 4F is about cumulative effects. The sentence states that the cumulative effects would be the same as the effects from Alternative A.

RESPONSE

This sentence should have more accurately described that the mechanisms for impacts on birds would be similar to those described under Alternative A – CPAI Development Plan. The text was revised by deleting this sentence and clarifying the second sentence to indicate that cumulative actions that could affect birds include habitat loss, alteration or enhancement; disturbance or displacement; mortality; obstruction to movement; and hazardous material spills. The mechanisms for impacts would be similar to those described in detail for Alternative A – CPAI Development Plan in Section 4A.3.3.

BD-97

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-32, Section 4F.6.3.1 Evaluation, second paragraph third sentence: the sentence references Calef et al. The cited article relates to caribou. While the concepts about cumulative effects may be similar, there are

important response and biological differences between mammals and birds. This section is about birds. Certainly there are more pertinent articles about cumulative impacts that relate to birds. Perhaps the NRC report would be a good starting point.

RESPONSE

Revised this sentence in Section 4G.6.3.1 to indicate that the effects of development may cause mortality; increased depredation or reduced reproduction; and increased energy expenditures or changes in physiological conditions that may reduce survival or reproduction (NRC 2003, Miller et al. 1994).

BD-98

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-33, Habitat Loss, alteration, or Enhancement, second paragraph, first sentence: This sentence needs to be revised or have a reference included. One possible alternative would be: "Overall, fragmentation of the tundra by oil facilities has not been a measurable factor affecting bird use of the Prudhoe Bay oilfield, but effects may be occurring." This version assumes there has been a study that has looked at habitat fragmentation but the study did not have statistical power to detect an impact.

RESPONSE

Revised this sentence in Section 4G.6.3.1 to indicate that reduction in the quality of available habitat may occur from fragmentation of large tracts of undisturbed tundra. Evaluation of fragmentation of tundra habitats by facilities in the Prudhoe Bay oilfield has not produced consistent results, but may affect shorebirds (Troy 2000).

BD-99

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-35, Mortality, first paragraph: The first and second sentences state that the construction of roads will increase hunting pressures. No reference or other support is given for this statement. At best, the sentence should be modified to state that there may be added hunting pressure. Alternatively, hunting pressure may decrease, as has happened in Kuparuk. Fewer people are hunting in Kuparuk now than before there was development. Subsistence hunters do not typically like to hunt within industrialized areas. In the previous pages, it is frequently stated that industrial activities may or could result in impacts. Now the DEIS is stating what subsistence hunters will do. There should be a more objective balance in the conclusions reached in this EIS.

RESPONSE

Revised the referenced sentence in Section 4G, Mortality and throughout Sections 4A–F.3.3, Birds, where subsistence and access are discussed to indicate mortality to birds, especially waterfowl, from subsistence harvest may be increased if residents use the connected road systems in Sub-Alternatives C-1 and C-2 for access, alternatively, subsistence related mortality may decrease if hunters avoid areas with developments.

BD-100

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-35, Mortality, fourth paragraph: The last sentence is appropriate and should have been used more frequently in this DEIS. “However, there is little information on which to base a projected mortality estimate (BLM and MMS 2003b).” There are many data gaps that should be acknowledged. In this paragraph it should also be stated that lighted facilities might attract birds. Thus, even though the facilities are relatively small, if they attract birds, the collision footprint becomes significantly larger.

RESPONSE

The paragraph in Section 4G.6.3 was revised to acknowledge the following:

Birds might also fly into structures, particularly nearshore structures during periods of darkness or fog and poorly visible obstacles such as powerlines suspended from poles. Because structures cumulatively represent relatively small obstructions on the landscape, and birds encountering them when visibility is good are expected to see and avoid them, bird mortality from collisions is expected to be low (BLM and MMS 2003b). Lighting at facilities may attract birds, especially during periods of poor visibility, incrementally increasing the probability of collisions. However, there is little information on which to base a projected mortality estimate (BLM and MMS 2003b).

BD-101

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-35, Mortality, fifth paragraph: This paragraph should be expanded. Increased predator numbers are not only related to alternative food sources. Nesting opportunities have also increased within the oilfields, especially for Common Ravens. An increased raven population will result in increased predation. Additionally, this paragraph seems incongruous with the final paragraph in this subsection. The final paragraph implies that some waterfowl and shorebird populations have increased because of oilfield activities. The fifth paragraph states that “predators have adversely affected nesting success of birds that nest on the ground.” The final paragraph of the subsection should be deleted or modified (see comments below).

RESPONSE

The final paragraph of this subsection was deleted, and a revised paragraph in Section 4G.6.3.1, was added.

BD-102

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 4F-3, fifth paragraph, fifth sentence: This sentence is wrong. If currently declining populations of birds experience even small but added mortality or declines in productivity the effect on populations will be more than simply a slowing of recovery. The population decline will be exacerbated. Any increase in mortality or decline in productivity from industrial activity will cause the populations to decline more rapidly. Thus, the sixth sentence is also incorrect. Population effects will be expected for declining populations with increase mortality or decreased productivity associated with the ASDP.

RESPONSE

This paragraph was inserted from the Northwest National Petroleum Reserve-Alaska IAP/EIS (BLM and MMS 2003). The results of additive impacts to fitness, survival or reproduction on declining populations would need to be put into context with population parameters for the species, and the level of effect would be determined by the number of individuals exposed, the stage of exposure, and known reasons for population declines. Although additive impacts to declining populations may exacerbate declines, the level of impacts documented in analyses generally affect less than 1 percent of any North Slope breeding population. In this context, impacts are unlikely to contribute measurably to declines at the level of North Slope populations.

BD-103

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-37: there is mention of the risk of a marine oil spill but the DEIS does not point out the risk this poses to Yellow-billed loons, such as those in Harrison Bay.

RESPONSE

This paragraph describes impacts to “loons.” The paragraph in Section 4G.6.3.2 was revised to indicate acknowledge that mortality of yellow-billed loons, red-throated loons, Pacific loons, king and common eiders, scoters and long-tailed ducks is possible in the event of a large oil spill entering the marine environment during high-use periods.

BD-104

This issue was raised in the following letter: DEIS0240.

ISSUE

The cumulative impacts section fails to look at impacts of cumulative development on the buff-breasted sandpiper. Same as issue EBD-22.

RESPONSE

Footprint and buffer analyses currently quantify direct and indirect impacts to all tundra habitat types including dry habitats is noted in Sections 4A–F.3.3. Site-specific nest densities have been used in estimating impacts to nesting shorebirds, including buff-breasted sandpipers. References to specific habitat types used by the “upland” shorebird species guild were added to Sections 4A–F (specifically Moist Tussock Tundra, Dryas Dwarf Shrub Tundra, Moist Sedge-shrub Meadow), both as percents of available and percents of total impact area. These findings were also summarized in the Cumulative Impacts portion of Section 4G.6.3.1.

BD-105

This issue was raised in the following letter: DEIS0216.

ISSUE

The Service recommends that Table 2.7-1 should include a note that nest loss estimates do not include the number of nests potentially lost to predators. Nest loss estimates also do not take into account the propensity of some species to nest further away from human-related activities. While we agree that some species of shorebirds may nest near newly constructed roads, others are less likely to do so. The statement that

“disturbance impacts are not consistently demonstrated for shorebirds” (Table 2.7-1) lacks any citation for support, either in the Table or elsewhere in the document.

RESPONSE

A reference was added to Section 4A.3.3 to clarify the calculation methods used in Table 2.7-1. Additionally, a discussion of increased depredation due to increased predator populations was added to Section 4A.3.3. Analogous text regarding mortality was added to all alternative discussions. Although some bird species may be more likely to nest further away from human activities than others, an objective quantification by species documented to nest in areas of proposed developments was provided. Further evaluation of differential displacement by individual species would, by lack of clear quantitative response and distribution data, be based on speculation.

BD-106

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-98: Table 2.7-1, Comparison of Impacts among Action Alternatives. Biological: Birds – Ptarmigan, Alternative D. Revise discussion about vehicle collisions – this alternative has no roads.

RESPONSE

Text in Table 2.7-1 has been corrected as suggested.

6.3.2.8 Boat Ramps and River Access

RA-1

This issue was raised in the following letter: DEIS0233.

ISSUE

If oilfield workers are allowed to use boats for sport fishing, increased boat traffic would result in large impacts to fish numbers and falcons nesting along the river.

RESPONSE

Boat ramps would be used for spill drills and spill response only. Oilfield workers will not be allowed to launch boats for sport fishing.

RA-2

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 2-27, Section 2.3.8, Boat Ramps and River Access. Several of the Alternatives include a floating dock and gangway at CD-3. Skiffs would be deployed from this site for access and oil spill response. The use of skiffs at this site is not always practical because the waterway is not continuously navigable throughout the summer. The level of water within the channel depends upon the direction and speed of the wind and the proximity of the ice-edge to the shoreline of the outer delta. Wind shifts from NE to NW can lower the water to unnavigable levels in the channel within a few hours. Depending upon the use of skiffs, especially for oil spill response, at this site

is therefore not practical. The Service recommends that alternate methods to deploy spill response equipment such as, pre-deployment and/or airboats, and the associated impacts, be addressed in the EIS for CD-3.

RESPONSE

Use of the dock at CD-3 may be limited or impractical during some wind events in the open-water season but is anticipated to provide beneficial access through most of the open-water season. In addition to the dock at CD-3, spill response equipment will be pre-deployed at various locations in the Colville River Delta. The CPAI ODPCP will identify specific pre-deployment locations, as well as the dates and conditions for pre-deployment types and amounts of equipment or materials, and procedures for deploying the equipment. The ODPCP will be completed to meet the borough, state and federal oil spill response requirements.

RA-3

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.8.1 Boat Ramp: Last sentence – Figure for CD-4 boat ramp is 2.4.1.1-3 not 2.2.4.1.1-3. However, CPAI's detail boat ramp drawing submitted with the application package should be included in the Final EIS. No details can be seen on the referenced drawing.

RESPONSE

The revised drawing of the CD-4 boat ramp is presented as Figure 2.3.8.1-2.

RA-4

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.8.2 - Floating Dock: The CPAI application package included a detail drawing for the floating dock, this needs to be included in the Final EIS as no detail can be seen on the referenced drawing.

RESPONSE

Figure 2.3.8.1-2 was added to depict the floating dock.

6.3.2.9 Bridges and Culverts

BC-1

This issue was raised in the following letters: DEIS0114, DEIS0216, DEIS0241, and DEIS0271.

ISSUE

The EIS needs more information about lake fill, bridges and culverts. CPAI's criteria for pad, road, and bridge placement should be included. The EIS should also explain the basis for proposing culverts or culvert batteries rather than using bridge crossings.

RESPONSE

Additional information regarding bridges and culverts has been added to Section 2.4.3. Hydraulic criteria has been added to Section 2.4.6, Alternative F – Preferred Alternative.

BC-2

This issue was raised in the following letters: DEIS0114 and DEIS0234.

ISSUE

Opposes the bridge at Nigliq Channel; it is in the heart of caribou migration; it is where locals use the river to get to the ocean to hunt; and it is where the locals fish in the summer and fall.

RESPONSE

These factors that could result from the proposed bridge have been considered in Section 4A, Evaluation of Impacts.

BC-3

This issue was raised in the following letters: DEIS0114 and DEIS0261.

ISSUE

The bridge at Nigliq Channel is in a low bank area and would not have natural protections from spring break-up. It is also located in an area where seasonal floods are common and high ground is hard to find.

RESPONSE

Under Alternative F – Preferred Alternative, the proposed bridge at the Nigliq Channel has been extended to more completely span the floodplain. Alternative F is described in Section 2.4.6.

BC-4

This issue was raised in the following letter: DEIS0270.

ISSUE

In the final alternative, all bridges should span as much of the floodplain as necessary to maintain existing stream dynamics. Bridges should not cause any constriction that will result in impacts to fish habitats such as stream scouring and bank erosion.

RESPONSE

Under Alternative F (Section 2.4.6), the bridges across the Nigliq Channel and Ublutuooh River would be extended to span more of the flood plain. The bridges and the bridge approaches would have to meet established hydraulic design criteria. The hydraulic design criteria are established to be protective of fish and to reduce scour and erosion potential.

BC-5

This issue was raised in the following letter: DEIS0270.

ISSUE

In the final alternative, culverts should be designed to an adequate size to maintain proper flows and fish passage. Properly operating culverts will allow fish passage and use of important seasonal habitats.

RESPONSE

Under the Preferred Alternative, standards to measure adequate design include the assumption that cross flow will be adequate to prevent raising the water level on the upstream side of culverts by more than 6 inches, compared to that for downstream of the culvert for more than 1 week after peak discharge. Design in compliance with this hydraulic requirement is consistent with maintaining proper flows and fish passage. The stated standards are included in Section 2.4.6.

BC-6

This issue was raised in the following letters: DEIS0082, DEIS0083, DEIS0230, DEIS0236 and DEIS0240.

ISSUE

The EIS should contain design information for the Nigliq Channel bridge on ramp locations, flooding and erosion protection measures, caribou crossing provisions, etc. The Draft EIS is almost completely inadequate as far as the bridge and its impacts are concerned, and it only vaguely defines the location of proposed bridges and culverts. Exact road bridge crossing lengths require additional hydraulic assessment data.

RESPONSE

Section 2.4.1 has been revised to incorporate additional bridge and culvert information contained in CPAI's January 2004 permit application (CPAI 2004a). Section 2.4.6 describes bridges and culverts that would be included under Alternative F – Preferred Alternative.

BC-7

This issue was raised in the following letters: DEIS0082, DEIS0083, and DEIS0236.

ISSUE

The EIS should include information about alternatives to placing a gravel road and culverts through the lake north of Nanug (CD-4). Proposed locations of culvert placement should also be provided.

RESPONSE

Alternatives B and C would include a 40-foot bridge, rather than culverts at the referred location. Alternative F would include a rerouted road east of Lake 9323, and several 40-foot bridges. This new information is described in Section 2.4.6.

BC-8

This issue was raised in the following letter: DEIS0242.

ISSUE

Section 2.3.9 incorrectly states how culverts are installed. If this method or type of pipe were used for culvert installations in fish streams, fish passage would be significantly inhibited project wide.

RESPONSE

The installation described is for typical culverts to allow cross flow and prevent ponding, not for crossings of established streams. The text in Section 2.3.9.2 has been modified for clarity.

BC-9

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.9.1 Last sentence: “Decking material would be constructed out of timber or pre cast concrete decking. Timber is not used for decking on any North Slope bridges. Additionally, pre cast and poured in place decks are used and all contain reinforced concrete.

RESPONSE

“Timber” has been deleted from Section 2.3.9.1.

BC-10

This issue was raised in the following letter: DEIS0242.

ISSUE

Discussion recommends the use of line pipe for culverts but does not address the issue of smooth-wall pipe and fish passage.

RESPONSE

Section 2.3.9.1 has been modified to include an acknowledgement that corrugated pipes are preferable for fish passage.

BC-11

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 2-28, 2.3.9 In the first paragraph, bird strike issues should be added to the list of considerations affecting the decision on a case-by-case basis whether to use culverts or bridges.

RESPONSE

The potential for birds to strike bridges is acknowledged as an impact under discussions of Alternatives A, C and F. Project design criteria for stream crossings would prioritize fish passage, water passage, and wetland and floodplain protection.

BC-12

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 2-28, 2.3.9.1 Neither the discussion of bridge design, nor Figures 2.3.9.1-1 or -2 indicate proposed bridge heights. In certain locations, the height of a bridge could have serious bird strike implications.

RESPONSE

Section 2.3.9.1 indicates a 20-foot vertical clearance for the Nigliq Channel Bridge, and that other drainages could have lower clearances, as determined by hydraulic and navigability factors. The potential for birds to strike bridges is acknowledged as an impact in discussions of Alternatives A, C and F. Project design criteria for stream crossings would prioritize fish passage, water passage, and wetland and floodplain protection.

BC-13

This issue was raised in the following letter: DEIS0230.

ISSUE

The DEIS project description indicates that piles may be drilled or a piledriver may be used, but later in the analysis of turbidity impacts, it is assumed that the approach with least impact is followed. The NEPA process requires that analysis looks at the method that would result in the greater impact so that impacts are not underestimated.

RESPONSE

The turbidity impacts associated with boring holes for placement of piles are discussed in Section 4A.3.2.1, as noted by this commentor. Pile driving would create less turbidity than boring holes.

BC-14

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.9 Bridge and Culvert Design: The document stated that decisions would be based on “the best technical and economical way...” When considering economics, the long-term (suggest “life cycle maintenance”) maintenance must be considered and not just the initial cost of a bridge, for example. Also, not addressed is selecting the best environmental design, i.e., placement of bridges and culverts based on sound hydrologic information and modeling. The Draft EIS does not provide any specific bridge design but generic designs and discussions. Additionally, the description of culvert installation needs clarity, i.e. all road construction (which includes culvert installation) normally occurs during the winter unless additional culverts need to be retrofitted due to ponding at the road after a high-water event.

RESPONSE

The text in Section 2.3.9 regarding bridges and culverts has been revised based upon additional information from the applicant’s permit applications. Standards to measure adequate design will assume that cross flow will be adequate to prevent raising the water level on the upstream side of structures by more than 6 inches, compared to that for downstream of the structure for more than 1 week after peak discharge, and will assure that the bridge approach will remain sound and not be washed out at all flow levels.

BC-15

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include additional discussion of design options other than extensive armoring as a stabilization method to protect bridges and crossings from excessive scour.

RESPONSE

Standards to measure adequate design will include assuring that bridge approaches will remain sound and not be washed out at any flow levels. Alternative F – Preferred Alternative, includes provisions for larger bridges that would reduce restrictions of the flow way and prevent excessive scour. These larger bridges are discussed in Section 2.4.6.

BC-16

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include discussion of siting criteria used to identify the proposed locations of the Nigliq Channel Bridge in Alternatives A and C.

RESPONSE

Siting criteria for the Nigliq Channel Bridge has been added to Section 2.3.9.

BC-17

This issue was raised in the following letter: DEIS0230.

ISSUE

Impact analysis of Alternative A is incomplete until design of the Nigliq Channel bridge is sufficient to allow assessment of impacts to the Nigliq channel, its habitat, and Nuiqsut's socio-cultural health and welfare and subsistence practices.

RESPONSE

Nigliq Bridge design information has been updated to reflect information provided in the applicant's January 11, 2004 permit application (CPAI 2004a). Section 4A has been updated to consider the revised design in the analysis of impacts.

BC-18

This issue was raised in the following letters: DEIS0159 and DEIS0261.

ISSUE

The EIS should provide more detail on the engineering and decision process used in siting the Nigliq bridge, as well as impacts including flood events, channel bank stability, and relative extent and proximity of high ground less vulnerable to seasonal flooding.

RESPONSE

Bridge siting criteria have been added to Section 2.3.9. The analysis of water resources in Sections 4A–F consider additional bridge design information that has been made available since the production of the DEIS.

BC-19

This issue was raised in the following letters: DEIS0114, DEIS0216, and DEIS0236.

ISSUE

DEIS does not give enough information about the design to allow the public to make comments. Deficiencies include lack of information about bridge designs, locations, and lighting; culvert battery numbers, locations, and design; the design and location of roadway, bridge abutment, and any other armoring systems to be employed; and mining/reclamation plans.

RESPONSE

Additional information on bridge and culvert design criteria from the applicant's January 11, 2004 permit application (CPAI 2004a) has been added to Section 2.4.1. Additional information on gravel mines has been added to Section 2.3.5 and Appendix O. The applicant would work within the permitted limits of the existing ASRC Mine Site, so associated impacts have previously been analyzed. A proposed mining and reclamation plan for Clover has been included as Appendix O.

BC-20

This issue was raised in the following letter: DEIS0230.

ISSUE

The greatest beneficial mitigation for effects projected from the Nigliq Channel bridge would be to do away with a rig-capable bridge or relocate the crossing further upstream near CD-4.

RESPONSE

A bridge crossing at CD-4 is analyzed under Sub-Alternative C-1. Through the permitting process, the USACE could restrict construction to a bridge that supports a lighter load.

6.3.2.10 Climate and Meteorology**CM-1**

This issue was raised in the following letter: DEIS0240.

ISSUE

The discussion of climate and meteorology in the Plan Area does not clearly define what winter and summer means for the purposes of the DEIS. (example: p 3-32)

RESPONSE

Section 3.2.3.1, Climate and Meteorology has been amended to define winter and summer for the purposes of the FEIS.

CM-2

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to assess the effects of climate change from GHG on the proposed project facilities, from sources such as permafrost melt, sea level changes, storm surges, and hydrological changes, and how those effects might be mitigated.

RESPONSE

Section 3.2.3.1, Climate and Meteorology has been amended to include the effects of climate change on meteorological events.

6.3.2.11 Cultural Resources

CR-1

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4F-75: Clarify that all exploration and development areas are cleared through archaeological clearances prior to field activities. These clearances have resulted in the identification of additional cultural resources on the North Slope.

RESPONSE

Section 4G.7.5.2 (previously 4F) states that it is expected that if current procedures for survey and inventory before exploration and development activities were to be continued, the impact to the resource would be minimal. Text indicating that prior to any ground-disturbing activity, industry would be required to perform an evaluation and assessment of possible cultural resources in the immediate areas of the proposed development was added.

CR-2

This issue was raised in the following letter: DEIS0241.

ISSUE

SHPO concurrence on sufficiency of cultural resource survey and eligibility of individual sites should be included in the FEIS.

RESPONSE

The applicant has completed a cultural resource survey and forwarded it to the SHPO. Additional survey work is being conducted for the Preferred Alternative. The SHPO concurrence letter is not yet available. Agencies cannot issue permits until the requirements of Section 106 have been fulfilled.

6.3.2.12 Cumulative Impacts Structure, Methodology and Scope**IS-1**

This issue was raised in the following letters: DEIS0110, DEIS0117, and DEIS0159.

ISSUE

Analysis of cumulative impacts on the region must consider each of the three planning processes BLM is currently undertaking.

RESPONSE

The cumulative impact analysis acknowledges that additional lease offerings and development will occur in the future, although the timing, extent, and location of development cannot be precisely specified. Future development has been included under the category of “Reasonably Foreseeable Future Development” (see Section 4G.4.4). Potential future development in the ASDP Area has been included and analyzed under FFD alternative discussions (see Section 4A.3.1.2).

IS-2

This issue was raised in the following letters: DEIS0110, DEIS0225 and DEIS0237.

ISSUE

The cumulative impact analysis should include human health, particularly breathing problems of Nuiqsut residents.

RESPONSE

The DEIS includes consideration of health and welfare impacts to the Native population of the North Slope in a number in sections. For example, Section 3.4.1.5 summarizes recent documented trends in community health; Section A.4.4.1 summarizes the findings with respect to community health and welfare impacts under Alternative A – CPAI Development Plan; Section 4A.4.1.4 summarizes proposed mitigation with respect to community health and welfare; Section 4A.4.4.1 summarizes disproportionate impacts to local residents; Section 4F.7.1.1 describes cumulative effects of development on the North Slope population; and Section 4F7.4 describes additional cumulative effects on community health and welfare with respect to the Environmental Justice evaluation.

In addition, citations of health-related studies not initially included have been added to Section 3.4.1.5. These include current information on cancer and asthma rates among Alaska Natives.

IS-3

This issue was raised in the following letters: DEIS0117 and DEIS0261.

ISSUE

The EIS should address encroachment on the Fish Creek setback and the continual and constant encroachment impacts on the subsistence lifestyle.

RESPONSE

Alternative A, Sub-Alternatives C-1 and C-2 and Alternative F include road segments that fall within Stipulation 39[d] setbacks. The environmental impacts and impacts to subsistence use of these roads have been analyzed and reported in Sections 4A, 4C-1, 4C-2 and 4F.

IS-4

This issue was raised in the following letters: DEIS0114, DEIS0195 and DEIS0236.

ISSUE

The EIS should address long-term changes and permanent impacts and be sensitive to the impact of changes on the people of Nuiqsut.

RESPONSE

Long-term, permanent impacts of the applicant's proposed action have been addressed in Section 4A.4.4.1, Impacts, Socio-Cultural Characteristics and are summarized specifically for Nuiqsut in Section 4A.4.1.3.

IS-5

This issue was raised in the following letters: DEIS0195, DEIS0216 and DEIS0236.

ISSUE

Issues and findings discussed in the NAS report should be addressed in the FEIS.

RESPONSE

A list by topic of the findings from the NRC (noted as the National Academies of Science in comment DEIS0236) can be found in Table 4F.2.2-1 with references to those sections of the DEIS where each topic has been addressed. References to two topics found in the NRC report were omitted: Growth in Industrial Activity and Oil Spills. References for these topics have been added to the FEIS.

IS-6

This issue was raised in the following letters: DEIS0195, DEIS0216, DEIS0233, DEIS0236, DEIS0240, DEIS0257, DEIS0262 and DEIS0270.

ISSUE

The EIS should adequately address the cumulative impacts of the proposed Alaska DOT road to Nuiqsut, use of Camp Lonely as a stage area, and National Petroleum Reserve-Alaska and Colville River bridge crossing which is in the permitting process and is a "proposal for action" and thus the possible impacts from these projects must be considered in the DEIS in order to comply with NEPA.

RESPONSE

Text and Figure 4G.4.5-1 have been revised to reflect more current information about the Colville River Road. In addition, a portion of the road has been included as part of Sub-Alternative C-2 (see Section 4C-2). Some North Slope residents believe that use of Camp Lonely as a staging area in 2003-2004, as well as specifically associated barges and helicopter traffic, caused impacts to whales. Disturbance and displacement of whales by vessels and aircraft are discussed in Section 4G.6.4.2.

IS-7

This issue was raised in the following letter: DEIS0195.

ISSUE

The EIS cumulative impact analysis should address long-term studies on North Slope habitat, wildlife and health.

RESPONSE

The cumulative impact analysis evaluates long-term impacts as they are currently understood. As noted in Section 2.6.5, the BLM and USGS are currently establishing a body to direct and undertake further long-term studies that further evaluate the effects of current and future industrial activity on the North Slope.

IS-8

This issue was raised in the following letter: DEIS0263.

ISSUE

The cumulative impact of both the oil and gas operators and the growing local population within the Colville Delta area must be assessed together.

RESPONSE

Population trends for Nuiqsut are discussed in Section 3.4.1.6. The cumulative impact analysis has included consideration of all projects that are “reasonably foreseeable” over the next 20 years within the region. As “reasonably foreseeable” future projects seek permits and approvals for development, additional NEPA processes for each project will be performed according to federal and state regulations. Section 4G.7.3.1 includes a discussion of subsistence habitat patterns. As indicated, sparse monitoring data limits assessment of changes in hunter access to resources and assessment of increased competition that could occur from population increases.

IS-9

This issue was raised in the following letter: DEIS0237.

ISSUE

The full evaluation of this document has not occurred by the most impacted community due to the demands placed upon this community with the development activities currently pressed upon us. We have many separated activities that will have a cumulative effect.

RESPONSE

The cumulative impact analysis for this project has included consideration of all known projects that are “reasonably foreseeable” over the next 20 years within the region. Section 4G includes a description of reasonably foreseeable actions for the region.

IS-10

This issue was raised in the following letter: DEIS0200.

ISSUE

In Cumulative Impacts, the DEIS states that information from other documents is incorporated by reference. CEQ (1502.21) requires that this material is cited and its content briefly described. (example: 4F-6)

RESPONSE

Appropriate references and summaries of relevant information have been included.

IS-11

This issue was raised in the following letter: DEIS0200.

ISSUE

Definition of “reasonably foreseeable” development is used inconsistently in the DEIS and contradicts language used in other local EISs.

RESPONSE

As noted in the commentor’s letter, the assessment of the likelihood of development of future reserves is a function of oil prices, technology and other factors. Thus the classification of future projects in future EIS cumulative impact assessments may change from time to time based on these factors. The primary definition of “reasonably foreseeable” as those projects that would occur in a 20-year time frame is consistent with recent EISs, most notably the recent Northwest National Petroleum Reserve-Alaska IAP/EIS (BLM 2003b).

IS-12

This issue was raised in the following letter: DEIS0200.

ISSUE

CD-7 is clearly a gas field, yet gas production was relegated to the "speculative" category and not analyzed in the DEIS.

RESPONSE

A discussion of the potential for future gas development on the North Slope is included in Section 4G.4.4.2, which notes that no infrastructure for transporting natural gas from the North Slope to domestic or world markets is available. While several pipelines to deliver gas to market have been approved in the last quarter century, they have not been built because of high project development costs and marketing hurdles.

IS-13

This issue was raised in the following letter: DEIS0239.

ISSUE

The DEIS does not address future landscape fragmentation or destruction of wildland spirit and wilderness of the plan area.

RESPONSE

These topics are addressed in the analyses of Recreation Resources and Visual Resources. See the following sections: Recreation Resources 3.4.7, 4A.4.7 (and analogous sections for other alternatives), and 4G.7.7; Visual Resources 3.4.8, 4A.4.8 (and analogous sections for other alternatives), and 4G.7.8.

IS-14

This issue was raised in the following letter: DEIS0239.

ISSUE

The DEIS does not include the Fish Creek oil field in the list of reasonably foreseeable future developments.

RESPONSE

The Fish Creek Oilfield was included as part of the discussions of FFD Scenarios (see location of HP-18 in Figure 2.4.1.2-1.) To include it again as part of the “Reasonably Foreseeable Future Projects” group listed on Table 4G.4.4-3 would be to count this resource twice.

IS-15

This issue was raised in the following letter: DEIS0239.

ISSUE

Maps of cumulative development should include other active leased areas within the Northeast Plan Area to show how the Alpine satellites proposed by ConocoPhillips may later be joined up with others.

RESPONSE

Figure 4F.4.4-1 includes oil and gas exploration tracts leased in 1999 and 2002.

IS-16

This issue was raised in the following letter: DEIS0239.

ISSUE

The DEIS fails to address cumulative effects of spills from the Northstar projects, existing Alpine facilities, and other new exploration and development sources on the bowhead whales, fish, birds, and other resources used by Nuiqsut for subsistence.

RESPONSE

Analysis of the Northstar, existing Alpine, and other future development activities has been included in the cumulative impact analysis, and discussions of the potential impacts of spills are also included. See specifically Section 4G.6.5.1, Section 4G.6.2.1, and Section 4G.6.3.1.

IS-17

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 4F.2.4.3, Page 4F-6, Para. 1st (partial para.), Sent. 1st: "...the spill analysis included in the Northwest National Petroleum Reserve-Alaska EIS is incorporated by reference." For the Reader to understand the discussion, the DEIS needs to include a brief summary of the spill analysis being incorporated by reference.

RESPONSE

Text in Section 4G.2.4.3 has been revised to include a synopsis of referenced material.

IS-18

This issue was raised in the following letter: DEIS0200.

ISSUE

Sections 4F.7.1, 4F.7.3, and 4F.7.4: These sections need to cite the Northwest National Petroleum Reserve-Alaska Final IAP/EIS because the text borrows heavily from the cumulative effects sections of that document.

RESPONSE

Appropriate references have been incorporated into the text of the FEIS.

IS-19

This issue was raised in the following letter: DEIS0240.

ISSUE

Oversights of activities that are likely to occur in the near future (namely the issuance of exploration leases in the NW and NE Reserve Planning Area) must be accounted for prior to issuing any draft or final EIS.

RESPONSE

The cumulative impact discussion of reasonably foreseeable development (see Sections 4G.4.4.1 and 4G.4.6) and their impacts have been revised to better address development in the Northeast and Northwest portions of the National Petroleum Reserve-Alaska.

IS-20

This issue was raised in the following letters: DEIS0240 and DEIS0257.

ISSUE

The DEIS fails to consider any reasonably foreseeable exploration or development in the NW Reserve leasing area and the rest of the NE Reserve, beyond the section studied for the ASDP.

RESPONSE

The cumulative impact discussion of reasonably foreseeable development (see Sections 4G.4.4.1 and 4G.4.6) and their impacts have been revised to better address development in the Northeast and Northwest portions of the National Petroleum Reserve-Alaska.

IS-21

This issue was raised in the following letter: DEIS0240.

ISSUE

Table 4F.4.4-1 is too general. The DEIS does not specifically identify the actions (past, present and future) that it is considering in its analysis of cumulative impacts.

RESPONSE

Section 4G, Cumulative Impacts, has been significantly revised since the DEIS was released. Past, present, and future actions considered in the analysis are clearly described within the FEIS.

IS-22

This issue was raised in the following letter: DEIS0240.

ISSUE

Table 4F.4.4-1 does not include a listing or location of abandoned roads, trails, pads or other facilities, give the location of trails and old seismic liens that crisscross the Plan Area and oil fields to the east, or otherwise give any useful quantitative data about surface impacts.

RESPONSE

Additional quantitative information is included in Table 4G.4.4-2 and in Section 4G.4.4.

IS-23

This issue was raised in the following letter: DEIS0240.

ISSUE

The following are mentioned in the EIS, but potential impacts are not evaluated in the cumulative impacts section: the State's Area-wide oil and gas lease sale, CPAI's ACX 1-2 projects at Alpine, and the sealift impacts from ACX 3.

RESPONSE

Cumulative impacts that could result from current and future state leases are described as reasonably foreseeable actions in Section 4G.4.4.1. Impacts are described in subsequent sections of 4G.

As noted in Section 2.3.12.2, the applicant's proposed action includes three projects that would support production in the existing Alpine Field or ASDP. All three projects will occur within the confines of the existing APF-1 location, and thus not measurably increase disturbed area. Section 4A.2.3.2 addresses impacts to Air Quality. Sealift of components prefabricated offsite will utilize existing transportation systems and facilities. Potential impacts of sealift activities on bowhead whales are discussed in Sections 4A.3.5.1, and 4G.6.5.1. Section 4G.6.2 includes additional discussions of sealift impacts on marine mammals.

IS-24

This issue was raised in the following letter: DEIS0240.

ISSUE

The cumulative impacts analysis does not consider the possibility that the pipeline from Alpine will be unable to handle the capacity of oil fields developed in the Plan Area and that additional pipeline facilities might be needed.

RESPONSE

At this time, no plans have been advanced by the applicant or by others to add pipeline capacity from the Plan Area to processing facilities beyond those included in the applicant's proposed action. If additional pipeline capacity is required, it would likely be placed on the existing VSMs.

IS-25

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS should consider the potential of permanent roads elsewhere in the Reserve.

RESPONSE

An estimate of 147 miles of additional roads associated with future infrastructure and facilities development was assumed in the cumulative impact analysis. See revised text in Section 4G.4.4.1.

IS-26

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-17: without substantiation, the DEIS claims that EIS-related decisions that authorize Stipulation revisions will not create additional impacts.

RESPONSE

Section 2 of the Northeast National Petroleum Reserve-Alaska Amended IAP/EIS includes a table comparing the effectiveness of its stipulations on lands available to leasing with those in the 1998 IAP/EIS. It was concluded that there was no difference in impacts.

IS-27

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4F-17: also asserts that analyzing the impacts from additional leasing in the NE brought on by changes to the 1998 ROD would be "speculative" when reasonable assumptions about impacts is required by NEPA.

RESPONSE

The cumulative impact discussion of reasonably foreseeable development (see Sections 4G.4.4.1 and 4G.4.6) and their impacts have been revised to better address development in the Northeast and Northwest portions of the National Petroleum Reserve-Alaska.

IS-28

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to identify the relevant actions with specificity, indicate their impacts, and then add them up.

RESPONSE

Section 4G, Cumulative Impacts, has been significantly revised since the DEIS was released. Relevant actions and their impacts are clearly stated in the FEIS.

IS-29

This issue was raised in the following letter: DEIS0241.

ISSUE

4F 2.3 – Region and Time Frame Consideration: There is no explanation of how the region and time frame of consideration was reached. This is the key to the rest of the analysis. We can't understand how the whole North Slope is considered the area of consideration for every impact and resource.

RESPONSE

See revised text in Sections 4G.2.3.1 and 4G.2.3.2.

IS-30

This issue was raised in the following letters: DEIS0200 and DEIS0271.

ISSUE

Significance thresholds should be established for resource categories evaluated in the EIS. These should include NAAQS for air quality and Alaska Water Quality Standards for water quality impacts in the Plan Area.

RESPONSE

“Significance” is a NEPA regulatory term used to identify potential impacts that are to be evaluated in an EIS as opposed to an EA. This EIS incorporates quantitative and qualitative analyses to identify a full range of impacts. The method does not establish specific thresholds, above which an impact was significant and below which it was not. Furthermore, where impacts could be avoided, reduced, or eliminated by mitigation, potential measures have been identified. Impacts of the project itself have been measured against NAAQS and Alaska Water Quality Standards.

IS-31

This issue was raised in the following letter: DEIS0238.

ISSUE

Section 4F: Effects of the Cumulative Case: The conclusions of the NRC analysis were omitted from some parts of this section, such as 4F.6.4 Terrestrial Mammals, which fails to cite it at all — such omissions should be identified and corrected throughout section 4F to include relevant conclusions from the NRC report.

Problems with Region and Time Frame of Consideration include: the geographic region of interest does not mirror the distribution of resources affected; for instance, it should include the entire annual range of migratory species such as birds, caribou, and marine mammals; and the time frame is not consistent in this document. There is almost no discussion of additive or synergistic effects for Birds. Need to relate cumulative effects to populations of birds, especially those with small or declining populations.

RESPONSE

The comment includes three elements, each of which has been addressed in the FEIS as follows: A discussion of the findings of the NRC report has been added to Section 4G. 2.2, text has been added to Section 4G.2.3 to clarify concerns related to the Region of Consideration, and Section 4G.4.6 has been amended with respect to the comment regarding cumulative impacts to birds.

6.3.2.13 Endangered and Threatened Species

TE-1

This issue was raised in the following letter: DEIS0163.

ISSUE

The EIS should address impacts to polar bear denning.

RESPONSE

This issue is discussed in the FEIS. See Sections 4A–F.3.4.

TE-2

This issue was raised in the following letter: DEIS0163.

ISSUE

The EIS should address impacts to golden eagle and peregrine falcon nesting.

RESPONSE

Golden eagles do not nest on the Arctic Coastal Plain. One peregrine falcon nest has been identified in the Plan Area, but it is located 3.5 miles from the nearest proposed facility, is within the protected 3-mile Fish Creek buffer and is unlikely to be disturbed by any proposed project activity. Figure 3.3.3.5-1 was revised to include these nests which are further described in Section 4A.3.3.

TE-3

This issue was raised in the following letters: DEIS0198 and DEIS0233.

ISSUE

The EIS should include all impacts to spectacled eiders, including habitat loss, disturbance, increased predators, contamination by hazardous materials, and diminished air quality.

RESPONSE

Figures were added to the FEIS that show the shoreline environmental sensitivity index, and text was added in Section 3.2 to introduce such figures.

PY-2

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.2.1.1 Coastal Zones, Page 3-5, Para. 2nd Full, Sent. last: Please clarify if the “extreme tidal fluctuations” referred to are storm surge. If so, please use the term “storm surge.” Tides in the Beaufort Sea are typically small.

RESPONSE

The term “extreme” in this section has been deleted for the FEIS, and the text has been revised to indicate that the coastline is subject to minor tidal fluctuations of about 1 foot.

PY-3

This issue was raised in the following letter: DEIS0242.

ISSUE

S.4.2.1 Physiography. Does the term intrusive used here mean “covered”?

RESPONSE

For the FEIS, the term “land-intrusive” has been deleted from Section 4.2.1, and the text has been revised to clarify the meaning.

6.3.2.34 Pipelines**PL-1**

This issue was raised in the following letters: DEIS0082, DEIS0083, DEIS0114, DEIS0261, and DEIS0263.

ISSUE

CPAI stated in meetings in Nuiqsut that pipelines would be at 7ft high, however the DEIS proposes pipelines at 5ft high.

RESPONSE

The applicant originally proposed pipelines at 5 feet-high, as presented in Section 2.4.1 (Alternative A). Section 2.4.6 (Alternative F – Preferred Alternative) proposes that pipelines be 7 feet-high (measured at the VSMs).

PL-2

This issue was raised in the following letter: DEIS0229.

ISSUE

The Preferred Alternative in the EIS should stipulate aboveground pipeline height at a minimum of 10 feet, as measured from the ground to the bottom of the pipe.

RESPONSE

Elevating pipelines to greater than 7 feet, including to as much as a 10-foot minimum, is discussed in Section 2.6.2.

PL-3

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-6. 2nd paragraph. The potential for gas is discussed and it is stated that “gas impacts” are reasonably within the scope of the analysis. If gas were to be transported a pipeline would be necessary. This would likely be in the FFD case where the need for an additional oil sales line from the area is mentioned.

RESPONSE

Sale of gas is speculative and thus excluded from the analyses of the applicant’s proposed action and the other alternatives.

PL-4

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.2.2 Saddles are mounted to HSMS not VSMS. Fix at the end of the 3rd sentence, 2nd P.

RESPONSE

The reference to VSMS in Section 2.3.2.2 has been changed to HSMS as appropriate for the FEIS.

PL-5

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.2.4 First complete sentence. Abandonment would occur when the cost of producing and transporting oil exceeds the market value of the oil.

RESPONSE

Production would cease if the costs mentioned exceeded the market value. Abandonment would not necessarily occur. Abandonment decisions are also associated with the anticipated duration of the cost versus market value scenarios. For the FEIS, the text in Section 2.3.2.4 has been modified to indicate that abandonment would occur when the cost of producing and transporting oil exceeds the market value of the oil, and that inequity is projected to persist.

PL-6

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.2.4 First bullet. Removal of VSMs to one foot has no basis. The fact that the active layer can be as deep as 3 feet suggests a deeper standard than even 3 feet. To do otherwise may mean that BLM or the State of AK. would quite possibly be in the business of removing those VSM's that jacked up after field abandonment. Within the State and industry, there are two positions on the issue. Remove the entire VSM or cut them off below the active layer. The bulleted statement should be revised to be more in conformance with the statement in the last sentence of the second paragraph of the same page. It should be up to the managers at the time of abandonment to decide between the various options of cutting them off at different depths vs. complete removal.

RESPONSE

For the FEIS, the text has been changed to remove structures to a depth that would prevent frost-heave action, lifting the remnant to the surface.

PL-7

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.2.4 Second bullet. Buried pipelines are often filled with a slurry to keep them from collapsing over time and thus creating sink ditches. This could very possibly be a regretful statement. For one, it is possible that the most cost effective and environmentally beneficial thing to do would be to abandon all the fields on one schedule. It could also be true that a company would be willing to produce at a loss to delay cleanup costs until other fields are done as well. This statement could create situations where vital infrastructure in the eastern planning area is committed for removal while fields to the west are still producing.

RESPONSE

The timing and precise steps and methods of abandonment and rehabilitation activities will be determined through abandonment planning and does not preclude the actions suggested by the comment.

PL-8

This issue was raised in the following letter: DEIS0230.

ISSUE

The DEIS should clarify why the VSM size has decreased from 42 inches used for the Alpine Sales pipeline to 10-24 inches for the CD-4 pipeline. Ice jam, flooding, and other environmental risks are identical.

RESPONSE

The CD-4 VSM pipelines range in size from 12 to 40 inches in diameter, the same as the existing Alpine pipeline VSMs, since they use the same design criteria. The existing Alpine pipelines do not have any 42-inch diameter VSMs at any point in their entire alignment. Pipeline loads are not the primary factor influencing VSM sizes in the Delta, ice forces are. For the FEIS, the referenced text in Section 2.3.2.2 has been modified to reflect the correct sizes.

PL-9

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-9: Pipeline Design. Revise pipeline sizes to match permit application drawings (decreased lower limit of some ranges).

RESPONSE

For the FEIS, pipeline sizes in Section 2.3.2.1 have been changed to 16- to 24- inch diameter for three phase production lines; 6- to 10-inch diameter for MI lines; 8- to 14-inch diameter for seawater injection lines; and 6-inch diameter for lift-gas lines. The changes were based on Section 7.3 of the ASDP's permit applications (CPAI 2004a).

PL-10

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-20: The sentence "This type of pig would be used for maintenance of all pipelines except the products line", is incorrect. Maintenance pigging equipment will be installed on the production pipeline, the water injection pipeline, and the products line; but not on the gas line. Page 2-21: CPAI does not maintenance pig lean gas or miscible injectant (MI) lines at Alpine and does not plan to perform maintenance pigging of gas lines at future developments.

RESPONSE

For the FEIS, Section 2.3.4 has been modified to indicate that the gas and MI pipelines would not be cleaned by maintenance pigs.

PL-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-22: Maintenance pigging of the product line is performed quarterly. Table 2.3.4-1 indicates the task is performed monthly.

RESPONSE

Table 2.3.4-1 (see Section 2.3.4) has been revised for the FEIS to reflect the quarterly maintenance schedule.

PL-12

This issue was raised in the following letters: DEIS0159, DEIS0198, DEIS0207, DEIS0208, DEIS0209, DEIS0211, and DEIS0217.

ISSUE

Alternative A should be changed to locate all power cables on VSM-mounted cable trays and the pipelines built 7 feet above ground. Pipelines should be coated to reduce glare from light reflection.

RESPONSE

Alternative A (see Section 2.4.1) proposed power poles between CD-6 and CD-7 and pipelines elevations of at least 5 feet. Alternative F (see Section 2.4.6) proposed that all power cables be located on VSM-mounted cable trays and that all pipelines be built at least 7 feet above the ground (measured at the VSM). The use of coated pipelines (non-reflective surface) has been proposed under all alternatives (see Section 2.3.2.1).

PL-13

This issue was raised in the following letters: DEIS0159 and DEIS0261.

ISSUE

BLM should consider alignment of the pipeline, powerline and roads along a single right-of-way while maintaining adequate separate for caribou migration.

RESPONSE

The suggested alignment was considered. Alternative F (Section 2.4.6) combines powerlines on pipeline VSMs. The pipelines would be in alignment with roads, with a separation for caribou migration.

PL-14

This issue was raised in the following letter: DEIS0240.

ISSUE

The EIS must clarify the meaning of “project” in reference to the 5 new pads and FFD.

RESPONSE

For the FEIS, the term “project” refers only to the five new production pads proposed by the applicant.

PL-15

This issue was raised in the following letter: DEIS0216 and DEIS0236.

ISSUE

Roadless alternatives are discussed in the DEIS, however, their design criteria are unnecessarily burdensome. Relief rigs are not necessary for blowout response on the North Slope, so roadless development should not require a 5,000 foot airstrip to support year round drilling.

RESPONSE

The EIS describes a range of reasonable alternatives. It incorporated relief rig capability because the BLM prefers not to foreclose possible use of this technology for stopping well blowout. This scenario would also allow analysis of impacts from a larger airstrip footprint, and the associated impacts have been expressed to the

public. This analysis would not preclude adopting a different scenario (and associated shorter airstrips) if the permitting agencies conclude that relief rig capability is not a necessary option.

PL-16

This issue was raised in the following letters: DEIS0216, DEIS0241, and DEIS0242.

ISSUE

Page 2-68, Section 2.4.4, Alternative D. Alternatives D-1 and D-2 include a HDD pipeline crossing of the Nigliq channel. According to information relayed to us by the applicant, this may not be a practical method from an engineering perspective, due to slugging and pressure differentials associated with 3-phase lines. These concerns should be discussed in these alternatives, or the alternatives modified in the FEIS.

RESPONSE

In the DEIS, slugging was viewed as a technical challenge but not as an infeasible barrier. For the FEIS, text that explains how elevation changes in pipelines carrying multiple phase fluids can cause slugging (a phenomena where denser fluid accumulates dense fluid through the low point in a “slug” or surge) was added. It is also noted that during design and installation of the pipeline, elevation changes and pipeline angles would be minimized to reduce slugging potential. The text also identifies that the existence of a low point in the HDD segment cannot be eliminated and thus would present a potential slugging problem.

Due to concerns related to slugging, the use of HDD pipeline-crossing for 3-phase lines was excluded from Alternative F – Preferred Alternative (see Section 2.4.6).

6.3.2.35 Processing Facilities

PF-1

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.12.1. The correct coverage needs to be confirmed. The Alpine development is composed of CD-1, the airstrip, remaining road to CD-2 and CD-2. As I understand, the total covered area for all 4 components is about 100 acres. I believe the 36.3 acres is correct just for the CD-1 component.

RESPONSE

The referenced text was meant to be specific to just CD-1. For the FEIS, the text has been modified to clarify the distinction between all existing Alpine facilities, the existing Alpine pads, and the CD-1 or APF pad.

PF-2

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-35, 2.3.12. The acreage of CD-1 is given at 36.3. This same value is used later in the document when the new APFs are mentioned. The airstrip is also mentioned. Wouldn't it be appropriate to give the coverage for it as well?

RESPONSE

The referenced text was meant to be specific to just CD-1. For the FEIS, the text has been modified to clarify the distinction between all existing Alpine facilities, the existing Alpine pads, and the CD-1 or APF pad. The total area permitted by the USACE is 112.302 acres (including the airstrip); of this total, 36.3 acres is for CD-1, and 10.1 acres is for CD-2.

As stated in DEIS Section 2.3.13.3, the BLM has assumed that HPF-1 and HPF-2 would be comparable in size and other design aspects to APF-1.

PF-3

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-35, footnote. Is it important to note that there is no Class I hazardous waste well on the North Slope.

RESPONSE

For the FEIS, the referenced footnote has been revised to indicate that there are no Class I hazardous wells on the North Slope, and that there are a total of seven Class II non-hazardous waste wells on the North Slope at the present time.

PF-4

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-38, top. For the new facility pads Class I and Class II disposal wells may be possible.

RESPONSE

For the FEIS, Section 2.3.10.5 has been modified to acknowledge that additional Class I and/or Class II disposal wells could be included under FFD alternatives. The applicant's proposed action would not include any new Class I or Class II disposal wells.

PF-5

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.12.1 – Existing Alpine facilities (CD-1 and CD-2): In February 2001, the Corps of Engineers authorized the discharge of fill into 98.4 acres of wetlands for the construction of the Alpine facilities (CD-1, CD-2 and associated features). Subsequent authorizations bring the total authorized fill at Alpine to 112.302 acres. The Draft EIS consistently understates the amount of impacts of this existing project. This section states the “total acreage for CD-1 is 36.3 acres; the total acreage for CD-2 is 10.1 acres.” This is incorrect, totally misleading to the reader, and needs to be corrected in the Final EIS.

RESPONSE

The referenced text was meant to be specific to CD-1 and CD-2 only. For the FEIS, the text has been modified to clarify the distinction among all existing Alpine facilities, the existing Alpine pads, and the CD-1 or APF pad and CD-2 pad. The total area permitted by the USACE is 112.302 acres (including the airstrip); of this total, 36.3 acres is for CD-1, and 10.1 acres is for CD-2.

PF-6

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-36 and Table 2.3-12-1. The paragraph starting “ACX Project 3, or ACX 3, is necessary to operate the five production pads proposed in the CPAI development plan” is inaccurate based on continuing engineering studies. See DEIS0238 for specifically suggested replacement text.

RESPONSE

The suggested language has been incorporated into the FEIS in Section 2.3.12.2. Table 2.3.12-1 has been modified also.

PF-7

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-38: First full paragraph, second sentence. Discussion about facilities prohibited within 500 feet of water bodies should specify this is a stipulation for BLM lands only.

RESPONSE

For the FEIS, the referenced sentence has been modified to indicate that the stipulation applies to the BLM’s land.

PF-8

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-48, Table 2.4.1-6. The potential APFs are listed as APF-2 and APF-3 and the gravel coverage is the same as APF-1.

RESPONSE

As stated in EIS Section 2.3.13.3, the BLM has assumed that HPF-1 and HPF-2 would be comparable in size and other design aspects to APF-1.

PF-9

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-36, 1st paragraph. The CPAI Development Plan is mentioned here. The correct reference should be the Alpine Satellite Development Plan or ASDP. There are a number of other places in the document where the same reference is made. It is not appropriate to have multiple references to what seems to be the same plan.

RESPONSE

In the FEIS, references to the CPAI Development Plan were kept in the document for the purposes of differentiating CPAI's proposed plan from the FFD Scenario. Alpine Satellite Development Plan (ASDP) is used when referring to the entire project (CPAI and FFD), or referring to the project in general.

6.3.2.36 Production Pads**PP-1**

This issue was raised in the following letter: DEIS0204.

ISSUE

The injection of waste mud and cutting fluids through the annular 13-3/8 casing should be restricted when the possible injection zone varies from 2,500 feet to 5,000 feet. There are abundant abandoned wells to use for waste cutting fluids injection.

RESPONSE

Information regarding injection of waste mud and cutting fluids was provided in the DEIS in Section 2.3.3.3.

PP-2

This issue was raised in the following letter: DEIS0238.

ISSUE

Gravel pad sizes are currently being revised due to erroneous assumptions of area and thickness in the DEIS.

RESPONSE

For the FEIS, the gravel pad sizes have been revised, based upon additional information received from the applicant (see Section 2).

PP-3

This issue was raised in the following letter: DEIS0238.

ISSUE

Gravel numbers in the DEIS are not consistent throughout the document.

RESPONSE

For the FEIS, gravel quantities have been revised throughout the document, based upon additional information received from the applicant.

PP-4

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-13, 2.3.3.1. In the end of the 2nd paragraph, the sentence should read, “The existing APF CD-2 production pad is presented in Figure 2.3.3.1-3.” On the figure, it may be appropriate to present some overall dimensions. The figure title is missing some letters.

RESPONSE

The word “is” was added to the referenced sentence in Section 2.3.3.1. The referenced figure was replaced with actual proposed pad layouts for CD-3 and CD-4 for the FEIS.

PP-5

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.3.1 Bullet discussing permanent radio transmission towers. It states that all permanent towers would be triangular self-supporting towers with 9-foot wide bases. This may be too specific as there are a variety on the slope designed to address several variables.

RESPONSE

The referenced text in Section 2.3.3.1 has been modified for the FEIS to indicate that other designs (proven adequate via previous North Slope use) could be chosen.

PP-6

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-15. In the “non-road” pad discussion a diesel tank in the rig structure is mentioned. All rigs have a diesel tank within the structure.

RESPONSE

Section 2.3.3.1 of the FEIS clarifies that drill rigs with diesel tanks (built as a part of the drill rig structure) would be available at both road-connected and non-roaded pads. Text also notes that in addition to all temporary storage tanks available at road-connected pads, non-roaded pads would be equipped with two 25,200-gallon (600 bbl) brine and one 25,200 gallon (600 bbl) fresh water tanks.

PP-7

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-17, 2.3.3.3. In the last paragraph, the possibility of a new Class II well at one of the production pads is mentioned. This conflicts with statements made later in the document and is not what CPAI has presented. In the ASDP Alternative A, no new disposal wells are planned.

RESPONSE

Section 2.3.3.3 of the FEIS confirms that no new Class II wells are included in the applicant's proposed action. The FEIS notes that FFD alternatives include additional Class II wells at the HPFs.

PP-8

This issue was raised in the following letter: DEIS0242.

ISSUE

While it is correct that CD-1-19A can accept drill cutting, CPAI only rarely employs the well for this due to significant depth of the injection zone and the potential to plug the well. Drilling mud and cuttings at Alpine are disposed of via annular disposal and that is likely how such wastes would be disposed of at the satellite pads.

RESPONSE

Section 2.3.11.5 of the FEIS clarifies that CD-1-19A is permitted for, rather than used for, such disposal.

PP-9

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-1: Footnote. A more accurate definition of a satellite is "a separate hydrocarbon accumulation that shares processing facilities and infrastructure with a nearby established oil and gas development."

RESPONSE

The suggested language has been used in the FEIS to replace the DEIS definition in the footnote (see Section 2.1).

PP-10

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-14: First full paragraph. Pads "in the Colville Delta" are designed to accommodate a 200-year flood plus 1-foot. Pads outside of the delta do not need such a stringent requirement, they are designed for thermal protection of permafrost.

RESPONSE

The suggested changes were made for the FEIS (see Section 2.3.3.1).

PP-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-15: Middle of page, Mud plant tanks and silos, 5 x 25,000-gallon tanks. Tanks listed add up to 6, not 5 tanks.

RESPONSE

For the FEIS, the text indicates six tanks (see Section 2.3.3.1).

PP-12

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-20: The sentence “The FLIR system is capable of detecting small temperature differences that result if a leak occurs and can identify areas where the pipeline insulation is damaged or saturated water.” is incorrect. Replace it with the following sentence “The FLIR system is capable of detecting small temperature differences that result if a leak occurs.

RESPONSE

Section 2.3.4 of the FEIS includes the suggested change.

PP-13

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS must be corrected to reflect the fact that CD-4 and perhaps other facilities may be built in summer and that there will be summer activities associated with construction regardless of CD-4s winter schedule.

RESPONSE

Table 2.4.1-5, Construction Schedule, shows that both winter and summer construction activities would occur.

PP-14

This issue was raised in the following letter: DEIS0242.

ISSUE

Table 2.2.2-1, 1st footnote. The production zone at Alpine is the Alpine Sand. The Alpine Field reference is not correct. There are several potential pay sands in the Alpine Field with the actual Alpine Sand being one of them.

RESPONSE

A revised table footnote has been included in the FEIS.

PP-15

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-41. Beneath the table the winter only drilling season is discussed for CD-3. The schedule should be checked since it shows multiple rigs operating in some winter seasons when drilling at CD-3 is underway.

RESPONSE

The construction schedule in Table 2.4.1-5 indicates that drilling would occur at several pads during some winters. This would require additional drill rigs.

PP-16

This issue was raised in the following letters: DEIS0230 and DEIS0242.

ISSUE

Page 2-41, roaded pads. In the last sentence a 200' setback is given. A distance of 500' is generally stipulated by the state, which is consistent with the 1998 Northeast National Petroleum Reserve-Alaska stipulations. The EIS must include discussion of whether an exception is justified because some lakes are recognized as important fish habitat.

RESPONSE

As indicated in the referenced text, Alternative A is proposed by the applicant, and includes exceptions to some of the Northeast National Petroleum Reserve-Alaska IAP/EIS stipulations. Stipulation 41 pertains to setbacks from water bodies. Appendix I includes the applicant's requests for exceptions to stipulations. A discussion of the factors considered by the BLM for exceptions to stipulations was presented in Section 2.4.6 of the DEIS.

PP-17

This issue was raised in the following letter: DEIS0242.

ISSUE

Pages 2-44 to 2-46, Table 2.4.1-5. In this overall schedule, there are several seasons of multiple rigs. The maximum found is 3 with a lot of seasons having 2 rigs. Multiple rigs are likely to be used. However, discussions throughout the DEIS imply only 1 rig will be used for all satellites. This needs to be clarified.

RESPONSE

Multiple rigs would be used for those seasons with drilling activity at more than one CD. The project description has been revised accordingly for the FEIS.

PP-18

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-53, Table 2.4.2-1. The areas covered for CD-6 and CD-7 differ. Does this presume that material is stored at CD-6 for drilling CD-7?

RESPONSE

Yes. Larger pad areas include storage pads.

PP-19

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-70: Table 2.4.4-1. It does not appear that gravel volumes for the road between CD-4 and the Alternative D airstrip are included on this table or anywhere else in the document.

RESPONSE

Table 2.4.4-1 includes gravel volumes for the CD-4 airstrip under Sub-Alternative D-1, and the airstrip access road under the heading “airstrips and aprons/taxiways.”

6.3.2.37 Purpose and Need

PN-1

This issue was raised in the following letter: DEIS0240.

ISSUE

The EIS must clarify the meaning of “project” in reference to the 5 new pads and FFD.

RESPONSE

The term “project” in the EIS refers only to the five new production pads proposed by the applicant.

PN-2

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-5, 2nd paragraph. In the latter portions of the paragraph, production volumes for pads and APFs are given. Suggest these be qualified with a time in years.

RESPONSE

Table 4A.4.2-1 of the FEIS includes this information.

PN-3

This issue was raised in the following letter: DEIS0240.

ISSUE

The EIS does not include the purpose and need for the FFD alternatives that exist separately from CPAI's proposed action.

RESPONSE

The purpose and need is limited to the applicant's proposed action. FFD alternatives are not part of the proposed action. The discussion of FFD in Section 1.1.1 has been edited for the FEIS to more clearly express the intent of the FFD analyses.

PN-4

This issue was raised in the following letter: DEIS0271.

ISSUE

FFD has not been sufficiently analyzed or clearly identified as a proposed action in the Purpose and Need Statement for the EIS.

RESPONSE

The purpose and need is limited to the applicant's proposed action. FFD alternatives are not part of the proposed action. The discussion of FFD in Section 1.1.1 has been edited to more clearly express the intent of the FFD analyses.

PN-5

This issue was raised in the following letter: DEIS0116.

ISSUE

FFD plans for the Colville River Delta should be reduced and production facilities and other developments should be moved away from the Delta and other water bodies. Development would have a negative impact in these areas that are very important to waterfowl, fish and subsistence activities, especially in the event of an oil spill.

RESPONSE

The FFD alternatives are not described as plans for future development, but instead provide a basis for analysis of potential impacts of such hypothetical future development.

PN-6

This issue was raised in the following letter: DEIS0200.

ISSUE

The only identified oil field in the DEIS plan area is not listed as reasonably foreseeable development nor is it chosen as one of the potential future development sites in the FFD scenario. Conversely, 16 new fields and 2 large processing centers are considered reasonably foreseeable despite the fact that (1) none of these sites constitute oil/gas discoveries; (2) the locations are entirely hypothetical; and (3) the estimated pace of development for FFD far exceed any historical experience in the area.

RESPONSE

The FFD alternatives are provided to conduct analyses of potential future impacts and to identify very preliminary potential mitigation measures to address those impacts. The FFD alternatives were not designed to identify actual future development sites. The BLM sought to maintain the confidentiality of hydrocarbon potential, as required by law. They selected a variety of sites that, when analyzed, reflect the resources and uses that might be impacted by future development. The FEIS provides text in Section 2.2.3 to clarify this purpose.

PN-7

This issue was raised in the following letter: DEIS0200.

ISSUE

The totals for expected production from the FFD scenario should be reviewed because they are too high in comparison to the estimated production totals from the entire Northeast National Petroleum Reserve-Alaska.

RESPONSE

The FFD scenario alternatives are provided to conduct analyses of potential future impacts and to identify very preliminary potential mitigation measures to address those impacts. FFD production totals are hypothesized, and for purposes of analysis; actual production could be different. The FEIS provides text in Section 2.2.3 to clarify this purpose.

PN-8

This issue was raised in the following letter: DEIS0200.

ISSUE

Completing the development of 22 new fields (16 in Northeast National Petroleum Reserve-Alaska) over the next 20 years is unrealistic when the typical timeframe between discovery and development is usually 6 to 10 years for each new field.

RESPONSE

The FFD scenario alternatives are provided to conduct analyses of potential future impacts and to identify very preliminary potential mitigation measures to address those impacts. The FFD alternatives were not designed to identify actual future development sites. The BLM sought to maintain the confidentiality of hydrocarbon potential, as required by law. They selected a variety of sites that, when analyzed, reflect the resources and uses that might be impacted by future development. The FEIS provides text in Section 2.2.3 to clarify this purpose.

PN-9

This issue was raised in the following letter: DEIS0200.

ISSUE

The DEIS should include the impacts of gas development in the next 20 years and downgrade the status of the admittedly hypothetical pools assumed under the FFD scenario to the "speculative" category.

RESPONSE

Consistent with other BLM leasing EISs, including the recently completed Northwest National Petroleum Reserve-Alaska IAP/EIS and the current Northeast National Petroleum Reserve-Alaska IAP/EIS amendment, commercial sale of National Petroleum Reserve-Alaska gas is not considered reasonably foreseeable. A sales gas pipeline to move gas off the North Slope is considered economically infeasible, and without a pipeline, production of gas from the National Petroleum Reserve-Alaska is deemed speculative.

PN-10

This issue was raised in the following letters: DEIS0200, DEIS0240, and DEIS0257.

ISSUE

The EIS should include a site-specific discussion of abandonment activities and the impacts (including costs) associated with the removal of 22 pads, 2 processing centers, and hundreds of miles of connecting roads, bridges, culverts and pipelines for all alternatives including FFD. This is insufficient under NEPA.

RESPONSE

The EIS considered the impacts from hypothetical future development at the FFD sites. Future NEPA documents for actual proposed new development and NEPA analysis to address the AO's discretionary decision on plans for rehabilitation would address the impacts of abandonment further.

PN-11

This issue was raised in the following letter: DEIS0236.

ISSUE

Regardless of today's plans to operate in small, self-supporting facilities like the Alpine Production Facility, the NSB and the EIS must consider the possibility that extended development of the oil field service sector west of Deadhorse will lead to demand for additional public services. Services separate from any village's existing infrastructure and sanitary facilities will be required.

RESPONSE

It is unclear whether this statement refers to concerns with the applicant's proposed action or reasonably foreseeable development. It may refer to both, though the primary concern seems more distant future development. In any case, this seems to be a suggestion for impact analysis to acknowledge the pressure that development would place on NSB infrastructure, such as on landfills and utilities. The Socio-Cultural discussion of impacts notes the potential need for additional services, as does the cumulative impact analysis.

PN-12

This issue was raised in the following letter: DEIS0242.

ISSUE

The EIS should clearly state that in FFD scenario, it is unlikely that more than 6 or 7 of the hypothetical pads would be developed and possibly one of the hypothetical processing facilities over the next 20 years. Without clarification, the reader assumes development of all pads and facilities, thus overstating potential impacts.

RESPONSE

Section 2.2.3 of the DEIS acknowledges that the FFD alternatives, presented to examine a wide range of environmental impacts, are “aggressive” and further notes that the BLM does not imply that development will or will not occur at any of these specific locations or on this scale. It further states that the actual location and number of production pads and HPFs that would be required to accomplish FFD are not known. The conceptual FFD portrayed and evaluated in this EIS is believed to overstate the anticipated FFD. CPAI projects that their leases of the FFD would not support more than a total of 12 production pads within the Plan Area, including existing CD-1 and CD-2 and the five proposed pads. However, the BLM does not have seismic or exploratory drilling results for substantial portions of the Plan Area and there are too many uncertainties (including technological and economic) to state with confidence that development would not exceed the volume suggested in the comment.

PN-13

This issue was raised in the following letters: DEIS0239 and DEIS0240.

ISSUE

The EIS fails to explain the methodology BLM used in siting the various FFD pad locations. Figures 2.2.3-1 and 3.2.1.2-3 show that the hypothetical pad locations do not match up with known fields in the plan area.

RESPONSE

The discussion in Section 2.2.3 has been modified for the FEIS to better explain the siting of the HPs under FFD alternatives.

PN-14

This issue was raised in the following letter: DEIS0242.

ISSUE

In several sections, the development time frame is stated as 15 to 20 years and as 10 to 20 years. Both references should be replaced with “within the next 20 years.”

RESPONSE

The suggested edits have been incorporated into the FEIS.

PN-15

This issue was raised in the following letter: DEIS0239.

ISSUE

The hypothetical future development map, necessary for cumulative impact analysis, needs to depict all of the known reservoirs reported to the State or BLM.

RESPONSE

Seismic and exploratory drilling results provided to the state and the BLM are proprietary and confidential by law.

PN-16

This issue was raised in the following letter: DEIS0239.

ISSUE

Siting of FFD oil and gas processing facilities should be considered now. The EIS should explain how many more fields could come on line before an additional facility would be required.

RESPONSE

The FFD scenario alternatives analyses consider the impacts of additional processing facilities and hypothetical locations have been identified for analysis purposes. No decisions are appropriate at this time for any development beyond the applicant's proposed action. Without much more oil exploration and knowledge of future oil markets, the number and location of any additional processing facilities is hypothetical. Additional processing facilities would be necessary if additional production pads were developed in the western part of the ASDP because three-phase flow from wells is limited to a maximum distance of approximately 25 to 30 miles without processing and pump station support.

PN-17

This issue was raised in the following letter: DEIS0230.

ISSUE

The FFD analysis boils down to some bland language that the impacts in the FFD would be more of the same. What good is NEPA planning when it is conducted in a hypothetical realm where both actions and impacts are purely imaginary?

RESPONSE

Analyses of the FFD scenario alternatives point to some impacts that would be distinct to specific locations and different from those under the applicant's proposed action. If additional proposals are submitted for development, additional impact analysis will be completed.

PN-18

This issue was raised in the following letter: DEIS0230.

ISSUE

There is no way that BLM can take a hard look at impacts to our socioculture and subsistence from development at the FFD sites when its analysis is more general than that used for the proposed Alpine satellites.

RESPONSE

The BLM agrees that future development would require additional NEPA analyses.

PN-19

This issue was raised in the following letter: DEIS0230.

ISSUE

FFD impacts to fish depends on precise site decisions of future development and bridge design.

RESPONSE

Future NEPA analysis would be necessary to identify impacts of any actual future proposal to fish as well as other resources and uses.

PN-20

This issue was raised in the following letter: DEIS0230.

ISSUE

FFD in the Plan Area is so far removed from any proposed action that it simply is premature to conduct NEPA planning for such development at this time.

RESPONSE

The BLM and the cooperating agencies acknowledge that additional NEPA analyses would be necessary if additional proposals come before them.

PN-21

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-6: The following two statements are not entirely accurate: "Gas separation and handling equipment employed for the scenarios analyzed will be nearly identical to that for sales production of gas." Also "no other stand alone facilities will be needed for gas production." In a gas sales scenario (which is not being addressed in this EIS) there would be a need for compressors and associated facilities at a new gas processing plant.

RESPONSE

The referenced text has been modified for the FEIS.

PN-22

This issue was raised in the following letter: DEIS0242.

ISSUE

S2.2 [sic S2.3] 2nd paragraph. No qualification is made that the hypothetical FFD is based on CPAI like proposal, although that is not necessarily how it would happen if development is by another oil company. Later in the document, a qualified statement is made.

RESPONSE

The FFD scenario alternatives are presented to provide analyses of potential future impacts. Although the agency made its best projections of how future development might occur, different impacts could be possible with different development approaches. These would be addressed in future NEPA analyses, which would take into account any variations from the hypothetical analysis presented in the FEIS.

6.3.2.38 Recreation Resources**RR-1**

This issue was raised in the following letter: DEIS0163.

ISSUE

The EIS should address impacts to commercial guides in the Colville River area.

RESPONSE

The FEIS indicates that the assessment used both the results of discussions with outfitter-guides operating in the Plan Area and previous knowledge of the Plan Area's natural resources. Section 4A.4.7 discusses how recreation and outfitter-guides may be impacted by the construction and operation of CPAI's proposed FFD alternatives.

Section 3.4.7.3 includes a description of guided recreational activities in the Plan Area, including the Colville River area. Sections 4A-G.4.7 address impacts to recreation users. Most recreation users are guided. Recreation users and their guides would experience negligible impacts as a result of the proposed action and alternatives.

RR-2

This issue was raised in the following letters: DEIS0201 and DEIS0253.

ISSUE

BLM should consult locals or use current information sources to evaluate impacts to wilderness tourism.

RESPONSE

Documented information on particular elements of recreation and wilderness tourism is limited, for example exact destinations, visitor numbers, origins of visitors, and lengths of stay. Conversations with BLM's staff indicate most recreation use and wilderness tourism is through outfitter-guide services. Outfitter-guide services were contacted and consulted (see Section 3.4.7, Recreation Activities and Use in the Plan Area) regarding impacts resulting from alternatives or FFD alternatives.

Section 4A.4.7.1 of the FEIS has been revised to further clarify the similarity of impacts experienced by outfitter-guides and wilderness tourists. The text indicates that those engaging in wilderness tourism independent of outfitter-guides would likely be subject to similar recreation-related impacts as those described for those traveling with outfitter-guides.

RR-3

This issue was raised in the following letter: DEIS0232.

ISSUE

The EIS's analysis of recreational impacts should include use of the area by hunters, hikers, and photographers, all of whom rely on the natural wild of this place.

RESPONSE

Section 4A.4.7.1 of the FEIS has been revised to further clarify the similarity of impacts experienced by clients of outfitter-guides and hunters (non-subsistence), hikers and photographers. Text indicates that those engaging in non-subsistence hunting, hiking, and photography independent of outfitter-guides would likely be subject to similar recreation-related impacts as outfitter-guides.

RR-4

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-187: Should mention there are also scheduled commercial flights into Nuiqsut, on Cape Smythe and Frontier, not just charter flights.

RESPONSE

Commercial air flights are conducted by Cape Smythe Air and Frontier Flying Service, Inc. Both services have one flight per day into and out of Nuiqsut, all days of the week except Sunday. Section 3.4.7.1 of the FEIS has been revised accordingly.

6.3.2.39 Regional Economy

RE-1

This issue was raised in the following letters: DEIS0230, DEIS0238, and DEIS0242.

ISSUE

CPAI and the State disagree with the statement, “Minimal employment of Nuiqsut residents during construction and operation is expected.”

RESPONSE

For the FEIS, the referenced text has been modified to clarify that directly related construction and operation jobs are expected. It is clear that Nuiqsut has benefited from increased service-related jobs in recent years and that these benefits would likely continue upon approval of the applicant’s proposed action.

The DEIS utilized several time period sources to portray the employment and income of Nuiqsut residents. Data from the 2000 census show very little oil-related employment of residents of the NSB, as noted in Section 4A.4.2.2. Other sources, including anecdotal sources, were utilized to portray a more comprehensive overview of the economic benefits Nuiqsut residents since the Alpine Development Project began. A summary of these benefits is discussed in Section 3.4.1.7.

An unreleased study of oil and gas development in Nuiqsut (Haley 2004) showed an increase in both household and per capita income over the past several years. This new information has been incorporated into the FEIS.

RE-2

This issue was raised in the following letter: DEIS0200.

ISSUE

In the DEIS, Alpine oil reserves are frequently stated as 429 million barrels, whereas Table 4A.4.2.-1 gives the total as 475.4 million barrels. Only one specific volume should be used.

RESPONSE

The discrepancy is the result of using two different sources. The AOGCC's Area Injection Order No. 18 states that 429 MMbbl (approximately 45 percent of the estimated 960 MMbbl in place) is the estimated recovery from the Alpine sand. It was considered appropriate to use the projections of oil production and revenues developed from models utilized by the Alaska Department of Revenue for economic impact projections. The total of 475.4 shown in Table 4A.4.2-1 is based on this model.

The projections of 2003–2023 oil production and revenues shown in Table 4A.4.2-1 were also based upon models utilized by the Alaska Department of Revenue, except in the cases of FFD. For FFD alternatives, projections of HP-1 through HP-22 production were made according to the assumptions cited in the text discussion of Table 4A.4.2-1 data. The shown total of 475.4 is the sum of the estimated production using this model.

RE-3

This issue was raised in the following letter: DEIS0200.

ISSUE

The analysis period for impacts associated with FFD should extend to at least the time when foreseeable oil production tails off and abandonment activities begin. The DEIS states that FFD production cuts off at 2023, but given the steady increase up to that date, it is unlikely.

RESPONSE

Section 4A.4.2.1 and Table 4A.4.2-1 provide a description of the methodology utilized for the oil production forecast. The primary source for the projection was a production model utilized by the Alaska Department of Revenue, modified to accommodate the FFD scenario alternatives. The production and price models utilized by the Alaska Department of Labor only extend 20 years into the future. Production resulting from the applicant's proposed action would extend beyond the 2023 time horizon, and this future projection is captured in the last row of Table 4A.4.2-1. Footnote "b" at the bottom of the table indicates that the total shows the total estimated production in thousands of barrels over the life of the production area, including years past 2023. Similarly, the cumulative impact analyses, which include FFD alternatives, also extend beyond 2030.

RE-4

This issue was raised in the following letter: DEIS0241.

ISSUE

Costs and economic analysis for all alternatives should be included in the FEIS. The Corps cannot complete their 404 permit evaluation without this information.

RESPONSE

Additional project cost data are provided in Appendix J.

RE-5

This issue was raised in the following letter: DEIS0236.

ISSUE

Analysis of socioeconomic effects should include review of specifically cited information sources, including references used in the 2003 NRC report and the TAPS Right of Way renewal environmental report, as well as technical reports produced by the Minerals Management Service.

RESPONSE

The EIS' economic analyses were completed using the best available data, including the sources cited in the comment. Citations of different sources are also included in the text.

RE-6

This issue was raised in the following letter: DEIS0236.

ISSUE

Analysis of socioeconomic effects should consider exclusion of gravel placements (considered intangible development costs) and government-built roads from tax bases and reduction of royalties in the Federal Energy Bill.

RESPONSE

A detailed breakdown of project cost information was not available. General costs are presented in Appendix J. In lieu of more detailed data, an alternate methodology was developed and utilized to estimate property tax impacts (see Section 4A.4.2.2). This method utilized a point estimate of \$0.50/bbl to calculate property taxes. Specific information on the precise costs of gravel placements and/or government-built roads was not part of the data utilized in the property tax analysis because it was not available. Effects of tax structure legislation are uncertain and cannot be considered in this analysis.

RE-7

This issue was raised in the following letter: DEIS0236.

ISSUE

Employment numbers in the EIS for Nuiqsut residents have not been confirmed by the Department of Labor and appear to be too high (page 3-132).

RESPONSE

For the FEIS, the referenced text has been modified to clarify that directly related construction and operation jobs are expected. It is clear that Nuiqsut has benefited from increased service-related jobs in recent years and that these benefits would likely continue upon approval of the applicant's proposed action.

The DEIS utilized several time period sources to portray the employment and income of Nuiqsut residents. Data from the 2000 census show very little oil-related employment of residents of the NSB, as noted in Section 4A.4.2.2. Other sources, including anecdotal sources, were utilized to portray a more comprehensive overview of the economic benefits Nuiqsut residents since the Alpine Development Project began. A summary of these benefits is discussed in Section 3.4.1.7.

An unreleased study of oil and gas development in Nuiqsut (Haley 2004) showed an increase in both household and per capita income over the past several years. This new information has been incorporated into the FEIS.

RE-8

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.4.2.2, Page 3-136 and 3-137: The NSB revenues listed appear to include those for the NSB School District. The revenues listed are markedly higher than the revenues listed in the Northwest National Petroleum Reserve-Alaska IAP/EIS, Section III.C.1.a., in which NSB School District revenues are explicitly excluded. In any case, the EIS should specify whether NSB School District revenues are included or not.

RESPONSE

The discussion of NSB revenues cited in Section 3.4.2.2 includes revenues from all sources as reported by the NSB. School district revenues are included in the “Intragovernmental” category. A clarification of this has been included in the FEIS.

RE-9

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.4.2.2, Page 3-137: The bullet for 2000 has \$282 million. This does not correspond to any of the NSB Revenues in Table 3.4.2-2.

RESPONSE

For the FEIS, Table 3.4.2-2 has been modified according to financial data from the NSB and a State of Alaska tax publication.

RE-10

This issue was raised in the following letter: DEIS0200.

ISSUE

Table 3.4.2-2: It is not clear from the title what year the dollars shown are for. We suggest the title be revised to “North Slope Borough Tax Revenues, Year 2000 (in millions of \$’s).”

RESPONSE

The table has been revised for the FEIS and the year has been clearly indicated.

RE-11

This issue was raised in the following letter: DEIS0200.

ISSUE

Table 3.4.2-2: Also there appears to be a mistake in addition ($\$253 + \$42 = \$295$ not $\$331$).

RESPONSE

The table has been revised as suggested for the FEIS.

RE-12

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.4.2.3 Government Expenditures, Page 3-137, Para. 1st: It is unclear whether this paragraph is about the NSB or the State or both.

RESPONSE

The DEIS text referred to North Slope government expenditures. The FEIS includes revisions to properly clarify the subject of the paragraph.

RE-13

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.4.2.4 Employment and Personal Income and Figure 3.4.2.4-1, Page 3-137: The text correctly refers to Figure 3.4.2.4-1, however data for several sectors in Figure 3.4.2.4-1 do not agree with the data presented in the text (e.g., Government Sector is 2.1% in the Figure vs. 27.1% in the text; Manufacturing and Mining/Oil and Gas also do not match).

RESPONSE

For the FEIS, the numbers noted in this comment have been corrected (see Section 3.4.2.4 and Figure 3.4.2.4-1).

RE-14

This issue was raised in the following letter: DEIS0200.

ISSUE

Section Table 4A.4.2-1 (Projected Production): The footnote states the projects are "...based on assumptions provided by BLM" yet the text provides an incomplete discussion of the assumptions and timetable leading to the production estimates for the Full Field Development (FFD) scenario. Are these assumptions presented in another document?

RESPONSE

These assumptions were discussed in the three paragraphs directly following Table 4A.4.2-1. The text describes how the FFD production estimate of 1.6 Bbbl was calculated.

RE-15

This issue was raised in the following letters: DEIS0200 and DEIS0242.

ISSUE

Section Table 4A.4.2-1 (Projected Production): The production units are confusing – yearly production rates are given in thousands of barrel per day, whereas production totals are given in millions of barrels over the life of the fields.

RESPONSE

For the FEIS, the total production column has been modified to be in units of thousands of barrels, rather than MMbbl.

RE-16

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include an economic analysis as an Appendix that compares the applicant's proposed action with the other reasonable alternatives and the environmental consequences to the public and Tribal resources of the National Petroleum Reserve-Alaska. Without this analysis, the EPA cannot determine whether the alternatives evaluated in the ASDP EIS are practicable and in compliance with Section 404(b) Guidelines.

RESPONSE

The DEIS provides an analysis of the income and revenue impacts associated with the applicant's proposed action, based on the best available data for each of the different alternatives. For example, the income and revenue impacts associated with Alternative A are presented in the EIS, beginning at Section 4A.4.2.2. Appendix J provides estimates of the costs of constructing, drilling, operating, maintaining, abandoning, and rehabilitating activities for each alternative. Production projects are provided in Table 4A.4.2.1. Section 4 describes the impacts to resources and current uses, including those to the public and tribal resources.

RE-17

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-128: Statement “when North Slope oil production begins to decline...” is inaccurate. Production has been declining since 1988. Also NSB revenues come from property taxes, which are not directly tied to production (although they are indirectly tied).

RESPONSE

The statement is incorrect as written in the DEIS. In the FEIS, the paragraph correctly notes that peak production was achieved in 1988, and declined steadily until 2000.

RE-18

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-137: Table 3.4.2-2 appears to have errors in the % shown for the oil and gas share.

RESPONSE

Table 3.4.2-2 has been revised for the FEIS using data from the NSB and the Department of Community and Regional Development. The text discussion of the table has been modified to discuss the direct and indirect dependence of the NSB upon oil and gas generated revenues.

RE-19

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-13: The capital cost for Alternative A (\$100 million over a 20-year period) in the DEIS is unrealistically low. Upon approval of the project, the capital expenditure could be in the range of \$800 million to \$1.3 billion.

RESPONSE

Additional and updated cost information has been included as Appendix J to the FEIS.

RE-20

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 4F.2.4.1 Projections of North Slope Oil Production, Page 4F-3, Para. 1st: The DEIS incorrectly uses the information from Table IV-15 of the Northwest National Petroleum Reserve-Alaska IAP/EIS. The reserve and resource estimates in Table IV-15 do not represent three different crude oil price futures as is stated in the text of the DEIS.

RESPONSE

The text in Section 4F.2.4.1 has been revised for the FEIS.

RE-21

This issue was raised in the following letters: DEIS0017, DEIS0114, DEIS0207, DEIS0212 and DEIS0217.

ISSUE

A portion of the funds from the Alpine development sites should be allocated to a compensation fund to provide technical, health service, public service, and legal support to Nuiqsut and other North Slope residents for addressing impacts.

RESPONSE

Appendix F summarizes funds allocated to area governments from leases issued in National Petroleum Reserve-Alaska. Revenues accruing to local, state, and federal governments from the development of the proposed production pads are discussed in Section 4, Regional Economy and may be allocated as those governments determine appropriate.

6.3.2.40 Roads**RD-1**

This issue was raised in the following letters: DEIS0115 and DEIS0240.

ISSUE

The DEIS mentions the need for rip rap for roads, but does not indicate where rip rap would come from, or discuss any impacts associated with its extraction, transportation and placement. (example: p.2-60)

RESPONSE

Rock for armor, to the extent available, would come from the ASRC Mine Site or from Clover. Due to the lack of local rock resources, fabricated armor systems, such as concrete mats and gravel filled fabric bags, may be used, as described in Section 2.4.3 of the EIS.

RD-2

This issue was raised in the following letters: DEIS0238 and DEIS0242.

ISSUE

Section 2.3.1.1 Road Design. In the second paragraph, it is clearly stated that the basis for volumes and coverage was based on 5' average depth, 32' width and 3H:1V: sideslopes that gives a total width of 62'. This basis is not consistently presented in the document. This makes for a lot of confusion. Although the drawing in Figure 2.3.1.1-1 seems to be for the minimum road design which is 4' thick with 2H:1V sideslopes, the overall width is not correct. With 4' depth and the stated slope grade, the coverage is 48' not 52'. If the drawing is to present the minimum it should state that and the numbers must be correct. Other depths and slope grades and coverages can be presented as well in a table. State reviewers were not sure what depth and slope grade would give an 82' width.

RESPONSE

For the FEIS, calculations to determine gravel quantities used in roads have been revised to consistently use a 32-foot road top width, a 5-foot depth, and 2H:1V sideslope. The resultant calculated footprint width is 52 feet.

RD-3

This issue was raised in the following letter: DEIS0242.

ISSUE

2.3.1.1 Second sentence should lead with ...In areas subject to inundation the potential for erosion exists....First Sentence, Second Paragraph should end with ...and heat transmitted by the gravel. Last Sentence of the 2nd P. "Storm Surge" only needs to be mentioned once in the sentence beginning with "In addition to flooding and storm surges...."

RESPONSE

The suggested changes have been made to Section 2.3.1.1 for the FEIS.

RD-4

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-8, last paragraph. The 46000 cu yd number is for a 5' road with 3:1 sideslopes that is correct. As stated previously, the drawing in the figure is supposed to be for a 4' road with 2:1 slope.

RESPONSE

For the FEIS, calculations have been revised to consistently utilize a 32 foot-wide road, a 5-foot depth, and a 2H:1V sideslope. Gravel quantity calculations are also based on these dimensions. The revised gravel quantity per mile, based upon these dimensions, is 41,100 cy.

RD-5

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-49, Table 2.4.1-7. Finally there is only reference to the 32' wide, 5' thick, 3:1 slope road. All tables that are related to roads should use these notes. The "covers at least 52' wide" in the notes for Table 2.4.1-3 on page 2-43 should be deleted.

RESPONSE

For the FEIS, calculations have been revised to consistently utilize a 32 foot-wide road, a 5-foot depth, and a 2H:1V sideslope. Gravel quantity calculations are also based on these dimensions. The notes in all applicable tables have been modified accordingly for the FEIS.

RD-6

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 2-66: gives no data or adequate explanation for the need for a road width of 32-feet for permanent roads.

RESPONSE

As indicated in Section 2.3.1.1, roads are proposed to have a 32 –foot-wide driving surface to accommodate two-lane traffic and wideload moves.

RD-7

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.1.1 – Road Design – The road design criteria is a moving target. Road widths are given as 52-feet, 62-feet and 82-feet. Tables in this section often list different standards in the bullet statements. Road side-slopes – are they 2:1 or 3:1. As 2:1 roads always slump after construction, it is more practicable to construct and calculate

impacts at 3:1. If roads are proposed with 2:1 sideslopes, the EIS should calculate the impacts from roads at 3:1 to allow for side slump.

RESPONSE

For the FEIS, calculations have been revised to consistently utilize a 32 foot-wide road, a 5-foot depth, and a 2H:1V sideslope. Ongoing maintenance is proposed to maintain the sideslopes and prevent side slump.

RD-8

This issue was raised in the following letter: DEIS0238.

ISSUE

CPAI objects to the mitigation measure of reducing traffic levels by limiting field access to industry only. This conflicts with CPAI's agreement with Kuukpik.

RESPONSE

For the FEIS, this potential mitigation measure has been deleted from Sections 4A.3.5.2, 4B.3.4.4, 4C.3.3.4, and 4D.3.5.2. Table 2.5-1 has been edited to indicate that Alternative B road use is restricted to industry use only on federal and state lands, and that local residents may use the roads on Kuukpik Corporation lands.

RD-9

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-8: First full paragraph. Revise estimated gravel road thickness of 10 feet for roads in the lower Colville delta – hydrological assumptions were in error. Note CPAI is not proposing roads in this area but they would likely be an average of 5 feet thick with substantial slope stabilization.

RESPONSE

For the FEIS, the reference to 10 foot-thick roads has been removed from Section 2.3.1.1.

RD-10

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-9: Road Use During Operations. Revise to round trips twice a day (once per shift) by operators to roaded pads.

RESPONSE

Section 2.3.1.3 has been revised for the FEIS to indicate two road trips per day.

RD-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-9: First sentence under Sect 2.3.1.3. Insert the words “After completion of drilling operations,”....in front of first sentence starting with “Normal field operations....” While drilling goes on at these pads, there will be many more trips than 1 round trip by truck per 2-3 days.

RESPONSE

The suggested change has been made to Section 2.3.1.3 for the FEIS.

RD-12

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-42: Table 2.4.1-2, Alternative A – Annual Projected Water Usage for Ice Roads. Year 2005 total is in error. Also does not appear that annual ice road from Kuparuk to Alpine is included.

RESPONSE

Annual construction ice road figures for Alternative A have been incorporated into the FEIS, and associated water usage has been recalculated. Table 2.4.1-2 has been revised accordingly.

RD-13

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-51: Table 2.4.1-9, Alternative A – FFD Ice Road Estimates. This and other FFD Ice Road Estimate tables – footnote says estimates assume gravel supply from the ASRC and Clover mine sites. This is not possible as there are not enough gravel resources in these two mine sites to build the FFD facilities.

RESPONSE

Gravel sources beyond the ASRC Mine Site and Clover are hypothetical in nature. The footnote on Table 2.4.1-9 has been changed accordingly for the FEIS.

RD-14

This issue was raised in the following letter: DEIS0242.

ISSUE

S.2.2.1-S.2.2.3. In the last sentence of each of these sections, who will have access to the roads is mentioned. Government agencies should be included.

RESPONSE

Government agencies have broader, non-project-specific authority to access roads and facilities in execution of their prescribed duties; however, the FEIS incorporated text to clarify that government agency personnel would use roads.

RD-15

This issue was raised in the following letter: DEIS0261.

ISSUE

Instead of placing the roads, pipelines and powerlines for long distances within the setback area around CD-6, a shorter “spike line” should be run from a location just south of the setback line.

RESPONSE

The “spike line” approach has been adopted and is described in the discussion of Alternative F – Preferred Alternative (see Section 2.4.6).

RD-16

This issue was raised in the following letter: DEIS0240.

ISSUE

The EIS must clarify how the estimated 256 miles of ice roads were calculated.

RESPONSE

Annual construction ice road figures for Alternative A have been incorporated into the FEIS, and associated water usage has been recalculated, based upon the revised CPAI permit application (CPAI 2004a) received on January 16, 2004.

RD-17

This issue was raised in the following letter: DEIS0242.

ISSUE

In Section 2.4.1.1, it should be made clear that the “narrow point between two basins” where the CD-4 road would be, is not a minor crossing as it is 350-425ft wide and 8ft deep.

RESPONSE

For the FEIS, this description has been added to Section 2.4.1.1

RD-18

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-42, Table 2.4.1-2. The total water volume for 2005 is not correct. It should either be 26 or 5 and should be listed in the operations column.

RESPONSE

Annual construction ice road figures for Alternative A has been incorporated into the FEIS, and associated water usage has been recalculated, based upon the revised CPAI permit application (CPAI 2004a) received on January 16, 2004. Table 2.4.1-2 has been revised accordingly for the FEIS.

RD-19

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 2-39, In 2.4.1.1, a description of CPAI's proposed access road to the CD-4 pad it is noted that the road 'bisects a lake at a narrow point between two basins'. This appears inconsistent with Figure 2.4.1.1-3, which appears to show the road crossing the greatest north-south length of the eastern basin of the lake. In any event, this is a significant lake crossing. Far greater engineering detail and analysis must be provided.

RESPONSE

Revisions to Figure 2.4.1.1 have been incorporated into the FEIS to more accurately depict the location of the road to CD-4. Text describing the crossing has been added to Section 2.4.1.1 of the FEIS.

RD-20

This issue was raised in the following letter: DEIS0241.

ISSUE

Table 2.4.1-1: The gravel quantities and fill amounts need to be shown separately for production pads and the access road(s) and not as a total for pads. Also, the linear feet (miles) of road need to be given.

RESPONSE

The referenced table (Table 2.4.1-1) excludes gravel quantities associated with pad-to-pad roads. The airstrips and apron/taxiway column includes local access roads from the production pad to the airstrip. Miles of road are included in Table 2.4.1-3.

RD-21

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-55: First full paragraph, last sentence. Reference to stipulation 32 should be 39?

RESPONSE

Figure 2.4.2.2 has been corrected for the FEIS to reference Stipulation 39.

RD-22

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-78: Table 2.4.4-6, Alternative D-2 – Annual Projected Water Usage for Ice Roads. Footnote says annual ice road from Kuparuk to CD-1 is included but mileage on table does not reflect this. Also delete footnote about gravel supply.

RESPONSE

For the FEIS, annual ice road miles and associated water usage have been recalculated, and Table 2.4.4-6 has been revised accordingly.

RD-23

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 2-78, Table 2.4.4-10. For the FFD D-1 alternative, how many rigs are projected? If there are only minimal roads, this schedule is pretty optimistic.

RESPONSE

The referenced table contains projected water usage for ice roads, and indicates ice roads for FFD would be built from 2011 through 2030. An exact drilling schedule has not been developed for this hypothetical scenario. Multiple rigs could be required for FFD.

6.3.2.41 Sand and Gravel**SG-1**

This issue was raised in the following letter: DEIS0236.

ISSUE

The EIS should consider the need for gravel associated with landfill operations. Existing landfills at Nuiqsut and Prudhoe Bay are not realistic disposition sites for development waste.

RESPONSE

A landfill is not part of any development scenario, thus no gravel associated with the applicant's proposed action nor the alternatives would be used for landfill purposes. Solid waste would be handled as discussed in Section 2.3.11.6.

SG-2

This issue was raised in the following letter: DEIS0240.

ISSUE

There is no site-specific analysis for the Clover site, as required by NEPA. Effects of "blasting" loose gravel must be addressed. (example: p.2-24)

RESPONSE

A proposed mining and reclamation plan for the Clover Potential Gravel Source has been included as Appendix O. Noise effects from blasting are considered in Section 4A.2.3.3.

SG-3

This issue was raised in the following letters: DEIS0230 and DEIS0240.

ISSUE

Clarification is needed in terms of gravel volumes and if they pertain to all hypothetical pads, roads and airports. The DEIS also improperly fails to identify or analyze the impacts from the use of other potential sites. (example: page 3-8)

RESPONSE

Gravel quantities by feature (pad, road, and airstrip) were quantified in tables in the appropriate subsections of Section 2 of the DEIS. There has been no application for use of any other gravel source.

SG-4

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.2.1.5 Sand and Gravel, Page 3-8, Para. 3rd, Sent. last: The last sentence in this paragraph is “West of the Colville River, however, the Plan Area is characterized by an apparent scarcity if suitable gravel...” This statement seems to be contradicted by a statement on page 4F-16 (last para., 2nd sentence) “...gravel is reasonably abundant on the North Slope...” Section IV.A.1.b(4)(c) on page IV-55 and 56 of the Northwest National Petroleum Reserve-Alaska IAP/EIS states that gravel is scarce in the National Petroleum Reserve-Alaska.

RESPONSE

Investigations performed thus far in the Plan Area show that gravel is a scarce resource. The statement in the last paragraph of Section 4F.4.4.3 is a part of the cumulative impacts discussion, which is inclusive of the North Slope region as a whole. Gravel as a development resource has been readily available for past projects on the North Slope.

SG-5

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-9, 3.2.1.5 This section should explicitly describe the poor quality of some material taken from the ASRC Mine Site and the consequences of having used that material at the Alpine site.

RESPONSE

A statement has been added to Section 3.2.1.5 for the FEIS identifying the ASRC Mine Site pit as having low quality material.

6.3.2.42 Socio-Cultural Resources**SC-1**

This issue was raised in the following letters: DEIS0117, DEIS0195, DEIS0240, DEIS0242, and DEIS0257.

ISSUE

The DEIS does not examine any aspect of human health, nor does it analyze the health concerns raised by the residents of Nuiqsut.

RESPONSE

The DEIS includes consideration of health and welfare impacts to Natives of the North Slope in a number in sections. For example, Section 3.4.1.5 summarizes recent documented trends in community health; Section A.4.4.1 summarizes the findings with respect to community health and welfare impacts under Alternative A; Section 4A.4.1.4 summarizes proposed mitigation with respect to community health and welfare; Section 4A.4.4.1 summarizes disproportionate impacts to local residents; Section 4F.7.1.1 describes cumulative effects of development on the North Slope population; and Section 4G7.4 describes additional cumulative effects on community health and welfare with respect to the Environmental Justice evaluation.

In addition, citation of health-related studies not included in the DEIS have been added to the text of Section 3.4.1.5 of the FEIS. These include current information on cancer and asthma rates among Alaska Natives.

SC-2

This issue was raised in the following letter: DEIS0114.

ISSUE

There are no studies of the social impacts of Alpine, or any development areas near Nuiqsut. There hasn't been any studies going house-to-house, asking people how they have been impacted from the surrounding oilfields.

RESPONSE

As part of the evaluation of subsistence resources (Section 3.4.3) field studies were conducting in which 48 local villagers were interviewed. These interviews focused on subsistence use and use areas, which is a central element of the culture of North Slope villages. The results were used to develop the impact analyses of the applicant's proposed action and the alternatives on each community. The discussion of contemporary subsistence use areas is incorporated in the subsection titled "Subsistence Use Areas" within each community section of Section 3.4.3.2. A corresponding discussion of subsistence impacts can be found in Section 4A.4.3 (and within each of the alternative discussions.) The sociosystems analysis also relied on contemporary literature which includes studies of socio-cultural impacts to North Slope communities, including Nuiqsut.

SC-3

This issue was raised in the following letter: DEIS0116.

ISSUE

North Slope Borough residents will benefit through part-time seasonal and full-time employment. Opportunities will also be created for Alaska Native corporations, such as ASRC.

RESPONSE

A discussion of local participation in oil industry employment and opportunities for Native corporations is included in Section 4A.4.1.1.

SC-4

This issue was raised in the following letter: DEIS0200.

ISSUE

The DEIS needs to cite the appropriate MMS and BLM EISs when large portions of these analysis are used, or that information from these documents be summarized and incorporated by reference, especially in the Socio-cultural Systems discussion.

RESPONSE

The noted references have been incorporated into the FEIS.

SC-5

This issue was raised in the following letter: DEIS0241.

ISSUE

SHPO concurrence on eligibility of individual cultural resource sites should be included in the FEIS.

RESPONSE

The applicant has completed a cultural resource survey and forwarded it to the SHPO. Additional survey work is being conducted for the Preferred Alternative. The SHPO concurrence letter is not yet available. Agencies cannot issue permits until the requirements of Section 106 have been fulfilled.

SC-6

This issue was raised in the following letter: DEIS0236.

ISSUE

The EIS contains contradictory statements about the effects of oil and gas industry workers on the Nuiqsut economy.

RESPONSE

Sections 3.4.1 and 3.4.1.6 have been revised to acknowledge economic activity in Nuiqsut related to Alpine Field operations.

SC-7

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-128, 3.4.1.3-5: These sections require a significant rewrite. The Borough submitted suggested changes in November.

RESPONSE

Sections 3.4.1.3, 3.4.1.4 and 3.4.1.5 have been revised for the FEIS to address this comment.

SC-8

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-129, 3.4.1.5. The reference to drug and alcohol abuse is from 1985. More recent information is available from the North Slope Borough Health Department.

RESPONSE

Section 3.4.1.5 has been revised for the FEIS to incorporate additional data.

SC-9

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-132, 3.4.1.7. This section should reference and briefly summarize the “Nuiqsut Paisagnich” document, available from CPAI, for the community’s own description of itself. Note, however, that described subsistence use areas are considerably smaller than they are today. The document was published a short time after the community was resettled in the early 1970s. Hunters have re-established broader hunting range, and the village population has increased in the intervening decades.

RESPONSE

Text in Section 3.4.1.6 has been modified accordingly for the FEIS. A comprehensive analysis of current subsistence use areas, including members of the village of Nuiqsut can be found in Section 3.4.3.2.

SC-10

This issue was raised in the following letter: DEIS0230.

ISSUE

The DEIS, when concluding that Alternative A would not result in an influx of new, non-Native population, ignores evidence of the 2000 census that shows non-Native population has more than doubled in 3 years.

RESPONSE

The conclusion as initially stated remains unchanged in the FEIS—no information was found in the reference cited by the commentor related to an increase in non-Native populations.

SC-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Section 4A.4.3.4, page 4A.4-25. A local committee of subsistence users, agency, and CPAI already exists: KSOP, BLM SAP, NS Science Initiative.

RESPONSE

Text in Section 4A.4.3.4 has been revised accordingly for the FEIS.

SC-12

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-135: Should add revenues from 2001 and 2003 MMS Beaufort Sea lease sales and 1999 BLM National Petroleum Reserve-Alaska lease sale.

RESPONSE

The text in Section 3.4.2.2 has been revised for the FEIS.

SC-13

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-3: The evaluation states that there will be “minimal increase in local business income...” This statement does not agree with activity that resulted from past construction effects for the original Alpine project construction. The original construction resulted in approximately \$250 million in construction contracts to the Kuukpik Corporation and its Joint Venture partners and additional income to ASRC and its contracting businesses. The Kuukpik Corporation and their partners currently hold a number of major contracts with Alpine operations and they are currently the second largest non-drilling contractor at Alpine. APC, a subsidiary of ASRC, also holds contracts with Alpine. These contracts provide employment opportunities for local residents, increasing local income, which could similarly increase spending at local businesses.

RESPONSE

This statement is related to the provision of goods and services within the local community, not to the oil industry development and production activities, as is suggested by the comment. A discussion of contracting with the oil industry by Native corporations is included in Section 3.4.1.6, which describes the amount of contracting that occurred during the development of the existing Alpine Field facilities. However, this addressed work conducted within the oilfield not as part of goods and services provided in the community.

SC-14

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-11: Recommend additional discussion of Petroleum Reserve impact funds be added to the document. Nuiqsut has been granted more than \$15 million for community funds. Additional discussion of funding to other North Slope communities and the NSB should be added to the document. The total amount of impact funds provided for grants to the NSB and its communities is greater than \$50 million. These funds have provided various benefits that should be discussed. In addition these funds are a major funding source for the NSB and the communities which will become more important as revenues from other sources (property tax) decrease.

RESPONSE

Discussions of the impact funds are in Sections 4A.4.2.2 and 4F.4.2.2, and in Appendix F.

SC-15

This issue was raised in the following letters: DEIS0230 and DEIS0240.

ISSUE

The EIS is contradictory by indicating the potential for adverse effects to subsistence and yet stating that “No direct impacts to community health and welfare are expected to occur.” (Section 4A.4.1.1 discussion of Community Health and Welfare).

RESPONSE

Text in Section 4A.4.1.1 has been clarified to address this comment in the FEIS.

6.3.2.43 Soils**SL-1**

This issue was raised in the following letter: DEIS0242.

ISSUE

S.4.2.1 Soils and PF. In this section it is stated that the effects on soils and permafrost are the same regardless of alternative. If the covered acreage is changed in each alternative, how can the effects be the same? Effects may be similar; however, where roads are reduced or eliminated the effects in total have to be less.

RESPONSE

Impacts to soil have been revised for the FEIS to present the surface area of soil affected under each alternative. Greater detail has also been added to the comparisons of soil impacts among alternatives.

6.3.2.44 Subsistence Harvest and Uses**SH-1**

This issue was raised in the following letters: DEIS0017, DEIS0082, DEIS0083, DEIS0114, DEIS0117, DEIS0212, DEIS0215, DEIS0229, DEIS0234 and DEIS0237.

ISSUE

The proposed satellite developments will cause irreversible damage to the people of Nuiqsut. Circumferencing the community with development will change the subsistence culture by changing animal migrations and limiting areas where hunters can shoot firearms.

RESPONSE

The effects of the applicant's proposed action on subsistence are addressed in Sections 4A–4G, Subsistence. Text regarding “circumferencing the community with development” has been added to the Subsistence Impacts sections of the FEIS. The new text states that construction and operation of these pads and associated infrastructure will contribute to a perception of being surrounded by development for Nuiqsut residents and subsistence users.

Text from Section 4A.4.3 – Subsistence, Environmental Consequences was moved to Section 4G.7.3, Cumulative Impacts and indicated that the existing effects of oil and gas activity have spread from Prudhoe Bay to an area encompassing the north and west approaches to Nuiqsut. Nuiqsut residents have been concerned for many years that the community would be surrounded by pipelines, pads, and roads, excluding them from important subsistence use areas. This concern has become more immediate with further development being proposed in their traditional subsistence use areas. By 1990, the perception that access to subsistence use areas was already limited arose during scoping as further restrictions became an issue of concern associated with future development.

SH-2

This issue was raised in the following letter: DEIS0017.

ISSUE

Local knowledge of the health of subsistence animals is ahead of data used in studies; animals in Prudhoe Bay and Kuparuk are less healthy than other animals.

RESPONSE

Impacts on subsistence harvests due to perceptions of changes in resource health are discussed in the Subsistence sections and in Appendix A – Traditional Knowledge. Section 4A.4.3 indicates that caribou habituation to gravel pads and other oilfield infrastructure changes the value of the caribou to subsistence users, who view these habituated caribou as contaminated and not behaving correctly.

SH-3

This issue was raised in the following letters: DEIS0083, DEIS0110, DEIS0195 and DEIS0206.

ISSUE

Construction of permanent roads, bridges, and airstrips at the proposed scale will forever change local subsistence lifestyles. The EIS should analyze the extent of this impact.

RESPONSE

The DEIS addressed impacts on subsistence under all alternatives in the Subsistence sections. The FEIS addresses the potential effects to the extent possible based on available data.

SH-4

This issue was raised in the following letters: DEIS0110, DEIS0117, DEIS0195 and DEIS0257.

ISSUE

The EIS should include non-market values of wildlife use for subsistence in the cost/benefit analysis and the BLM must quantify the damage to the subsistence economy.

RESPONSE

Attempts to quantify subsistence with a cash replacement method minimizes the value of subsistence. There is little in the subsistence literature related to valuing non-market damages to the subsistence economy. This would be a contentious issue, with little agreement on methodology.

SH-5

This issue was raised in the following letters: DEIS0115 and DEIS0234.

ISSUE

Since the project will impact the subsistence resources the Native people rely heavily on, there is concern over how the project will benefit the people, and how the people will be compensated in the event of pollution to their resources.

RESPONSE

There is a mitigation program (National Petroleum Reserve-Alaska Impact Program) in place to provide funding to the North Slope communities directly impacted by oil and gas development (Appendix F). There is no mitigation program in place to compensate affected individuals for the loss of subsistence resources due to a catastrophic oil spill.

SH-6

This issue was raised in the following letter: DEIS0202.

ISSUE

The project will negatively impact subsistence hunting because caribou and other large animals are impacted by too much human activity, buildings, road and air traffic; and there is concern caribou will not be able to cross under low pipeline heights; movement patterns of caribou will be greatly altered and could be detrimental to subsistence hunting.

RESPONSE

The DEIS addressed the impacts of pipelines (and other components) on subsistence in the Subsistence sections. Appendix A also addresses this issue

SH-7

This issue was raised in the following letter: DEIS0202.

ISSUE

Subsistence resources (such as Arctic Cisco in Nuiqsut) are not as fat and are different, and development in these areas has upset the nutritional and dietary supplement from the Arctic.

RESPONSE

Perceptions of animal health were discussed in the Subsistence sections.

SH-8

This issue was raised in the following letters: DEIS0202 and DEIS0237.

ISSUE

Caribou have been negatively affected in areas of oil development and many dead caribou have been observed in these areas. This greatly affects subsistence harvest.

RESPONSE

Impacts on subsistence harvests due to perceptions of changes in resource health were discussed in the Subsistence sections and in Appendix A – Traditional Knowledge.

SH-9

This issue was raised in the following letters: DEIS0208 and DEIS0214.

ISSUE

The west side of Nuiqsut is a very sensitive spot for hunting of wolverines and wolves; no one should be allowed to empty the lakes in this area.

RESPONSE

The DEIS discussed the harvest area for wolves and wolverines and potential impacts in the Subsistence sections. Water withdrawal issues were addressed in Section 4A.2.1.

SH-10

This issue was raised in the following letters: DEIS0116 and DEIS0216.

ISSUE

Building a bridge across the Nigliq Channel should be avoided because it would interfere with subsistence fishing sites. Impacts to subsistence from the bridge should be included in the EIS.

RESPONSE

The DEIS discussed the harvest area for fish, the importance of the Nigliq Channel fishery, and potential impacts in the Subsistence sections.

SH-11

This issue was raised in the following letter: DEIS0116.

ISSUE

There is concern regarding fish population problems as well as reduced caribou hunting options since the mid-seventies.

RESPONSE

The DEIS addressed impacts on fish population and caribou hunting in the Subsistence sections. Appendix A also addresses such issues.

SH-12

This issue was raised in the following letters: DEIS0238 and DEIS0230.

ISSUE

In the Subsistence section, statements that indicate effects “would” occur or actions “would” affect resources, should use the word “could” instead to reflect the hypothetical nature of these predictions.

RESPONSE

Word choice for the DEIS was not executed carelessly. The use of “would” is meant to express more clearly than “could” can, that an event/effect is likely to occur.

SH-13

This issue was raised in the following letter: DEIS0238.

ISSUE

Quotes in the subsistence section do not appear to be recent in nature.

RESPONSE

Quotations utilized within the Subsistence sections include examples from the last 25 years of public testimony (1979–2003).

SH-14

This issue was raised in the following letter: DEIS0238.

ISSUE

Impacts from aircraft flights associated with Alpine, commercial traffic, CPAI specific studies and agency studies and other traffic should be evaluated with respect to subsistence activities. It is an issue the community has consistently raised.

RESPONSE

Impacts on subsistence from aircraft are addressed in the Subsistence sections.

SH-15

This issue was raised in the following letters: DEIS0081 and DEIS0083.

ISSUE

More information is needed about the design of the Nigliq Channel bridge before anyone can be evaluated whether there will be a change in Nuiqsut's ability to use the Nigliq Channel for subsistence harvest and access.

RESPONSE

The EIS subsistence analyses relies on the most thorough available project descriptions, including the bridge description, provided in Section 2. The bridge's potential effects on subsistence are discussed in the Subsistence sections.

SH-16

This issue was raised in the following letter: DEIS0198.

ISSUE

Nuiqsut hunters decimated caribou populations in the 1970's; oil and gas activity has little to do with this population decline.

RESPONSE

No biological or subsistence studies addressing this topic have been found.

SH-17

This issue was raised in the following letter: DEIS0242.

ISSUE

The DEIS states (Section 4A.4.3.1) 'Withdrawal or disturbance could potentially eliminate lake fish populations...would affect availability of fish as a subsistence resource.' Data to make this and other conclusions regarding specific subsistence resources do not exist, and there is no basis for this conclusion. If there are no impacts predicted to the fish and wildlife resources of the plan area or north slope-wide as a result of any of the alternatives, it is difficult to then understand how there will be significant reductions in those same wildlife species when considering subsistence.

RESPONSE

Section 4A.3.2.1 of the FEIS notes, "overall effects (of Alternative A on fish) are considered insignificant." Water withdrawal could potentially affect fish populations especially in late winter as deep lakes with overwintering fish populations are used for water withdrawals and dissolved oxygen may be depleted to the extent that fish are not able to survive. However, no impacts to fish availability are expected if the applicant adheres to the water withdrawal permit conditions (see Section 4A.3.2.1).

SH-18

This issue was raised in the following letter: DEIS0242.

ISSUE

One subsistence user states that deep lakes are more important to their fish resources than shallow lakes. In the previous paragraph the document makes the assertion that fish in lakes may be eliminated through water withdrawal. The traditional knowledge presented by the subsistence user is weakened when associated with

these statements. Section 4A.4.3 should, therefore, be revised to be objectively analytical in nature by removing these direct quotes from Section 4A.3 and placing them in Appendix A.

RESPONSE

Section 4A.4.3 is based on the best available information, which was supplemented with field interviews. Removing the Traditional Knowledge and public testimony quotes from Section 4A.4.3 and placing them in Appendix A is contrary to the scoped issue of including Traditional Knowledge in the EIS. There is a lack of consensus on the issue of water withdrawal volumes as they relate to fish habitat (NRC 2003).

SH-19

This issue was raised in the following letter: DEIS0242.

ISSUE

The conclusion of Section 4A.4.3.1 with regards to access to subsistence harvest being cut in half is untrue. Extrapolating the 270-acre impact across the entire Colville Delta and Fish/Judy Creek Drainages and implying that half the subsistence harvest would be impacted by the applicant's proposal is a gross misrepresentation of the facts. All subsistence impact analyses which were based upon this misrepresentation originally need to be revised.

RESPONSE

Section 4A.4.3.1 has been revised in the FEIS to indicate that industrial development in the Fish and Judy creeks and the Colville River Delta areas would reduce the availability of and access to the area that has supported more than half of the harvest of fish, caribou, wolves, wolverines, geese, and eiders at Nuiqsut. Further, effects would extend beyond the actual footprint of project infrastructure in that hunting would likely not take place near pipelines and pads. Aircraft traffic, noise, human activity and ground vehicles would further divert or deflect several subsistence species, increasing the area of direct effect. Subsistence harvest data, including harvest locations, were compiled from information provided by the NSB and the ADF&G.

SH-20

This issue was raised in the following letter: DEIS0242.

ISSUE

The EIS should include the conclusive data provided by ADF&G Division of Subsistence, which illustrates how subsistence use areas have changed in response to development.

RESPONSE

We requested clarification from the ADF&G, Division of Subsistence (the commentor) on conclusive data that was not included in the DEIS. They did not know either the source of the comment or the material to which it refers.

ADF&G clarified the latter issue as follows: "The comment was aimed specifically at looking at the historical use by Nuiqsut residents (and others) of the region between the east bank of the Colville River to as far east as the Sag River (the oilfield). There is basically no longer use of that area while it was significantly used in the past. It is perhaps the strongest case to back-up some of the final conclusions made regarding the extreme extent of loss of resource availability indicated in the EIS, at the very least it should be referenced when making such statements."

In response to this clarification, the FEIS includes a section on Inupiat subsistence user avoidance of industrial development areas. This is based on published MMS documents as well as Division of Subsistence Open File Reports (Pedersen, Wolfe, Scott, and Caulfield 2000 and Pedersen and Taalak 2001). The new section is included in the FEIS within Section 3.4.3.2.

SH-21

This issue was raised in the following letter: DEIS0242.

ISSUE

Impacts to subsistence users largely will be from avoidance of industrial activity in traditionally used areas. This is an important issue and should be completely addressed without confusing the issue by the addition of overly estimated impacts to the actual fish and wildlife resources.

RESPONSE

By design, the subsistence effects analysis begins with an assessment of what the biology sections conclude about the effects to subsistence resources. That is, the “estimated impacts to the actual fish and wildlife resources” are one of the determinants of effects to subsistence activities and uses.

Impacts on subsistence from avoidance of industrial activity areas is addressed in Section 4A.4.3. An additional section that addresses the issue of subsistence user avoidance of developed areas was also included (see Section 3.4.3.2).

SH-22

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-146, last paragraph refers to a Table 3.4.4-5 that does not appear to be in the document.

RESPONSE

The DEIS text did refer to a table that was not in the document. The FEIS refers to the correct table.

SH-23

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-149, first full paragraph, first sentence: the Inupiaq spelling for wolf is “amaguq” with a dotted g.

Page 3-150, first paragraph under Bowhead Whale Use Area, first sentence: spelling error the Inupiaq spelling for bowhead whale is “agviq” with a dotted g.

RESPONSE

Document software applications limit use of the Inupiaq font. “Anglicized” versions of Inupiaq words are required, and were used in the FEIS.

SH-24

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-149, second full paragraph, first sentence: we suggest starting the sentence like this, “A typical furbearer hunt involves one to three hunters who travel this vast area looking for wolf and wolverine tracks and signs.”

RESPONSE

The sentence has been changed as suggested for the FEIS.

SH-25

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-150, last paragraph: the word for berries and salmonberries are spelled two different ways in this paragraph. The proper spelling for berry in general is “asiaq”, and salmonberry is “aqpik”.

RESPONSE

These spellings reflect spellings pulled from the NSB’s Division of Wildlife Management documents.

SH-26

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-150, last paragraph, last sentence: the term “agutuq” should be “akutuq”.

RESPONSE

For the FEIS, the spelling has been changed to “akutuq.”

SH-27

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, first paragraph under Contemporary Seasonal Round, second sentence reads “Barrow hunters harvest caribou in April; however, because of calving, hunters usually refrain from taking caribou after May.” It should read something like this, “Barrow hunters harvest caribou in April; however, because of pre-calving and calving, hunters usually refrain from taking caribou until late June.” Caribou calving usually occurs in early June not May. A few male caribou may be taken during this time, but not many due to their poor condition.

RESPONSE

For the FEIS, the sentence has been changed as requested.

SH-28

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, first paragraph under Contemporary Seasonal Round, fourth sentence, remove “Shooting Station” from sentence. Eider and geese hunting activities during the spring are not concentrated at the Shooting Station. Hunters harvest eiders at the Shooting Station from mid-summer through early fall.

RESPONSE

The sentence in the FEIS indicates that the harvest of eiders and geese begins in early to mid-May, weather and ice conditions permitting, and reference to the “shooting station” has been removed.

SH-29

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, second paragraph under Contemporary Seasonal Round, second sentence should end “...while others go inland to hunt for waterfowl.” Again, this is referring to hunting activities happening in May and early June. Barrow hunters typically do not fish in May or early June. Fishing may begin as early as mid-June after the rivers break up.

RESPONSE

The requested addition was made for the FEIS.

SH-30

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, second paragraph under Contemporary Seasonal Round, third to the last sentence should read, “When the weather turns warm, Barrow hunters typically harvest caribou by boat along the coastal areas as the caribou move to the coast to escape the heat and insects.” The next sentence refers to “Pigniq” or “Duck Camp”, and in the paragraph above the “shooting station”, all are basically the same place. One name should be used.

RESPONSE

The suggested sentence was added to the FEIS, and “Shooting Station” was deleted.

SH-31

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, last paragraph under Contemporary Seasonal Round, suggest adding after the first sentence, “More recently, Barrow whalers have agreed to start the fall whaling season in early October in order to harvest the smaller preferred whales.”

RESPONSE

The suggested sentence has been added to the FEIS.

SH-32

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-151, last paragraph under Contemporary Seasonal Round, the second sentence should read, “...otherwise, they concentrate on fishing for broad whitefish.” Personal communications with several fall fishermen of Barrow indicate that they focus their [sic] on the harvest of broad whitefish and especially the females with eggs.

RESPONSE

The suggested text has been added to the noted sentence for the FEIS.

SH-33

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-155, first paragraph under Contemporary Subsistence Use Areas, second sentence, change from “Many residents may” to “Many residents tend to hunt in the areas where they were raised...” The next sentence “Others who no longer hunt can receive...”, should read “Barrow residents may receive subsistence foods from areas outside of Barrow.” Sharing of subsistence resources from outside of Barrow is not only with “others who no longer hunt.”

RESPONSE

The requested changes were made to the two sentences for the FEIS.

SH-34

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-157, first paragraph under Atqasuk Subsistence Activities, last sentence add Wainwright, to read, “Some Atqasuk hunters are members of Barrow and Wainwright whaling crews and take part in bowhead whaling and festivities, returning with shares after a successful harvest.”

RESPONSE

The requested change was made to the noted sentence for the FEIS.

SH-35

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-157, paragraph under Contemporary Seasonal Round, middle part of paragraph, add Wainwright to this sentence, “Some residents may travel to Barrow or Wainwright to participate in spring whaling.”

RESPONSE

The requested change was made to the sentence for the FEIS.

SH-36

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-157, paragraph under Subsistence Harvests, first sentence, again, add Wainwright in references to marine mammal harvests and membership in whaling crews.

RESPONSE

The FEIS text indicates that Atqasuk is similar to Nuiqsut in that residents harvest caribou, fish, and birds locally; however, Atqasuk is more connected to Barrow and Wainwright for marine mammal harvests and membership in whaling crews (Hepa et al. 1997). The requested change was made to the sentence in the EIS.

SH-37

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-158, change the first word to “reported” instead of “collected” because the Borough has collected three years of additional harvest data for Atqasuk that have not been published to date. A final report is expected by the spring of 2005.

RESPONSE

The test has been revised as requested. For the FEIS, the text indicates that neither the ADF&G nor the MMS have reported these data, and the NSB Department of Wildlife Management has reported only harvest data for one harvest year (1994–1995) (Hepa et al. 1997) and only participation data for 1992 (Fuller and George 1999). The NSB has collected three years of additional harvest data for Atqasuk that have not been published to date. A final report is expected by the spring of 2005.

SH-38

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-158, second paragraph, the second to the last sentence should be clear that 91% of households shared their resources.

RESPONSE

The FEIS text indicates that in 1994–1995, 91 percent of Atqasuk households shared their harvested resources (see Table 3.4.3-9).

SH-39

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should present a consolidated list of proposed mitigation measures that are currently being considered and how they will reduce or minimize adverse impacts to subsistence resources and users below the level of significance.

RESPONSE

Table 4A.4.4.1 has been revised for the FEIS to include the requested information.

SH-40

This issue was raised in the following letters: DEIS0200 and DEIS0238.

ISSUE

Table 4A.4.4-1, page 4A.4-27. A local committee of subsistence users, agency, and CPAI already exists: KSOP, BLM SAP, NS Science Initiative.

RESPONSE

The recommended mitigation measure to “Establish community, industry, agency coordination groups to identify and address specific project subsistence effects” has been deleted. As pointed out in this comment, the KSOP, BLM SAP, and NS Science Initiative are in existence, and deal with subsistence issues.

SH-41

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-103: Table 2.7-1, Comparison of Impacts Among Action Alternatives. Social Systems: Subsistence Harvest and Uses, Alternative A. CPAI objects to the statement that facilities would affect availability of key subsistence resources. Caribou are prevalent within the Kuparuk and Prudhoe oil fields and would similarly habituate to the new facilities. Also Nuiqsut hunters would use the road to better access subsistence resources, effectively increasing their availability.

RESPONSE

While caribou and other key resources may be found in industrial areas, hunters may avoid harvesting these resources, as they may be perceived as contaminated. Roads accessible to Nuiqsut resource users for subsistence access could also cause unintended consequences in both caribou behavior (Murphy and Lawhead 2000) and subsistence user harvest patterns (IAI 1990a and b). As noted by the NRC (2003), “Even where access is possible, hunters are often reluctant to enter oil fields for personal, aesthetic, or safety reasons. There

is thus a net reduction in the available area, and this reduction continues as the oil fields spread.” This statement is now incorporated into the Subsistence sections for Alternatives A, B, C-1, C-2, D-1, D-2, and F.

SH-42

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-103: Table 2.7-1, Comparison of Impacts Among Action Alternatives. Social Systems: Subsistence Harvest and Uses, Alternative A. CPAI objects to the statement that there is a preference for animals not habituated to industrial development. The statement is made here and numerous other places in the document that subsistence will be impacted because of “a preference for animals not habituated to industrial development”. CPAI strongly disagrees with this statement. It is uncorroborated, based on comments from individuals without peer review, and CPAI has never heard this statement from anyone in Nuiqsut. Villagers reportedly will harvest any caribou regardless of where it has been. It would be difficult to identify a habituated caribou from non-habituated once it leaves a field – it is unclear how a hunter would know if caribou has been habituated or not.”

RESPONSE

This issue statement is contrary to statements made during subsistence interviews (SRB&A 2003) and public scoping. (e.g., Frank Long, Jr. 2003 ASDP Nuiqsut “Right now I call our caribou that are existing around here that don’t go nowhere our ‘industrial dope addict caribou.’”), and NRC 2003. Per IAI (MMS Special Report 8 1990:1-41), “Another group of informants maintains that in fact at least the Kuparuk field area is open to hunting, but that the animals in the area are not fit for human consumption. They recognize that the caribou in the oil fields have increased in numbers, and point out that the oil companies have seized on this as a public relations tool. Their own evaluation of the caribou is that they have become lazy and “dazed.” More now stay in the area year-round instead of migrating and many informants say they would not eat these animals because they may be “drugged up” by eating various substances that are by-products of or leaked from oil industry activities.” Collectively, such statements indicate a preference for animals not habituated to industrial development.

SH-43

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-103: Table 2.7-1, Comparison of Impacts Among Action Alternatives. Social Systems: Subsistence Harvest and Uses, Alternative C. Last line: add “may” in front of “increase competition for resources”. Regulatory agencies should manage hunting.

RESPONSE

In the FEIS, the text indicates that unrestricted road access to BLM lands would eventually provide increased access to people who do not live in the area and may increase competition for resources. Unrestricted road access to BLM lands may be an issue in terms of management and conflicts between sports hunters and subsistence hunters (e.g., the Dalton corridor as discussed in the TAPS EIS).

SH-44

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-103: Table 2.7-1, Comparison of Impacts Among Action Alternatives. Social Systems: Subsistence Harvest and Uses, Alternative D. CPAI disagrees that Alternative D would have less impact than Alternative A. Air traffic is a concern to subsistence hunters because of potential disturbance of birds and caribou.

RESPONSE

The referenced text has been revised for the FEIS to indicate that Alternative D would result in a similar impact to Alternative A with the exception of less year-round road traffic to affect resource availability and increased air traffic and ice road traffic that could deflect or divert subsistence resources in high traffic areas.

SH-45

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-147: Line 1 states that "There are significant differences in methodology and sampling in the last 3 years of the 17 year Moulton studies (Moulton 2000, 2002)," The methodologies were consistent across all years – as stated later in the text the main change was to restrict the study to the Nigliq Channel since 2000.

RESPONSE

The referenced text has been changed for the FEIS to: "There are significant differences in sampling in the last 3 years of the 17-year Moulton studies (Moulton 2000, 2002) and in methodology and sampling between the Moulton studies and the NSB studies."

SH-46

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-17: Frank Long, Jr. is not the head of KSOP – Leonard Lampe is.

RESPONSE

The referenced text has been changed in the FEIS.

SH-47

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-18: Clarify that there should be no summer disturbances at the mine sites.

RESPONSE

Text in the FEIS indicates it is not expected that there will be significant use of the mine sites during spring and summer seasons because most construction will be conducted during the winter and there would be no road access to the mine sites when ice roads are not available.

SH-48

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4 22: The statement “In summary, industrial development in the Fish and Judy creeks and Colville River Delta areas would reduce the availability of and access to more than half of the harvest of fish, caribou, wolves, wolverines, geese and eiders at Nuiqsut.” is misleading and should be clarified. We understand the point of this sentence to be that the identified areas are the sources of half the subsistence harvest of certain animals for Nuiqsut, and that, to an unstated degree, development in these areas would or may reduce availability and access. However, as written, the sentence lends itself to be misinterpreted to mean that development will reduce the subsistence harvest at Nuiqsut by one-half. Recommend revision of the statement to read “Fish and Judy Creeks and Colville River Delta are the sources of more than half of the harvest of fish, caribou, wolves, wolverines, geese and eiders in Nuiqsut. Accordingly, industrial development within these areas could incrementally reduce the availability of and access to these subsistence resources to the extent impacts are not mitigated.” None of the preceding analysis supports the sweeping generalization. Access to fishing areas is not precluded – fishing should be essentially unaffected. Most fishing occurs along the Nigliq Channel, with net sites accessed by boat in the summer and snow machine after ice formation. The traditional fishing sites will still be available. Access to fishing sites within lower Fish Creek will be unaffected. In fact with the addition of roaded areas within these locations, harvest of mammals will actually increase with all season access.

RESPONSE

The referenced text was modified for the FEIS for clarity. Access and availability issues were addressed in Section 4A.4.3.1. For resources to be available, they must be present in harvestable quality and quantities at the place and time traditionally expected and where harvests may be safely conducted in the judgment of the user.

SH-49

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-23: The text says: “I pull nets for cisco in October north of Nuiqsut on the Nigeluk channel. Fishing has slowed down since Alpine went online. I don’t even bother to fish much unless other people are getting a lot because the effort is not worth the gas money I have to spend.” The testimony is provided with no context. The implication, of course, is that the low catches are a result of the Alpine development. There is no support for such a conclusion – fishing was slow because of the natural cycling of the Arctic cisco population. Catches were very high in 2003, again because of natural population cycles.

RESPONSE

The Traditional Knowledge quote noted in the comment was introduced with the following “contextual” statement “Nuiqsut residents associate existing Alpine development with reduced fish harvests in the Colville River Delta,” which is based on public testimony. The issue of oil development generally affecting subsistence fish harvest quantities and quality is a repeated topic during scoping and interviews with Inupiat resource users as noted in Appendix A. Information related to the natural Arctic cisco population cycles is presented in Section 3.3.2, Fish.

SH-50

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-25: Alternative A – Summary of Impacts on Subsistence. Throughout this section there are numerous statements that certain effects “would” occur or actions “would” affect resources. These are strong statements without definitive data to back them up. CPAI requests the “would” statements be replaced with “could”.

RESPONSE

Word choice for the EIS was not executed carelessly. The use of “would” is meant to express more clearly than “could” can, that an event/effect is likely to occur.

SH-51

This issue was raised in the following letter: DEIS0238.

ISSUE

Pages 4A.4-25, 4B.4-4, 4C.4-4, and 4D.4-4: Alternative A – Summary of Impacts on Subsistence. First paragraph. CPAI disagrees with the statement that hunters have a preference for animals not habituated to industrial development. This was a statement made by one person and CPAI knows many examples of habituated caribou being utilized by subsistence hunters.

RESPONSE

Many statements were collected for the DEIS to confirm the preference for non-habituated animals from Traditional Knowledge, public testimony and subsistence interviews. Subsistence users interviewed for the project stated that caribou that move slowly are perceived to be sick, and that caribou near Nuiqsut and the oil fields moved slowly in response to the approach of hunters. See response to SH-42.

SH-52

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-25: Alternative A – Potential Mitigation Measures for Subsistence, mitigation #1. CPAI disagrees with the statement that pipelines should be buried to avoid creating barriers to caribou. Twenty-five years of pipelines on the North Slope and the 800-mile TAPS pipeline would indicate otherwise.

RESPONSE

Section 4A.4.3.4 states that to the degree possible pipeline should be buried to avoid creating barriers to caribou and that if pipeline cannot be buried, they should be elevated more than 5 feet. A review of the TAPS EIS does not verify the last statement made by the commentor.

SH-53

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-25: Alternative A – Potential Mitigation Measures for Subsistence, mitigation #4. FFD cannot be planned around decommissioning earlier developments. There is too much uncertainty about field lives and future economic conditions to speculate on FFD schedules.

RESPONSE

The FFD scenarios are hypothetical, as stated repeatedly in the FEIS.

SH-54

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4B.4-5: Last sentence in partial paragraph, top of page. This sentence appears to reach a definitive conclusion from speculative information. Change “as” to “if” and “would” to “could” so sentence reads “Competition ...could increase if Nuiqsut hunters avoid traditional subsistence use areas...”.

RESPONSE

The statement in the DEIS noted by the commentor has been corroborated by interviews and scoping testimony collected over many years. Interviews conducted in Barrow, Atqasuk and Nuiqsut noted that recent seismic activity in the National Petroleum Reserve-Alaska had shifted animals and that hunters were encountering each other with greater frequency as hunters traveled farther for caribou and furbearers.

SH-55

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4D.4-3: The document does not adequately address past comments from local residents regarding the noise impacts of air traffic. The increase in aircraft traffic would be significant if Alternative D were adopted as the preferred alternative.

RESPONSE

Section 4D.4.3 addresses the impacts of noise from air traffic on subsistence resources and harvests. Additional text has been added to the FEIS to further clarify the issue. Alternative D was not adopted as the preferred alternative.

SH-56

This issue was raised in the following letter: DEIS0114.

ISSUE

In 20 years, if someone goes caribou hunting and accidentally shoots a pipeline, will they be punished? Need to look at long-term effects on subsistence.

RESPONSE

Impacts on subsistence from avoidance of shooting near pipelines is addressed in Sections 4A.4.3. Whether or not an individual would be punished for accidentally shooting a pipeline is speculative.

SH-57

This issue was raised in the following letter: DEIS0236.

ISSUE

The EIS analyses should consider information contained in the 1997 National Petroleum Reserve-Alaska Subsistence Impact Analysis Workshop Proceedings and the 2003 NRC Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope.

RESPONSE

Text from the Environmental Consequences, Subsistence section along with additional text has been added to the FEIS in the Cumulative Impacts section (Section 4G.7.3). This material includes consideration of and numerous citations of 1997 National Petroleum Reserve-Alaska Subsistence Impact Analysis Workshop Proceedings and the 2003 NRC Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope.

SH-58

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 4F.7.3, Page 4F-58, Para. 1st: The end of the first paragraph of this discussion reads "These potential impacts are described in detail in Section 4A.4.3 and generally include the following: . ." No list follows this statement; it seems to have been omitted.

RESPONSE

"Following:" refers to the following paragraphs.

SH-59

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 4F.7.3, Page 4F-67, Para. 3rd: We suggest the author of the section read and make use of the information in Section IV.K.3 Possible But Unlikely Permanent Roads, in the Northwest National Petroleum Reserve-Alaska Final IAP/EIS. It provides additional discussion on potential long-term impacts associated with road construction.

RESPONSE

The Northwest National Petroleum Reserve-Alaska Final IAP/EIS was considered in the Cumulative Effects section, and was properly cited.

SH-60

This issue was raised in the following letter: DEIS0230.

ISSUE

The EIS should not duck the issue of who is responsible for conducting future subsistence harvest studies. The SAP is a group formed solely to advise BLM and has no staff, no funds, and no scientific expertise.

RESPONSE

The recommended mitigation measure to “Establish community, industry, agency coordination groups to identify and address specific project subsistence effects” has been deleted. As pointed out in this comment, the KSOP, BLM SAP, and NS Science Initiative are in existence, and deal with subsistence issues.

SH-61

This issue was raised in the following letters: DEIS0114, DEIS0260, and DEIS0263.

ISSUE

Our traditional knowledge is not implemented in the EIS.

RESPONSE

Traditional Knowledge was incorporated into the Subsistence sections. Additional Traditional Knowledge and public testimony is included in Appendix A.

SH-62

This issue was raised in the following letter: DEIS0198.

ISSUE

The EIS should acknowledge that oil industry workers and local residents both contribute to trash left along winter ice roads.

RESPONSE

The statement in question is referring to roads resulting in garbage, which attracts animals. It does not imply that industry is responsible for the garbage, but states that people and the ice roads themselves result in garbage along the ice roads. This was likely an intentionally vague statement on the part of the interviewee in that he did not specify identify Inupiat residents or industry personnel. Two interviewers were present when this statement was made and both noted the non-specific reference to people.

SH-63

This issue was raised in the following letter: DEIS0198.

ISSUE

Field interviews indicating bird eggs and black brant hunting don't occur in spring are inaccurate.

RESPONSE

The referenced text is qualified by “According to the 2003 interviews. . .” and “many chose to avoid harvesting black brant.” Not every subsistence user was interviewed, and it was not implied that these activities no longer occur in any form.

The text for the FEIS has been revised to indicate that twenty-one Nuiqsut harvesters interviewed in 2003 stated that they no longer gather eggs, and that they do not harvest certain species of waterfowl for various reasons.

SH-64

This issue was raised in the following letter: DEIS0242.

ISSUE

There was nothing “technical” in the methodology used to generate this report, and to label it as such implies a scientific rigor beyond that used in the report construction. Please delete the word “technical” from these sections.

RESPONSE

We disagree with this comment. Merriam-Webster defines “technical” as “of or relating to a particular subject” or “of or relating to a practical subject organized on scientific principles.” As this appendix outlines and follows a replicable, rigorous methodology, it follows that the term “technical” does apply. The methodology sections of this document includes numerous subsections which describe the collection, extraction and summarizing/organization of data.

SH-65

This issue was raised in the following letter: DEIS0242.

ISSUE

Appendix A would have been far more meaningful and useful if the local and traditional knowledge had been taken from these interviews, peer reviewed and incorporated into the appendix.

RESPONSE

As noted in the comment, the issue of using public testimony of a source of Traditional Knowledge is discussed in the Methodology section of Appendix A. Interviews (SRB&A 2003) were not included in this appendix in order to respect the confidentiality of interviewees. Information gained from the 2003 interviews was included in the Subsistence sections. As this document addresses specific resource issues, the positional and issue driven qualities of some of the testimony are an advantage in that the excerpted passages are more concise and specific to the subject at hand. There is no academic peer review process for Traditional Knowledge. Traditional Knowledge, as noted in the methodology, relies on a basic set of possible outcomes: survival or death. Thus, the stakes are quite high for individuals transmitting and using Traditional Knowledge in Inupiat society. Should a person present false information that results in misfortune or death, they would be subject to retribution.

SH-66

This issue was raised in the following letter: DEIS0238.

ISSUE

ANILCA determinations of significant effects must be explicit and unambiguous; this analysis does not appear to consider mitigation measures incorporated into the design of the ASDP.

RESPONSE

An internal review of the ANILCA 810 Evaluation by the BLM Regional Subsistence Coordinator found it to be satisfactory in its evaluations and findings. After distribution of the DEIS, the applicant provided the BLM with list of mitigation measures that they have implemented through the years, so that these standard operating procedures may be taken into consideration when analyzing the ASDP. These mitigation measures are discussed in the Final ANILCA 810 Evaluation, as appropriate (see Appendix B).

SH-67

This issue was raised in the following letter: DEIS0238.

ISSUE

The ANILCA 810 analysis should address improvements in subsistence activities that may come from increased revenues oil production has brought to the people of the North Slope.

RESPONSE

The purpose of the ANILCA 810 Evaluation is to assess the effect of a proposed action on subsistence uses. It must address whether or not there is likely to be: 1) a reduction in harvestable resources; 2) a reduction in the availability of resources caused by an alteration in their distribution, migration or location; or 3) a limitation on access to the resources by subsistence users (BLM Instructional Memorandum No. AK-86-350, Policy for Section 810 Compliance with the Alaska National Interest Lands Conservation Act). Including untenable statements regarding improvements that may occur, but not be documented, is beyond the scope of the ANILCA 810 Evaluation.

SH-68

This issue was raised in the following letter: DEIS0238.

ISSUE

The ANILCA 810 analysis should discuss adverse impacts associated with Alternative D's increased air traffic.

RESPONSE

The Final ANILCA 810 Evaluation provides a more thorough discussion of air traffic and its impacts under Alternative D (see Appendix B).

SH-69

This issue was raised in the following letter: DEIS0238.

ISSUE

The ANILCA 810 analysis should include a discussion of the use of gravel roads for subsistence activities that could ease subsistence efforts.

RESPONSE

The Final ANILCA 810 analysis provides a more thorough discussion on gravel roads and their use by residents (see Appendix B).

SH-70

This issue was raised in the following letter: DEIS0238.

ISSUE

The ANILCA 810 analysis should discuss that the majority of Nuiqsut residents want roads connecting their village to hunting areas.

RESPONSE

In reviewing the comments received from residents of Nuiqsut during scoping and the ANILCA 810 Subsistence Hearings, it does not appear that this statement is accurate. A total of 26 individual comments were received. Of these 26 comments (both oral and written) only four mentioned that connecting a road to the village was preferable to no road. All of the other comments did not mention a road connection at all. While this may lead some to believe the statement that the majority of the residents do not want a road connection, it is clear that there is not enough evidence to make a statement regarding the “majority” of the village, either pro-road or con.

SH-71

This issue was raised in the following letter: DEIS0238.

ISSUE

BLM notes in Appendix B, page 5 that a BLM plan cannot consider State and Native Corporation lands when evaluating the availability of other lands for oil and gas exploration, however it fails to distinguish between public lands and State and Native lands when it comes to analyzing the effects on subsistence uses.

RESPONSE

Consistent with the statute, the ANILCA 810 Evaluation for the ASDP evaluates each individual alternative with regard to public lands (i.e., federal lands), and evaluates the entire project (state and privately-owned lands), together with other past, present, and reasonably foreseeable activities which may affect subsistence, in the cumulative impacts analysis (see revised Appendix B).

SH-72

This issue was raised in the following letter: DEIS0238.

ISSUE

Appendix B concludes that Alternative A would cause significant subsistence restrictions, pointing to activities on State and Native lands in the Nigliq Channel (CD-3, CD-4, and CD-5). It is impossible to tell from the

analysis whether the same conclusion would have been reached if the DEIS had followed the same language of 810 and looked at subsistence effects on public lands instead of the entire ASDP area.

RESPONSE

This issue has undergone much deliberation among the BLM, the DOI Solicitor, and the cooperating agencies. It has been decided that the ANILCA 810 evaluation for the ASDP will only evaluate each individual alternative with regard to public lands (i.e., federal lands), and evaluate the entire project (state and privately-owned lands) in the cumulative impacts analysis (see revised Appendix B).

SH-73

This issue was raised in the following letter: DEIS0238.

ISSUE

With respect to Alternative D, no mention is made of subsistence hunters avoiding industrial areas because of perceived regulatory and safety concerns, which is important to include because Alternatives D and A are about the same as far as industrial areas are concerned. (example: Appendix B, page 9).

RESPONSE

This suggestion has been incorporated into the Final ANILCA 810 Evaluation for the ASDP (see Appendix B).

SH-74

This issue was raised in the following letter: DEIS0236.

ISSUE

The findings that subsistence harvests may be significantly restricted triggers the requirement under Section 810 that BLM is required to hold hearings in the potentially affected communities.

RESPONSE

Subsistence Hearings were held in all potentially affected communities. The ANILCA 810 Subsistence Hearing in Barrow was held on February 9, in the NSB Assembly Chambers; in Nuiqsut on February 10, at the Kisik Community Center; in Anaktuvuk Pass on February 17, in the Community Center; and in Atqasuk on February 24, in the Community Center.

SH-75

This issue was raised in the following letter: DEIS0242.

ISSUE

The State recommends that BLM hold hearings with the Northeast National Petroleum Reserve-Alaska Subsistence Advisory Panel (SAP) and the Kuukpik Subsistence Oversight Panel (KSOP) similar to those required hearings in the potentially affected communities.

RESPONSE

The BLM is required to consult with the Subsistence Advisory Panel concerning activities and operations that take place in the National Petroleum Reserve-Alaska (Stipulation 61 of the Northeast National Petroleum

Reserve-Alaska IAP/EIS ROD). The Subsistence Advisory Panel has met four times since the NOI for the ASDP was issued, and this topic has been on the agenda at every meeting. Additionally, the BLM's AO (Robert Schneider) has met with the Kuukpik Subsistence Oversight Panel in Nuiqsut to discuss both this plan and the Northeast National Petroleum Reserve-Alaska IAP/EIS amendment.

SH-76

This issue was raised in the following letter: DEIS0242.

ISSUE

The State requests that BLM, through the mandated ANILCA Section 810 hearings and determinations, carefully review subsistence recommendations made as part of several major efforts to ensure full consideration of subsistence land and resource uses and users in oil/gas leasing, exploration and development planning in the area.

RESPONSE

The BLM most certainly reviewed all of the subsistence recommendations made at the ANILCA 810 Subsistence Hearing, at the government-to-government consultation meetings with local tribal governments, and at all public meetings (including scoping). These recommendations were used to formulate Alternative F – Preferred Alternative for the FEIS.

SH-77

This issue was raised in the following letter: DEIS0239.

ISSUE

The DEIS analysis is incomplete because it does not fully evaluate the effects on Barrow, Atqasuk, and Anaktuvuk Pass from changes in the migration patterns of the Teshekpuk Lake herd and other subsistence resources. It also fails to outline the full range of reasonable steps that could be taken to minimize adverse effects on subsistence uses and resources for each alternative.

RESPONSE

The effects of the applicant's proposed action and the alternatives on caribou and other subsistence resources and practices are discussed in Sections 4A–G. With regard to outlining steps to be taken that could minimize impacts to subsistence, these steps (also called mitigation measures) have been identified during the ANILCA 810 Subsistence Hearings, and during other public and/or government-to-government meetings. A determination that “reasonable steps have been taken to minimize impacts to subsistence” has been made. This determination is included in the Final ANILCA 810 Evaluation in Appendix B.

SH-78

This issue was raised in the following letter: DEIS0230.

ISSUE

The EIS must include information on the size of the area avoided by hunters. The cost of gathering this information is clearly not exorbitant. The ANILCA Section 810 analysis can not be properly conducted without this information on the avoidance issue.

RESPONSE

Additional information regarding avoidance of certain areas for subsistence use has been included in the FEIS in Section 3.4.3. Information regarding the size of former subsistence use areas that are now not utilized by hunters is discussed in the Final ANILCA 810 Evaluation in Appendix B.

SH-79

This issue was raised in the following letter: DEIS0238.

ISSUE

Appendix B: The ANILCA Section 810 analysis appears to be based on an unmitigated project design that does not appear to take into account design factors implemented to minimize impacts on fish and wildlife and subsistence activities. The mitigation listed in Table 1 of Attachment 5 to this letter should be considered in the Section 810 analysis. Please refer to our Preliminary DEIS comments on this section of the document.

RESPONSE

Many of the “lessons learned” through the years have subsequently been adopted as SOPs by the applicant. These procedures have been considered in the Final ANILCA 810 Evaluation, as appropriate (see Appendix B).

SH-80

This issue was raised in the following letter: DEIS0238.

ISSUE

App. B: Bridges may alter boat traffic, but they do not impede them – boats can still pass freely as long as they avoid the pilings.

RESPONSE

An impediment is defined by Webster’s as “an obstruction, hindrance or obstacle,” and to impede is defined as “to retard in movement or progress by means of obstacles or hindrances.” The sentence in the ANILCA 810 Evaluation states “Bridges across Nigliq Channel or other smaller streams may impede boat travel along these waterways, both due to an increased risk for siltation, as well as the presence of the bridge itself.” What is being noted here is mere semantics—the sentence was in no way implying that boat use would stop, only that there will be more obstacles (such as pilings and possibly shallow areas as a result of siltation). In the Final ANILCA 810 Evaluation, the bridge across the Nigliq Channel has been addressed in the cumulative impacts section, as the bridge is not located on federal public lands.

SH-81

This issue was raised in the following letter: DEIS0236.

ISSUE

The process for on-going consultation with North Slope communities should be open and transparent, and defined in advance to allow inclusion in the FEIS.

RESPONSE

The BLM agrees that consultation should be open and transparent, and continued consultation throughout the planning process is its policy. Additionally, existing stipulations in the Northeast National Petroleum Reserve-Alaska IAP/EIS require ongoing consultation by the leaseholders and permittees for all planned operations (Stipulation 61) in order to prevent unreasonable conflicts between subsistence use and oil and gas activities.

SH-82

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include a description of the affirmative steps that will be taken to minimize significant adverse impacts to subsistence resources and uses for each proposed alternative.

RESPONSE

With regard to outlining steps to be taken that could minimize impacts to subsistence, these steps (also called mitigation measures) have been identified during the ANILCA 810 Subsistence Hearings, and during other public and/or government-to-government meetings. Adequate mitigation measures have been identified and discussed, and reasonable steps have been taken to minimize impacts to subsistence. The determination is presented in the Final ANILCA 810 Evaluation in Appendix B.

SH-83

This issue was raised in the following letter: DEIS0238.

ISSUE

Page S-19: Table, Summary of Impacts on Subsistence Harvest and Uses. Alternative C, FFD – Number should be changed to “5” out of the 5 CPAI drilling and production pads...” All 5 of the pads would be connected by road to Nuiqsut under Alternative C.

RESPONSE

The suggested change has been made in the FEIS.

6.3.2.45 Surface Water Quality**WQ-1**

This issue was raised in the following letter: DEIS0242.

ISSUE

Section 4.3 of the DEIS should cover sewage spills.

RESPONSE

Text to address the comment has been added to the FEIS in the NPDES Discharge subsection of Section 4A.2.2.2.

WQ-2

This issue was raised in the following letter: DEIS0241.

ISSUE

EIS Section 4A.2.2.1 – Impacts to Surface Water Associated with Water Supply Demands. Monitoring is mentioned here and throughout the document but without any reference as to who is doing the monitoring, for how long, as required by whom, reporting to whom and who is assessing the impacts. To say “monitoring” has happened, or will happen is meaningless without giving the monitoring criteria. Is this a mitigation recommendation?

RESPONSE

Monitoring requirements for the proposed action will be described in the various agency decision documents.

WQ-3

This issue was raised in the following letter: DEIS0241.

ISSUE

4A.2.2.2 – NPDES: The transport of varying materials for disposal at CD-1 is mentioned throughout the document. However, 1) the method of transfer, 2) the route, 3) the probability of spills en-route, 4) the impacts of such spills, 5) the clean-up methods, and 6) the impacts from the clean-up is not addressed. Section 4A.2.2.2 discussion of turbidity only addresses dust fallout. This analysis needs to be broadened to include flooding, erosion, bank failure, etc. Also, impacts from turbidity to streams, rivers, creeks need to be addressed – not just turbidity on ponds and lakes.

RESPONSE

As indicated above in the response to comment WQ-2, text pertaining to sewage spills has been added as a second paragraph to the “NPDES Discharge” subsection of Section 4A.2.2.2 under Construction Period. Section 2.3.11 includes information on waste handling and disposal.

The text in Section 4A.2.2.1 has been revised for the FEIS to include additional hydrologic analysis of flooding, erosion, and bank failure. Text in Section 4A.2.2.2, Operation Period, has also been revised to indicate that these events would temporarily increase turbidity, but it is not possible to provide quantitative estimates.

WQ-4

This issue was raised in the following letter: DEIS0238.

ISSUE

The last sentence of the third paragraph in Section 4A.2.2.2, “Oxygen depletion and oil concentration effects would be expected to disappear after spring recharge and ice melting,” contains a typographical error.

RESPONSE

A typographical error showing “oil” instead of “ion” has been corrected for the FEIS.

WQ-5

This issue was raised in the following letter: DEIS0238.

ISSUE

In the first paragraph of Section 4B.2.2.2., the statement that the length of ice roads would be higher for Alternative B “compared with Alternative A because no gravel road would be built across Fish Creek” erroneously implies CPAI plans a gravel road across Fish Creek. Such a road is not part of CPAI’s proposed project

RESPONSE

The cited comparison of gravel road construction between Alternative A and Alternative B is relevant to the FFD scenario alternatives, not the applicant’s proposed action. The text in Section 4B.2.2.2 has been revised for the FEIS to state that more miles of ice road construction would be expected for Alternative A than for Alternative B because no gravel roads would be built to CD-5 under Alternative B.

WQ-6

This issue was raised in the following letter: DEIS0238.

ISSUE

In Section 4B.2.2.2, Summary of Impacts on Surface Water Quality, first bullet, all references to “increased” should be to changed to “decreased” in this sentence to reflect that Alternative B has decreased area potentially affected by thermokarst erosion, decreased impacts to water quality, and decreased turbidity compared to Alternative A.

RESPONSE

The text has been revised accordingly for the FEIS.

WQ-7

This issue was raised in the following letter: DEIS0238.

ISSUE

The EIS should not refer solely to Rolligons when describing off-road travel; other tundra-approved, low pressure vehicles besides Rolligons could be used.

RESPONSE

The reference to “Rolligons” in Section 4D.2.2.2 has been changed to “low-pressure vehicles.”

6.3.2.46 Traffic**TF-1**

This issue was raised in the following letters: DEIS0083 and DEIS0114.

ISSUE

EIS should include air traffic data from past 2 years

RESPONSE

Figure 2.3.6-1 presents 2 years of historical flight data (May 2000–February 2002).

TF-2

This issue was raised in the following letter: DEIS0114.

ISSUE

Nuiqsut deals with 1,900 flights out of Alpine, when the DEIS only states 20.

RESPONSE

Historical flights data are presented in Figure 2.3.6-1. Air traffic estimates for the ASDP are presented in Tables 2.3.10-1, 2.4.4-4 and 2.4.4-7.

TF-3

This issue was raised in the following letter: DEIS0216.

ISSUE

Page 2-31, Table 2.3.10-1. Estimated vehicle and air traffic levels for Alternative A-C are presented in Table 2.3.10-1. An explanation is needed of how the numbers in the table were derived and what data were used to formulate the estimates.

RESPONSE

Aircraft and vehicle traffic estimates for the construction, drilling and operations phases of the applicant's proposed action are presented in Tables 2.3.10-1, 2.4.4-4 and 2.4.4-7. These estimates were generated by the applicant, based upon the scheduled activities that would occur during the winter and summer periods of each year from 2004 to 2011, as detailed in Table 2.4.1.5.

TF-4

This issue was raised in the following letter: DEIS0200.

ISSUE

Section Table 2.3.10-1, Page 2-31: Traffic estimates should be calculated over the life of the proposed projects and totaled by year for construction, drilling, and operations phase so that comparisons can be easily made to Figure 2.3-1 Historical Flight Frequency.

RESPONSE

The historic flight frequency data presented in Figure 2.3.6-1 is for APF-1 and CD-2 for the period of May 2000 through February 2002.

The air traffic estimates in Table 2.3.10-1 are for the five proposed production pads (CD-3 through CD-7). There is no basis for comparison.

TF-5

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 2-31, Table 2.3.10-1. Traffic estimates for CPAI's proposal (Alternative A), also applicable to Alternatives B and C, are presented in Table 2.3.10-1. The methodology used to generate the numbers must be more fully described.

RESPONSE

Aircraft and vehicle traffic estimates for the construction, drilling and operations phases of the applicant's proposed action are presented in Tables 2.3.10-1, 2.4.4-4 and 2.4.4-7. These estimates were generated by the applicant, based upon the scheduled activities that would occur during the winter and summer periods of each year from 2004 to 2011, as detailed in Table 2.4.1.5.

TF-6

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 2-9: claims that CPAI road use during operations will be limited to one round trip truck per day from Alpine, but provides no basis for the statement. This estimate conflicts with page 2-18 (2 round trips per day per pad) and Table 2.3.10-1.

RESPONSE

Section 2.3.1.3 has been revised for the FEIS to indicate two round trips per day to roaded pads, i.e. one round trip per shift. This is consistent with Table 2.3.10-1.

TF-7

This issue was raised in the following letter: DEIS0230.

ISSUE

The DEIS does not identify the types of boats that would be used to access CD-3. Purpose of boat use should also be described.

RESPONSE

All proposed boat use at CD-3 and CD-4 is related to emergency spill response. Section 2.3.4.2 has been revised for the FEIS to provide additional details regarding the types of boats that would be used. Section 2.4.1.1 has been revised to note that boat use would be for seasonal emergency access.

TF-8

This issue was raised in the following letter: DEIS0230.

ISSUE

There is no discussion of how CD-3 would be re-supplied during the years when there is no ice road to the pad, but the air traffic numbers should be increased.

RESPONSE

The highest use of the CD-3 airstrip would occur during non-ice road months for material re-supply. The aircraft flight numbers presented in Table 4A.2.3-5 are averages of (low–high) monthly estimates that take into account years when there would be no ice road to CD-3.

TF-9

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.10 – Traffic: This Table does not include estimated helicopter traffic, which during the summer months is a high number. See comments on 2.3.6 above.

RESPONSE

Summer season non-operations related helicopter flights have been estimated and added to the FEIS in Section 2.3.10, Traffic.

TF-10

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-30: Traffic. Last sentence: correct speed limits are 5 mph on process pads, 15 mph on production pads, and up to 45 mph on roads. It should be noted in the document that non-operations traffic will likely occur in the project area by a variety of users besides industry, including federal and state agencies, universities, and local residents.

RESPONSE

Section 2.3.10, Traffic, has been revised for the FEIS to include the suggested information.

TF-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Pages 2-31, 2-72, 2-75: Table 2.3.10-1, CPAI Development Project – Traffic Estimates. Footnotes defining summer and winter are in error. For purposes of this table, where winter designates the period of ice road travel, Winter = December through April, and Summer = May through November.

RESPONSE

The purpose of this table is to indicate the estimated range of vehicle trips and aircraft flights expected during the summer season, when wildlife and birds would be more prevalent in the Plan Area, vs. the winter. A footnote clarifying the season designations has been added to the tables.

6.3.2.47 Transportation**TP-1**

This issue was raised in the following letter: DEIS0198.

ISSUE

Power lines on poles cause a safety hazard for aircraft flying in marginal weather.

RESPONSE

The potential for powerlines on poles to create a safety hazard for low-level aircraft operations during poor weather conditions has been noted in the FEIS and appropriate mitigation measures have been proposed for those alternatives that propose powerlines on poles. This issue is addressed in Sections 4A.4.9, 4C-1.2.4.9, and 4C-2.4.9.

TP-2

This issue was raised in the following letter: DEIS0195.

ISSUE

Nuiqsut should have the same entitlement to go over Fish Creek without restrictions.

RESPONSE

The BLM has authority to restrict use of facilities built by lessees under oil and gas leases for health and safety purposes. Under the Preferred Alternative, the BLM is proposing to allow residents of Nuiqsut to use roads and bridges constructed within the National Petroleum Reserve-Alaska, including roads to the Fish Creek area.

TP-3

This issue was raised in the following letter: DEIS0238.

ISSUE

The information on the State road to Nuiqsut should be revised to reflect the current plan to connect it to the Kuparuk road system.

RESPONSE

The discussion of the state's proposed Colville River Road has been revised for the FEIS (see Section 3.4.9.1).

TP-4

This issue was raised in the following letter: DEIS0238.

ISSUE

Badami should be listed as having a shallow draft dock.

RESPONSE

The discussion of marine facilities has been revised for the FEIS to include the shallow draft dock at Badami (see Section 3.4.9.3).

6.3.2.48 Utilities

UT-1

This issue was raised in the following letter: DEIS0241.

ISSUE

2.3.11.4 – Fresh Water: This section mentions that the “fresh water demands of Alternatives A, B, and C are comparable.” However, it fails to specifically mention that Alternative D is roadless thus would require more water annually for ice road construction. The only total given is for potable water consumption per drilling day. It would be helpful to reference the reader to a Table showing all projected water usage.

RESPONSE

The fresh water demand for ice roads under each alternative has been recalculated for the FEIS. A comparison of the volumes of water required for ice roads under each alternative is presented in Table 2.5-1. Section 2.3.11.4 has been revised to recognize the variation in water demands resulting from ice roads under each alternative.

UT-2

This issue was raised in the following letter: DEIS0241.

ISSUE

Table 2.3.11-1 – Proximity of Productions Pads to Major Streams: The proposed CD-3 pad is <0.25 mile from the Ulamnigiag Channel. The table shows <1.0 from the Tamayayak Channel. This is misleading as the proposed pad location is practically on the riverbank. We recommend that the table be changed to properly reflect the pad location. It would be helpful to include distances from major water bodies, i.e. Harrison Bay. Recommend adding a column.

RESPONSE

The noted distances from CD-3 to the Tamayayak Channel has been edited for the FEIS. The table is pertinent to surface water discharges from pads, so the table contents have been kept to the nearest major stream.

UT-3

This issue was raised in the following letter: DEIS0241.

ISSUE

Class I and Class II Injection Wells: These need to be described and tell what is/can be injected into each.

RESPONSE

Section 2.3.3.3 has been revised for the FEIS to describe criteria for Class I and Class II disposal wells.

UT-4

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should include information regarding type, volume, and toxicity of waste streams for all proposed and hypothetical production and processing satellite pads under the CPAI development plan.

RESPONSE

The best available information regarding waste streams is presented in revised Sections 2.3.3.3, 2.3.11.5, and 2.3.11.6 of the FEIS.

UT-5

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS must include specific language regarding EPA's NPDES permit.

RESPONSE

Specific language regarding the USEPA's NPDES permit has been added to Section 2.3.11.5 of the FEIS.

UT-6

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 2-32: Sec. 2.3.11.4, Fresh Water. This section states "The fresh water demands of Alternatives A, B, and C are comparable...". It should also state how much more water Alternative D would require for ice roads.

RESPONSE

The fresh water demand for ice roads under each alternative has been recalculated for the FEIS. A comparison of the volumes of water required for ice roads under each alternative is presented in Table 2.5-1. Section 2.3.11.4 has been revised to recognize the variation in water demands resulting from ice roads under each alternative.

UT-7

This issue was raised in the following letters: DEIS0001, DEIS0083, DEIS0114, and DEIS0261.

ISSUE

DEIS should explain why the generator on the lookout pad cannot be put at CD-5 or CD-7, outside the Fish Creek sensitive area buffer zone.

RESPONSE

Section 2.4.6.6 of the DEIS included a discussion of the rationale for placing the power generator at CD-6.

UT-8

This issue was raised in the following letter: DEIS0271.

ISSUE

The FEIS should characterize and disclose information on waste management for CPAI's development plans. Information should include identification and estimates of waste streams by type, volume, and toxicity produced during construction and operation for drilling muds and cuttings, reserve pit fluids, other drilling related material, oil, diesel, solvents, glycol, and other chemicals used for machine operation and maintenance.

RESPONSE

The best available information regarding waste streams is presented in revised Sections 2.3.3.3, 2.3.11.5, and 2.3.11.6 of the FEIS.

6.3.2.49 Vegetation and Wetlands

VW-1

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS admits that a "habitat map is only available for 171,861 acres in the National Petroleum Reserve-Alaska, but not for the entire area." (p.4A.3-60) Despite this lack of knowledge, it later claims that there will be adequate habitat for animals displaced by industrial activities (p.4A.3-62). This may explain why the DEIS does not identify or explain its methodology, in violation of NEPA, that it uses in deriving its estimates of loss of habitat type for the various alternatives.

RESPONSE

Vegetation analyses were site-specific and put in context with available resources within the Plan Area. Habitat mapping is available for the entire footprint of CPAI's proposal and all alternatives (except for a portion of Sub-Alternative C-2). Vegetation analyses also were put in context for the specific available habitats within the Colville River Delta, because resources within this area have been identified as unique to the Plan Area. The basis for vegetation and wetland impacts were acres lost or altered due to gravel placement, dust deposition, alteration in moisture and thermal regimes, and alteration due to ice road construction in context of available vegetation and wildlife habitat types within the Plan Area. For the FEIS, a description of impact assumptions and calculation methods was added to Section 4A.3.1, Vegetation and Wetlands.

Although wildlife habitat mapping was not available for the entire Plan Area, vegetation mapping was available and was used to evaluate potential impacts under the FFD alternatives. Text was added to the FEIS to clarify extent of maps.

VW-2

This issue was raised in the following letter: DEIS0233.

ISSUE

The DEIS falsely portrays impacts to vegetation from ice roads as temporary. Old ice roads remain clearly visible for years.

RESPONSE

The word “temporary” was removed from the FEIS’ description of ice road impacts in Sections 4A–4F. The description of vegetation impacts in Section 4A.3.1, Vegetation and Wetlands was clarified for the FEIS. The extent of damage to tundra vegetation from ice roads depends on several factors including the vegetation type and the use of the road (single year or multiple years). While old ice roads may remain visible from the air, the level of visibility is not necessarily related to the level of damage. The readily visible “green trails” caused by the compression of dead leaf matter in wet tundra is temporary (lasting into the fall) and has relatively minor ecological impacts. Even “brown trails” associated with moderate damage due to the scuffing and crushing of tussocks, which occur less frequently, are expected to fully recover over time (Pullman et al. 2003). Tundra recovery rates are variable and depend on the initial level of disturbance and vegetation types (Yokel et al. Undated, Jorgenson et al. 2003a); however all impacts from single year ice roads are expected to completely recover over a 20 to 24 year period (Jorgenson et al. 2003b, Payne et al. undated).

VW-3

This issue was raised in the following letter: DEIS0198.

ISSUE

Vegetation damage will result from snow accumulation on the north side of pads or roads causing thermokarst and water impoundment. The added height of the 14 feet elevation pads in the lower delta gives the potential for the spring-time footprint to be doubled or 80 acres.

RESPONSE

The DEIS was incorrect with regard to the proposed pad thickness of 14 feet for CD-3. The proposed thickness is 5 to 8 feet. CD-3 and CD-4 were studied in detail (e.g. flood frequency and pad height) in 2001 and 2002. The information is presented in break-up reports for those years and has been incorporated into Section 3.2.2.1, Surface Water Hydrology. Additional information and analyses obtained since the DEIS was released was used to update the assessment in the FEIS.

VW-4

This issue was raised in the following letter: DEIS0241.

ISSUE

The EIS should break down wetland impacts between acres covered by pads and acres covered by roads.

RESPONSE

Wetland impacts to acres covered by roads and acres covered by pads were presented in the DEIS. For the FEIS, direct impacts to vegetation and habitats have been further broken down by primary roads; spur roads; well pads; airstrip runways and aprons; boat launches and docks; and associated access roads (consistent with the project description in Section 2). Tables 4A.3.1-1; 4A.3.1-2; 4B.3.1-1; 4B.3.1-2; 4C1.3.1-1; 4C1.3.1-2; 4C2.3.1-1, 4D.3.1-1, 4D.3.1-2, 4D.3.1-3, 4D.3.1-4, 4F.3.1-1, and 4F.3.1-2 present the impact acres for these categories. A brief summary of total impacts was added to the text of Section 4, Terrestrial Vegetation and Wetlands for each alternative in the FEIS.

VW-5

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS lists Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands, but fails to discuss how each of the alternatives would address the requirements of the Executive Orders.

RESPONSE

The EIS does not make the findings for Executive Orders, but is intended to provide environmental and other information for use by federal agencies to address compliance with these orders which will be included in the ROD. FEMA floodplain maps are not available for the North Slope of Alaska—the best available information on floodplain extent for the Colville River was included in the FEIS. Additional information on the rationale for pad and road locations to address avoidance of wetlands is included in Section 4A.3.1, Vegetation and Wetlands. Impact analyses for all wetland habitats and summaries of impacts to key wetlands are included in Sections 4A–F.3.1, Vegetation and Wetlands.

VW-6

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to clearly identify what are the “key wetlands” generally or at a specific site, or explain how facilities would be situated to minimize impacts to key wetlands.

RESPONSE

Key wetland habitats as identified in the Northeast National Petroleum Reserve-Alaska IAP/EIS ROD (BLM and MMS 1998b) were presented in Section 3.3.1.3 of the DEIS. For the FEIS, Tables 3.3.1-3, 4A.3.1-2, 4B.3.1-2, 4C.3.1-2, 4D.3.1-2, 4D.3.1-4, and 4F.3.1-2 were revised to identify key wetland habitats. A sentence was added to the Summary of Impacts sections (Section 4) under each alternative to further summarize impacts to key wetlands. Additional information on the rationale for pad and road locations to address avoidance of wetlands was added to Section 4A.3.1, Vegetation and Wetlands.

VW-7

This issue was raised in the following letter: DEIS0230.

ISSUE

The DEIS inaccurately dismisses thermokarsting as an issue in floodplains. While the active layer may have less ice, it's all underlain by permafrost, and thermokarsting can certainly affect permafrost ice where floodwaters pond, as well as ice lens in the active layer.

RESPONSE

For the FEIS, the cited statement, “Floodplains and terraces are usually unaffected (by thermokarst) because of the low ice content of these areas (Walker et al. 1987b)” was removed from Section 4A.3.1.1, Terrestrial Vegetation and Wetlands. Thermokarst is an important process in bank erosion as indicated. Indirect impacts to tundra vegetation and habitats from dust fallout and changes to moisture or thermal regimes associated with

roads, pads, and airstrips have been calculated for all alternatives and are presented in Tables 4A.3.1-1; 4A.3.1-2; 4B.3.1-1; 4B.3.1-2; 4C1.3.1-1; 4C1.3.1-2; 4C2.3.1-1, 4D.3.1-1, 4D.3.1-2, 4D.3.1-3, 4D.3.1-4, 4F.3.1-1, and 4F.3.1-2. These impacts were calculated by adding a 164-foot buffer around gravel footprints (including those within floodplains). Thermokarst is discussed in more detail in Sections 3.1.1.2, Permafrost and 4A.1.1.1, Soils and Permafrost.

VW-8

This issue was raised in the following letter: DEIS0241.

ISSUE

Section 4A.3.a Wetland losses: There is no discussion of wetland functions and values and what functions and values would be impacted or lost as a result of the proposed project. Also, without the pad and road placement criteria, it cannot be determined if higher value areas have been avoided to the greatest extent practicable. 404(b)(1) guidance states that “no discharge of dredge or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential of adverse impacts to the discharge on the aquatic system.”

RESPONSE

A discussion of functions and values of Plan Area wetlands was added to Section 3.3.1.2 of the FEIS. The primary function of wetlands in the Plan Area is wildlife habitat and threatened and endangered species habitat. The analyses of impacts in Section 4, Terrestrial Vegetation and Wetlands, focuses on the type of impacts to vegetation and wetlands and provides the quantities of impacts by vegetation type and wildlife habitat. The analyses of impacts to wildlife habitat are also discussed under other Biological Resource sections of the FEIS (Sections 4.A–F.3.3 Birds, Sections 4A–F.3.2 Terrestrial Mammals, and Sections 4A–F.3.5, Threatened and Endangered Species).

A description of the rationale used to avoid high value wetlands was also added to the FEIS in Section 4A.3.1, Vegetation and Wetlands.

VW-9

This issue was raised in the following letter: DEIS0238.

ISSUE

Dust fallout occurs from all gravel surfaces exposed to wind. Air traffic causes a dust shadow. Therefore roadless alternatives need to include an evaluation of dust.

RESPONSE

Indirect impacts from dust fallout and changes to moisture or thermal regimes associated with roads, pads, and airstrips have been calculated for all alternatives and are presented in Tables 4A.3.1-1; 4A.3.1-2; 4B.3.1-1; 4B.3.1-2; 4C1.3.1-1; 4C1.3.1-2; 4C2.3.1-1, 4D.3.1-1, 4D.3.1-2, 4D.3.1-3, 4D.3.1-4, 4F.3.1-1, and 4F.3.1-2. The methods used to obtain these calculations are presented at the beginning of Section 4A.3.1.1.

VW-10

This issue was raised in the following letter: DEIS0238.

ISSUE

The text implies that insulated ice pads will be developed for staging materials and equipment during winter construction. Ice pads used to support construction would not be insulated and would be allowed to melt during the summer.

RESPONSE

For the FEIS, text under the heading Ice Roads, Ice Pads, and Snow Stockpiles in Sections 4A–F.3.1.1 was revised to indicate that ice pads [instead of “insulated” ice pads] would be used as staging areas during pipeline construction.

VW-11

This issue was raised in the following letter: DEIS0238.

ISSUE

There are numerous references to a USFWS study conducted on seismic trails in the Arctic National Wildlife Refuge. The seismic work conducted in the Refuge utilized old technology (tracked vehicles, etc.) that is not in use today. The text needs to include reference to a report recently completed for seismic trails in the Colville delta conducted by Jorgenson et al (2003). To be all inclusive the text should include a discussion about the evolution of technology, especially with respect to seismic equipment where vehicles have been modified over the years to minimize impacts to the tundra. CPAI can provide the BLM with copies of a presentation that discusses the evolution of seismic equipment if requested.

RESPONSE

Seismic exploration is not a part of the applicant’s proposed action; thus it is not appropriate to include a discussion on the evolution of seismic equipment. The FWS study was cited because of the limited studies available on the effects of winter tundra travel. For the FEIS, text regarding off-road tundra travel in Section 4.A.3.1.1, Terrestrial Vegetation and Wetlands, was revised to include a summary of the more recent seismic and tundra travel studies available.

VW-12

This issue was raised in the following letter: DEIS0238.

ISSUE

CPAI objects to the mitigation measure “fill slopes would be stabilized by revetments or soil binders.” This is too broad and could be interpreted to apply to the entire lengths of all roads. Such stabilization is only needed potentially in sensitive areas such as river crossings.

RESPONSE

For the FEIS, the text was revised to indicate that fill slopes would be stabilized by revetments or soil binders where necessary.

VW-13

This issue was raised in the following letter: DEIS0241.

ISSUE

4F.3.1 - Reliance on Federal and State Programs for Resource Protection (Wetlands): The first sentence should read: Conversion of Impacts to wetlands and floodplains are protected in two ways. Fourth sentence should read: In addition, Section 404 of the Clean Water Act, administered by the U.S. Army Corps of Engineers (USACE), regulates the discharge of any dredge or fill material into waters of the U.S. which includes wetlands. controls any modification to wetlands to minimize the net loss of wetlands. The last sentence is to be deleted. A Memorandum of Agreement . . . minimizing wetland losses is preferable to compensatory mitigation.

RESPONSE

For the FEIS, the sentences were revised to reflect the suggestions made in the comment.

VW-14

This issue was raised in the following letter: DEIS0238.

ISSUE

Page S-10: 2nd paragraph under Biological Environment – insulated ice pads are not used during pipeline construction. They may be used at a roadless production pad for storage of equipment for summer drilling. See also EVW-12.

RESPONSE

For the FEIS, sentences under the heading Terrestrial Vegetation and Wetlands in the Alternative A discussions were revised to indicate that ice pads [instead of “insulated” ice pads] would be used as staging areas during pipeline construction.

VW-15

This issue was raised in the following letter: DEIS0238.

ISSUE

Page S-11: Table, Summary of Impacts on Terrestrial Vegetation and Wetlands, Alternative D – Under FFD revise “0 acres would be impacted by dust.” Even if there are no roads, dust shadows could occur from production pads and airstrips.

RESPONSE

Section S.4.3.1–Alternative A – Summary of Impacts (CPAI and FFD), Terrestrial Vegetation and Wetlands, was updated for the FEIS with a revised summary table. The table includes impact calculations, including dust impacts under Alternative D. Indirect impacts to tundra vegetation and habitats from dust fallout and changes to moisture or thermal regimes associated with roads, pads, and airstrips were calculated using a 164-foot buffer around all gravel footprints.

VW-16

This issue was raised in the following letter: DEIS0233.

ISSUE

The EIS analysis of vegetation and wetlands impacts should consider that the development footprint will expand as the project develops.

RESPONSE

The DEIS analyzed both alternative-related impacts and cumulative impacts. The analysis of FFD alternatives, which is encompassed by the cumulative analysis, addressed the potential impacts of future development near the Plan Area.

6.3.2.50 Visual Resources

VS-1

This issue was raised in the following letters: DEIS0198 and DEIS0263.

ISSUE

All structures, including pipelines, should be painted earth tones that blend into the landscape, so as to protect visual resources.

RESPONSE

Under each Potential Mitigation Measures discussion for each alternative, it indicates that all structures would be painted to blend with the natural environment. All colors would be pre-approved by the AO. This includes emergency spill containers located along watercourses.

The BLM would use computer generated colors to determine the color for structures that blend in best with the background colors of the natural landscape and may do a color test onsite.

VS-2

This issue was raised in the following letter: DEIS0240.

ISSUE

The analysis of view shed impacts claims that the impact area for a pad is only 8,000 acres, but Figures 3.4.5.3-1 and -2 show that Alpine would be visible from 5 and 15 miles, which would makes the viewshed impact larger than 8,000 acres.

RESPONSE

The 8,000 acres identified as a viewshed is based on a 2 mile radius from a facility. It was determined that a 2 mile radius was the impact area for the recreational experience. At greater distances, the recreational experience will not necessary be impacted, , even if the facility is visible from up to 5 miles away or more.

The 5-mile distance was used as a foreground-middleground figure for visual resource analysis purposes, and it represents where facilities may be visible with the potential to contrast with the natural landscape.

VS-3

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4A.4-51: “The summer season represents the time of year when viewers would be traveling through the Plan Area.” This statement ignores winter subsistence users, particularly Nuiqsut residents, and recreational snow machines, dog mushers, etc., who visit the area.

RESPONSE

The VRM system looks at the impacts of a proposal when most of the users or viewers will view the landscape, and the objects are most visible. Due to low or no light and snow cover during the winter, the primary viewing season is summer. It was decided that the use period for analysis would be the summer, a snow-free timeframe.

VS-4

This issue was raised in the following letter: DEIS0240.

ISSUE

Section 4A.4.8: fails to analyze the visibility of industrial facilities and industrial scarring from the air.

RESPONSE

The VRM system looks at the impacts of a proposal from the viewer’s/viewpoint angle of observation. It was determined that most of the views and angles would be from the ground, not from the air, so no analysis of overhead perspective was conducted. While impacts can be viewed from the air, the scale is relatively small and the amount of view time is relatively short. With full reclamation and revegetation, impacts will continue to be visible from the air, but these impacts would be virtually unnoticeable from the ground.

VS-5

This issue was raised in the following letter: DEIS0240.

ISSUE

Page 4A.4-51: The DEIS fails to estimate how far away the sky glow (due to lighting of facilities at night and flaring gas) would be seen.

RESPONSE

It is assumed that the lighting for facilities and production flares would be visible within the foreground-middleground zone, but that they would not, in and of themselves, attract the attention of the casual observer during the primary viewing season. They would represent an element of the totality of visual impacts which together could attract the attention of the casual observer. It was determined that mitigation of lighting impacts would be included in the Preferred Alternative (Alternative F). These measures were described in Section 2.4.6.

VS-6

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS fails to integrate impacts to Visual Resources with any discussion of wilderness.

RESPONSE

The applicant's proposed action would not occur in, nor adjacent to, a designated wilderness area, nor a wilderness study area. Wilderness would not be affected by the proposed action. However, the FEIS does consider the impacts on wilderness-type values, such as naturalness, solitude, quietude, and other wildlife and wildland values.

VS-7

This issue was raised in the following letter: DEIS0241.

ISSUE

Section 3.1.1.3 - Colville Delta Facility Group KOPs: Existing Conditions at CD-1 and CD-2: In February 2001, the Corps of Engineers authorized the discharge of fill into 98.4 acres of wetlands for the construction of the Alpine facilities (CD-1, CD-2 and associated features). Subsequent authorizations bring the total authorized fill at Alpine to 112.302 acres. The Draft EIS consistently understates the amount of impacts of this existing project. This section states the "total acreage for CD-1 is 36.3 acres; the total acreage for CD-2 is 10.1 acres." This is incorrect, totally misleading to the reader, and needs to be corrected in the Final EIS. This also needs correcting at 2.3.12.1 – Existing Alpine facilities (CD-1 and CD-2).

RESPONSE

The total acreage for CD-1 and CD-2 is 112.302. Sections 2.3.12.1 and 3.4.8.3 of the FEIS provide the proper, authorized acreage of the "footprint."

VS-8

This issue was raised in the following letter: DEIS0241.

ISSUE

The description mentions the height of the drill rig as being 205 feet as being "the tallest structure" at the existing Alpine facilities. This section needs to note that the drill rig is a temporary structure and give an estimate as to how long it will be at existing and proposed pads within the Colville Delta.

RESPONSE

For the FEIS, Section 3.4.8.3 was revised to indicate that drill rigs are temporary structures which are active (drilling) during different times of the year. For example, for the sites in the Colville Delta area, as displayed in Table 2.4.1-5, CD-3 would be drilled in winter up to several years, whereas CD-4 would be drilled in summer. As shown in Table 2.4.1-5, CD-3 drilling could occur in winter through 2011 and drilling at CD-4 could occur through 2009 in summer.

VS-9

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-191: Visual Resources section does not state which class is the desired objective.

RESPONSE

Section 3.4.8.2 states that VRM classes were not established by the Northeast National Petroleum Reserve-Alaska IAP/EIS. It is the BLM's policy that interim VRM classes be established when a project is proposed for which no VRM objectives have been approved.

Using scenic quality, sensitivity, and distance zones, as well as other management factors, the Plan Area was assigned three VRM classes.

The Colville River from the southern project boundary to Harrison Bay, including the Delta area, is VRM Class II. Fish Creek, Judy Creek, and the Ublutuooh River are VRM Class III. The rest of the Plan Area is VRM Class IV. This information was displayed in Figure 3.4.8.2-1.

VS-10

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 3-193: Third and fourth headings, Views Looking South/Northeast from Nechelik Channel, KOP #20 and #21. In titles and following paragraphs change "Nechelik" to "Nigliq".

RESPONSE

The suggested changes have been made for the FEIS.

VS-11

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-52: Alternative A – Potential Mitigation Measures for Visual Resources. Mitigation #1. The statement "All structures, or all permanent structures, would be painted to blend into the natural environment." may not be practical. Some structures, such as roads and pads, are not amenable to being painted. Also some materials do not hold paint well in the harsh environment, resulting in high maintenance including frequent repainting. Would the color blend in summer or winter?

RESPONSE

All structures that can be painted will be. It was never the intent that roads and pads be painted. It is possible that some components of structures may not take paint well and excessive maintenance would be prohibitive. Some facilities may be required to use self-weathering materials, or BMPs, and allowed to self-weather in order to reduce visual contrast for components that may not accept or hold paint. Painting where possible will allow structures to blend into the surrounding environment during summer months when snow is not fully or partially covering structures.

For the FEIS, Section 4A.4.8.5 was revised to indicate that self-weathering steel, or BMPs, will be used on all metal structures not otherwise painted, including but not limited to pipelines, communications towers and drill rigs, thus providing a more natural color of brown.

VS-12

This issue was raised in the following letter: DEIS0238.

ISSUE

Page 4A.4-52: Visual Resources. CPAI disagrees with the statement that viewer sensitivity is not an issue in winter. Villagers can travel farther in winter than in summer via snowmachine, and lights from production pads can be seen for long distances due to the flat terrain. Lights are often used as navigation aids for travelers in winter in the Arctic. It should be noted that drill rigs would only be present for short amounts of time so they will not create a permanent visual impact.

RESPONSE

Even with lighting mitigation, the impacts from lights and production flares will continue. Any visible light can continue to be used as a navigational aid. Drill rigs, while temporary in nature (generally less than 10 years), will cause impacts to visual resources.

For the FEIS, Section 4A.4.8.4 was revised to indicate that under Alternative A and Alternative A – FFD, construction and operation would result in adverse effects to visual resources. Activities such as pad construction and road construction would have a negligible impact because the construction activities would occur in the winter when snow and darkness make viewing activities difficult. The summer season represents the time of year when viewers would be traveling through the Plan Area and facilities are free of snow and there is adequate daylight for viewing. The facilities and structures associated with operation would introduce contrast with the natural landscape. When viewed from the foreground-middle-ground zone, these structures would produce a moderate contrast with the natural landscape.

6.3.2.51 Water Resources**WR-1**

This issue was raised in the following letter: DEIS0211.

ISSUE

Analyzing erosion of the land by the river should also consider ice forces pushing to the shore.

RESPONSE

Most of the ice will move down relatively deep channels during break-up events because overland flow of ice is limited by water depth. For example, a 4-foot-thick piece of ice from the main channel cannot float in 2 feet of water on the floodplain; therefore erosion from ice movement will be limited to the channels. Bank erosion associated with ice forces is a natural process on the Delta, however, the rate of erosion associated with ice forces is not expected to increase as a result of the applicant's proposed action. Additional but negligible ice-related erosion will be associated with the proposed bridge. For the FEIS, results from observations and recent analyses have been added in Sections 3.2.2.1, Impact of Ice on Flooding During Breakup, and 4A.2.2.1, Impacts Associated With Ice Conditions.

WR-2

This issue was raised in the following letter: DEIS0212.

ISSUE

No discharges should be allowed to rivers; even food or soap will cause fish to leave.

RESPONSE

Discharges to rivers are not proposed and the USEPA does not intend to authorize NPDES discharges to rivers. For the FEIS, a clarification of this fact has been added to Section 4A.2.2.2.

WR-3

This issue was raised in the following letters: DEIS0081, DEIS0083, DEIS0114, and DEIS0230.

ISSUE

In the area of the proposed bridge, the Nigliq Channel is shallow and hard to cross. Bridge supports may cause new sandbars, growth on existing sandbars, silting and sedimentation of the channel, erosions of the riverbanks, and ice jam.

RESPONSE

Scour, erosion and sedimentation issues are discussed in detail in Sections 4A.2.2.1 and 4F.2.2.1 in the subsections titled Scour Analyses in Hydrologic Analyses and Modeling to Assess Effects of Roads, Pads and Bridges. In general, various flood frequencies and their effect on depth and velocity of water in the channel, the depth and volume of sediment scour, and the potential for resultant downstream sedimentation in the vicinity of the proposed Nigliq Channel Bridge were examined.

The implication of the phrase “hard to cross” at the proposed bridge site is not clear. According to onsite engineers, this site was chosen as one of the better ones on the channel for a bridge, based on channel width, streambank conditions and floodplain characteristics, and so should be more practical, from an engineering perspective, to cross compared to other sites.

WR-4

This issue was raised in the following letter: DEIS0233.

ISSUE

The EIS should acknowledge the certainty that placing bridges over rivers will require constant alteration of hydrology in the form of channelizing, dredging, constricting, and otherwise altering the rivers' flow. In terms of the long-term impacts of structures on Colville hydrology – will there be a need for channel maintenance?

RESPONSE

The effect of bridges on stream hydrology (i.e., constriction, channelization, flow alteration, etc.) and erosion/sedimentation in the channel is described in detail in Sections 4A.2.2.1 and 4F.2.2.1 in the subsections titled Hydrologic Analyses and Modeling to Assess Effects of Roads, Pads and Bridges. Detailed analyses and discussions are presented for the proposed Nigliq Channel Bridge (i.e., 1,200 and 1,650 ft scenarios) and the proposed Ublutuoch River Bridge (i.e., 120 and 350 ft scenarios). In general, infrequent high flows would be constricted somewhat by bridges if they occupy a portion of the floodplain, thereby slightly increasing velocity at the structure during flood flows. Depending on channel sediment characteristics, localized scour could also occur during these same infrequent flood events (i.e., with recurrence intervals greater than 10 years). During breakup events on the Delta, a large portion of the sediment that is suspended during these scour events will be transported out of the Delta and onto sea ice. Additional channel maintenance (i.e., dredging) once the bridge structure is in place is not anticipated, but pre- and post event channel monitoring could confirm these predictions.

WR-5

This issue was raised in the following letters: DEIS0081, DEIS0083, DEIS0216, DEIS0230, DEIS0236, and DEIS0271.

ISSUE

The EIS should include site-specific hydrologic information and analysis for the Nigliq Channel. It should state how much sedimentation and erosion is likely to result from the Nigliq Channel bridge. Knowledge of bottom sediments is necessary because scouring of a gravel bottom around bridge piers would be different than if the bottom is sand or silt. Historic flow rates, erosion, flooding, damming, and channel movement should be described. The damming effect caused by the approaches, piers, CD-2 and the road to CD-1 will all effectively reduce the area compared to the flow, turning the bridge into a sluiceway with far higher water velocities during flood stages than at normal summer water levels.

RESPONSE

Hydrologic aspects of the Nigliq Channel (e.g., flow rates, flooding) are discussed throughout Section 3.2.2.1 in various subsections (i.e., Colville River Delta, Colville River and Impact of Ice on Flooding During Breakup) within the Stream and River Hydrology section. In this same section, historic records of erosion, deposition, channel migration, sediment load, and sedimentation associated with the Nigliq Channel are also discussed in various subsections (i.e., Colville River Sediment Erosion, Transport and Depositional Processes; and Colville River Delta Coastal Processes). Recent two-dimensional modeling of the Colville River Delta examines the effects caused by the proposed approaches, piers, roads, and pad facilities including in the Nigliq Channel. Sections 4A.2.2.1 and 4F.2.2.1 summarize the results of these studies. In particular, specific impact analyses are in subsections titled Hydrologic Analyses and Modeling to Assess Effects of Roads, Pads and Bridges. Impact analyses related to erosion and sedimentation associated with the proposed bridge are also described in detail in Sections 4A.2.2.1 and 4F.2.2.1 in the subsections titled Scour Analyses.

WR-6

This issue was raised in the following letters: DEIS0216 and DEIS0241.

ISSUE

The EIS must include hydrologic modeling, impacts to surface water flow from roads, and modeling or bridge/culvert design data.

RESPONSE

Engineers developed a site-specific two-dimensional model of the Colville River Delta (i.e., FESWMS or the USGS' Finite Element Surface-Water Modeling System integrated with the pre- and post-processing software program – Surface Water Modeling System - developed by Brigham Young University) and a one-dimensional model of the Ublutuoch River (i.e., HEC-RAS or the Hydrologic Engineering Center's River Analysis System) to evaluate the effect of bridges at various flood frequencies, on water surface elevation and channel velocity. The effects of bridges/culverts on surface water flow are described in detail in Sections 4A.2.2.1 and 4F.2.2.1 in the subsections titled Hydrologic Analyses and Modeling to Assess Effects of Roads, Pads and Bridges.

WR-7

This issue was raised in the following letters: DEIS0216 and DEIS0236.

ISSUE

The EIS should include recent monitoring study data for analysis of potential hydrologic impacts on the Colville River Delta.

RESPONSE

The DEIS summarized the results of various hydrologic monitoring studies conducted on the Delta over the past 40 years, which included more recently specific assessments during break-up and summaries of flooding observations. Summaries and analyses completed since the DEIS have also been used to update the assessments for the FEIS throughout Sections 3.2.2.1, 4A.2.2.1 and 4F.2.2.1.

WR-8

This issue was raised in the following letters: DEIS0216 and DEIS0236.

ISSUE

The EIS should include discussion of the erosion problems associated with the existing Alpine facilities and pipeline beneath the Colville River, including a comparison with pre-construction predictions.

RESPONSE

A bank stability evaluation on the west bank, at the HDD crossing, is currently in progress. These results are not yet available. Similarly, existing erosion concerns on the Delta have been examined in a recent technical report. The results of this report have been incorporated into the FEIS in Section 4A.2.2.1, Impacts Related to Bridges. Further, operations activities will address any maintenance issues caused by flood erosion following construction.

WR-9

This issue was raised in the following letter: DEIS0242.

ISSUE

Section 2.3.3.1 assumes hydrologic data with enough rigor to allow for ice jam analysis and prediction have been collected to allow such modeling. To date, models predicting water surface elevations within the Colville River do not take into account ice in channels and ice jams.

RESPONSE

Extensive modeling has been conducted to evaluate changes to water surface elevations and velocities across the Delta during large, infrequent flood events. Recently, an additional study described ice jamming potential within the Delta has been prepared. This study also presented modeling that incorporated aspects associated with ice jam processes. The impact analyses have been updated to reflect this new data, information and modeling results. The modeling and the effects of ice jams are described in Sections 3.2.2.1 (in subsection titled Impact of Ice on Flooding During Breakup) and 4A.2.2.1 (in subsection titled Ice Effects).

WR-10

This issue was raised in the following letter: DEIS0242.

ISSUE

The State's concern with the hydrology discussions is that too much is being leveraged on hydrological data that may not be rigorous enough to use for such purposes. There are no measures of error associated with any of the hydrological predictions presented, which unfortunately, makes them much less reliable as a tool for determining pad, road and pipe design elevations.

RESPONSE

The FEIS includes a subsection titled Hydrologic Analyses and Modeling to Assess Effects of Roads, Pads and Bridges in Sections 4A.2.2.1 and 4F.2.2.1. Within these sections are detailed discussions of the uncertainty associated with the existing data sets; the discussion includes measurements of error associated with the various hydrological predictions.

WR-11

This issue was raised in the following letter: DEIS0242.

ISSUE

Throughout Section 3 it is stated that, "Some lakes are completely replenished by these processes within 1 year; water volumes in other lakes have much longer residence times, perhaps as long as 25 years". In previous comments made, it was requested that the reference for the 25-year recharge be cited or the statement be eliminated.

RESPONSE

For the FEIS, the section was revised to address the comment.

WR-12

This issue was raised in the following letter: DEIS0242.

ISSUE

There are conflicting statements concerning water volumes in Sections 3 and 4. Recharge of area lakes is an important issue and a consistent concept or opinion needs to be carried throughout the entire EIS.

RESPONSE

For the FEIS, the section was revised to address the comment.

WR-13

This issue was raised in the following letter: DEIS0242.

ISSUE

Section 4.1 references the development of predictive models to simulate potential impacts. Descriptions of these models are not found anywhere in the document so it is difficult to assess their applicability or power

RESPONSE

The use of the term “predictive models” was found only in DEIS Section 4.1, and its use was not meant to be specific to water resources (or any other discipline). Section 4.1 has been revised for the FEIS for clarity.

WR-14

This issue was raised in the following letter: DEIS0242.

ISSUE

“Lakes would supply fresh water for the construction of ice roads and pads during the winter construction seasons, for hydrostatic testing of newly installed pipelines, for potable water at temporary construction or drilling camp facilities and for mud-plant operations during drilling,” is restricting types of use. (State provides alternative text).

RESPONSE

For the FEIS, the requested change was made in Section 3.2.2.1, Lakes.

WR-15

This issue was raised in the following letter: DEIS0242.

ISSUE

An important mitigation measure for pollution is use of lake water for dust abatement during summer months.

RESPONSE

The use is possible and was noted in Section 3.2.2.1, Lakes.

WR-16

This issue was raised in the following letter: DEIS0242.

ISSUE

In reference to monitoring programs to study impacts to surface water, major operations may utilize in one project ninety or more lakes for the building of annual ice roads. State provides alternative text in DEIS0242, p.10.

RESPONSE

For the FEIS, the requested change was made in Section 3.2.2.1, Lakes.

WR-17

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS should contain reliable site-specific flood data information for CD-3 and CD-4, and Fish Creek. On p. 2.28 to 2.29 the discussion of location of bridges and culverts is brief. On page 3.17 to 18, and 3-26 it is

admitted that there is a lack of hydrology data for the Colville River and Fish Creek. Fig 3.2.2.1-1 does not show location of CD 5, 6 and 7 in relation to River Monitoring sites, confirming the lack of data.

RESPONSE

Researchers have studied Fish Creek for the last 3 years. CD-3 and CD-4 were studied in detail (e.g. flood frequency and pad height) in 2001 and 2002. This information is presented in break-up reports for those years and has been incorporated into Section 3.2.2.1, Surface Water Hydrology. Additional information and analyses provided since the DEIS was released were used to update the assessment in the FEIS. Nevertheless, both CD-3 and CD-4 pad heights are governed by thermal criteria and not by flood criteria. The Q200 for CD-3 is 8+ feet the pad and runway are at 12.5+ ft. The Q200 for CD-4 is 15.7 ft the pad is at 19.0 ft. These issues are discussed in detail in Section 4A.2.2.1.

WR-18

This issue was raised in the following letter: DEIS0240.

ISSUE

There is inconsistent statements regarding the supply of fresh water for operational ice roads in Section 4A.2. This inconsistency is repeated in the subsistence summary section. (example: p.4A.2-21, 4A.2-34, S-8, S-9)

RESPONSE

The wording has been changed and inconsistencies removed from the EIS in Section 4A.2.2.1, Impacts Associated With Water Supply Demands.

WR-19

This issue was raised in the following letter: DEIS0240.

ISSUE

The DEIS should analyze the impacts from potential water withdrawals from the Colville River, which the State Department of Natural Resources has authorized in Temporary Water Use Permit #67.

RESPONSE

Under-ice discharge in the vicinity of the ice bridge location has never been measured, but based on observations made by the applicant's hydrologists, even in mid-February under-ice flow at the bridge is on the order of 7,000 square feet. Under those conditions, even assuming a flow velocity of 0.1 fps (which is about what was measured this past winter), under-ice discharge is still about 700 cfs (about 5,200 gpm). This discharge is likely well above the rate at which the water would be removed. Significantly more water is flowing than could be withdrawn. Thus, the dynamic equilibrium of the channel is maintained and the depositional regime unchanged. This issue was discussed in Section 4A.2.2.1, Impacts Associated with Water Withdrawals During Construction.

WR-20

This issue was raised in the following letter: DEIS0239.

ISSUE

The DEIS incorrectly projects that impacts to water quantity and quality would be the same whether the project is nearly fully supported by ice roads and aircraft (Alt. D) or with permanent gravel roads (p S 7-9).

RESPONSE

Impacts to water quantity could be the same if the lakes recharge every year during spring as they have in the past according to studies (Michael Baker, Jr. 2002e). A higher quantity of water would be withdrawn from lakes in the ice road supported case, but more surface water flow could potentially be affected in the permanent road case. Thus, although the types of impacts are different, the overall total effects are similar. This issue was discussed in Section 4D.2.2.1, Impacts Associated With Water Supply Demands During Construction.

Water quality incorporates numerous parameters. Section 4A.2.2.2, Surface Water Quality described parameters affected by gravel and ice roads.

WR-21

This issue was raised in the following letter: DEIS0239.

ISSUE

The EIS does not contain an analysis of the groundwater resources in the Reserve and under the Colville River Delta, the taliks below the river, and complex features of the hydrology of the river that may be affected by the cumulative effects of water withdrawals, placement of roads and bridge structures, repeated flood events or major flooding, storm surges, and ice dams.

RESPONSE

The applicant's engineers presumed groundwater is not a concern because groundwater resources are marginally present and will not be significantly pressured. Groundwater resources will not be relied upon for the applicant's proposed action and groundwater resources are minimal on the slope. This issue was briefly discussed in Sections 3.2.2.1, Subsurface Water and 4A.2.1.1—Construction Period, Impacts to Subsurface Waters.

WR-22

This issue was raised in the following letter: DEIS0239.

ISSUE

The EIS does not contain any maps showing the effects of flooding on the pipeline, the airstrip, and the other facilities, or any analysis of floodwater, breakup ice jams, and other effects on the integrity of the pipeline.

RESPONSE

Recent reports describe two-dimensional modeling of the effects of flooding (for open-water and breakup ice-jam scenarios), including maps showing the effects of flooding on Alpine facilities. Specific maps, figures and tables from these reports are presented in Section 4A.2.2.1 of the FEIS.

WR-23

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.2.2.1 Storm Surges, Page 3-23, Para. 2nd, Sent. 1st: We suggest you update the references and text on historical storm surges. See for example Lynch, A.H., E.N. Cassano, L. Lestak, and J.J. Cassano, 2003: Case Studies of High Wind Events in Barrow, Alaska: Climatological Context and Development Processes. Mon. Wea. Review, 131, 719-732. Recent changes in the length of the open water season have implications for storm surge frequency.

RESPONSE

The intensity of Beaufort-Chukchi Cyclones has increased in the summer over the last 40 years. The findings indicate that retreating sea ice and increased open water have an affect on the frequency and intensity of cyclonic activity in most of the arctic, but not in the Beaufort Sea.

Observed storm surges and hindcast analyses indicate that these big storms occur in late summer and fall rather than in spring, and thus they are unlikely to occur when the Colville River is flooding (i.e., during break-up when sea ice is still intact and shorefast). These late summer/fall storm surges could affect floodwaters around CD-3, but this is a time when streams are at their lowest point and thus it will likely not be an issue.

These issues, including the effect of climate changes over the next 20-40 years, were discussed in Section 3.2.2.1, Storm Surges and in a subsection of Section 4A.2.2.1 titled Impacts to Estuaries and Nearshore Environment During Operation.

WR-24

This issue was raised in the following letter: DEIS0200.

ISSUE

Section 3.2.2.1 Ice Conditions, Page 3-24, Para. 1st: This paragraph describes the general ice conditions along the Beaufort Sea. The ice conditions most relevant to the proposed projects are specific ice conditions in Harrison Bay. Information on ice overflow in Harrison Bay as well as historical dates of freeze up and break up should be included if it is available from CPAI.

RESPONSE

Harrison Bay ice observations were not specifically made. The focus of ice observations was on the rivers and streams as break-up progressed. There was a staff gage on the sea ice approximately 1 mile north of Monument 28 in 2001 and 2002. Due to inclement conditions at the gage location, the period of record was brief.

WR-25

This issue was raised in the following letter: DEIS0242.

ISSUE

S.4.2.2 Water Resources. The 1st paragraph should be re-worded. Since any potential waters are likely saline, they are not a resource. If something is not a resource, it is hard to detrimentally affect it. In later sections, there are better discussions about sub-surface water. Under UIC and AOGCC regulations (20 AAC 25.440) when injection is planned, the need for an aquifer exemption would be considered. There are specific criteria that must be satisfied regarding the dissolved solids contained in any sub-surface water.

RESPONSE

For the FEIS, the suggested re-word was made, and regulatory considerations were incorporated into the text.

WR-26

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 3-10, Subsurface Water. In the 1st paragraph the reference cited is from 1970. Aren't there more up-to-date references? Significant study has been done with regard to sub-surface water. In 1970, very few wells had been drilled to gather data. Multiple thousands have been drilled since. The statement is correct that any waters found have been brackish and not suitable for consumption.

RESPONSE

There is very little published literature regarding groundwater conditions on the slope. Every time a well is drilled, or geotechnical exploration occurs, there is a record of subsurface conditions, however, these records have not been summarized or analyzed, and typically do not get incorporated into summary documents. In any event, other than localized thawing under lakes and streams, there is very little chance of finding subsurface water in a permafrost region. A search for additional groundwater documents was not successful. The lack of groundwater data is reiterated in the FEIS in Section 3.2.2.1, Subsurface Waters.

WR-27

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 4-A.2-9, Impacts to Subsurface Water. In the 3rd paragraph, the word "approved" is used a lot. This paragraph needs some work. Drilling wastes are not likely to be hauled back to CD-1. They would likely be disposed of via annular disposal at the drilling site. The statement is correctly made that there would not be new disposal wells at the drilling sites.

RESPONSE

The noted paragraph has been revised for the FEIS, and the issue is discussed in Section 4A.2.1.1—Construction Period, Impacts to Subsurface Waters.

While not proposed at this time, the applicant would like the option to install Class II wells if they are needed. This request was made early on in the EA process so it would be evaluated in the EIS. The DEIS correctly includes this option in the project description. There are no plans for a new Class I well under Alternative A. However, under Alternative A – FFD, it is possible that it will be necessary to install Class II and/or Class I disposal well(s) to manage the disposal of drilling wastes muds and cuttings. In the event of an emergency or a contingency, the operator may choose to utilize the existing Class II (with AOGCC approval) and/or Class I (with USEPA approval) well(s) at APF-1 for the disposal of drilling wastes. The use of annular injection is restricted to a one time disposal of drilling muds and cuttings, only during the drilling phase of the wellfield.

WR-28

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 4A.2-10, Table 4A.2-1 There is an underground injection line in each pad section and the effect “9” is given. This table does not seem to have been changed from the earlier drafts. Based on the statement made on page 4A.2-9, there would not be any deep disposal injection at the new sites so this table conflicts with that statement. There will likely be annular disposal, however it is not clear what effect 9 (Chemical and Petroleum Spills and Cleanup) means.

RESPONSE

All potential impact tables in Section 4A.2.1.1 have been updated for the FEIS to address this comment.

It may be beneficial under the FFD alternatives to incorporate into the current design an underground injection line at each pad section, as the potential need for additional Class I and/or Class II well(s) may arise at some future date.

The effect “9” has been changed to include all annular disposals, including non-hazardous ones (e.g., drill cuttings). The potential for chemical and petroleum spills was addressed in Section 4A.2.2.2, Surface Water Quality.

WR-29

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 4A.2-17, Impacts to Subsurface Waters. The FR reference should be 40 CFR 261(b)(5), however the domestic wastewater described must now be injected via a Class I well unless it is beneficially used in a Class II EOR well.

RESPONSE

The noted reference was corrected for the FEIS.

Domestic wastewater can only be injected in a Class I well, unless it is beneficially used in a Class II EOR well (with AOGCC approval). In addition the disposal of non-hazardous industrial wastes, storm waters and other non-exploration and production related wastes can only be disposed of in a Class I well (with USEPA approval) and not in a Class II well.

WR-30

This issue was raised in the following letter: DEIS0242.

ISSUE

Page 4A.2-25, Impacts to Subsurface Waters. It is correct that the subsurface water is typically too saline for potable use. However, before any disposal would be allowed, the operator must provide sufficient information to allow AOGCC to make a finding of “No Aquifer” (like Alpine) or to allow an Aquifer Exemption to be granted with EPA approval. Injection does not occur until these findings are made. Once these findings and decisions are made, there is no, de facto, aquifer damage.

RESPONSE

The suggested content has been incorporated into Section 4A.2.1.1 of the FEIS.

WR-31

This issue was raised in the following letter: DEIS0236.

ISSUE

Page 3-23, 3.2.2.1 In the subsection on Storm Surges on the Fringe of the Colville River following Table 3.2.2-8, given the paucity of data on flood frequency apparent in the preceding section, there should be recognition here that storm surge frequency and intensity have increased in the Arctic and near-arctic regions over past decades. See Walsh, Chapmin & Shy 1996 and Serreze, Maslanik & Key, 1997. It must be acknowledged that if trends continue as expected, storm surge activity will be more probable during the life of the proposed project.

RESPONSE

The intensity of Beaufort-Chukchi Cyclones has increased in the summer over the last 40 years. The findings indicate that retreating sea ice and increased open water have an affect on the frequency and intensity of cyclonic activity in most of the arctic, but not in the Beaufort Sea.

Observed storm surges and hindcast analyses indicate that these big storms occur in late summer and fall rather than in spring when the Colville River is flooding (i.e., during break-up when sea ice is still intact and shorefast). These late summer/fall storm surges could affect floodwaters around CD-3, but this is a time when streams are at their lowest point and thus it will likely not be an issue.

These issues, including the effect of climate changes over the next 20-40 years, were discussed in Section 3.2.2.1, Storm Surges and in a subsection of Section 4A.2.2.1, Impacts to Estuaries and Nearshore Environment During Operation.

WR-32

This issue was raised in the following letter: DEIS0230.

ISSUE

The issues cited in the EIS about Nigliq bridge impacts for Alternative C should also be presented for Alternative A, although perhaps to a slightly lesser degree.

RESPONSE

Impacts associated with bridges were addressed in Sections 4A.2.2.1, 4C-1.2.2.1, and 4F.2.2.1, both Alternatives A and F, and Sub-Alternative C-1.

WR-33

This issue was raised in the following letter: DEIS0230.

ISSUE

Page 4A.2-24. The DEIS indicates that future monitoring of water-level conditions at break-up is needed to assess risks to CD-7. This data should be collected and risks considered in the DEIS before the project is built.

RESPONSE

CD-7 is located near an apparently dry lakebed and not near any rivers or streams that would cause an impact from break-up flows. One concern is that during high water years the old lake may fill and overtop and spill

toward Fish Creek. Water level data was collected in the vicinity of CD-7 at Lake M0024 in 2002. Outflow from Lake M0024 towards the dry lakebed was estimated at 45 gpm in September 2002. Water surface elevations suggest that M0024 was recharged to the point of overflow in 2002. This issue was discussed in Section 4A.2.2.1, Impacts Related to Pads.

WR-34

This issue was raised in the following letter: DEIS0241.

ISSUE

3.2.2.1 – Water Resources: Recent Lake Studies: : (last paragraph - study of the lakes in the National Petroleum Reserve-Alaska and Colville Delta) Did MJM reach any conclusions other than a determination of the maximum extractable volume from the lakes? If so, please state in Final EIS.

RESPONSE

In addition to the maximum extractable volume, MJM Research concluded that water withdrawals did not effect fish populations or water quality. This finding was included in Section 3.2.2.1, Lakes.

WR-35

This issue was raised in the following letter: DEIS0241.

ISSUE

River Discharge Processes: (first paragraph) “Rainstorms can produce increases in stream flow but seldom are sufficient to cause flooding.” This statement does not agree with “On these rivers, rainfall floods are less frequent than snowmelt floods, but could product larger, less frequent floods. In 27 years of data on the Sagavanirktok River near Sagwon, the two largest floods resulted from rainfall.” (Flooding Regime – last 2 sentences).

RESPONSE

For the FEIS, the statement has been clarified as suggested.

WR-36

This issue was raised in the following letter: DEIS0241.

ISSUE

4A.2.2.1 – Water Resources: Discussion on impacts – The absence of a complete construction plan with the details of bridge location, design, culvert location and size makes it impossible to analyze the impacts of the proposed infrastructure. This section doesn’t make it clear to the reader whether “construction” means ice or gravel. So when impacts or mitigation for impacts is being addressed, the reader is unsure which is being discussed.

RESPONSE

Two-dimensional modeling results show the effects of 900-, 1,200-, 1,500-, and 1,650-foot bridges on water surface elevation, channel velocity, and depth and volume of sediment scour, for flood frequencies with recurrence intervals of 10, 50, and 200 years. A summary of the modeling results is presented in Section 4A.2.2.1.

Wording in Section 4A.2.2.1, Impacts to Surface Waters was clarified in the FEIS to note that “construction” refers to ice roads or gravel roads.

The impact of culverts have been addressed qualitatively and conservatively in Section 4A.2.2.1, Impacts Related to Culverts.

WR-37

This issue was raised in the following letter: DEIS0241.

ISSUE

Surface Water - Lack of any criteria (construction, mining, rehabilitation, mitigation) makes any analysis purely speculative. Construction standards are mentioned but not defined. Pad placement criteria are not given. We recommend the Final EIS incorporate CPAI’s pad and road placement criteria. This could be an Appendix but ideally would be included in the EIS analysis of impacts. These criteria would need to address the vegetation and habitat use, hydrology (modeling to include ice, breakup, high water events, flow, etc). For example, why is CD-7 sited in a drained lake basin? Why is there a causeway with culverts and not a bridge at Lake 9323 on the CD-4 access road? Why is CD-6 within the 3-mile setback when the Northeast National Petroleum Reserve-Alaska stipulations were formulated to best to protect this environment?

RESPONSE

A rationale for the locations of pads CD-3 through CD-7 was provided. Pad and road placement would minimize impacts to wildlife, fish, and vegetation, while maintaining a technically and economically feasible project. Section 4A.2.2.1, Impacts Related to Pads includes a discussion of the placement criteria.

WR-38

This issue was raised in the following letter: DEIS0241.

ISSUE

Impacts to Estuarine and Near Shore: This does not address the impacts from storm surges. In several places, the document mentions drift lines that are miles from the shoreline of Harrison Bay. How could storm surge have no impact on CD-3? In this highly aquatic environment, the structures need to be designed for the infrequent hydrologic events, not for the merely the normal or 5-year events.

RESPONSE

Impacts from storm surges on CD-3 are discussed in a subsection of Section 4A.2.2.1 titled Impacts to Estuaries and the Nearshore Environment. Previously permitted design criteria have included structures meant to withstand the 50-year flood interval plus 3 feet within the Delta (bridges and roads); the 200-year plus 1 foot within the Delta (pads); and the 50-year flood outside the Delta. However, in this case pad height criteria are governed more by thermal criteria than water-surface-elevation criteria. Understanding and evaluating the causes of flooding from break-up, storm surges, or rainfall events are intrinsic to analyzing specific flood recurrence criteria. These design criteria would be utilized for future structures—or the design would be based on a balance of hydrology, topography, structural stability, economics and environmental protection—whichever option is more stringent. It is in the applicant’s best interest to design facilities that are not at risk of being damaged during flood events, whether they are in a floodplain or not.

WR-39

This issue was raised in the following letter: DEIS0241.

ISSUE

Impacts to Ice Conditions: How can these be analyzed without the hydrologic modeling? This uses language “likelihood of failure . . . is minimized by conservative designs” and the “incorporation of design improvements.” What are the conservative designs and what improvements have been incorporated? Without specifics, this proposal cannot be analyzed.

RESPONSE

A recent report entitled Ice and Its Effects During Spring Breakup in the Colville River Delta, North Slope, Alaska was completed. A summary and discussion of the findings and conclusions of this report are incorporated into Sections 3.2.2.1, 4A.2.2.1, and 4F.2.2.1. The subsections dealing specifically with ice conditions are titled Impact of Ice on Flooding during Breakup (in 3.2.2.1), and Impacts Associated With Ice Conditions (in 4A.2.2.1 and 4F.2.2.1).

WR-40

This issue was raised in the following letter: DEIS0241.

ISSUE

Improvements to Subsurface Waters: Language use again. What exactly are “shallow thawed water-bearing zones?” Is this a pond, shallow lake or wet soils? It is impossible to analyze this section when the subject is unknown.

RESPONSE

For the FEIS, wording in Section 4A.2.1.1–Construction Period, Impacts to Subsurface Waters has been amended and clarified.

WR-41

This issue was raised in the following letters: DEIS0241 and DEIS0271.

ISSUE

Impacts to Rivers and Creeks to Road and Pipelines: This section fails to discuss the impact to surface flow by roads – which can cause significant impacts to the hydrologic regime. The impacts from pads to surface flow (CD-7 for example) have not been fully analyzed. Without the design criteria for the pads, roads, bridges, culvert placement, etc. it is impossible to analyze the impacts that structures could have on rivers, creeks, streams and surface flow within the Plan Area.

RESPONSE

Two-dimensional hydrologic models of the Delta address the effects of roads on the surface hydrology at various flood frequencies. The results indicate that the road to CD-4 will, during larger flood events, divert some water from passing through the swale bridge and cause it to flow eastward around CD-1, and join back up with the swale bridge flow on the north side of CD-1. The road within the Delta, from CD-2 to CD-6, will channelize the water to flow through both the main Nigliq Bridge and the 80-foot bridge on the west. Further, the CD-3 facilities are basically islands during a large flood event. They do not cut-off any major channels of flow and the water will flow around them and recombine on the downstream side. Modeling results are discussed in Section 4A.2.2.1. Final design of the culverts for the CD-6 and CD-7 road will be based on ice break-up information for those drainages, along with a topographic survey. The issue related to pad CD-7 is discussed in Section 4A.2.2.1, Impacts Related to Pads.

