



---

## Ground-Based Midcourse Defense (GMD) Extended Test Range (ETR)



---

## Final Environmental Impact Statement

Volume 2 of 3: Chapters 5-8

---

July 2003

---

# Ground-Based Midcourse Defense (GMD) Extended Test Range (ETR) Final Environmental Impact Statement



**Volume 2 of 3**

July 2003

Missile Defense Agency

**COVER SHEET  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
GROUND-BASED MIDCOURSE DEFENSE (GMD)  
EXTENDED TEST RANGE (ETR)**

- a. Lead Agency: Missile Defense Organization
- b. Preparing Agency: U.S. Army Space and Missile Defense Command
- c. Cooperating Agencies: Federal Aviation Administration, Office of the Associate Administrator for Commercial Space Transportation
- d. Proposed Action: Provide operationally realistic testing for GMD ETR.
- e. Affected Jurisdictions: Kodiak Launch Complex, Kodiak Island Borough, Alaska; Vandenberg Air Force Base (AFB), Santa Barbara County, California; Reagan Test Site, United States Army Kwajalein Atoll; Pacific Missile Range Facility, Barking Sands, Kauai, Hawaii; Eareckson Air Station, Shemya Island, Alaska; Midway Atoll; King Salmon, Bristol Bay Borough, Alaska; Cordova, Valdez-Cordova Census Area, Alaska; Pillar Mountain, Kodiak Island Borough, Alaska; Pashagshak Point, Kodiak Island Borough, Alaska; Homer, Kenai Peninsula Borough, Alaska; Adak, Adak Island, Alaska; Pillar Point, San Mateo County, California; Wake Island, Oceania Atoll; Bremerton, Kitsap County, Washington; Pearl Harbor, Honolulu County, Hawaii; Port Hueneme/San Nicolas Island, Ventura County, California; Naval Station Everett, Snohomish County, Washington; Valdez, Valdez-Cordova Census Area, Alaska; Beale Air Force Base, Yuba County, California; Clear Air Force Station, Denali Borough, Alaska
- f. Inquiries on this document may be directed to: U.S. Army Space and Missile Defense Command, ATTN: SMDC-EN-V (Ms. Julia Elliott), 106 Wynn Drive, Huntsville, AL 35805, by e-mail at [gmdetreis@smdc.army.mil](mailto:gmdetreis@smdc.army.mil), or by phone at 1-800-823-8823.
- g. Designation: Final Environmental Impact Statement
- h. Distribution/Availability: DISTRIBUTION A. Approved for public release; distribution is unlimited.
- i. Abstract: The Missile Defense Agency is proposing to develop the capability to conduct more realistic interceptor flight tests in support of GMD. The extension of the existing GMD test range would increase the realism of GMD testing by using multiple engagement scenarios, trajectories, geometries, distances, and speeds of target and interceptors that closely resemble those in which an operational system would be required to provide an effective defense. Extended range testing would include pre-launch activities, launch of targets and Ground-Based Interceptors from a number of widely separated locations, and missile intercepts over the Pacific Ocean. Target missiles would be launched from Vandenberg AFB, Kodiak Launch Complex, Pacific Missile Range Facility, Reagan Test Site (RTS), or from mobile platforms in the western Pacific Ocean. Interceptor missiles would be launched from Vandenberg AFB, Kodiak Launch Complex, or RTS. Dual target and interceptor missile launches would occur in some scenarios. Existing, modified, or new launch facilities and infrastructure would support these launch activities at the various locations.

Missile acquisition and tracking would be provided by existing test range sensors, ship-borne sensors, a Sea-Based Test X-Band Radar, and a mobile sensor (TPS-X) positioned at Vandenberg AFB, Kodiak Launch Complex, or RTS; and existing/upgraded radars at Beale AFB, California, Clear Air Force Station, and Eareckson Air Station, Alaska. In-Flight Interceptor Communications Data Terminals would be constructed near the proposed Ground-Based Interceptor launch sites. Commercial satellite communications terminals would be constructed at launch locations that do not have fiber optic communications links.

---

# CONTENTS

---

# CONTENTS

## VOLUME 1

	Page
EXECUTIVE SUMMARY .....	es-1
ACRONYMS AND ABBREVIATIONS.....	ac-1
1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION .....	1-1
1.1 Introduction.....	1-1
1.2 Background .....	1-1
1.3 Purpose of the Proposed Action.....	1-3
1.4 Need for the Proposed Action .....	1-4
1.5 Scope of the Environmental Impact Statement .....	1-4
1.6 Decisions To Be Made .....	1-7
1.7 Cooperating Agencies .....	1-7
1.8 Summary of the Public Scoping Process .....	1-9
1.9 Summary of Draft Environmental Impact Statement Public Review Process...	1-13
1.10 Related Environmental Documentation .....	1-16
2.0 Description of Proposed Action and Alternatives .....	2-1
2.1 GMD Extended Test Range Components and Operations .....	2-3
2.1.1 Ground-Based Interceptor Systems .....	2-3
2.1.2 Target Missile Systems.....	2-5
2.1.3 In-Flight Interceptor Communication System Data Terminal Options...	2-13
2.1.4 Sea-Based Test X-Band Radar .....	2-17
2.1.5 Test Range Sensors and Support Instrumentation.....	2-29
2.1.6 Flight Test Planning and Operations .....	2-34
2.1.7 Flight Test Safety.....	2-39
2.1.8 Flight Test Example Scenarios .....	2-41
2.2 No Action Alternative .....	2-48
2.2.1 Launch Sites and Other Support Facilities .....	2-48
2.2.2 Mobile GMD System Elements.....	2-50
2.3 Proposed Action .....	2-50
2.3.1 Alternative 1 .....	2-51
2.3.2 Alternative 2.....	2-82
2.3.3 Alternative 3—Combination of Alternatives 1 and 2 .....	2-90
2.4 Alternatives Considered But Not Carried Forward .....	2-90
2.4.1 GBI Launch Location Alternatives .....	2-90
2.4.2 Target Launch Location Alternatives .....	2-91
2.4.3 IDT Location Alternatives.....	2-91
2.4.4 Sea-Based Test X-Band Radar Primary Support Base Alternatives ....	2-91
2.4.5 Mobile Telemetry and Mobile C-Band Radar Location Alternatives .....	2-92

3.0	AFFECTED ENVIRONMENT .....	3-1
3.1	Kodiak Launch Complex .....	3-2
3.1.1	Air Quality—Kodiak Launch Complex.....	3-2
3.1.2	Airspace—Kodiak Launch Complex .....	3-5
3.1.3	Biological Resources—Kodiak Launch Complex.....	3-7
3.1.4	Cultural Resources—Kodiak Launch Complex.....	3-12
3.1.5	Geology and Soils—Kodiak Launch Complex .....	3-14
3.1.6	Hazardous Materials and Hazardous Waste—Kodiak Launch Complex.....	3-19
3.1.7	Health and Safety—Kodiak Launch Complex.....	3-22
3.1.8	Land Use—Kodiak Launch Complex.....	3-25
3.1.9	Noise—Kodiak Launch Complex .....	3-26
3.1.10	Socioeconomics—Kodiak Launch Complex.....	3-29
3.1.11	Transportation—Kodiak Launch Complex .....	3-32
3.1.12	Utilities—Kodiak Launch Complex.....	3-34
3.1.13	Visual and Aesthetic Resources—Kodiak Launch Complex .....	3-37
3.1.14	Water Resources—Kodiak Launch Complex .....	3-38
3.1.15	Subsistence—Kodiak Launch Complex.....	3-41
3.2	Midway .....	3-43
3.2.1	Air Quality—Midway .....	3-43
3.2.2	Biological Resources—Midway .....	3-45
3.2.3	Hazardous Materials and Hazardous Waste—Midway .....	3-46
3.3	Reagan Test Site.....	3-48
3.3.1	Air Quality—Reagan Test Site.....	3-49
3.3.2	Airspace—Reagan Test Site .....	3-53
3.3.3	Biological Resources—Reagan Test Site .....	3-56
3.3.4	Hazardous Materials and Hazardous Waste—Reagan Test Site.....	3-60
3.3.5	Health and Safety—Reagan Test Site.....	3-63
3.3.6	Utilities—Reagan Test Site.....	3-67
3.4	Pacific Missile Range Facility .....	3-70
3.4.1	Air Quality—Pacific Missile Range Facility .....	3-71
3.4.2	Biological Resources—Pacific Missile Range Facility .....	3-72
3.4.3	Hazardous Materials and Hazardous Waste—Pacific Missile Range Facility .....	3-78
3.4.4	Health and Safety—Pacific Missile Range Facility .....	3-81
3.4.5	Socioeconomics—Pacific Missile Range Facility.....	3-86
3.5	Vandenberg Air Force Base .....	3-89
3.5.1	Air Quality—Vandenberg Air Force Base .....	3-90
3.5.2	Biological Resources—Vandenberg Air Force Base .....	3-91
3.5.3	Cultural Resources—Vandenberg Air Force Base .....	3-97
3.5.4	Geology and Soils—Vandenberg Air Force Base.....	3-98
3.5.5	Hazardous Materials and Hazardous Waste—Vandenberg Air Force Base .....	3-101
3.5.6	Health and Safety—Vandenberg Air Force Base .....	3-103
3.5.7	Land Use—Vandenberg Air Force Base .....	3-110
3.5.8	Noise—Vandenberg Air Force Base.....	3-112
3.5.9	Socioeconomics—Vandenberg Air Force Base.....	3-114
3.5.10	Transportation—Vandenberg Air Force Base.....	3-116
3.5.11	Water Resources—Vandenberg Air Force Base .....	3-119
3.6	Pearl Harbor—Sea-Based Test X-Band Radar Primary Support Base.....	3-121

3.6.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	3-122
3.6.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	3-123
3.6.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor.....	3-125
3.6.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	3-126
3.6.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor.....	3-128
3.6.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	3-130
3.6.7	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	3-131
3.7	NBVC Port Hueneme—Sea-Based Test X-Band Radar Primary Support Base .....	3-132
3.7.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme .....	3-133
3.7.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme.....	3-134
3.7.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme .....	3-136
3.7.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme.....	3-137
3.7.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme .....	3-138
3.7.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme.....	3-139
3.8	Naval Station Everett—Sea-Based Test X-Band Radar Primary Support Base .....	3-141
3.8.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	3-141
3.8.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	3-142
3.8.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-143
3.8.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-145
3.8.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-146
3.8.6	Socioeconomics—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-147
3.8.7	Transportation—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-149
3.8.8	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	3-151
3.8.9	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	3-152
3.9	Port Adak—Sea-Based Test X-Band Radar Primary Support Base .....	3-153
3.9.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-154

3.9.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-155
3.9.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-157
3.9.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-157
3.9.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-158
3.9.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-159
3.9.7	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	3-160
3.10	Port of Valdez—Sea-Based Test X-Band Radar Primary Support Base.....	3-161
3.10.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-162
3.10.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-163
3.10.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-165
3.10.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-166
3.10.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-168
3.10.6	Transportation—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-169
3.10.7	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-170
3.10.8	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	3-172
3.11	Broad Ocean Area (Executive Order 12114).....	3-173
3.11.1	Airspace—Broad Ocean Area.....	3-174
3.11.2	Biological Resources—Broad Ocean Area.....	3-183
3.11.3	Health and Safety—Broad Ocean Area.....	3-188
3.11.4	Transportation—Broad Ocean Area.....	3-192
3.12	Environmental Justice.....	3-198
4.0	ENVIRONMENTAL CONSEQUENCES.....	4-1
4.1	Kodiak Launch Complex.....	4-2
4.1.1	Air Quality—Kodiak Launch Complex.....	4-2
4.1.2	Airspace—Kodiak Launch Complex.....	4-17
4.1.3	Biological Resources—Kodiak Launch Complex.....	4-19
4.1.4	Cultural Resources—Kodiak Launch Complex.....	4-35
4.1.5	Geology and Soils—Kodiak Launch Complex.....	4-41
4.1.6	Hazardous Materials and Hazardous Waste—Kodiak Launch Complex.....	4-48
4.1.7	Health and Safety—Kodiak Launch Complex.....	4-54
4.1.8	Land Use—Kodiak Launch Complex.....	4-67
4.1.9	Noise—Kodiak Launch Complex.....	4-75
4.1.10	Socioeconomics—Kodiak Launch Complex.....	4-83
4.1.11	Transportation—Kodiak Launch Complex.....	4-89
4.1.12	Utilities—Kodiak Launch Complex.....	4-98



4.1.13	Visual and Aesthetic Resources—Kodiak Launch Complex .....	4-106
4.1.14	Water Resources—Kodiak Launch Complex .....	4-109
4.1.15	Subsistence—Kodiak Launch Complex.....	4-116
4.2	Midway .....	4-118
4.2.1	Air Quality—Midway .....	4-118
4.2.2	Biological Resources—Midway .....	4-120
4.2.3	Hazardous Materials and Hazardous Waste—Midway .....	4-122
4.3	Reagan Test Site.....	4-124
4.3.1	Air Quality—Reagan Test Site.....	4-124
4.3.2	Airspace—Reagan Test Site .....	4-129
4.3.3	Biological Resources—Reagan Test Site.....	4-132
4.3.4	Hazardous Materials and Hazardous Waste—Reagan Test Site.....	4-139
4.3.5	Health and Safety—Reagan Test Site.....	4-143
4.3.6	Utilities—Reagan Test Site.....	4-150
4.4	Pacific Missile Range Facility .....	4-153
4.4.1	Air Quality—Pacific Missile Range Facility .....	4-153
4.4.2	Biological Resources—Pacific Missile Range Facility .....	4-156
4.4.3	Hazardous Materials and Hazardous Waste—Pacific Missile Range Facility .....	4-162
4.4.4	Health and Safety—Pacific Missile Range Facility .....	4-164
4.4.5	Socioeconomics—Pacific Missile Range Facility.....	4-168
4.5	Vandenberg Air Force Base .....	4-169
4.5.1	Air Quality—Vandenberg Air Force Base .....	4-169
4.5.2	Biological Resources—Vandenberg Air Force Base .....	4-179
4.5.3	Cultural Resources—Vandenberg Air Force Base .....	4-193
4.5.4	Geology and Soils—Vandenberg Air Force Base.....	4-197
4.5.5	Hazardous Materials and Hazardous Waste—Vandenberg Air Force Base .....	4-200
4.5.6	Health and Safety—Vandenberg Air Force Base .....	4-204
4.5.7	Land Use—Vandenberg Air Force Base .....	4-209
4.5.8	Noise—Vandenberg Air Force Base.....	4-212
4.5.9	Socioeconomics—Vandenberg Air Force Base.....	4-218
4.5.10	Transportation—Vandenberg Air Force Base.....	4-221
4.5.11	Water Resources—Vandenberg Air Force Base .....	4-224
4.6	Pearl Harbor—Sea-Based Test X-Band Radar Primary Support Base.....	4-227
4.6.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	4-227
4.6.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	4-228
4.6.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor.....	4-231
4.6.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	4-232
4.6.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor.....	4-234
4.6.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	4-235
4.6.7	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Pearl Harbor .....	4-237
4.7	NBVC Port Hueneme—Sea-Based Test X-Band Radar Primary Support Base .....	4-240

4.7.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme .....	4-240
4.7.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Port Hueneme .....	4-241
4.7.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Port Hueneme.....	4-243
4.7.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, NBVC Port Hueneme.....	4-244
4.7.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Port Hueneme.....	4-246
4.7.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Port Hueneme.....	4-247
4.8	Naval Station Everett—Sea-Based Test X-Band Radar Primary Support Base .....	4-250
4.8.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	4-250
4.8.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	4-251
4.8.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	4-254
4.8.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	4-254
4.8.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	4-256
4.8.6	Socioeconomics—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	4-257
4.8.7	Transportation—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	4-261
4.8.8	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett .....	4-262
4.8.9	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Naval Station Everett.....	4-264
4.9	Port Adak—Sea-Based Test X-Band Radar Primary Support Base .....	4-267
4.9.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	4-267
4.9.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	4-268
4.9.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Port Adak .....	4-270
4.9.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Port Adak .....	4-271
4.9.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Port Adak .....	4-272
4.9.6	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Port Adak.....	4-273
4.9.7	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Port Adak .....	4-275
4.10	Port of Valdez—Sea-Based Test X-Band Radar Primary Support Base.....	4-278
4.10.1	Air Quality—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez.....	4-278

4.10.2	Airspace—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-279
4.10.3	Biological Resources—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-282
4.10.4	Hazardous Materials and Hazardous Waste—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-282
4.10.5	Health and Safety—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-283
4.10.6	Transportation—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-285
4.10.7	Utilities—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-286
4.10.8	Visual and Aesthetic Resources—Sea-Based Test X-Band Radar Primary Support Base, Port of Valdez .....	4-288
4.11	Broad Ocean Area .....	4-291
4.11.1	Airspace—Broad Ocean Area .....	4-291
4.11.2	Biological Resources—Broad Ocean Area .....	4-297
4.11.3	Health and Safety—Broad Ocean Area .....	4-304
4.11.4	Transportation—Broad Ocean Area .....	4-306
4.12	Conflicts With Federal, State, and Local Land Use Plans, Policies, and Controls For the Area Concerned.....	4-307
4.13	Energy Requirements and Conservation Potential.....	4-307
4.14	Natural or Depletable Resource Requirements and Conservation Potential .....	4-308
4.15	Adverse Environmental Effects That Cannot Be Avoided .....	4-308
4.16	Relationship Between Short-Term Use of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity.....	4-308
4.17	Irreversible or Irrecoverable Commitment of Resources .....	4-308
4.18	Federal Actions To Address Protection of Children from Environmental Health Risks and Safety Risks (Executive Order 13045, as Amended by Executive Order 13229) .....	4-309

## VOLUME 2

5.0	LIST OF PREPARERS	
6.0	GLOSSARY OF TERMS	
7.0	PUBLIC SCOPING COMMENTS.....	7-1
7.1	Air Quality .....	7-5
7.2	Airspace .....	7-5
7.3	Biological Resources .....	7-5
7.4	Cultural Resources .....	7-6
7.5	Environmental Impact Statement Process .....	7-6
7.6	Environmental Justice .....	7-9
7.7	Geology and Soils .....	7-9
7.8	Hazardous Materials and Hazardous Wastes Management .....	7-9
7.9	Health and Safety .....	7-11

7.10	Land Use and Aesthetics .....	7-13
7.11	Noise .....	7-14
7.12	Policy.....	7-14
7.13	Program.....	7-17
7.14	Socioeconomics .....	7-21
7.15	Subsistence.....	7-22
7.16	Transportation .....	7-22
7.17	Utilities.....	7-23
7.18	Water Resources.....	7-23
7.19	Other .....	7-24
8.0	DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS AND RESPONSES.....	8-1
8.1	GMD ETR Draft EIS Public Involvement Policy.....	8-1
8.1.1	Written Comment Documents—Draft EIS .....	8-7
8.1.2	Email Comment Documents—Draft EIS.....	8-175
8.1.3	Public Hearing Comment Documents—Draft EIS .....	8-377
8.1.4	Oral Comment Documents—Draft EIS .....	8-529

## **VOLUME 3**

9.0	CONSULTATION COMMENTS AND RESPONSES
10.0	REFERENCES
11.0	DISTRIBUTION LIST

## **APPENDICES**

A	RELATED ENVIRONMENTAL DOCUMENTATION
B	RESOURCE DESCRIPTIONS INCLUDING LAWS AND REGULATIONS CONSIDERED
C	MISSILE LAUNCH SAFETY AND EMERGENCY RESPONSE
D	ENGINEERING FIELD ANALYSIS OF SEISMIC DESIGN BUILDING STANDARDS FOR EXISTING FACILITIES AT KODIAK LAUNCH COMPLEX
E	POTENTIAL PERMITS, LICENSES, AND ENTITLEMENTS REQUIRED
F	COOPERATING AGENCIES ACCEPTANCE LETTERS
G	ELECTROMAGNETIC RADIATION SUMMARY
H	THREATENED AND ENDANGERED SPECIES DESCRIPTIONS
I	TYPICAL STANDARD OPERATING PROCEDURES AND BEST MANAGEMENT PRACTICES
J	DETERMINATION OF NON-APPLICABILITY GROUND-BASED MIDCOURSE DEFENSE EXTENDED TEST RANGE ENVIRONMENTAL IMPACT STATEMENT, VANDENBERG AIR FORCE BASE, CALIFORNIA

INDEX

## FIGURES

ES-1	GMD Element Architecture.....	es-3
ES-2	Potential GMD ETR Test and Test Support Locations, Pacific Ocean.....	es-5
1.2-1	Phases of Ballistic Missile Flight and the Concept for Ground-Based Midcourse Defense.....	1-2
1.5-1	Potential GMD ETR Test and Test Support Locations, Pacific Ocean.....	1-6
2.1.1-1	Conceptual Ground-Based Interceptor.....	2-3
2.1.2-1	Representative Launch Vehicles Comparison .....	2-7
2.1.2-2	Typical Aerial Target Extraction and Launch.....	2-10
2.1.2-3	Representative Mobile Sea Launch Vessel, Alternative Target Launch Mode .....	2-12
2.1.3-1	Conceptual Fixed and Mobile IDTs .....	2-14
2.1.3-2	Representative COMSATCOM Earth Terminal.....	2-16
2.1.4-1	Conceptual Sea-Based Test X-Band Radar.....	2-18
2.1.4-2	SBX Radar Potential Interference .....	2-20
2.1.4-3	SBX Performance Regions, Pacific Ocean .....	2-27
2.1.5-1	Representative Radar and Telemetry Equipment .....	2-30
2.1.5-2	Representative Range Safety and Telemetry Systems.....	2-30
2.1.5-3	TPS-X Radar Components.....	2-33
2.1.5-4	Representative Mobile Telemetry Equipment .....	2-33
2.1.5-5	Mobile Telemetry Location Alternatives, Pacific Ocean .....	2-35
2.1.6-1	Typical GMD Flight Test Clearance Areas .....	2-38
2.1.8-1	Scenario 1: Target Launched from Vandenberg Air Force Base, Intercepted from Reagan Test Site, Pacific Ocean .....	2-42
2.1.8-2	Scenario 2: Target Launched from Kodiak Launch Complex, Intercepted from Reagan Test Site, Pacific Ocean .....	2-43
2.1.8-3	Scenario 3: Target Launched from Kodiak Launch Complex, Intercepted from Vandenberg Air Force Base, Pacific Ocean.....	2-44
2.1.8-4	Scenario 4: Target Launched from Pacific Missile Range Facility, Intercepted from Kodiak Launch Complex, Pacific Ocean.....	2-45
2.1.8-5	Scenario 5: Air Launch Target, Intercepted from Kodiak Launch Complex, Pacific Ocean .....	2-46
2.1.8-6	Scenario 6: Sea Launch Target, Intercepted from Kodiak Launch Complex, Pacific Ocean .....	2-47
2.3.1-1	Existing Facilities and Proposed Barge Landing Sites, Kodiak Island, Alaska.....	2-55
2.3.1-2	Existing KLC and Proposed GMD Facilities Layout in South Kodiak Launch Complex .....	2-56
2.3.1-3	Existing KLC and Proposed GMD Facilities Layout in Northeast Kodiak Launch Complex .....	2-57
2.3.1-4	Existing KLC and Proposed GMD Facilities Layout in Northwest Kodiak Launch Complex .....	2-58
2.3.1-5	Existing Integration and Processing Facility—Similar to Proposed Missile Assembly Building.....	2-59
2.3.1-6	Proposed Movable Missile Building.....	2-60
2.3.1-7	Target Missile at Launch Pad.....	2-61
2.3.1-8	TPS-X Radar Radiation Interference Areas .....	2-64
2.3.1-9	Candidate IDT and COMSATCOM Locations, Midway.....	2-66
2.3.1-10	Candidate Ground-Based Midcourse Defense Locations, Meck Island, RTS.....	2-68
2.3.1-11	Reagan Test Site Potential SBX Mooring Area, United States Army Kwajalein Atoll .....	2-69

2.3.1-12	Potential TPS-X Radar Sites, Pacific Missile Range Facility, Kauai, Hawaii.....	2-72
2.3.1-13	Pearl Harbor Potential SBX Mooring Area, Oahu, Hawaii.....	2-75
2.3.1-14	San Nicolas Island Potential SBX Mooring Area, Port Hueneme, California .....	2-76
2.3.1-15	Naval Station Everett Potential SBX Mooring Area, Everett, Washington .....	2-78
2.3.1-16	Port Adak Potential SBX Mooring Area, Adak, Alaska.....	2-79
2.3.1-17	Port of Valdez Potential SBX Mooring Area, Valdez, Alaska .....	2-81
2.3.2-1	Proposed Ground-Based Midcourse Defense Facilities, Vandenberg Air Force Base, California .....	2-83
3.1.2-1	Kodiak Launch Complex Airspace, Kodiak Island, Alaska .....	3-6
3.1.3-1	Map of Major Vegetation Types and Wetlands in the Vicinity of Narrow Cape, Kodiak Launch Complex, Alaska.....	3-8
3.1.3-2	Seabird Colonies and Pinniped Haulout Areas, Kodiak Island, Alaska.....	3-9
3.1.5-1	Principal Faults in the Upper Plate of the Aleutian Subduction Zone Near Kodiak Island, Kodiak Island, Alaska .....	3-17
3.1.9-1	Nearest Sensitive Human Receptors, Kodiak Island, Alaska.....	3-28
3.1.14-1	Major Water Bodies and Sampling Points, Kodiak Launch Complex, Alaska .....	3-40
3.3.2-1	Airspace Over the Potential SBX Site at Reagan Test Site, United States Army Kwajalein Atoll.....	3-54
3.3.2-2	Airspace Managed by the Oakland Oceanic Control Area Administrative Boundaries (Oakland FIR), Pacific Ocean .....	3-55
3.4.2-1	Hawaiian Islands Humpback Whale National Marine Sanctuary Boundary, Hawaiian Islands .....	3-77
3.4.4-1	Pacific Missile Range Facility Health and Safety Areas, Kauai, Hawaii.....	3-83
3.5.2-1	Sensitive Habitat for Listed Wildlife Species on Vandenberg AFB, Northern Vandenberg Air Force Base, California.....	3-94
3.5.4-1	Principal Faults in Vandenberg Air Force Base Area, Vandenberg Air Force Base, California.....	3-100
3.5.6-1	Impact Debris Corridors for a Typical Launch from LF-06 and LF-21, Vandenberg Air Force Base, California.....	3-109
3.5.10-1	Regional and Local Road System, Vandenberg Air Force Base, California .....	3-118
3.5.11-1	Major Streams and Ponds, Vandenberg Air Force Base, California .....	3-120
3.6.2-1	Airspace Over the Potential SBX Mooring Area at Barbers Point, Hawaii, Oahu, Hawaii .....	3-124
3.7.2-1	Airspace Over the Potential SBX Mooring Area at San Nicolas Island, Port Hueneme, California.....	3-135
3.8.2-1	Airspace Over the Potential SBX Site at Naval Station Everett, Everett, Washington .....	3-144
3.9.2-1	Airspace Over the Potential SBX Site at Port Adak, Adak, Alaska .....	3-156
3.10.2-1	Airspace Over the Potential SBX Site at Port of Valdez, Valdez, Alaska.....	3-164
3.11.1-1	Special Use Airspace Over the Gulf of Mexico, Gulf of Mexico .....	3-175
3.11.1-2	En Route Airways and Jet Routes Over the Gulf of Mexico, Gulf of Mexico.....	3-177
3.11.1-3	Aircraft Situation Display of the Gulf of Mexico, Gulf of Mexico .....	3-178
3.11.1-4	Special Use Airspace and Air Routes—Gulf of Mexico to Pacific Ocean.....	3-180
3.11.1-5	Special Use Airspace, Pacific Ocean.....	3-181
3.11.1-6	High Altitude Jet Routes, Pacific Ocean.....	3-182
3.11.2-1	Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Open Ocean .....	3-189
3.11.4-1	Density of Shipping—Single Point in Time, Eastern Gulf of Mexico .....	3-194
3.11.4-2	Composite Snapshot of Ship Locations in the Northern Pacific, Open Ocean.....	3-197
4.1.3-1	Wetlands Within the Kodiak Launch Complex and Proposed Facility Locations, Kodiak Island, Alaska.....	4-23

4.1.7-1	Kodiak Joint Tenant Airport and Buskin River State Recreation Site, Kodiak, Alaska .....	4-57
4.1.7-2	Representative Exclusion and Warning Areas, Kodiak Launch Complex, Alaska ....	4-61
4.1.7-3	Flight Safety Corridor Through Forty Seconds of Flight on Flight –Corridor 225 Degrees, Kodiak Island, Alaska .....	4-62
4.1.9-1	Noise Levels for Single Launch, Kodiak Island, Alaska .....	4-80
4.1.9-2	Noise Levels Calculated for Dual Launches, Kodiak Island, Alaska .....	4-81
4.3.2-1	Notional GBR-P Operating Area .....	4-131
4.3.5-1	Launch Protection Circles, Reagan Test Site.....	4-146
4.5.8-1	Noise Levels for a Single Launch (LF-03), Vandenberg Air Force Base, California .....	4-216
4.5.8-2	Calculated Noise Levels of Dual Launches (LF-03 and LF-06), Vandenberg Air Force Base, California.....	4-217
4.8.6-1	North Marina Redevelopment Plan Project Study Area and Potential SBX Locations, Everett, Washington.....	4-260
4.11.1-1	Probability of Fatality Per Cell for 737 (Model Representative Output).....	4-294
4.11.1-2	High Altitude Air Routes with Potential SBX Performance Regions.....	4-298

## TABLES

ES-1A	Impacts and Mitigation Summary, MDA No Action Alternative .....	ES-20
ES-1B	Impacts and Mitigation Summary, MDA No Action Alternative .....	ES-24
ES-2	Impacts and Mitigation Summary, Kodiak Launch Complex .....	ES-26
ES-3	Impacts and Mitigation Summary, Midway.....	ES-30
ES-4	Impacts and Mitigation Summary, Reagan Test Site .....	ES-31
ES-5	Impacts and Mitigation Summary, Pacific Missile Range Facility.....	ES-33
ES-6	Impacts and Mitigation Summary, Vandenberg Air Force Base.....	ES-34
ES-7	Impacts and Mitigation Summary, Pearl Harbor.....	ES-37
ES-8	Impacts and Mitigation Summary, Naval Base Ventura County Port Hueneme ....	ES-38
ES-9	Impacts and Mitigation Summary, Naval Station Everett .....	ES-39
ES-10	Impacts and Mitigation Summary, Port Adak .....	ES-41
ES-11	Impacts and Mitigation Summary, Port of Valdez .....	ES-42
ES-12	Impacts and Mitigation Summary, Broad Ocean Area .....	ES-43
1.8-1	Scoping Meeting Locations and Dates.....	1-9
1.8-2	Number of Comments by Resource Area and Location.....	1-12
1.9-1	Public Hearing Advertisements .....	1-14
1.9-2	Public Hearing Locations, Dates, and Times .....	1-14
1.9-3	Number of Issues by Resource Area and Location.....	1-15
2.0-1	Activities and Locations for the Proposed Action and No Action Alternatives for GMD ETR Testing.....	2-2
2.1.2-1	Extended Test Range Target Missile Data.....	2-6
2.1.4-1	Platform Dimensions .....	2-17
2.1.4-2	Electromagnetic Radiation Potential Interference Distances for SBX .....	2-21
2.1.4-3	SBX Main Beam Altitude at 10 Degree Elevation Operating Level .....	2-21
2.1.4-4	Sea-Based Platform Subelements .....	2-24
2.1.4-5	Sea-Based Test X-Band Radar Mission Activities .....	2-28
2.1.4-6	Sea-Based Test X-Band Radar Test Activities.....	2-29
2.3.1-1	Alternative 1—Existing Facilities to be Used and/or Modified for Ground-Based Midcourse Defense at Kodiak Launch Complex and Vicinity .....	2-52

2.3.1-2	Alternative 1—Proposed New Facilities for Ground-Based Midcourse Defense at Kodiak Launch Complex .....	2-53
2.3.1-3	Alternative 1—Potential Ground Disturbance for Ground-Based Midcourse Defense at Kodiak Launch Complex .....	2-54
2.3.1-4	Existing Facilities Proposed for Ground-Based Midcourse Defense at Meck Island, Ronald Reagan Ballistic Missile Defense Test Site .....	2-70
2.3.1-5	Existing Facilities Proposed for Ground-Based Midcourse Defense at Pacific Missile Range Facility.....	2-71
2.3.1-6	Alternative 1 Existing Facilities Proposed for Ground-Based Midcourse Defense at Vandenberg Air Force Base, California .....	2-73
2.3.2-1	Alternative 2 Existing Facilities Proposed for Ground-Based Midcourse Defense at Vandenberg Air Force Base, California .....	2-84
2.3.2-2	Potential Alternative IDT Sites at Vandenberg Air Force Base, California .....	2-86
2.3.2-3	Alternative 2 Existing Facilities to be Used for Ground-Based Midcourse Defense at Kodiak Launch Complex .....	2-88
2.3.2-4	Alternative 2 Proposed New Facilities for Ground-Based Midcourse Defense at Kodiak Launch Complex .....	2-88
2.3.2-5	Alternative 2 Potential Ground Disturbance for Ground-Based Midcourse Defense at Kodiak Launch Complex .....	2-89
3.1.1-1	Existing Generator Emissions at KLC .....	3-4
3.1.1-2	Estimated Rocket Launch Pollutant Emission Concentrations from Athena-2 at KLC .....	3-04
3.1.3-1	Threatened and Endangered Species in the Kodiak ROI .....	3-11
3.1.5-1	Seismic Source Model, Kodiak Loran Station, Kodiak Island, Alaska .....	3-18
3.1.6-1	Potentially Hazardous Materials Used at KLC .....	3-20
3.1.6-2	Potentially Hazardous Waste Generated at KLC .....	3-21
3.1.9-1	Recorded Noise Levels at Ugak Island During Previous Rocket Launches .....	3-27
3.1.10-1	Kodiak Island Borough Employment Sectors, 2000 .....	3-31
3.1.10-2	Top Ten Kodiak Island Borough Employers, 2000.....	3-31
3.1.14-1	Water Quality on Kodiak Island and in the Vicinity of Kodiak Launch Complex.....	3-41
3.1.15-1	Demographic Comparison Table.....	3-42
3.3.1-1	Ambient Air Quality at Kwajalein Island.....	3-50
3.3.1-2	Summary of Emissions of Regulated Air Pollutants on Kwajalein.....	3-51
3.3.1-3	Summary of Emissions of Regulated Air Pollutants on Meck .....	3-52
3.3.1-4	Estimated Rocket Launch Emissions for a High Level of Activity Launch.....	3-52
3.3.1-5	Summary of Emissions of Regulated Air Pollutants on Roi-Namur.....	3-53
3.4.1-1	Estimated Emissions of Typical Missile Launches at PMRF .....	3-72
3.4.2-1	Listed Species Known or Expected to Occur in the Vicinity of the Proposed Action .....	3-73
3.4.5-1	Employment in Kauai By Sector, 2000.....	3-87
3.5.1-1	Vandenberg AFB and Santa Barbara County Emissions.....	3-91
3.5.2-1	Listed Species Known or Expected to Occur in the Vicinity of the Proposed Action .....	3-92
3.5.4-1	Selected Seismic Sources in Vandenberg AFB Vicinity.....	3-99
3.5.6-1	HQ AFSPC/SG-Recommended and Endorsed Exposure Criteria for Constituents in Rocket Propellant or Motor Exhaust.....	3-107
3.5.8-1	Typical Noise Levels at Vandenberg AFB.....	3-113
3.5.8-2	Measured Titan IV Sound Level, August 1993.....	3-114
3.5.9-1	Employment By Sector, Santa Barbara County, 2000 .....	3-116
3.5.10-1	Peak-Hour Traffic Volumes and Levels of Service on Key Roads—Vandenberg AFB .....	3-117



3.6.1-1	Emissions Recorded Near Barbers Point.....	3-123
3.6.4-1	Pollution Control Discharge Restrictions for Navy Ships.....	3-126
3.7.1-1	Summary of San Nicolas Island Emissions.....	3-134
3.8.1-1	Maximum Measured Pollutant in Naval Station Everett Vicinity.....	3-142
3.8.6-1	Race and Ethnicity, Everett, Snohomish County and Washington State.....	3-148
3.10.1-1	Summary of Emissions of Regulated Air Pollutants in the Port of Valdez.....	3-162
3.10.6-1	Average Daily Traffic Counts on the Richardson Highway for the Year 2000.....	3-170
3.11.2-1	Species with Federal Status Known to Occur in the Gulf of Mexico.....	3-185
3.11.4-1	Top Ten Gulf Ports in 1995 Based on Total Ships.....	3-193
3.11.4-2	1995 Waterborne Tonnage by Gulf Coast States.....	3-195
4.1.1-1	Missile Propellant Information for Previous and Predicted Launches at KLC.....	4-3
4.1.1-2	Existing Generator Emissions at KLC.....	4-3
4.1.1-3	Potential Construction Emissions for GBI Facilities at KLC.....	4-4
4.1.1-4	Potential Exceedances Due to Accidental Oxidizer or Fuel Leak at KLC.....	4-6
4.1.1-5	Potential Generator and Aboveground Storage Tanks for GBI Facilities at KLC.....	4-7
4.1.1-6	Potential Generator Emissions at KLC.....	4-7
4.1.1-7	Propellant Information for Proposed GBI at KLC.....	4-8
4.1.1-8	Potential GBI Stage 1 Exhaust Emissions (Single Launch) at KLC.....	4-8
4.1.1-9	Potential GBI Exhaust Emissions (Dual Launch) at KLC.....	4-9
4.1.1-10	Potential Construction Emissions for Target Facilities at KLC.....	4-10
4.1.1-11	Potential Generator and Aboveground Storage Tanks for Target Facilities at KLC.....	4-11
4.1.1-12	Missile Propellant Information for Proposed Targets at KLC.....	4-12
4.1.1-13	Potential Target Exhaust Emissions (Single Launch) at KLC.....	4-12
4.1.1-14	Potential Peacekeeper Target Exhaust Emissions (Dual Launches) at KLC.....	4-13
4.1.1-15	Potential IDT Construction-Related Emissions at KLC.....	4-14
4.1.1-16	Potential TPS-X Construction-Related Emissions at KLC.....	4-15
4.1.9-1	Noise Levels at KLC from Previous Launches.....	4-76
4.1.9-2	Typical Construction Noises (dBA) at KLC.....	4-77
4.1.9-3	Predicted Noise Levels for Target Launches at KLC.....	4-79
4.1.12-1	Water Requirements for Dual Launch Missile Flight Tests.....	4-100
4.1.12-2	Wastewater Requirements for Dual Launch Missile Flight Tests.....	4-101
4.1.13-1	Scenic Value Class Determined for KLC.....	4-108
4.1.14-1	Total Aluminum and Perchlorate Concentration.....	4-112
4.1.14-2	Estimated Time to Reach 90 Percent Mass Loss of Perchlorate from Propellant Sample.....	4-113
4.2.1-1	Potential Generator Emissions for IDT and COMSATCOM Facilities at Midway....	4-119
4.2.1-2	Potential Generator Emissions for Mobile Telemetry Facilities at Midway.....	4-119
4.3.1-1	Predicted Impacts from Launch Emissions at RTS.....	4-124
4.3.1-2	Predicted Exhaust Emissions at RTS.....	4-125
4.3.1-3	Potential Construction-Related Emissions for Target Facilities at RTS.....	4-126
4.3.1-4	Potential Target Exhaust Emissions at RTS.....	4-127
4.4.1-1	Estimated Emissions of Typical Missile Launches at PMRF.....	4-153
4.4.1-2	Potential Target Exhaust Emissions (Single Launch) at PMRF.....	4-154
4.4.1-3	Possible Generator Emissions for TPS-X Facility at PMRF.....	4-155
4.5.1-1	Missile Propellant Information at Vandenberg AFB.....	4-169
4.5.1-2	Predicted Pollutant Concentration Levels at Vandenberg AFB.....	4-169
4.5.1-3	Vandenberg AFB and Santa Barbara County Emissions.....	4-170
4.5.1-4	Missile Propellant Information for Proposed Targets at Vandenberg AFB.....	4-172
4.5.1-5	Potential Target Exhaust Emissions (Single Launch) at Vandenberg AFB.....	4-172

4.5.1-6	Potential Peacekeeper Target Exhaust Emissions (Dual Launch) at Vandenberg AFB.....	4-173
4.5.1-7	Potential Exceedances Due to Accidental Oxidizer or Fuel Leak at Vandenberg AFB.....	4-175
4.5.1-8	Propellant Information for Proposed GBI at Vandenberg AFB .....	4-176
4.5.1-9	Potential Stage 1 GBI Exhaust Emissions (Single Launch) at Vandenberg AFB ...	4-176
4.5.1-10	Potential GBI Exhaust Emissions (Dual Launch) at Vandenberg AFB .....	4-177
4.5.1-11	Potential Construction Emissions for IDT Facilities at Vandenberg AFB.....	4-178
4.5.1-12	Potential Generator Emissions for IDT Facilities at Vandenberg AFB.....	4-179
4.6.1-1	Emissions Recorded Near Barbers Point.....	4-227
4.6.7-1	Scenic Value Class Determined for Pearl Harbor .....	4-238
4.7.1-1	Summary of San Nicolas Island Emissions.....	4-240
4.8.1-1	Maximum Measured Pollutant in Naval Station Everett Vicinity.....	4-250
4.8.9-1	Scenic Value Class Determined for Naval Station Everett.....	4-265
4.9.7-1	Scenic Value Class Determined for Port Adak.....	4-276
4.10.1-1	Summary of Emissions of Regulated Air Pollutants in the Port of Valdez.....	4-278
4.10.8-1	Scenic Value Class Determined for the Port of Valdez .....	4-289
7-1	Scoping Meeting Locations and Dates.....	7-1
7-2	Number of Comments by Resource Area and Location.....	7-4
8.1-1	Public Hearing Advertisements .....	8-2
8.1-2	Public Hearing Locations.....	8-3
8.1.1-1	Public Comments on the Draft EIS (Written Comments) .....	8-8
8.1.1-2	Responses to Written Comments.....	8-135
8.1.2-1	Public Comments on the Draft EIS (Email Comments).....	8-177
8.1.2-2	Responses to Email Comments .....	8-321
8.1.3-1	Public Comments on the Draft EIS (Public Hearing Comments) .....	8-379
8.1.3-2	Responses to Public Hearing Comments.....	8-515
8.1.4-1	Public Comments on the Draft EIS (Oral Comments).....	8-531
8.1.4-2	Responses to Oral Comments .....	8-591

## EXHIBITS

8.1.1-1	Reproductions of Written Documents.....	8-15
8.1.2-1	Reproductions of Email Documents .....	8-187
8.1.3-1	Reproductions of Public Hearing Documents.....	8-381
8.1.4-1	Reproductions of Oral Documents .....	8-535

---

## **5.0 LIST OF PREPARERS**

---

## 5.0 LIST OF PREPARERS

---

### Government Preparers

Julia Hudson Elliott, Environmental Protection Specialist  
U.S. Army Space and Missile Defense Command  
M.A., 1976, Mathematics/Science Education, Michigan State University  
B.A., 1971, Secondary Education, Michigan State University  
Years of Experience: 24

David Hasley, Environmental Engineer  
U.S. Army Space and Missile Defense Command  
B.S., 1984, Mechanical Engineering, University of Texas, Arlington  
Years of Experience: 17

Sharon G. Mitchell, Environmental Engineer, Environmental Division,  
U.S. Army Space and Missile Defense Command  
B.S.E., 1991, Industrial and Systems Engineering, University of Alabama in Huntsville  
Years of Experience: 12

Michon L. Washington, Senior Environmental Specialist  
Federal Aviation Administration, Office of Commercial Space Transportation  
M.S., 1996, Environmental Management and Technology, University of Maryland–  
University College  
B.S., 1986, Environmental Science, University of Maryland–Eastern Shore  
Years of Experience: 14

### Contractor Preparers

Ryan Boomsma, Planner, EDAW, Inc.  
B.S., 2000, Landscape Architecture, California State Polytechnic University, Pomona  
Years of Experience: 3

Karen Brandt, Environmental Specialist, EDAW, Inc.  
B.A., 1975, San Diego State University  
Years of Experience: 27

Harry Bryson, Senior Environmental Scientist, EDAW, Inc.  
M.S., 1984, Environmental Engineering, University of Tennessee–Knoxville  
M.S., 1979, Biology, Butler University, Indianapolis, Indiana  
B.S., 1981, Engineering Physics, University of Tennessee–Knoxville  
B.S., 1971, Life Sciences, U.S. Air Force Academy, Colorado  
Years of Experience: 20

Jonathan D. Call, Geographic Information Systems Analyst, EDAW, Inc.  
M.S., 2003, Environmental Geoscience/Geographic Information Systems, Mississippi State University  
B.S., 2001, Social Studies Education, Mississippi State University  
Years of Experience: 1

Matthew M. Estes, Environmental Specialist, EDAW, Inc.  
M.S., 2000, Environmental Management, Samford University, Birmingham, Alabama  
B.S., 1991, Environmental Science, University of California, Riverside  
Years of Experience: 11

Sue M. Estes, Private Consultant  
M.A., 1988, Public and Private Management, Birmingham-Southern College, Alabama  
B.S., 1977, Business, University of Alabama, Tuscaloosa  
Years of Experience: 12

Mark R. Farman, Resource Planner/Policy Analyst, EDAW, Inc.  
B.S., 1982, Environmental Policy Analysis & Planning, University of California, Davis  
Years of Experience: 20

Seon Farris, Environmental Engineer, Teledyne Solutions, Inc.  
M.S.E., in progress, Environmental Engineering, University of Alabama in Huntsville  
B.S., 1993, Chemical Engineering, Auburn University  
Years of Experience: 7

Amy Fenton-McEniry, Technical Editor, EDAW, Inc.  
B.S., 1988, Biology, University of Alabama in Huntsville  
Years of Experience: 14

David G. Fuller, Senior Systems Engineer, Teledyne Solutions, Inc.  
Ph.D., in progress, Environmental Engineering, Kennedy–Western University  
M.S., 1980, Environmental Science, Pittsburg State University (Kansas)  
B.S., 1978, Biology, Missouri Southern State College  
Years of Experience: 22

Whitney Hedges, Technical Editor, EDAW, Inc.  
B.A., English, 2003, Birmingham-Southern College  
Years of Experience: 1

Jonathan Henson, Environmental Specialist, EDAW, Inc.  
B.S., 2000, Environmental Science, Auburn University  
Years of Experience: 2

Alia Hokuki, Associate Environmental Planner, EDAW, Inc.  
M.A., 1996, Urban and Regional Planning, University of California, Irvine  
Years of Experience: 7

Brittnea Horton, Environmental Specialist, EDAW, Inc.  
B.S., 2001, Geography and Biology, University of North Alabama  
Years of Experience: 2

Mark Hubbs, Environmental Analyst, Teledyne Solutions, Inc.  
M.A., 2003 (pending), Archaeology, University of Leicester, UK  
M.S., 2000, Environmental Management, Samford University  
B.A., 1981, History, Henderson State University  
Years of Experience: 13

Jeral Jones, Geographic Information Systems Specialist, EDAW, Inc.  
B.S., 1995, Management Information Systems, University of Alabama in Huntsville  
Years of Experience: 8

Rachel Y. Jordan, Environmental Scientist, EDAW, Inc.  
B.S., 1972, Biology, Christopher Newport College, Virginia  
Years of Experience: 16

Edd V. Joy, Senior Environmental Planner, EDAW, Inc.  
B.A., 1974, Geography, California State University, Northridge  
Years of Experience: 30

Ron Keglovits, Environmental Management Analyst, Teledyne Solutions Inc.  
M.A., 1982, Management, Webster College  
B.A., 1976, Business Management, St. Martin's College  
Years of Experience: 15

Brandon Krause, Technical Illustrator, EDAW, Inc.  
B.S., in progress, Electrical Engineering, University of Alabama in Huntsville  
Years of Experience: 3

Joseph B. Kriz, Senior Systems Analyst, Teledyne Solutions, Inc.  
B.A., Geoenvironmental Studies, Shippensburg University  
B.S., Biology, Shippensburg University  
Years of Experience: 19

David L. McIntyre, Environmental Specialist, EDAW, Inc.  
M.A., 2000, Geography, San Diego State University  
M.S., 1997, Environmental Management, National University, San Diego  
B.S., 1990, History, United States Naval Academy  
Years of Experience: 3

Rickie D. Moon, Senior Systems Engineer, Teledyne Solutions, Inc.  
M.S., 1997, Environmental Management, Samford University  
B.S., 1977, Chemistry and Mathematics, Samford University  
Years of Experience: 19

Wesley S. Norris, Senior Environmental Planner, EDAW, Inc.  
B.S., 1976, Geology, Northern Arizona University  
Years of Experience: 26

LaDonna M. Sawyer, CHMM, Director Environmental Planning, EDAW, Inc.  
B.S., 1982, Community Health/Chemistry  
Years of Experience: 18

Steven Scott, Geologist, EDAW, Inc.  
B.S., 1973, Geology, California State University, San Diego  
Years of Experience: 30

William Sims, Geographic Information Services Specialist, EDAW, Inc.  
B.S., 1993, Geography, University of North Alabama  
Years of Experience: 10

Rebecca White, Environmental Specialist, EDAW, Inc.  
B.S., 2000, Civil/Environmental Engineer, University of Alabama in Huntsville  
Years of Experience: 3

James (Jim) E. Zielinski, Environmental Specialist, EDAW, Inc.  
B.S., 1984, Biology, University of Alabama in Birmingham  
Years of Experience: 17

---

## **6.0 GLOSSARY OF TERMS**

---



## 6.0 GLOSSARY OF TERMS

---

**A-weighted Sound Level**—a number representing the sound level which is frequency-weighted according to a prescribed frequency response established by the American National Standards Institute (S1.4-19711) and accounts for the response of the human ear

**Adjacent Band**—all frequencies that are within approximately 5 percent of the operating frequency of the interfering transmitter

**Advisory Council on Historic Preservation**—a 19-member body appointed, in part, by the President of the United States to advise the President and Congress and to coordinate the actions of Federal agencies on matters relating to historic preservation, to comment on the effects of such actions on historic and archaeological cultural resources, and to perform other duties as required by law (Public Law 89-655; 16 U.S. Code 470)

**Aeronautical Chart**—a map used in air navigation containing all or part of the following: topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports

**Aesthetic**—a pleasing appearance, effect, or quality that allows appreciation of character-defining features, such as of the landscape

**Aggregate**—materials such as sand, gravel, or crushed stone used for mixing with a cementing material to form concrete or alone as railroad ballast or graded fill

**Air Basin**—a region within which the air quality is determined by the meteorology and emissions within it with minimal influence on and impact by contiguous regions

**Air Defense Identification Zone**—the area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security

**Air Quality Control Region**—a contiguous geographic area designated by the Federal government in which communities share a common air pollution status

**Air Route Traffic Control Center (ARTCC)**—a facility established to provide air traffic control service to aircraft operating on Instrument Flight Rules flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to aircraft operating under Visual Flight Rules.

**Air Shed**—a volume of air with boundaries chosen to facilitate determination of pollutant inflow and outflow

**Air Traffic Control**—a service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic

**Airspace**—the space lying above the earth or above a certain land or water area (such as the Gulf of Mexico); the space lying above a nation and coming under its jurisdiction

**Airspace, Controlled**—airspace of defined dimensions within which air traffic control service is provided to Instrument Flight Rules flights and to Visual Flight Rules flights in accordance with the airspace classification. Controlled airspace is divided into five classes, dependent upon location, use, and degree of control: Class A, B, C, D, and E.

**Airspace, Special Use**—airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon non-participating aircraft

**Airspace, Uncontrolled**—uncontrolled airspace, or Class G airspace, has no specific definition but generally refers to airspace not otherwise designated and operations below 365.7 meters (1,200 feet) above ground level. No air traffic control service to either Instrument Flight Rules or Visual Flight Rules aircraft is provided other than possible traffic advisories when the air traffic control workload permits and radio communications can be established.

**Airway**—Class E airspace established in the form of a corridor, the centerline of which is defined by radio navigational aids

**Alkaline**—basic, having a pH greater than 7

**Alluvium**—general term for deposits made by streams on river beds, flood plains, and alluvial fans

**Ambient Air**—that portion of the encompassing atmosphere, external to buildings, to which the general public has access

**Ambient Air Quality Standards**—standards established on a state or Federal level that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, ozone, and lead) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards)

**American National Standards Institute (ANSI)**—serves as a consensus standard developed by representatives of industry, scientific communities, physicians, Government Agencies, and the public

**Amplitude**—the maximum departure of the value of a sound wave from the average value

**Anadromous**—going from salt water to fresh water or up rivers to spawn

**Annual Average Daily Traffic (AADT)**—the total volume passing a point or segment of a highway facility in both directions for 1 year divided by the number of days in the year

**Aquifer**—the water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells

**Archaeology**—a scientific approach to the study of human ecology, cultural history, and cultural process

**Area of Potential Effect**—the geographic area within which direct and indirect impacts generated by the Proposed Action and alternatives could reasonably be expected to occur and thus cause a change in historic, architectural, archaeological, or cultural qualities possessed by the property

**Asbestos**—a carcinogenic substance formerly used widely as an insulation material by the construction industry; often found in older buildings

**Asbestos-containing Material (ACM)**—any material containing more than 1 percent asbestos

**Association**—a group that forms together because of similar environmental requirements

**Attainment Area**—an air quality control region that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as having ambient air quality levels as good as or better than the standards set forth by the National Ambient Air Quality Standards, as defined in the Clean Air Act. A single geographic area may have acceptable levels of one criteria air pollutant, but unacceptable levels of another; thus, an area can be in attainment and non-attainment status simultaneously.

**Average Daily Traffic (ADT)**—the total volume of traffic passing a given point or segment of a roadway in both directions divided by a set number of days

**Ballistic Missile**—any missile that does not rely upon aerodynamic surfaces to produce lift and consequently follows a ballistic trajectory when thrust is terminated

**Bedrock**—the solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface

**Benthic**—associated with the bottom of a body of water

**Bifaces**—stone tools that have been flaked on both sides

**Biological Resources**—a collective term for native or naturalized vegetation, wildlife, and the habitats in which they occur

**Booster**—an auxiliary or initial propulsion system that travels with a missile or aircraft and that may not separate from the parent craft when its impulse has been delivered; may consist of one or more units

**Boreal**—pertaining to the north

**Borough**—civil division of the State of Alaska corresponding to a county in most other states

**Candidate Species**—a species of plant or animal for which there is sufficient information to indicate biological vulnerability and threat, and for which proposing to list as “threatened” or “endangered” is or may be appropriate

**Capacity**—the maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions

**Carbon Monoxide**—a colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion; it is one of the six pollutants for which there is a national ambient standard (see Criteria Pollutants)

**Census Tract**—small, relatively permanent statistical subdivisions of a county that are delineated for all metropolitan areas and other densely populated counties

**Chlorofluorocarbons (CFCs)**—a group of inert, nontoxic, and easily liquefied chemicals (such as Freon) used in refrigeration, air conditioning, packaging, or insulation or as solvents or aerosol propellants

**Colluvium**—a general term applied to loose deposits, usually at the foot of a slope or cliff and brought there chiefly by gravity; includes talus and cliff debris

**Continental United States**—the United States and its territorial waters between Mexico and Canada, but excluding overseas states; often abbreviated CONUS

**Control Area (CTA)**—a controlled airspace extending upwards from a specified limit above the earth

**Controlled Airspace**—an airspace of defined dimensions within which air traffic control service is provided to Instrument Flight Rules flights and to Visual Flight Rules flights in accordance with the airspace classification

**Controlled Environment**—areas that may be occupied by personnel who accept potential exposure to radiation as a contingency of employment or duties, by individuals who knowingly enter areas where such levels of radiation are to be expected, and by personnel passing through such areas

**Controlled Firing Area (CFA)**—airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to non-participating aircraft and to ensure the safety of persons and property on the ground

**Council on Environmental Quality (CEQ)**—established by the National Environmental Policy Act, the CEQ consists of three members appointed by the President. A CEQ regulation (Title 40 Code of Federal Regulations 1500-1508, as of July 1, 1986) describes the process for implementing the National Environmental Policy Act, including preparation of environmental assessments and environmental impact statements, and the timing and extent of public participation.

**Criteria Pollutants**—pollutants identified by the U.S. Environmental Protection Agency (required by the Clean Air Act to set air quality standards for common and widespread pollutants); also established under state ambient air quality standards. There are standards in effect for six criteria pollutants: sulfur dioxide, carbon monoxide, particulate matter, nitrogen dioxide, ozone, and lead.

**Cultural Resources**—prehistoric and/or historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered of importance to a culture, subculture, or community for scientific, traditional, religious, or any other reason

**Cumulative Impact**—the impact of the environment which results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

**Decibel (dB)**—a unit of measurement on a logarithmic scale which describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference value; the accepted standard unit for the measurement of sound

**Degradation**—the process by which a system will no longer deliver acceptable performance

**Department of Defense Flight Information Publication (DOD FLIP)**—a publication produced by the Defense Mapping Agency which is used for flight planning, en route, and terminal operations

**Dewater**—to remove water, such as in sewage processing

**Distance Measuring Equipment (DME)**—equipment on-board aircraft that transmits paired pulses at a specific spacing, which are received at a ground station. The station's transponder then transmits paired pulses back to the aircraft at the same pulse spacing but on a different frequency. The time required for the round trip of this signal exchange is measured in the airborne distance measuring equipment unit and is translated into distance from the aircraft to the ground station.

**Drainage Basin**—watershed

**Drive-to-Work Area**—the area within which it would be reasonably expected that personnel would commute to the site of the proposed action. This region may vary in size considerably from place to place, depending on the quality of roads, the level of traffic congestion and the local availability of similar quality jobs.

**Easement**—a right of privilege (agreement) that a person or organization may have over another's property; an interest in land owned by another that entitles the holder of the easement to a specific limited use

**Effluent**—an outflowing branch of a main stream or lake; waste material (such as smoke, liquid industrial refuse, or sewage) discharged into the environment

**Electroexplosive Device (EED)**—a single unit, device, or subassembly in which electrical energy is used to initiate an enclosed explosive, propellant, or pyrotechnic material

**Electromagnetic Interference**—electromagnetic radiation that disrupts electronic and electrical systems

**Electromagnetic Radiation (EMR)**—waves of energy with both electric and magnetic components at right angles to one another

**Emission Inventory**—a listing, by source, of the amount of air pollutants discharged into the atmosphere of a community

**Encroachment**—the placement of an unauthorized structure or facility on someone's property or the unauthorized use of property

**Endangered Species**—a plant or animal species that is threatened with extinction throughout all or a significant portion of its range

**En Route Airway**—a low altitude (below 5,486 meters [18,000 feet] mean sea level) airway based on a center line that extends from one navigational aid or intersection to another navigational aid (or through several navigational aids and intersections) specified for that airway

**Environmental Justice**—an identification of potential disproportionately high and adverse impacts on low-income and/or minority populations that may result from proposed Federal actions (required by Executive Order 12898)

**Erosion**—the wearing away of a land surface by water, wind, ice, or other geologic agents

**Estuary**—a water passage where the tide meets a river current; an arm of the sea at the lower end of a river; characterized by brackish water

**Explosive Class 1.1**—explosives that have a mass explosion hazard (one that affects almost the entire load instantaneously)

**Explosive Class 1.3**—explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard, or both, but not a mass explosion hazard

**Explosive Class 1.4**—explosives that present a minor explosion hazard with no projection of fragments of appreciable size or range expected

**Explosive Safety Quantity-Distance (ESQD)**—the quantity of explosive material and distance separation relationships providing defined types of protection based on levels of risk considered acceptable

**Flight Information Region (FIR)**—an airspace of defined dimensions within which flight information service and alerting service are provided. Flight information service is provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights, and alerting service is provided to notify appropriate organizations regarding aircraft in need of search and rescue aid and to assist such organizations as required.

**Flight Level**—a level of constant atmospheric pressure related to a reference datum of 76 centimeters (29.92 inches) of mercury stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 7,620 meters (25,000 feet); flight level 255 represents an indication of 7,772 meters (25,500 feet).

**Flood Hazard Zones**—typically lowland areas bordering streams or rivers onto which overflow is most likely to spread at flood stage

**Floodplain**—the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands; includes, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year (100-year floodplain)

**Fluvial**—of or pertaining to rivers; of or produced by the action of a river or stream

**Fly-by-Wire**—aircraft that rely completely on electrical wires to relay flight commands instead of the usual cables and linkage controls

**Friable**—easily crumbled or reduced to powder

**Fugitive Dust**—any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of man. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either removed or redistributed.

**Glacial Till**—unstratified drift, deposited by a glacier without reworking by meltwater, and consisting of a mixture of clay, silt, sand, gravel, and boulders ranging widely in size and shape

**Great Circle Route**—the shortest course between two points on the surface of a sphere. Great circle routes, which require constantly changing headings, are most useful beyond the equatorial regions and for distances greater than several hundred miles. Long-distance air traffic uses great circle routes routinely, saving time and fuel. Navigational radio signals also follow great circle paths.

**Groundwater**—water within the earth that supplies wells and springs; specifically, water in the zone of saturation where all openings in rocks and soil are filled, the upper surface of which forms the water table

**Grub**—to clear by digging up roots and stumps

**Habitat**—the area or type of environment in which an species or ecological community normally occurs

**Harmonically Related Band**—harmonically related receivers and sub-harmonically related transmitters. Harmonic frequencies include those frequencies that are integer multiples of the operating frequencies of the interfering transmitter. Subharmonic frequencies are those frequencies that are simple fractions of the operating frequencies of the interfering transmitter.

**Hazardous Material**—a substance that can cause, because of its physical or chemical properties, an unreasonable risk to the health and safety of individuals, property, or the environment

**Hazardous Waste**—a waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed

**Hertz (Hz)**—the standard radio equivalent of frequency in cycles per second of an electromagnetic wave. Kiloherz (kHz) is a frequency of 1,000 cycles per second. Megahertz (MHz) is a frequency of 1 million cycles per second.

**High Energy Radiation Area**—an area charted on visual aeronautical charts for radar systems that emit energy that could be hazardous to certain aircraft instrument systems. These areas required to be charted by the Federal Aviation Administration shall be shown on sectionals, terminal air charts, and world aeronautical charts with the "sawtooth" symbol. Aircraft flight through the area is not subject to restrictions.

**High Power Effects**—interference in electronic devices produced by very high power emitters which has not been predictable by the classical analysis processes; i.e., processes that predict antenna-coupled, case-coupled, spurious and intermodulation responses

**Historic Properties**—under the National Historic Preservation Act, these are properties of national, state, or local significance in American history, architecture, archaeology, engineering, or culture, and worthy of preservation

**Hydrocarbons**—any of a vast family of compounds containing hydrogen and carbon, including fossil fuels

**IFR Military Training Routes (IR)**—training routes mutually developed by the Department of Defense and the Federal Aviation Administration to provide for military operational and training

requirements that cannot be met under the terms of FAR 91.117 (Aircraft Speed). Accordingly, the Federal Aviation Administration has issued a waiver to the Department of Defense to permit operation of an aircraft below 3,048 meters (10,000 feet) mean sea level in excess of 463 kilometers per hour (250 knots) indicated airspeed along Department of Defense/Federal Aviation Administration mutually developed and published Instrument Flight Rules routes.

**Impacts (effects)**—an assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique. In this Environmental Impact Statement, as well as in the Council on Environmental Quality regulations, the word impact is used synonymously with the word effect.

**Impervious Surface**—an external part or layer whose impermeability does not allow entrance or passage of water

**In-band**—all frequencies that are within the operating frequency of the interfering transmitter

**Infrastructure**—the system of public works of a country, state, or region, such as utilities or communication systems; physical support systems and basic installations needed to operate a particular area or facility

**Instrument Flight Rules (IFR)**—rules governing the procedures for conducting instrument flight; also a term used by pilots and controllers to indicate type of flight plan

**Inversion**—an increase of temperature with height through a layer of air; usually associated with stable (but stagnant) air conditions

**Ionizing Radiation**—particles or photons that have sufficient energy to produce direct ionization in their passage through a substance. X-rays, gamma rays, and cosmic rays are forms of ionizing radiation.

**Jet Routes**—a route designed to serve aircraft operating from 5,486 meters (18,000 feet) up to and including flight level 450, referred to as J routes with numbering to identify the designated route

**Lead**—a heavy metal which can accumulate in the body and cause a variety of negative effects; one of the six pollutants for which there is a national ambient air quality standard (see Criteria Pollutants)

**Lead-based Paint**—paint on surfaces with lead in excess of 1.0 milligram per square centimeter as measured by X-ray fluorescence detector, or 0.5 percent lead by weight

**Level of Service**—describes operational conditions within a traffic stream and how they are perceived by motorists and/or passengers; a monitor of highway congestion that takes into account the average annual daily traffic, the specified road segment's number of lanes, peak hour volume by direction, and the estimated peak hour capacity by a roadway's functional classification, area type, and signal spacing

**Littoral**—species found in tide pools and near-shore surge channels

**Maritime**—of, relating to, or bordering on the sea

**Material Safety Data Sheet**—presents information, required under the Occupational Safety and Health Act Standards, on a chemical's physical properties, health effects, and use precautions



**Maximum Permissible Exposure Level (MPEL)**—as established by the Nuclear Regulatory Commission, exposure standards set at a level where apparent injury from ionizing radiation during a normal lifetime is unlikely

**Mesosphere**—the third highest layer in our atmosphere, occupying the region 50 to 80 kilometers (31 to 50 miles) above the Earth's surface, above the troposphere and stratosphere, and below the thermosphere, the coldest layer of the atmosphere

**Metamorphic**—rock derived from preexisting igneous rock changed by temperature, stress, chemical environment or any combination of these factors

**Migratory Birds**—avians characterized by their practice of passing, usually periodically, from one region or climate to another

**Military Operations Area**—an airspace assignment of defined vertical and lateral dimensions established outside Class A areas (formerly Positive Control Areas) to separate certain military activities from Instrument Flight Rules traffic and to identify for Visual Flight Rules traffic where these activities are conducted

**Military Training Routes (MTR)**—airspace of defined vertical and lateral dimensions established for the conduct of military flight training at airspeeds in excess of 250 knots

**Minority**—minority populations, as reported by the 2000 Census of Population and Housing, includes Black, American Indian, Eskimo or Aleut, Asian or Pacific Islander, Hispanic, or other

**Mitigation**—a method or action to reduce or eliminate severity of environmental impacts.

**Mobile Sources**—any movable source that emits any regulated air pollutant

**Mortality**—the number of deaths in a given time or place

**National Airspace System**—the common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

**National Ambient Air Quality Standards (NAAQS)**—as set by the U.S. Environmental Protection Agency under Section 109 of the Clean Air Act, nationwide standards for limiting concentrations of certain widespread airborne pollutants to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility and materials (secondary standards). Currently, six pollutants are regulated: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide (see Criteria Pollutants).

**National Environmental Policy Act (NEPA)**—Public Law 91-190, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influences of human activities, such as population growth, high-density urbanization, or industrial development, on the natural environment. The National Environmental Policy Act procedures require that environmental information be made available to the public before decisions are made. Information contained in the National Environmental Policy Act documents must focus on the relevant issues in order to facilitate the decision-making process.

**National Register of Historic Places (National Register)**—a register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and

culture, maintained by the Secretary of the Interior under authority of Section 2 (b) of the Historic Sites Act of 1935 and Section 101 (a)(1) of the National Historic Preservation Act of 1966, as amended

**Native Americans**—used in a collective sense to refer to individuals, bands, or tribes who trace their ancestry to indigenous populations of North America prior to Euro-American contact

**Native Species**—plants or animals living or growing naturally in a given region and often referred to as indigenous

**Navigable Airspace**—airspace at or above the minimum flight altitudes prescribed in the Federal Aviation Regulations including airspace needed for safe takeoff and landing

**Navigational Aid**—any visual or electronic device, airborne or on the surface, which provides point-to-point guidance information or position data to aircraft in flight

**Nitrogen Dioxide**—gas formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperatures

**Nitrogen Oxides**—gases formed primarily by fuel combustion

**Non-attainment Area**—an area that has been designated by the U.S. Environmental Protection Agency or the appropriate state air quality agency as exceeding one or more of the national or state ambient air quality standards

**Non-directional Radio Beacon (NDB)**—an L/MF or UHF radio beacon transmitting non-directional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine the aircraft's bearing to or from the radio beacon and “home” on or track to or from the station

**Non-ionizing Radiation**—electromagnetic radiation at wavelengths whose corresponding photon energy is not high enough to ionize an absorbing molecule. All radio frequency, infrared, visible, and near ultraviolet radiation are non-ionizing.

**Nonpoint Source**—type of pollution originating from a combination of sources

**Notice to Airmen (NOTAM)**—a notice containing information, not known sufficiently in advance to publicize by other means, the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System), the timely knowledge of which is essential to personnel concerned with flight operations

**Out-of-Band**—those frequencies that are not in-band, adjacent-band, or harmonically related band frequencies

**Ozone**—a compound consisting of three oxygen atoms

**Ozone-depleting Substances**—a group of chemicals that are inert under most conditions but within the stratosphere react catalytically to reduce ozone to oxygen

**Paleontology**—the study of life in the past geologic time, based on fossil plants and animals

**Palustrine Emergent**—small, shallow, permanent, or intermittent water bodies dominated by trees, shrubs, persistent emergents, and emergent mosses or lichens

**Particulate Matter**—particles small enough to be airborne, such as dust or smoke (see Criteria Pollutants)

**Peak-Hour Volume (PHV)**—the hourly volume during the maximum volume hour of the day

**Pelagic**—of the ocean waters

**Per Capita**—per unit of population; by or for each person

**Permafrost**—permanently frozen subsoil, for a minimum of 2 years, occurring in perennially frigid areas

**Permeability**—a quality that enables water to penetrate

**Permissible Exposure Limit (PEL)**—that exposure level expressed in electric field, magnetic field, or plane wave power density to which an individual may be exposed and which, under conditions of exposure, will not cause detectable bodily injury in light of present medical knowledge

**Pesticide**—any substance, organic, or inorganic, used to destroy or inhibit the action of plant or animal pests; the term thus includes insecticides, herbicides, fungicides, rodenticides, miticides, fumigants, and repellents. All pesticides are toxic to humans to a greater or lesser degree. Pesticides vary in biodegradability.

**Photochemically Reactive**—substances whose chemical reactions are initiated by sunlight

**Physiographic Province**—a region of which all parts are similar in geologic structure and climate and which has had a unified geomorphic history

**Phytoplankton**—single-celled marine plants that are found for at least part of their lives in the water column (pelagic), although a few species live on the sea floor (benthic)

**Pinniped**—having finlike feet or flippers, such as a seal or walrus

**PM-10**—particulate matter less than or equal to 10 micrometers in diameter

**Point Source**—a distinct and identifiable source, such as a sewer or industrial outfall pipe, from which a pollutant is discharged

**Population Density**—the average number of individuals per unit of space

**Positive Controlled Area**—airspace designated in Federal Aviation Administration Regulation Part 71 within which there is positive control of aircraft; also referred to as Class A airspace

**Power Density**—the amount of power per unit area in a radio frequency field, usually expressed in milliwatts per square centimeter

**Prehistoric**— Literally, "before history," or before the advent of written records. In the old world writing first occurred about 5400 years ago (the Sumerians). Generally, in North America and the Pacific region, the prehistoric era ended when European explorers and mariners made written accounts of what they encountered. This time will vary from place to place.

**Prevention of Significant Deterioration**—the Prevention of Significant Deterioration program, created by the Clean Air Act, consists of two parts: requirements for best available control technology on major new or modified sources and compliance with an air quality increment system

**Prime Farmland**—environmentally significant agricultural lands protected from irreversible conversion to other uses by the Farmlands Protection Policy Act

**Prohibited Area**—airspace designated under FAR Part 73 within which no person may operate an aircraft without the permission of the using agency

**Radar**—a radio device or system for locating an object by means of radio waves reflected from the object and received, observed, and analyzed by the receiving part of the device in such a way that characteristics (such as distance and direction) of the object may be determined

**Region of Influence (ROI)**—the geographical region that would be expected to be affected in some way by the Proposed Action and alternatives

**Relative Humidity**—the ratio of the amount of water vapor actually present in the air to the greatest amount possible at the same temperature

**Relief**—the difference in elevation between the tops of hills and the bottoms of valleys

**Restricted Area**—airspace designated under Federal Aviation Administration Regulation Part 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use, and Instrument Flight Rules/Visual Flight Rules operations in the area may be authorized by the controlling air traffic control facility when it is not being utilized by the using agency. Restricted areas are depicted on en route charts.

**Rookery**—breeding place or colony of gregarious birds or animals

**Runoff**—the portion of precipitation on land that ultimately reaches water bodies

**Scoping**—a process initiated early during preparation of an Environmental Impact Statement to identify the scope of issues to be addressed, including the significant issues related to the Proposed Action. During scoping, input is solicited from affected agencies as well as the interested public.

**Seine**—a large net with sinkers on one edge and floats on the other, which hangs vertically in the water and is used to enclose fish when its ends are pulled together or are drawn ashore

**Sensitive Habitat**—habitat that is susceptible to damage from intrusive actions

**Sensitive Receptor**—an organism or population of organisms sensitive to alterations of some environmental factor (such as air quality or sound waves)

**Shrink-Swell Potential**—the volume change of a particular soil with changes in moisture content

**Slow Routes**—slow speed, low altitude training routes used for military air operations at or below 457 meters (1,500 feet) at airspeeds of 463 kilometers per hour (250 knots) or less

**Soil Complex**—a mapping unit consisting of two or more recognized taxonomic units used in detailed soil studies and classifications

**Solid Waste**—municipal waste products and construction and demolition materials; includes non-recyclable materials with the exception of yard waste

**Specific Absorption Rate**—the time rate at which radio frequency energy is absorbed per unit mass of material, usually measured in watts per kilogram (W/kg)

**State Historic Preservation Officer (SHPO)**—the official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act

**Stationary Source**—any building, structure, facility, installation, or other fixed source that emits any regulated air pollutant

**Stratosphere**—the second major layer of the atmosphere that lies above the troposphere in which temperatures rise with increasing altitude

**Subsistence**—the traditional harvesting of natural resources for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade

**Substrate**—the layer of soil beneath the surface soil; the base upon which an organism lives

**Sulfur Dioxide**—a toxic gas that is produced when fossil fuels, such as coal and oil, are burned

**Thermal Distress/Damage**—the process by which heat generated in the body causes harm to cell tissue

**Thermosphere**—the outer layer or region of the atmosphere which is first exposed to the sun's radiation and so is first heated by the sun

**Threatened Species**—a plant or animal species likely to become endangered in the foreseeable future

**Topography**—the configuration of a surface including its relief and the position of its natural and man-made features

**Traditional Native Resources**—prehistoric sites and artifacts, historic areas of occupation and events, historic and contemporary sacred areas, material used to produce implements and sacred objects, hunting and gathering areas, and other botanical, biological, and geographical resources of importance to contemporary American Indian groups

**Transient**—remaining a short time in a particular area

**Troposphere**—the lowest layer of the atmosphere, the layer where most of the world's weather takes place

**Turbid**—the condition of being thick, cloudy, or opaque as if with roiled sediment; muddy

**Uncontrolled Environment**—areas where personnel would not expect to encounter higher levels of radiation such as living quarters, workplaces, and public access areas

**Understory**—a foliage layer occurring beneath and shaded by the main canopy of a forest

**Unstratified**—sediments deposited with an absence of layering

**Upland**—an area of land of higher elevation

**Vista**—a distant view through or along an avenue or opening

**Visual Flight Rules**—rules that govern the procedures for conducting flight under visual conditions. It is also used by pilots and controllers to indicate a type of flight plan.

**VFR Military Training Routes (IR)**—training routes developed by the Department of Defense to provide for military operational and training requirements that cannot be met under the terms of FAR 91.117 (Aircraft Speed). Accordingly, the Federal Aviation Administration has issued a waiver to the Department of Defense to permit operation of an aircraft below 3,048 meters (10,000 feet) mean sea level in excess of 463 kilometers per hour (250 knots) indicated airspeed along Department of Defense developed and published Instrument Flight Rules routes.

**Volatile Organic Compound**—one of a group of chemicals that react in the atmosphere with nitrogen oxides in the presence of heat and sunlight

**Volcaniclastic**—containing volcanic material

**Wastewater**—water that has been previously utilized; sewage

**Water Table**—the upper limit of the portion of the ground wholly saturated with water

**Wetlands**—those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. This classification includes swamps, marshes, bogs, and similar areas.

**Yearly Average Day-Night Sound Level**—utilized in evaluating long-term environmental impacts from noise; annual mean of the day-night sound level

**Zooplankton**—single and multi-celled animals that live passively or semi-passively in the water column

**Zoning**—the division of a municipality (or county) into districts for the purpose of regulating land use, types of buildings, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map, and the text of the zoning ordinance specifies requirements for each zoning category.

---

## 7.0 PUBLIC SCOPING PROCESS

---

7.0	PUBLIC SCOPING PROCESS .....	7-1
7.1	Air Quality .....	7-5
7.2	Airspace .....	7-5
7.3	Biological Resources.....	7-5
7.4	Cultural Resources.....	7-6
7.5	Environmental Impact Statement Process.....	7-6
7.6	Environmental Justice .....	7-9
7.7	Geology and Soils .....	7-9
7.8	Hazardous Materials and Hazardous Wastes Management .....	7-9
7.9	Health and Safety.....	7-11
7.10	Land Use and Aesthetics .....	7-13
7.11	Noise .....	7-14
7.12	Policy.....	7-14
7.13	Program .....	7-17
7.14	Socioeconomics .....	7-21
7.15	Subsistence.....	7-22
7.16	Transportation .....	7-22
7.17	Utilities.....	7-23
7.18	Water Resources .....	7-23
7.19	Other .....	7-24

# 7.0 PUBLIC SCOPING PROCESS

---

## Summary of the Public Scoping Process

The CEQ Regulations implementing the NEPA require an open process for determining the scope of issues related to the Proposed Action and its alternatives. Comments and questions received, as a result of this process, assist the DoD in identifying potential concerns and environmental impacts to the human and natural environment.

The GMD ETR EIS public scoping period began on 28 March 2002, when the Notice of Intent to prepare an EIS was published in the *Federal Register*. The scoping comment period was originally scheduled to end on 10 May 2002, but was extended to 20 May 2002 in response to public request. Subsequently, inclusion of the SBX in the EIS analysis extended scoping and the comment period even further, through 20 December 2002.

A number of methods were used to inform the public about the GMD ETR Program and of the locations of the scheduled scoping meetings. These included:

- The Notice of Intent announcement in the *Federal Register*
- Paid advertisements in local and regional newspapers

Public scoping meetings were held at the locations listed in table 7-1. During these public scoping meetings, attendees were invited to ask questions and make comments to the program representatives at each meeting. In addition, written comments were received from the public and regulatory agencies at the scoping meeting, and by letter and e-mail during the extended comment period. Comments received from the public and agencies pertaining to specific resource areas and locations were considered, and more detailed analysis provided in the EIS. Those comments received from the public concerning DoD policy and program issues are outside the scope of what is required to be analyzed in an EIS.

**Table 7-1: Scoping Meeting Locations and Dates**

Meeting Location	Date
Kodiak, Alaska—Kodiak High School	16 April 2002
Anchorage, Alaska—Egan Convention Center	18 April 2002
Lompoc, California—Town Hall Council Chambers	25 April 2002
Honolulu, Hawaii—Best Western Hotel	18 September 2002
Seattle, Washington—Hilton Conference Center	17 October 2002
Oxnard, California—Public Library	22 October 2002
Port of Valdez—Valdez Civic Center	19 November 2002
Port Adak—Bob Reeves High School	5 December 2002



## **Native Village Meetings**

A series of village coordination meetings was held on Kodiak Island in June and July 2002 in partial fulfillment of a pledge from the GMD Program Office to reach out to Native residents to explain the Proposed Action at KLC. The team visited the Villages of Akhiok, Ouzinkie, Port Lions, Afognak, Kodiak, and Larsen Bay.

Several generic issues were raised, including the following:

- The environmental consequences of flying rockets from KLC
- The request from the Village of Old Harbor for a fallout shelter
- Job opportunities associated with the Proposed Action
- Most village attendees expressed feelings of patriotism and support for what was being planned

## **Agency Meetings**

An agency meeting was held in the offices of the Alaska Division of Governmental Coordination in Anchorage in April 2002 to provide an overview of the Proposed Action to the represented agencies and to solicit input on the EIS. Agencies represented at this meeting included the USFWS, the Alaska Department of Fish and Game, the U.S. Army Corps of Engineers, the U.S. Coast Guard, and the Alaska Department of Natural Resources. Some of the comments from the agencies are listed below:

- The USFWS recommended that an alternative site to the current proposed launch site at KLC should also be considered, if possible, because this ridge area is a sensitive area and there are public use concerns.
- The agencies requested more detailed information regarding the Proposed Action and alternatives.
- A trip with the agencies to the proposed construction site at Kodiak was suggested and agreed upon for the near future.
- A trip to Kodiak was conducted in May of 2002. The USFWS was the only agency in attendance. After reviewing the proposed KLC sites, the concern over the ridge area noted during the meeting was lessened.

An additional agency meeting was held in the offices of the Alaska Division of Governmental Coordination Offices in Anchorage in November 2002 to provide additional information regarding the potential siting of the SBX at Adak or the Port of Valdez, and to solicit input on the Coordinating Draft EIS. Agencies represented included the Alaska Department of Environmental Conservation, the U.S. Army Corps of Engineers, and the Alaska Department of Natural Resources. Some of the comments from the agencies are listed below:

- Migratory bird site adjacent to Valdez is an Aquatic Resource of National Importance. Air quality is a potential concern.
- Valdez Narrows is closed when a tanker is passing through.

- An Alaska Department of Natural Resources permit will be required for all actions within 4.8 kilometers (3 miles) of the shore. This would include barge landing sites and mooring sites. Mooring sites would also require a Section 10 Permit.
- Need to add SOPs for debris recovery in case of an accident at KLC. This is the highest probability for perchlorate contamination.

An agency meeting was also held in Honolulu in September 2002 with representatives from the USFWS and the FAA. This meeting centered primarily on the potential siting of the SBX at Pearl Harbor. Some of the comments from the agencies included:

- Questions from the FAA on the proposed operation of the radar and the effects of radiological hazards and interference with air traffic at the Honolulu International Airport.
- Questions from the USFWS mainly concerning the effects of the radar on bird populations.

### **Results of Public Scoping Meetings**

The public scoping meetings used an information/exhibit format with a formal presentation on the GMD Program Overview and the Environmental Analysis Process. A sampling of some of the comments expressed by the public included:

- Concern about the chemicals in the air and the harm that they will do to the environment
- Concern about the pristine fisheries and wilderness, and belief that a thorough investigation of the effects of launch activities should occur in the EIS
- Concern that the EIS could ever fully address all the short- and long-term impacts around KLC
- Concern about the expansion of KLC, since the facility is located in a seismically active area
- Concern about putting valuable resources of Kodiak Island at risk due to toxic substances integral to missile launch operations
- Concern with the hazardous materials that are released in the explosion of a rocket, in flight, on the pad, or in a launch silo. The EIS should address the effects of all potential rocket fuels and payloads
- Concern about the safety of the Proposed Action
- Concern about the health hazards from radars such as the X-band
- Concern that mobile telemetry radars will not be limited to the roads and will be taken into sensitive areas and damage will occur to the land
- Concern that GMD is expensive and will require cuts in funding for human services
- Opposes the U.S. Government's plan for continuing research and development of the Missile Defense Program
- A desire that additional work be done on measuring the cumulative impacts to the environment

- Concern that the Narrow Cape road on Kodiak Island will be closed

Table 7-2 summarizes the number of comments received from the public at the scoping meetings, and from other sources, for each resource category.

**Table 7-2: Number of Comments by Resource Area and Location**

Resource Area	Kodiak, AK	Anchorage, AK	Lompoc, CA	Honolulu, HI	Seattle, WA	Oxnard, CA	Valdez, AK	Adak, AK	Other	Total
Air Quality	3		1						1	5
Airspace Use		1	1						1	3
Biological Resources	3	2	3							8
Cultural Resources		1								1
EIS Process	20	14	1						1	36
Environmental Justice										0
Geology and Soils	10	2								12
Hazardous Materials and Hazardous Waste	14	4	1				1			20
Health and Safety	14	7	3				2		5	31
Land Use and Aesthetics	6	6								12
Noise		2								2
Policy	5	6							205	216
Program	14	20	3	2		6	8	3	80	136
Socioeconomics	1	5	1			2	2		12	23
Subsistence	8	3								11
Transportation	4	2					3			9
Utilities										0
Water Resources	6		2							8
Other	6	17	2				1	4	2	32
<b>TOTAL</b>	<b>114</b>	<b>92</b>	<b>18</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>17</b>	<b>7</b>	<b>307</b>	<b>565</b>

Note: No comments were received at the Seattle scoping meeting

## Summary of Comments By Category

### Code Key:

**S** = comments received during the public scoping period

**T** = oral comments (transcripts)

**W** = written comments or e-mail comments

**####** = sequential numbers assigned to each letter, e-mail, oral comment (transcript) in the order in which they were received

**#** = specific issues identified and numbered sequentially within each comment letter or e-mail.

## 7.1 AIR QUALITY

- Concerned about the chemicals in the air and the harm that it will do to the environment.

S-T-0016-1                      S-W-0019-2

- What are the impacts on the air after repeated launches at KLC?

S-W-0036-9

- What will be the effect of a launch pad failure on the air?

S-W-0036-14

- Do rocket exhaust fumes have toxic effects on the local terrestrial, fresh water and marine environment?

S-W-0124-2

## 7.2 AIRSPACE

- Concerned about the environmental impacts that will occur in space and will they be evaluated in the EIS.

S-T-0005-9                      S-W-0107-3                      S-W-0120-9

## 7.3 BIOLOGICAL RESOURCES

- Concerned about the pristine fisheries and wilderness and believes a thorough investigation of the affects of launch activities should occur in the EIS.

S-T-0003-3                      S-W-0100-6

- Concerned about the effects of a rocket going into the ocean and how impacts are measured.

S-T-0010-5

- Conduct wetland delineations within the footprint of the proposed alternatives.

S-W-0035-2

- Identify the direct, indirect, and cumulative impacts of each alternative to fish, wildlife and wetland resources. The scope of this assessment should include impacts related to habitat losses, construction activities, and long-term operation of the facility.

S-W-0035-3

- Vandenberg is located in a sensitive marine area.

S-W-0121-1

- The missiles use solid propellants for fuel. The burning of solid propellants creates exhaust fumes, which are toxic to plant growth as well as causing acid rain and damage to the ozone layer.

S-W-0121-4

- Are studies being done on the plankton bloom since it starts in February and the waters come alive near the shores?

S-W-0124-3

## 7.4 CULTURAL RESOURCES

- Concerned about the cultural resources.

S-T-0003-4

## 7.5 ENVIRONMENTAL IMPACT STATEMENT PROCESS

- Suggested that the EIS address rather than no alternatives, see other alternative other than KLC for interceptor; such as sea-based locations as opposed to land-based.

S-T-0001-4

- Does not believe that an EIS for the GMD Extended Test Range could ever fully address all the short and long-term impacts around KLC.

S-W-0002-5

S-W-0095-4

- Expressed concern over the need for scoping meetings in two villages, Old Harbor and Akhiok, also Juneau, Fairbanks. Additional meetings should be held in Kodiak and Anchorage, Alaska.

S-T-0001-3                      S-T-0008-10                      S-W-0060-3                      S-W-0080-12  
S-W-0122-2

- Complete a worst impact commitment, no more incrementalism.

S-W-0006-3                      S-T-0006-2                      S-T-0010-4

- How can you do an EIS when the program is not complete?

S-T-0004-1

- Concerned over the scoping meeting format.

S-W-0005-1

- Concerned that DoD is exempt from environmental laws.

S-T-0006-1

- What will the cumulative environmental impacts be on the total program?

S-T-0010-3                      S-W-0036-4                      S-W-0080-11

- Concerned that DoD has a conflict of interest doing the EIS.

S-W-0008-1                      S-W-010-2

- Concerned about the short time for the EIS to be completed, does not allow for enough time to evaluate all areas.

S-W-0008-2                      S-W-010-1                      S-W-0036-1                      S-W-0124-6

- Need to do an EIS on the effects of war.

S-W-0028-5

- Feels that comments received from other environmental documents should be added to the EIS.

S-W-0036-5

- Need to explain how you will obtain the exemption to the Marine Mammal Protection Act with regards to the endangered Steller's sea lion, whale species, and depleted harbor seal populations, when fishermen cannot.

S-W-0036-6

- Concerned that the scoping meeting in Kodiak did not give the public a chance to verbally comment on the GMD Extended Test Range.

S-W-0060-1

S-W-0100-1

- Need to explain the difference between the GMD Validation of Operational Concept and the GMD Extended Test Range and why there was no public notice in the newspapers of a Draft EA.

S-W-0075-1

- Request an extension of the comment period to allow for a full 30 days after the scoping meeting. Feel the EIS is being fast tracked and people are not being given a chance to comment.

S-W-0080-1

S-W-0102-1

S-W-0122-1

- Would like a public repository in Anchorage for GMD documents.

S-W-0090-1

- Notice of Availability and copies of the Draft EIS need to be sent to the State of Hawaii Office of Environmental Quality Control and to the University of Hawaii Environmental Center. This is especially important since no scoping meetings are planned in Hawaii.

S-W-0110-3

- Concerned that the scoping meeting for California was held in Lompoc, since this project will have enormous and substantive direct and cumulative adverse effects on the southern California region, including criteria and hazardous air pollutants, disruption of sensitive terrestrial marine ecosystems and further disrupt the social fabric of Santa Barbara County. Very little information was provided about the project, depriving the so-called scoping process.

S-W-0119-1

- The EIS needs to include for KLC: Ground Water Protection Plan, Storm Water Pollution Prevention Plan, Emergency Plan for the KLC launch pad, Storm Water Plan, Spill Prevention and Control Plan, Pesticide use, Expedious Recovery Plan of flight test vehicles and debris containing hazardous materials.

S-W-0120-4

- Would like to know if a compliance review has been done, and if so where can it be reviewed.

S-W-0126-2

- The EIS needs to assess the Sea-Based Midcourse Defense or intercept tests of any system against targets launched more than 1,200 kilometers from the Pacific Missile Range Facility.

S-W-0127-2

## 7.6 ENVIRONMENTAL JUSTICE

No comments were received for this resource area.

## 7.7 GEOLOGY AND SOILS

- Concerned that the expansion of KLC is an intelligent endeavor since the facility is located in a seismically unstable area.

S-W-0002-6

S-W-0004-2

S-T-0002-3

S-T-0003-1

S-W-0020-4

S-W-0095-5

S-W-0100-4

- What are the impacts on the soil after repeated launches at KLC?

S-W-0036-8

- What will be the effect of a launch pad failure on the soil?

S-W-0036-13

- Requested an up-to-date seismic study be done for the Narrow Cape area on Kodiak before any further infrastructure expansion on KLC.

S-W-0080-2

S-W-0122-4

S-W-0124-5

## 7.8 HAZARDOUS MATERIALS AND HAZARDOUS WASTES MANAGEMENT

- Concerned about putting valuable resources of Kodiak Island at risk due to toxic substances integral to missile launch operations.

S-W-0002-4

- Want the government to pledge to never use nuclear materials in Kodiak.

S-W-0006-2



- If nuclear tips are used in the future, will they be studied? They need to be addressed in the EIS.

S-T-0004-2  
S-W-0125-1

S-T-0004-4

S-W-0100-3

S-W-0122-3

- Concerned that MDA will place nuclear tips on interceptors at Fort Greely and not tell the Pentagon.

S-T-0005-2

S-T-0005-4

- Concerned that the potential of experimental fuels, that because of their nature, impacts of these fuels cannot be adequately assessed.

S-W-0020-3

- Need to list all types of Hypergolic Missile Fuels, Oxidizers Pesticides and other hazardous toxic materials being proposed for use and storage at the proposed alternatives.

S-W-0080-3  
S-W-0121-3

S-W-0120-3

S-W-0120-8

S-W-0120-13

- Concerned with the hazardous material that are released in the explosion of a rocket, in flight, on the pad, or in a launch silo. Also feels that the EIS should address this area and cover the effects from all potential rocket fuels and payloads.

S-W-0124-4

- What types of fueling systems will be used at KLC to prevent accident spills or leaks of propellants and other hazardous liquids?

S-W-0120-11

- The EIS should address responsibilities and clean-up plans for any hazardous materials that may be associated with KLC.

S-W-0126-3

- Department of Natural Resources manages state owned tidelands and submerged land, which includes all lands offshore to the 3-mile territorial limit. Department of Natural Resources would like the EIS to address the responsibility for removal of any debris or hazardous materials that may fall onto state tidelands and submerged lands as the result of rocket launches.

S-W-0126-5

- Concerned about debris from launches at Vandenberg AFB.

S-T-0025-3

- Need to provide information on refueling in Valdez.

S-T-0027-4

## 7.9 HEALTH AND SAFETY

- Concerned about the potential disastrous effects and danger.

S-W-0003-1

S-T-0008-3

S-W-011-2

S-T-0015-3

S-W-0050-1

S-W-0058-3

S-W-0065-4

S-W-0125-2

- Concerned the population will have to move or will the launch affect their normal lives.

S-T-0003-7

- Is the actual launch building secure?

S-W-011-1

- Concerned with safety for residents of Akhiok and Old Harbor, need to provide shelters.

S-W-012-1

- Concerned about risking health and safety with every toxic rocket launch.

S-T-0015-1

S-W-0095-3

- The health hazards from radars such as the X-band should be included in the EIS and the proposed sites for the radars for southern Alaska.

S-W-0076-3

S-W-0080-9

S-W-0080-13

S-W-0120-5

S-W--120-6

S-W-0120-15

- Concerned about the 9 November 2001 missile accident in Kodiak and would like more information.

S-W-0076-4

- Need to explain the risks and hazardous associated with the Strategic Target System launcher, booster stages and payloads and any other proposed launch vehicles to be launched from KLC.

S-W-0080-4

- MDA should eliminate any launch trajectory over 220 degrees SW down the east side of Kodiak Island, because the whole south end of Kodiak Island will be within 70 nm Warning Zone, and any SW launches will jeopardize the safety of Kodiak Island residents from any potential missile accident, fallout or contaminates.

S-W-0080-5

S-W-0120-1

S-W-0122-7

- Expressed the opinion that the only environmentally safe and healthy nuclear weapons are non-existent ones.

S-W-0088-1

- Concerned about the powerful transmitters that are being used to track the targeted objects. Feels that Airborne laser and other missile systems are unsafe and have caused many health problems. What the effects on migrating birds?

S-W-0106-1

S-W-0120-10

- The EIS should include an Impact Risk Analysis for all populated villages which are within the over flight exclusion zone.

S-W-0120-12

- Feels that every time a missile is launched, war is simulated, other nations may perceive the Central Coast of California as being at war with them, and highly likely a target for these nations.

S-W-0121-5

- Will the SBX be required to meet the same standards as other ships?

S-T-0027-6

- Need to address security requirements while in the Port of Valdez.

S-T-0027-8

- The EIS needs to contain a detailed analysis of the safety aspects of launches at azimuths other than 280 degrees.

S-W-00127-3

- Need to do a better job addressing the reliability of the target and interceptor rockets in the EIS. The analysis should include a discussion of failures in launches.

S-W-0127-4

- Need to evaluate possible impacts associated with radar operation while the platform is in port, including those related to public safety and health.

S-W-0128-4

## 7.10 LAND USE AND AESTHETICS

- Concerned that the City of Cordova has been involved in the program and what the purpose of the Atco trailer that has been placed there before and during launches.

S-T-0007-2

S-T-0007-4

S-T-0007-5

- Concerned that mobile telemetry radars will not be limited to the roads and will be taken to sensitive areas and damage will occur to the land.

S-W-009-1

- An important aspect of the local environment is that Kodiak is an essentially undisturbed and lightly developed area would be harmed by the proposed large-scale development. Need to assess impacts of development (more traffic, noise, detraction from scenery, etc).

S-W-0020-5

S-W-0126-1

- How will you protect and compensate the public of the potential loss of their land due to contamination?

S-W-0036-16

- Need to list all Kodiak Island regions and communities, which will be potentially impacted by the MDA's proposed short or long-term GMD activities.

S-W-0080-6

- No previous chemical analysis has been done on the surrounding land areas in the Narrow Cape vicinity to check for rocket/missile contaminates and pollutants, which may have settled on nearby terrain. Narrow Cape is a populated area for hunting, hiking, and picnics, berry picking and fishing.

S-W-0120-2

- Further expanding the GMD program to Alaska will cause further pollution and contamination to the land, air and waters.

S-W-0120-16

- Concerned about the rapid erosion of the sand due to the removal of beach sand that has been taken from Bear Paw Ranch.

S-P-0002-1

- The EIS should address the long term use of or removal of any facilities constructed at KLC.

S-W-0126-2

## 7.11 NOISE

- Concerned that the noise will bother wildlife and individuals seeking a wilderness experience.

S-W-009-2

- Need to study the impact of sound on the gray whales, mother and calves included, all the endangered and non-endangered species in the launch area.

S-W-0036-7

## 7.12 POLICY

- Does not believe that the putting of nuclear tips on interceptors is a wise given our commitment to the 1967 Outer Space Treaty as well as the Nuclear Non-proliferation Treaty.

S-W-0002-3  
S-W-0113-2

S-W-0019-1

S-W-0095-2

S-W-0104-1

- Feel that this current political climate does not justify expanding the military.

S-W-0019-5

- Concerned that Donald Rumsfeld exempted the MDA from normal Pentagon weapons oversight.

S-T-0005-1

- Concerned that MDA is exempt from reporting to the Pentagon on time lines and costs and from the testing and oversight office overseeing their test.

S-T-0005-3

- Does MDA complete environmental studies for sites in other countries?

S-T-0005-10

- Instead of expanding missile program, the United States should accept the proposal from Canada, China and Russia to negotiate a Space Weapons Ban.

S-W-0023-6	S-W-0044-5	S-W-0067-5	S-W-0072-5
S-W-0073-3	S-W-0074-5	S-W-0084-2	S-W-0085-5
S-W-0087-5	S-W-0091-5	S-W-0108-2	S-W-0109-2
S-W-0112-5	S-W-0117-5	S-W-0118-5	

- Concerned that the decision-maker, Secretary of Defense is not an environmental expert.

S-W-0008-3

- GMD will encourage a new arms race and move it into outer space.

S-W-0014-2	S-W-0015-2	S-W-0017-1	S-W-0018-3
S-W-0021-3	S-W-0022-1	S-W-0023-4	S-W-0023-5
S-W-0024-3	S-W-0025-3	S-W-0026-3	S-W-0027-3
S-W-0028-3	S-W-0029-3	S-W-0030-3	S-W-0031-1
S-W-0033-3	S-W-0036-3	S-W-0039-3	S-W-0042-2
S-W-0043-3	S-W-0044-2	S-W-0044-4	S-W-0045-3
S-W-0049-3	S-W-0051-3	S-W-0053-1	S-W-0055-3
S-W-0056-3	S-W-0057-1	S-W-0063-3	S-W-0064-3
S-W-0065-2	S-W-0066-3	S-W-0067-4	S-W-0069-2
S-W-0070-3	S-W-0071-3	S-W-0072-4	S-W-0073-2
S-W-0074-4	S-W-0078-3	S-W-0081-3	S-W-0085-4
S-W-0086-3	S-W-0087-4	S-W-0091-4	S-W-0093-3
S-W-0094-3	S-W-0097-3	S-W-0099-3	S-W-0101-2
S-W-0103-2	S-W-0104-4	S-W-0107-1	S-W-0111-3
S-W-0112-4	S-W-0113-3	S-W-0114-2	S-W-0115-3
S-W-0117-4	S-W-0118-4		

- GMD is expensive and it will require cuts in funding for human services for a non-existent threat.

S-W-0014-3	S-W-0015-3	S-W-0016-1	S-W-0016-3
S-W-0017-2	S-W-0018-1	S-W-0019-3	S-W-0021-1
S-W-0023-1	S-W-0023-2	S-W-0024-1	S-W-0025-1
S-W-0026-1	S-W-0027-1	S-W-0028-2	S-W-0029-4
S-W-0030-1	S-W-0031-3	S-W-0033-1	S-W-0034-1
S-W-0039-1	S-W-0042-1	S-W-0043-1	S-W-0043-4
S-W-0044-3	S-W-0045-1	S-W-0046-1	S-W-0047-1
S-W-0049-1	S-W-0051-1	S-W-0053-3	S-W-0054-2
S-W-0055-1	S-W-0056-1	S-W-0057-2	S-W-0058-1
S-W-0061-1	S-W-0062-2	S-W-0063-1	S-W-0064-4
S-W-0065-1	S-W-0066-1	S-W-0067-1	S-W-0069-1
S-W-0070-1	S-W-0071-1	S-W-0072-1	S-W-0074-1
S-W-0078-1	S-W-0079-3	S-W-0081-1	S-W-0083-2
S-W-0084-1	S-W-0085-1	S-W-0086-1	S-W-0087-1
S-W-0089-1	S-W-0091-1	S-W-0093-1	S-W-0094-2

S-W-0096-1            S-W-0097-1            S-W-0098-3            S-W-0099-1  
S-W-0101-1            S-W-0103-1            S-W-0107-2            S-W-0111-2  
S-W-0112-1            S-W-0113-4            S-W-0115-1            S-W-0117-1  
S-W-0118-1

Feels that the United States has no business trying to control and dominate the globe.

S-W-0014-4            S-W-0015-4            S-W-0016-2            S-W-0017-3  
S-W-0018-4            S-W-0021-4            S-W-0024-4            S-W-0025-4  
S-W-0026-4            S-W-0027-4            S-W-0028-4            S-W-0030-4  
S-W-0031-4            S-W-0033-4            S-W-0039-4            S-W-0041-3  
S-W-0044-1            S-W-0045-4            S-W-0049-4            S-W-0056-4  
S-W-0063-4            S-W-0065-3            S-W-0066-4            S-W-0071-4  
S-W-0078-4            S-W-0079-4            S-W-0081-4            S-W-0085-6  
S-W-0093-4            S-W-0097-4            S-W-0104-2            S-W-0115-4

Feels we would be wise to befriend North Korea by encouraging their reunification with South Korea and by offering trade agreements. Treating them like an enemy will surely make them behave like an enemy.

S-W-0039-6

Concerned that the U.S. defense budget is larger than all the other countries combined. Need to use this budget for educational and environmental area.

S-W-0040-1

Feels that deployment missile defense would be an offensive military move and provoke the enemy. There is legitimate concern about the proliferation of weapons of mass destruction.

S-W-0042-4            S-W-0067-3            S-W-0072-3            S-W-0074-3  
S-W-0085-3            S-W-0087-3            S-W-0091-3            S-W-0112-3  
S-W-0117-3            S-W-0118-3

Provide information about launching interceptors from missile silos in Kodiak and how the Intermediate-Range Nuclear Forces Treaty will be violated if this is done.

S-W-0080-15

Concerned that the defense policy should be based on short-term concerns, not long-term considerations that would lead the U.S. to have such systems. Who has the power to launch a war against the United States (China), feels that the United States is trying to consolidate its hold on global power.

S-W-0098-2

- Feels that we should build peaceful relationships with people of the globe. Defense of one's homeland is a legitimate goal, but should evaluate the effectiveness and worth of the cost.

S-W-0098-4                      S-W-0114-1                      S-W-0115-6

- The expense to the U.S. taxpayer is not justifiable for this type of research and development with regard to the level of protection it might give the United States against terrorism.

S-W-0002-2                      S-W-0039-2                      S-W-0052-1                      S-W-0073-1  
 S-W-0098-1                      S-W-0113-1                      S-W-0115-5

- Are air-launched and sea-launched targets with ranges greater than 500 kilometers prohibited by the Intermediate-Range Nuclear Forces Treaty?

S-W-0126-1                      S-W-0127-5

### 7.13 PROGRAM

- Feels that no real threat exists, the military seems to be creating enemies to justify this program.

S-W-0018-2	S-W-0021-2	S-W-0023-3	S-W-0024-2
S-W-0025-2	S-W-0026-2	S-W-0027-2	S-W-0028-1
S-W-0029-2	S-W-0030-2	S-W-0031-2	S-W-0033-2
S-W-0036-2	S-W-0043-2	S-W-0045-2	S-W-0048-1
S-W-0049-2	S-W-0053-2	S-W-0054-1	S-W-0055-2
S-W-0056-2	S-W-0062-1	S-W-0063-2	S-W-0064-2
S-W-0066-2	S-W-0067-2	S-W-0070-2	S-W-0071-2
S-W-0072-2	S-W-0074-2	S-W-0078-2	S-W-0079-2
S-W-0081-2	S-W-0083-1	S-W-0085-2	S-W-0086-2
S-W-0087-2	S-W-0091-2	S-W-0093-2	S-W-0094-1
S-W-0097-2	S-W-0099-2	S-W-0104-3	S-W-0109-1
S-W-0111-1	S-W-0112-2	S-W-0115-2	S-W-0117-2
S-W-0118-2			

- Oppose the missiles in KLC.

S-W-0004-4                      S-T-0002-2                      S-W0013-1                      S-W-0120-17

- Opposes the U.S. Government's plan for continuing research and development of the Missile Defense Program.

S-W-0002-1	S-W-0002-8	S-T-0010-1	S-T-0011-1
S-T-0005-15	S-W-0014-1	S-W-0015-1	S-W-0038-1
S-W-0059-1	S-W-0068-1	S-W-0079-1	S-W-0080-16
S-W-0082-1	S-W-0095-1	S-W-0105-1	S-W-0108-1
S-W-0109-3	S-W-0116-1		



- Show that the program will work, concerned that this is an impractical idea.

S-W-0006-4                      S-T-0008-4                      S-T-0008-7                      S-T-0009-1  
S-T-0005-13                      S-T-0005-14                      S-W-0019-4                      S-W-0029-1  
S-W-0046-3                      S-W-0048-2                      S-W-0064-1                      S-W-0120-14

- Concerned with launching 20 Scud missiles off Poker Flats Research Range at University of Alaska Fairbanks and how it fits into the program.

S-T-0007-3

- Concerned about the possibility that an X-Band Radar will be placed at Poker Flats to look at the missiles.

S-T-0007-7

- Concerned about the inevitable problems with using Kodiak, such as landscapes, environment and human population and the resources.

S-T-0003-5

- Doesn't trust the MDA agency, or the U.S. Army in Alaska.

S-T-0005-5                      S-T-0005-7                      S-T-0008-1  
S-T-0005-12

- Would like more information on the type of launch vehicle or kill vehicle that will be used.

S-T-0014-1

- Concerned that the X-Band radar will come to Vandenberg AFB.

S-T-0016-3

- Concerned that the U.S. Army is spending a lot of money on EISs and other environmental data when Vandenberg has been doing this type of testing for years and with no impacts.

S-T-0018-1

- Hopes decision-makers will weigh the pros and cons of this program and find there is not enough evidence that the returns will outweigh the possible losses.

S-W-0002-7                      S-W-0095-6

- Wants details of possible nuclear tipped missiles.

S-W-0004-1                      S-T-0010-7

- Would like more information on Fort Greely, since it is not supposed to be part of the Extended Test Range, concerning the building of silos, and other construction is going on.

S-T-0005-8

- Concerned that silos and interceptors should not be put in Alaska just to test the effects of the cold on rocket fuel.

S-T-0005-11

- Suggested not firing from Vandenberg AFB or Kwajalein but from different locations.

S-W-0032 -1

- Feels that telecommunication infrastructure, including possible routes for fiber optic links between Kodiak, Shemya, and Fort Greely should be included in the Test Bed EIS.

S-W-0037-1

S-W-0080-14

- Concerned that if the Ballistic Missile Defense System were carried out it would make nuclear war more likely.

S-W-0041-1

S-W-0058-4

- Feels that missile defense is detrimental to the environment.

S-W-0042-3

S-W-0121-8

- Would like a separate on-site EIS for Kodiak, and concerned that Kodiak will be thrown into the GMD EIS at the last minute and that no additional scoping meetings are going to be held in Kodiak.

S-W-0060-4

S-W-0076-1

S-W-0124-1

- Suggested that MDA include all phases of the GMD Extended Test Range (and all proposed locations) in the Extended Test Range EIS for Kodiak and Vandenberg, concerning the fact that all site locations will work in correlation in testing phases of the missile and radar systems in the North Pacific.

S-W-0075-2

- If interceptors are going to be launched from Fort Greely over Alaska, that information needs to be included in an EIS.

S-W-0075-3

- Suggested the EIS should include information on the radars at KLC and also at Sheyma.

S-W-0076-2

- Would like the following items addressed in detail in the Draft EIS: installation of test Battle Management Command and Control capability with In-Flight Interceptor Communication System Data Terminals, Defense Satellite Communication System, two launch silos, telemetry facility, launch silos chiller facilities, alterations to existing launch control facilities, alterations to existing missile assembly building, booster storage area, missile Hypergolic Fuel and Oxidizer Storage Building, Diesel Transfer Point and mission electrical power, buried power and communication lines.

S-W-0077-1

S-W-0080-10

- Encouraged the U.S. Army to continue testing missile defense. It helps create jobs and protects us against the threat of attack from terrorist-harboring nations.

S-W-0092-1

- The EIS should discuss any radar facilities and other sensors, communications, and other facilities in Hawaii and that would be used in any GMD tests. X-Band radars need to be discussed.

S-W-0110-1

- Since previous environmental analyses of missile defense tests near Hawaii have not analyzed impact of tests of the Navy Theater-Wide system or intercept tests of any system against targets launched more than 1,200 kilometers from the Pacific Missile Range Facility, any such tests that might be part of GMD testing need to be examined in detail.

S-W-0110-2

- Need to do a better job notifying people in Hawaii. Need to send notices to the State of Hawaii Office of Environmental Quality Control.

S-T-0019-1

S-W-0127-6

- Supports locating the program at Naval Base Ventura.

S-T-0020-1

S-T-0021-1

S-T-0022-1

S-T-0023-1

S-T-0026-1

S-W-0129-1

S-W-0130-1

S-W-0131-1

S-W-0132-1

- Concerned about the lack of information to evaluate about the program in Oxnard and would like extension of comment period.

S-T-0024-1

S-T-0025-1

- Need to notify local agencies including Channel Beach area.

S-T-0025-2                    S-W-0134-1

- Will there be a meeting in Adak?

S-T-0027-1

- The EIS should discuss relevant sensors, communications, and other facilities in Hawaii as part of the cumulative impacts along with other missile defense testing planned near Hawaii.

S-W-0127-1

- Support of the siting of the SBX in Everett, Washington and would like more information.

S-W-0128-1

- Would like information on the Notice of Intent sent to the Beacon Foundation.

S-W-0133-1                    S-W-0135-1

## 7.14 SOCIOECONOMICS

- Comments expressing need to employ local contractors to assist in preparing the EIS.

S-T-0001-2

- Concerned that the program will have adverse effects on tourism.

S-T-0012-2                    S-W-0122-5

- Would like to know how extensively economic and social impact will be measured and the cumulative impacts.

S-T-0010-2                    S-T-0010-8                    S-W-0046-2

- Would like to have the majority of work at Vandenberg AFB.

S-T-0014-2

- Concerned about the social impact of possibility becoming a target for terrorist attack on Alaska because of the project.

S-T-0011-2

- The military budget benefits only the military/industrial complex.

S-W-0039-5            S-W-0041-2            S-W-0048-3            S-W-0051-2  
S-W-0055-4            S-W-0056-5            S-W-0058-2            S-W-0094-4  
S-W-0099-4            S-W-0103-3            S-W-0111-4

- Program would have a positive economic benefit to Ventura County.

S-T-0021-2            S-T-0022-2            S-W-0129-2  
S-W-0132-2

- Need to evaluate possible impacts to recreational commercial boat traffic in the Snohomish River Channel.

S-W-0128-3

- Need to evaluate the possible heightened security measures that might impede ship-board commerce.

S-W-0128-5

## 7.15 SUBSISTENCE

- Suggested testing subsistence food at KLC (berries, fish, etc) for contaminants.

S-W-0006-1            S-W-0020-1            S-W-0036-11

- Concerned how the launches will affect subsistence and commercial fishing and hunting.

S-T-0008-6            S-T-0008-9            S-T-0012-1            S-W-0080-8  
S-W-0100-7            S-W-0121-2            S-W-0122-6

- How will you compensate the public for potential loss of land at Narrow Cape and the sea offshore of KLC, major fishing grounds and a tourist location?

S-W-0036-17

## 7.16 TRANSPORTATION

- Concerned that the Narrow Cape road will be closed.

S-W-0004-3

- Concerned how the missiles will be transported between Fort Greely and Kodiak.

S-T-0008-8            S-W-0036-12

- Will missiles be moved after testing?

S-W-011-3

- Potential environmental and human impact (damage) due to human error in the transportation of propellants and other toxic materials along the road system should be included in the EIS.

S-W-0100-5

S-P-0002-2

- Need to cover navigation or transportation into the Port of Valdez in the EIS.

S-T-0027-2

- Wanted to know if there would be a helicopter pad on the SBX?

S-T-0027-3

- Need to discuss types of escort services required for the SBX in the Port of Valdez.

S-T-0027-5

- Need to provide information of the possible impact to ship navigation, berthing and maneuvering in the Port of Everett.

S-W-0128-2

## 7.17 UTILITIES

No comments were received for this resource area.

## 7.18 WATER RESOURCES

- Concerned about the toxics that go into the water, they are hazardous to fishermen, surfers, anyone who goes into the water.

S-T-0015-2

- Concerned about the drinking water standards from test done on the western complex of Vandenberg AFB.

S-T-0016-2

- Conduct a thorough evaluation of alternatives pursuant to the Clean Water Guidelines.

S-W-0035-1

- What are the impacts on the fresh water and near shore marine environment after repeated launches at KLC.

S-W-0036-10

- What will be the effect of a launch pad failure on the water (both fresh and marine)?

S-W-0036-15

- Would like to know if pesticides will be used at Kodiak Test Bed Facility and the potential hazards to local waters.

S-W-0077-2

- Would like to see the KLC Waste Water Plan and Storm Water Pollution Prevention Plan for the run-off to surrounding waters, grasslands and wildlife in the Narrow Cape area.

S-W-0080-7

- The EIS should address the projects needs for and sources of gravel or water resources.

S-W-0126-4

## 7.19 OTHER

- Concerned about the credibility of AADC.

S-T-0001-1

- Does not believe the information that Vandenberg AFB supplies to the public.

S-T-0017-1

- Requested a copy of all comments and who gave them.

S-W-0007-1

- Concerned about the past military not cleaning up, and not providing information on cleanups.

S-T-0002-1

S-T-0002-4

S-T-0008-2

S-T-0008-5

- Concerned about the bad weather affecting the launches.

S-T-0003-2

- Would like to meet with the contractors to discuss the Alaskan Environment.

S-T-0003-6                      S-T-0009-2

- Concerned that the subcontractors are part or subsidiaries of defense industry organizations.

S-T-0004-3

- Concerned about the plan to place 200 interceptors at Fort Greely and to be effective anti-ballistic missile, it would have to have a multi-megaton nuclear explosive on the tip of the interceptor.

S-T-0005-6

- Concerned about the roles of the universities in the EIS Process.

S-T-0007-1                      S-T-0007-6

- Concerned about the Scud missile program in Alaska.

S-T-0010-6

- Concerned about the psychological aspect of the potential threat of becoming more a target because of the program.

S-T-0011-3                      S-T-0013-1

- Concerned that the recent EA has already issued a Finding of No Significant Impact, without waiting to review the comments.

S-T-0004-5

- Feels the current ecological monitoring program is inadequate because it fails to include samples from control sites away from the proposed launch area. Before, after, control, impact method would be the standard protocol.

S-W-0020-2

- Concerned that the EA for Ground-Based Midcourse Defense Validation of Operational Concept did not provide program details for Kodiak and Fort Greely. Feels the Notice of Intent for GMD Extended Test Range is the same program. Thought that a meeting was to be held prior to a Notice of Intent for EIS. Want to know if a separate "on-site" EIS for Kodiak will be performed, as was promised in the lawsuit. Feels that any EIS being done which includes part of Alaska as part of a Defense Test Bed should include Kodiak, Shemya Island, and Fort Greely.

S-W-0060-2



- Feels that the community was duped by KLC, since they were told that there would not be any military applications and that the whole process of an EIS was scrapped because of one U.S. Senator who had the authority to change protocol. No one from the original meetings attended the scoping meeting. Does not know who or what to believe.

S-W-0100-2

- The Draft EIS should include all Department of Energy programs, which will be tested at KLC.

S-W-0120-7

- Proximity to Diablo Canyon Nuclear Power Plant and Chevron Oil Refinery creates hazards for military activity at Vandenberg.

S-W-0121-6

- Clean up of bases exceeds all the money in the work; clean up of missile launches over the ocean is incalculable.

S-W-0121-7

- Concerned that launches from Earth and building in space will negatively impact our environment to the point that the "protection" afforded by this system will be negated by the effect on our biosystem.

S-W-0123-1

- Called to verify number.

S-P-0001

- Need to address if the SBX will be moored or anchored in port.

S-T-0027-7