INGLESIDE ENERGY CENTER LNG TERMINAL AND PIPELINE PROJECT
FINAL EIS
TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1
PROJECT IMPACTS ES-2
ALTERNATIVES CONSIDERED ES-6
PUBLIC INVOLVEMENT ES-7
MAJOR CONCLUSIONS ES-8

TABLE OF CONTENTS i

LIST OF APPENDICES vi

LIST OF FIGURES vii

LIST OF TABLES viii

ACRONYMS AND ABBREVIATIONS x

1.0 INTRODUCTION 1-1
1.1 PROJECT PURPOSE AND NEED 1-2
1.1.1 Projected Domestic Supplies and Demand for Natural Gas 1-4
1.1.2 Potential of LNG Imports 1-4
1.2 PURPOSE AND SCOPE OF ENVIRONMENTAL IMPACT STATEMENT 1-5
1.3 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS 1-6
1.4 PUBLIC REVIEW AND COMMENT 1-10

2.0 DESCRIPTION OF THE PROPOSED ACTION 2-1
2.1 EXISTING FACILITIES 2-1
2.2 PROPOSED FACILITIES 2-1
2.2.1 LNG Terminal Facilities 2-1
2.2.1.1 Marine Terminal Basin and Berth 2-1
2.2.1.2 LNG Ship Deliveries 2-5
2.2.1.3 LNG Unloading and Transfer Lines 2-10
2.2.1.4 LNG Storage Tanks 2-11
2.2.1.5 Vaporization System 2-13
2.2.1.6 Vapor Handling System 2-13
2.2.1.7 Utilities and Support Facilities 2-14
2.2.2 Pipeline Facilities 2-14
2.3 LAND REQUIREMENTS 2-15
2.3.1 LNG Terminal Facilities 2-15
2.3.2 Pipeline Facilities 2-15
2.3.2.1 Pipeline Right-of-Way and Temporary Extra Workspaces 2-16
2.3.2.2 Aboveground Facilities 2-16
2.3.2.3 Access Roads and Contractor Yard 2-19

2.4 CONSTRUCTION PROCEDURES 2-20
2.4.1 LNG Terminal Facilities.....2-21
2.4.1.1 Site Preparation 2-21
2.4.1.2 Marine Terminal Basin Dredging and Dredged Material Placement Areas 2-21
2.4.1.3 LNG Ship Unloading and Transfer Facilities 2-24
2.4.1.4 LNG Storage and Vaporization Facilities.....2-24
2.4.2 Pipeline and Associated Aboveground Facilities 2-25
2.4.2.1 General Pipeline Construction Procedures.....2-25
2.4.2.2 Special Pipeline Construction Techniques.....2-28
2.4.2.3 Aboveground Facility Construction Procedures 2-29
2.5 CONSTRUCTION SCHEDULE 2-29
2.6 ENVIRONMENTAL COMPLIANCE AND MONITORING.....2-30
2.7 OPERATION AND MAINTENANCE.....2-30
2.7.1 LNG Terminal Facilities.....2-30
2.7.2 Pipeline and Associated Aboveground Facilities 2-31
2.8 SAFETY CONTROLS 2-32
2.8.1 LNG Terminal Facilities.....2-32
2.8.1.1 Spill Containment 2-32
2.8.1.2 Hazard Detection System.....2-33
2.8.1.3 Fire Protection System.....2-33
2.8.2 Pipeline and Associated Aboveground Facilities 2-35
2.8.2.1 Corrosion Protection and Detection Systems.....2-35
2.8.2.2 Emergency Response Procedures.....2-35
2.9 FUTURE PLANS AND ABANDONMENT.....2-36
2.10 NONJURISDICTIONAL FACILITIES 2-36
2.10.1 Relocation of Occidental Chemical's Existing Loading Dock and Chemical Storage Tank 2-36
2.10.2 Natural Gas Liquids Recovery Facility.....2-37
2.10.3 Medium-pressure Gas Pipeline 2-37
2.10.4 Heated Wastewater Delivery and Cool Water Return System 2-38
2.10.5 Summary of Nonjurisdictional Facilities.....2-38

3.0 ALTERNATIVES 3-1
3.1 NO ACTION OR POSTPONED ACTION ALTERNATIVE.....3-1
3.2 LNG SYSTEM ALTERNATIVES 3-2
3.2.1 Existing, Recently Approved, or Proposed Onshore LNG Terminals 3-3
3.2.1.1 Existing Onshore LNG Terminals 3-4
3.2.1.2 Recently Approved Onshore LNG Terminals.....3-5
3.2.1.3 Proposed Onshore LNG Terminals 3-7
3.2.1.4 Conclusions on Onshore LNG Terminal System Alternatives 3-9
3.2.2 Existing, Approved, or Proposed Offshore LNG Terminals 3-10
3.2.2.1 LNG Regasification Vessels 3-11
3.2.2.2 GBS.....3-12
3.2.2.3 Reuse of Existing Platforms 3-15
3.2.2.4 Offshore Site Alternatives.....3-16

3.2.2.5 Discussion of Offshore Alternatives 3-17
3.2.2.6 Conclusions on Offshore Technology 3-18
3.3 ONSHORE LNG TERMINAL SITE ALTERNATIVES 3-19
3.3.1 U.S. Regional Review 3-19
3.3.2 Port Review 3-19
3.3.3 Alternative Site Review 3-20
3.4 LNG TERMINAL LAYOUT AND VAPORIZATION ALTERNATIVES 3-22
3.4.1 LNG Terminal Layout Alternatives 3-22
3.4.2 LNG Vaporization Alternatives 3-22
3.5 ALTERNATIVE DREDGED MATERIAL DISPOSAL AREAS 3-23
3.6 PIPELINE AND ASSOCIATED ABOVEGROUND FACILITY LOCATION ALTERNATIVES 3-24
3.6.1 Pipeline System Alternatives 3-24
3.6.2 Pipeline Route Alternatives and Route Variations 3-24
3.6.2.1 Route Alternatives 3-25
3.6.2.2 Route Variations 3-27
3.6.3 Aboveground Facility Site Alternatives 3-31

4.0 ENVIRONMENTAL ANALYSIS 4-1
4.1 GEOLOGIC RESOURCES 4-1
4.1.1 Geologic Setting 4-1
4.1.2 Extractive Resources 4-1
4.1.2.1 Oil and Gas 4-1
4.1.2.2 Lignite and Coal 4-2
4.1.2.3 Mineral and Gravel 4-2
4.1.3 Paleontological Resources 4-2
4.1.4 Geologic Hazards 4-2
4.1.4.1 Seismicity and Faulting 4-2
4.1.4.2 Soil Liquefaction 4-3
4.1.4.3 Diapiric Structures 4-3
4.1.4.4 Subsidence 4-3
4.1.4.5 Karst Terrain 4-4
4.1.4.6 Slope Stability 4-4
4.1.4.7 Flooding/Storm Damage 4-4
4.2 SOILS AND SEDIMENTS 4-5
4.2.1 Soil Composition and Limitations 4-5
4.2.2 Contaminated Soils 4-9
4.2.3 Shoreline Erosion 4-9
4.2.4 Sediments 4-11
4.3 WATER RESOURCES 4-12
4.3.1 Groundwater 4-12
4.3.2 Surface Water 4-14
4.3.2.1 Marine Water 4-14
4.3.2.2 Fresh Water 4-17
4.3.2.3 Hydrostatic Testing 4-20
4.4 VEGETATION 4-22
4.4.1 Wetlands and Submerged Aquatic Vegetation 4-22
4.4.2 Upland Vegetation 4-28

4.5 WILDLIFE AND AQUATIC RESOURCES 4-29
4.5.1 Marine Species 4-29
4.5.1.1 Fish Species 4-30
4.5.1.2 Invertebrates 4-31
4.5.1.3 Commercial and Recreational Fisheries 4-31
4.5.1.4 Fisheries of Special Concern 4-32
4.5.1.5 Project Impacts on Marine Species 4-33
4.5.2 Freshwater Species 4-37
4.5.3 Terrestrial Wildlife 4-38
4.5.3.1 Coastal Marsh Habitat 4-38
4.5.3.2 Tidal Flat Habitat 4-39
4.5.3.3 Agricultural Land and Pasture/Rangeland 4-39
4.5.3.4 Mesquite Shrubland 4-40
4.5.3.5 Palustrine Wetland Habitat 4-40
4.5.3.6 Potential Project Impacts on Terrestrial Wildlife 4-40
4.6 THREATENED, ENDANGERED, AND OTHER SPECIAL STATUS SPECIES 4-41
4.6.1 Federally Listed or Proposed Threatened and Endangered Species 4-42
4.6.1.1 Marine Mammals 4-43
4.6.1.2 Birds 4-47
4.6.1.3 Marine Reptiles 4-49
4.6.2 State Listed Threatened or Endangered Species 4-54
4.6.3 Conclusions and Recommendations for Threatened, Endangered, and Other Special Status Species 4-56
4.7 LAND USE, RECREATION, AND VISUAL RESOURCES 4-57
4.7.1 Land Use 4-57
4.7.1.1 LNG Terminal 4-57
4.7.1.2 Pipeline 4-58
4.7.2 Existing Residences and Planned Developments 4-61
4.7.2.1 LNG Terminal 4-61
4.7.2.2 Pipeline 4-62
4.7.3 Recreation and Special Interest Areas 4-63
4.7.4 Visual Resources 4-63
4.7.5 Coastal Zone Management 4-69
4.7.6 Hazardous Waste Sites 4-70
4.8 SOCIOECONOMICS 4-70
4.8.1 Population 4-70
4.8.2 Economy and Employment 4-71
4.8.3 Housing 4-73
4.8.4 Public Services 4-74
4.8.5 Property Values 4-75
4.8.6 Environmental Justice 4-75
4.9 TRANSPORTATION AND TRAFFIC 4-77
4.9.1 Land Transportation 4-77
4.9.2 Marine Transportation 4-79
4.10 CULTURAL RESOURCES 4-79
4.10.1 Results of Cultural Resource Surveys 4-79
4.10.2 Native American Consultations 4-80

4.10.3 Unanticipated Discoveries 4-81
4.10.4 Compliance with the NHPA 4-81
4.11 AIR QUALITY AND NOISE 4-82
4.11.1 Air Quality 4-82
4.11.1.1 Regional Climate 4-82
4.11.1.2 Existing Air Quality 4-82
4.11.1.3 Regulatory Requirements for Air Quality 4-84
4.11.1.4 Air Quality Impacts and Mitigation 4-89
4.11.2 Noise 4-93
4.11.2.1 Existing Noise Levels 4-94
4.12 RELIABILITY AND SAFETY 4-99
4.12.1 LNG Hazards 4-100
4.12.2 Cryogenic Design and Technical Review 4-102
4.12.3 Storage and Retention Systems 4-107
4.12.4 Siting Requirements – Thermal and Dispersion Exclusion Zones 4-111
4.12.5 Marine Safety 4-118
4.12.5.1 Corpus Christi and La Quinta Shipping Channels 4-124
4.12.5.2 Requirements for LNG Ship Operations in Corpus Christi Bay 4-131
4.12.5.3 Impact of Vessel Security Requirements 4-133
4.12.5.4 LNG Ship Safety 4-134
4.12.5.5 Conclusions on Marine Traffic Safety 4-140
4.12.6 Terrorism and Security Issues 4-141
4.12.7 Pipeline Reliability and Safety 4-142
4.13 CUMULATIVE IMPACTS 4-150
4.13.1 Soils and Sediments 4-156
4.13.2 Water Resources 4-156
4.13.3 Wetlands and Submerged Aquatic Vegetation 4-157
4.13.4 Vegetation and Wildlife 4-157
4.13.5 Aquatic Resources 4-158
4.13.6 Land Use, Recreation, and Visual Resources 4-158
4.13.7 Socioeconomics 4-159
4.13.8 Transportation 4-160
4.13.8.1 Land Transportation 4-160
4.13.8.2 Marine Transportation 4-160
4.13.9 Air Quality and Noise 4-161
4.13.10 Conclusions about Cumulative Impacts 4-162

5.0 CONCLUSIONS AND RECOMMENDATIONS 5-1
5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS 5-1
5.1.1 Geology 5-1
5.1.2 Soils and Sediments 5-1
5.1.3 Water Resources 5-2
5.1.4 Vegetation 5-3
5.1.5 Wildlife and Aquatic Resources 5-4
5.1.6 Threatened, Endangered, and Other Special Status Species 5-5
5.1.7 Land Use, Recreation, and Visual Resources 5-6
5.1.8 Socioeconomics 5-6

5.1.9 Transportation and Traffic 5-7
5.1.10 Cultural Resources 5-7
5.1.11 Air Quality and Noise.....5-7
5.1.12 Reliability and Safety.....5-8
5.1.13 Alternatives.....5-8
5.2 FERC STAFF'S RECOMMENDED MITIGATION.....5-9

LIST OF APPENDICES

APPENDIX A FINAL EIS DISTRIBUTION LIST

APPENDIX B ESSENTIAL FISH HABITAT ASSESSMENT

APPENDIX C PIPELINE FACILITY LOCATION MAPS

APPENDIX D ADDITIONAL TEMPORARY WORKSPACE AREAS

APPENDIX E DRAFT WETLAND MITIGATION PLAN

APPENDIX F REFERENCES AND CONTACTS

APPENDIX G LIST OF PREPARERS

APPENDIX H COMMENT RESPONSES

APPENDIX I SUBJECT INDEX

LIST OF FIGURES

Figure 1-1 General Project Location Map 1-3
Figure 2.2-1 LNG Terminal Location Map 2-2
Figure 2.2-2 LNG Terminal Plot Plan 2-3
Figure 2.2-3 Artist's Rendering of the LNG Terminal Facilities.....2-6
Figure 2.2-4 Typical Double Containment Storage Tank.....2-12
Figure 2.3-1 Typical Right-of-Way Cross Section Paralleling Roads 2-17
Figure 2.3-2 Typical Right-of-Way Cross Section Paralleling Existing Pipeline.....2-18
Figure 2.4-1 Dredged Material Placement Areas.....2-23
Figure 2.4-2 Typical Pipeline Construction Sequence 2-26
Figure 4.4-1 Seagrass Beds at the LNG Terminal Site.....4-23
Figure 4.7-1 Observation Points for Visual Simulations 4-65
Figure 4.7-2 Visual Simulations of LNG Storage Tanks from the Southeastern Shoreline of the City of Portland.....4-66
Figure 4.7-3 Visual Simulations of LNG Storage Tanks from Avenue "B" of the City of Ingleside 4-67
Figure 4.7-4 Visual Simulations of LNG Storage Tanks from State Route 361.....4-68
Figure 4.11-1 Noise Sensitive Areas 4-95
Figure H-1 Examples of Single Containment Tanks.....4-109
Figure H-3 Examples of Double Containment Tanks 4-110
Figure H-4 Examples of Full Containment Tanks 4-112
Figure 4.12-1 Vessel Movements in Corpus Christi Bay 4-126
Figure 4.12-2 Ship Cargo Volumes (Short Tons) by Commodity, Corpus Christi.....4-126
Figure 4.13-1 Proposed Activities Near the Ingleside Energy Center LNG Project.....4-153

LIST OF TABLES

Table 1.3-1 Major Permits, Approvals, and Consultations for the Ingleside Energy Center LNG Project 1-9
Table 1.4-1 Written Comments Received in Response to the Ingleside Energy Center LNG Project NOI 1-11
Table 1.4-2 Intervenors in the Ingleside Energy Center LNG Project 1-12
Table 2.2.1.2-1 Number of LNG Tanker Deliveries Depending on the Size of the Ship 2-5
Table 2.2.1.2-2 Typical LNG Ship Characteristics 2-10
Table 2.2.2-1 Proposed Delivery Points and Meter Station Locations 2-14
Table 2.3.1-1 Summary of Land Requirements for Proposed LNG Terminal Facilities 2-15
Table 2.3.2-1 Summary of Land Requirements for Proposed Pipeline Facilities 2-16
Table 2.3.2.1-1 Locations Where the San Patricio Pipeline Would Parallel Existing Rights-of-Way 2-19
Table 2.3.2.3-1 Access Roads Associated with the Proposed Pipeline 2-20
Table 2.8.1-1 Federal Siting and Design Requirements for LNG Facilities 2-32
Table 3.2.1-1 Existing and Recently Approved Onshore LNG Facilities along the Texas and Louisiana Coast 3-4
Table 3.2.1.3-1 Proposed Onshore LNG Facilities Under Review in Mississippi, Texas, and Louisiana 3-7
Table 3.2.2-1 Existing, Approved, and Proposed Offshore LNG Facilities Under Review in the Gulf of Mexico 3-11
Table 3.3.3-1 Criteria Used in a Site-Specific Review of LNG Terminal Site Alternatives 3-21
Table 3.6.2.1-1 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Alternative A 3-25
Table 3.6.2.1-2 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Alternative B 3-26
Table 3.6.2.1-3 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Alternative C 3-27
Table 3.6.2.2-1 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Variation A 3-28
Table 3.6.2.2-2 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Variation B 3-29
Table 3.6.2.2-3 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Variation C 3-29
Table 3.6.2.2-4 Environmental Comparison of Ingleside San Patricio's Preferred Pipeline Route with Route Variation D 3-30
Table 4.1.4.7-1 Federal Emergency Management Agency Flood Hazard Zone Designations in the Ingleside Energy Center LNG Project Area 4-5
Table 4.2.1-1 Soil Series Impacted by the Ingleside Energy Center LNG Terminal 4-6
Table 4.2.1-2 Soils Crossed by the San Patricio Pipeline 4-6
Table 4.3.2.2-1 Waterbodies Near the Ingleside Energy Center LNG Terminal 4-18
Table 4.3.2.2-2 Waterbodies Crossed by the Ingleside San Patricio Pipeline 4-19
Table 4.4.1-1 Wetlands Affected by the Ingleside Energy Center LNG Project 4-24
Table 4.5.1.3-1 Representative Recreational and Commercial Fish and Shellfish Species Known to Occur in Corpus Christi Bay 4-32

Table 4.5.3-1 Wildlife Habitats Affected by the Ingleside Energy Center LNG Project 4-39
Table 4.6.1-1 Federally Listed Endangered and Threatened Species Eliminated From Further Consideration for the Ingleside Energy Center LNG Project 4-43
Table 4.6.1-2 Federally Listed Endangered, Threatened Species Potentially Occurring in the Ingleside Energy Center LNG Project Area 4-44
Table 4.6.2-1 State Listed Species Potentially Affected by the Ingleside Energy Center LNG Project 4-54
Table 4.7.1.1-1 Land Use Within the LNG Terminal Site 4-58
Table 4.7.1.2-1 Land Use Affected by Construction and Operation of the Proposed San Patricio Pipeline 4-60
Table 4.8.1-1 Existing Socioeconomic Conditions in the Vicinity of the Proposed Ingleside Energy Center LNG Project 4-71
Table 4.8.3-1 2000 Housing Characteristics in the State of Texas and San Patricio and Nueces Counties 4-73
Table 4.8.3-2 Vacant Housing Units in the Corpus Christi Area 4-74
Table 4.8.6-1 Environmental Justice Statistics for the Project Area 4-76
Table 4.11.1.2-1 National Ambient Air Quality Standards for the Ingleside Energy Center LNG Project 4-83
Table 4.11.1.4-1 Estimated Yearly Emissions from LNG Terminal and Pipeline Construction (tons) 4-90
Table 4.11.1.4-2 Estimated Yearly Emissions from Terminal Operations – Stationary Sources (tons) 4-92
Table 4.11.1-3 Estimated Yearly Emissions from Terminal Operations – Mobile Sources (tons) 4-93
Table 4.11.2.1-1 Existing Noise Levels at Nearest Noise Sensitive Areas 4-94
Table 4.11.2.1-2 Expected Construction Noise Levels at NSA 2 4-97
Table 4.11.2.1-3 Expected Operational Noise Level at NSA 2 4-97
Table 4.11.2.1-4 Noise Sensitive Areas Along the San Patricio Pipeline Route 4-99
Table 4.12.4-1 Impoundment Areas 4-115
Table 4.12.4-2 Thermal Exclusion Zones 4-116
Table 4.12.5.2-1 Channel Characteristics for Route That Would be Used by LNG Ships Calling on Proposed LNG Terminal 4-125
Table 4.12.5.2-2 Corpus Christi Ship Traffic by Vessel Draft 4-127
Table 4.12.5.5-1 Minimum Striking Speed to Penetrate LNG Cargo Tanks 4-136
Table 4.12.5.5-2 LNG Spills on Water 4-139
Table 4.12.7-1 Natural Gas Service Incidents by Cause 4-147
Table 4.12.7-2 Outside Forces Incidents by Cause (1970-1984) 4-148
Table 4.12.7-3 External Corrosion by Level of Control (1970-1984) 4-149
Table 4.12.7-4 Annual Average Fatalities - Natural Gas Transmission and Gathering Systems 4-149
Table 4.12.7-5 Nationwide Accidental Deaths 4-150
Table 4.13-1 Cumulative Impacts of Projects in Corpus Christi Region 4-152
Table 4.13.8.2-1 Estimated Number of Ship Calls for Proposed Projects in Corpus Christi Bay 4-161
Table 4.13.9-1 Cumulative Impacts on Air Quality for Proposed Projects Along the La Quinta Channel 4-162

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
ABS	ABS Consulting
ABSG	ABSG Consulting Inc.
ACHP	Advisory Council on Historic Preservation
AirData	EPA AirData database
Alcoa	Alcoa Inc.
APE	area of potential effect
API	American Petroleum Institute
AQCR	air quality control region
ASTM	American Society of Testing Materials
BA	biological assessment
bcf	billion cubic feet
bcfd	billion cubic feet per day
BMP	Best Management Practice
BOG	boil-off gas
CAA	Clean Air Act
Cameron	Cameron LNG L.L.C.
CBBEP	Coastal Bends Bays and Estuaries Program
CCBNEP	Corpus Christi Bay National Estuary Program
CCMSA	Corpus Christi Metropolitan Statistical Area
CEQ	Council on Environmental Quality
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulation
Cheniere Corpus Christi	Cheniere Corpus Christi LNG Project
CO	carbon monoxide
Coast Guard	U.S. Coast Guard
COE	U.S. Army Corps of Engineers
Cove Point	Cove Point LNG, L.P.
CPT	Cone Penetration Test
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dBA	A-weighted scale
DDP	Dredge Disposal Plan
DDT	dichlorodiphenyltrichloroethane
Distrigas	Distrigas of Massachusetts Corporation
DMPA	Dredged Material Placement Area
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
dth	dekatherms
EEA	Energy and Environmental Analysis Foundation, Inc.
EFH	essential fish habitat
EI	environmental inspector

EIA	Energy Information Administration of the U.S. Department of Energy
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EBRV	Energy Bridge Regasification Vessel
ERL	effects range low
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC or Commission	Federal Energy Regulatory Commission
FIRM	Flood Insurance Rate Map
FR	Federal Register
Freeport-McMoRan	Freeport-McMoRan Energy LLC
FSO	Facility Security Officer
FSRU	floating storage and regasification units
FWS	U.S. Department of the Interior, Fish and Wildlife Service
GBS	gravity-based structures
GIWW	Gulf Intracoastal Water Way
gpm	gallons per minute
GulfTerra/CrossTex	GulfTerra Pipeline Company and CrossTex Pipeline Company
HAP	Hazardous Air Pollutant
HCAs	high consequence areas
HDD	horizontal directional drill
hp	horsepower
ICLP	Ingleside Cogeneration Partners LP
IMO	International Maritime Organization
INGAA	Interstate Natural Gas Association of America
Ingleside San Patricio	Ingleside Energy Center, LLC and San Patricio Pipeline, LLC
IPC	insulating perlite concrete
ISPS	International Ship and Port Facility Security
Kinder Morgan-Tejas	Kinder Morgan Texas Pipeline Company-Tejas Pipeline
KOS	Kiewit Offshore Services
kW	kilowatts
L_{dn}	day-night sound level
$L_{eq(24)}$	24-hour equivalent sound level
LFL	lower flammability limit
LNG	liquefied natural gas
LOI	Letter of Intent
LPG	liquid petroleum gas
m^3	cubic meters
MACT	Maximum Achievable Control Technology
MARSEC	Maritime Security
mg/kg	milligrams per kilogram
MLT	mean low tide
MLV	mainline valve
MMcfd	million cubic feet per day
MP	milepost
mph	miles per hour

MSA	Magnuson-Stevens Fishery Management and Conservation Act
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NGA	Natural Gas Act
NGL	natural gas liquids
NHPA	National Historic Preservation Act
NISA	National Invasive Species Act
NM	Nautical Mile
NNSR	Non-Attainment New Source Review
NO_2	nitrogen dioxide
NOAA Fisheries	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NOI	Notice of Intent
NO_X	nitrogen oxide
NPC	National Petroleum Council
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	New Source Performance Standards
NTU	nephelometric turbidity units
NWR	National Wildlife Refuge
O_3	ozone
Occidental Chemical	Occidental Chemical Company
OPS	U.S. Department of Transportation, Office of Pipeline Safety
ORV	open rack vaporizer
PAH	polycyclic aromatic hydrocarbon
Pb	lead
PCBs	polychlorinated biphenyls
PCCA	Port of Corpus Christi Authority
PERC	powered emergency release coupling
Pilots	Aransas-Corpus Christi Pilots Association
Plan	Upland, Erosion Control, Revegetation and Maintenance Plan
PM_{10}	inhalable particulate matter
Procedures	Wetland and Waterbody Construction and Mitigation Procedures
Project	Ingleside Energy Center LNG Project
PSD	Prevention of Significant Deterioration
psf	per square foot
psig	per square inch gauge
Quest	Quest Consultants, Inc.
RMP	risk management plan
RPT	rapid phase transition
RSPA	Research and Special Programs Administration

SCV	submerged combustion vaporizer
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Office
SIS	safety instrumented system
SO_2	sulfur dioxide
SOLAS	International Convention for Safety of Life at Sea
Southern	Southern LNG Inc.
SPCC Plan	Spill Prevention, Control and Countermeasures Plan
SPCDD	San Patricio County Drainage District
STL	submerged turret loading
STV	shell and tube vaporizers
TAC	Texas Administrative Code
TCAA	Texas Clean Air Act
TCEQ	Texas Commission on Environmental Quality
tcf	trillion cubic feet
TDOT	Texas Department of Transportation
Tennessee	Tennessee Gas Pipeline Company
Tetco	Texas Eastern Transmission Company
TGLO	Texas General Land Office
TNT	trinitrotoluene
TPWD	Texas Parks and Wildlife Department
tpy	tons per year
TRRC	Texas Railroad Commission
Trunkline	Trunkline LNG Company, L.L.C.
U.S.	United States
USC	United States Code
UTMSI	University of Texas Marine Science Institute
Vista de Sol	Vista del Sol LNG Terminal
VCM	vinyl chloride monomer
VOC	volatile organic compound
VTIS	Vessel Traffic Information System