

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
Project Background	ES-1
Proposed Action	ES-1
Public Outreach and Comments	ES-2
Environmental Impacts and Mitigation	ES-2
Alternatives Considered	ES-5
Conclusion.....	ES-5
 1 INTRODUCTION	1-1
1.1 Project Purpose and Need.....	1-1
1.2 Purpose and Scope of This Statement	1-2
1.3 Permits, Approvals, and Regulatory Requirements.....	1-2
1.4 Public Review and Comment	1-5
1.5 Nonjurisdictional Facilities.....	1-8
 2 DESCRIPTION OF THE PROPOSED ACTION.....	2-1
2.1 Proposed Facilities.....	2-1
2.1.1 Pipeline Facilities.....	2-1
2.1.2 Aboveground Facilities	2-1
2.2 Land Requirements.....	2-3
2.2.1 Pipeline Right-of-Way and Additional Construction Work Areas	2-4
2.2.2 Aboveground Facilities	2-6
2.3 Construction Procedures.....	2-6
2.3.1 Pipeline Construction Procedures	2-6
2.3.2 Special Pipeline Construction Procedures	2-13
2.3.3 Aboveground Facility Construction Procedures	2-19
2.4 Construction Schedule.....	2-19
2.5 Environmental Compliance Inspection and Mitigation Monitoring.....	2-19
2.6 Operation, Maintenance, and Safety Controls	2-22
2.7 Future Plans and Abandonment.....	2-24
 3 ALTERNATIVES	3-1
3.1 No Action or Postponed Action.....	3-1
3.2 Alternative Energy Sources	3-2
3.3 Energy Conservation Alternatives	3-3
3.4 System Alternatives	3-4
3.4.1 Other Company System Alternatives.....	3-4
3.4.2 CIG System Alternatives	3-4
3.5 Major Route Alternatives	3-5
3.5.1 5ABC Route Alternative	3-5
3.5.2 Burroughs Route Alternative	3-6
3.5.3 County Road Route Alternative	3-7
3.6 Route Variations	3-9
3.6.1 CIG Route Variations Adopted During the Pre-filing Process	3-9
3.6.2 Other Route Variations	3-10
3.7 Aboveground Facility Site Alternatives	3-12
 4 ENVIRONMENTAL ANALYSIS.....	4-1
4.1 Geology	4-1

TABLE OF CONTENTS (cont.)

4.1.1	Geologic Setting.....	4-1
4.1.2	Mineral Resources	4-3
4.1.3	Geologic Hazards.....	4-4
4.1.4	Paleontological Resources	4-5
4.2	Soils	4-5
4.2.1	Existing Soil Resources	4-5
4.2.2	General Impact and Mitigation	4-7
4.2.3	Project-specific Impact and Mitigation.....	4-9
4.3	Water Resources	4-13
4.3.1	Groundwater	4-13
4.3.2	Surface Waters	4-17
4.3.3	Wetlands	4-23
4.4	Vegetation.....	4-27
4.4.1	Upland Vegetation	4-27
4.4.2	Wetland Vegetation	4-35
4.4.3	Vegetation Communities of Special Concern or Value	4-36
4.4.4	Noxious Weeds and Other Invasive Plants	4-37
4.5	Wildlife and Aquatic Resources	4-39
4.5.1	Wildlife Resources.....	4-39
4.5.2	Aquatic Resources	4-43
4.6	Threatened and Endangered Species	4-46
4.6.1	Federal-listed Species	4-48
4.6.2	State of Colorado Listed Species	4-58
4.6.3	Determination of Effect for Federal- and State-Listed Species	4-70
4.7	Land Use, Recreation, and Visual Resources	4-74
4.7.1	Land Use	4-74
4.7.2	Land Ownership and Easement Rights	4-81
4.7.3	Residences and Businesses	4-82
4.7.4	Recreation and Special Interest Areas	4-84
4.7.5	Visual Resources.....	4-84
4.8	Cultural Resources.....	4-86
4.8.1	Cultural Resource Surveys.....	4-86
4.8.2	Native American Consultations	4-86
4.8.3	Impacts and Mitigation	4-87
4.9	Socioeconomics	4-88
4.9.1	Population, Economy, and Employment.....	4-88
4.9.2	Housing.....	4-90
4.9.3	Public Services.....	4-91
4.9.4	Transportation	4-91
4.9.5	Property Values.....	4-92
4.9.6	Tax Revenues.....	4-93
4.10	Air Quality and Noise.....	4-93
4.10.1	Air Quality	4-93
4.10.2	Noise	4-95
4.11	Reliability and Safety	4-95
4.11.1	Safety Standards.....	4-96
4.11.2	Pipeline Accident Data	4-99
4.11.3	Impact on Public Safety	4-102
4.11.4	Terrorism and Security Issues.....	4-103

TABLE OF CONTENTS (cont.)

4.12	Cumulative Impacts	4-103
	4.12.1 Geology and Soils	4-106
	4.12.2 Water Resources	4-107
	4.12.3 Vegetation	4-107
	4.12.4 Fish and Wildlife.....	4-108
	4.12.5 Land Use	4-108
	4.12.6 Visual Resources.....	4-109
	4.12.7 Cultural Resources	4-110
	4.12.8 Socioeconomics	4-110
	4.12.9 Air Quality and Noise	4-111
	4.12.10 Reliability and Safety.....	4-111
	4.12.11 Conclusions.....	4-111
5	CONCLUSIONS AND RECOMMENDATIONS	5-1
5.1	Summary of the Staff's Environmental Analysis	5-1
5.2	FERC Staff's Recommended Mitigation.....	5-9

LIST OF TABLES

Table 1.3-1 – Major Permits, Approvals, and Consultations	1-4
Table 1.4-1 – Environmental Issues and Concerns Identified During the Scoping	1-6
Table 2.1.1-1 – Pipeline Facilities	2-1
Table 2.1.2-1 – Aboveground Facilities.....	2-3
Table 2.2-1 – Summary of Land Requirements	2-4
Table 2.2.1-1 – Parallel Rights-of-Way	2-5
Table 3.2-1 – Pounds of Air Pollutants Produced per Billion British Thermal Unit (Btu) of Energy	3-2
Table 3.5.2-1 – Burroughs Route Alternative Comparison of Environmental Impacts.....	3-6
Table 3.5.3-1 – County Road Route Alternative Comparison of Environmental Impacts	3-8
Table 3.6.1-1 – CIG Adopted Route Variations	3-9
Table 3.6.2-1 – Other Route Variations	3-10
Table 3.6.2-2 – Owl Creek Route Variation Comparison of Environmental Impacts	3-11
Table 3.6.2-3 – Pioneer Route Variation Comparison of Environmental Impacts	3-12
Table 4.1.1-1 – Shallow Bedrock Locations	4-3
Table 4.2.1-1 – Acreage Summary of Prime Farmland and Soil Limitations.....	4-6
Table 4.3.2-1 – Perennial Waterbody Crossings.....	4-17
Table 4.3.2-2 – Hydrostatic Test Water Discharge Locations	4-22
Table 4.3.3-1 – Wetlands Within the Construction Work Area.....	4-23
Table 4.4.1-1 – Vegetation Cover Types Crossed by Pipeline Routes	4-28
Table 4.4.1-2 – CRP Lands.....	4-29
Table 4.4.1-3 – Vegetation Cover Types Affected by Pipeline Facilities.....	4-31
Table 4.4.1-4 – Vegetation Cover Types Affected by Aboveground Facilities.....	4-34
Table 4.5.1-1 – Wildlife Typically Found in the Project Area	4-40
Table 4.6-1 – Special Status Species Potentially Occurring in the Project Area	4-47
Table 4.6-2 – Special Status Species Potentially Occurring in Nebraska.....	4-48
Table 4.6.2-1 – Prairie Dog Towns.....	4-60
Table 4.6.2-2 – Raptor Nest Sites	4-62

LIST OF TABLES (cont.)

Table 4.6.3-1 – Determination of Effect for Federal- and State-Listed Species in the Vicinity of the Proposed Project	4-71
Table 4.6.3-2 – Determination of Effect for Federal- and State-Listed Species in Nebraska.....	4-74
Table 4.7.1-1 – Land Uses Crossed by the Proposed Pipelines (in miles).....	4-75
Table 4.7.1-2 - Land Affected by Construction and Operation of the Proposed Pipeline Facilities (in acres).....	4-76
Table 4.7.1-3 – Pivot Irrigated Lands	4-77
Table 4.7.1-4 – Land Use Affected by Aboveground Facilities	4-80
Table 4.7.2-1 – Land Ownership Affected by Pipeline Facilities.....	4-81
Table 4.7.3-1 – Planned Developments	4-83
Table 4.9.1-1 – Existing Socioeconomic Conditions for Counties in the Project Area.....	4-88
Table 4.9.1-2 – Existing Socioeconomic Conditions for Cities and Towns Near the Project Area.....	4-89
Table 4.9.2-1 – Vacant Housing Units by County	4-90
Table 4.9.2-2 – Vacant Housing Units by City or Town	4-90
Table 4.9.6-1 – Estimated Annual Ad Valorem Tax	4-93
Table 4.10.1-1 – National and State Ambient Air Quality Standards.....	4-94
Table 4.11.1-1 – Pipeline Facilities	4-97
Table 4.11.2-1 – Natural Gas Service Incidents by Cause per 1,000 miles/year (percentage)	4-100
Table 4.11.2-2 – Outside Forces Incidents by Cause.....	4-101
Table 4.11.2-3 – Corrosion-related Incidents per 1,000 miles/year (percentage).....	4-101
Table 4.11.3-1 – Accidental Deaths in 2004.....	4-102
Table 4.12-1 – Existing or Proposed Activities Cumulatively Affecting Resources of Concern	4-105

LIST OF FIGURES

Figure 2.1-1 – Project Overview Map	2-2
Figure 2.3.1-1 – Typical Steps of Cross-country Pipeline Construction	2-7
Figure 3.3-1 – Energy Consumption by Fuel, 1980-2030	3-3
Figure 3.5.1-1 – 5ABC Route Alternative	3-14
Figure 3.5.2-1 – Burroughs Route Alternative	3-15
Figure 3.5.3-1 – County Road Route Alternative	3-16
Figure 3.6.2-1 – Owl Creek Route Variation	3-17
Figure 3.6.2-2 – Ranchette Route Variation	3-18
Figure 3.6.2-3 – Pioneer Route Variation.....	3-19
Figure 4.1.1-1 – Rock Type Locations	4-2
Figure 4.3.1-1 – Principal Aquifer Locations	4-14
Figure 4.3.2-1 – Hydrologic Unit (Watershed) Locations	4-18
Figure 4.12-1 – Present and Foreseeable Projects	4-104

LIST OF APPENDICES

Appendix A – Draft EIS Distribution List
Appendix B – Project Location Maps
Appendix c – CIG’s Upland Erosion Control, Revegetation, and Maintenance Plan (Plan)
Appendix D – CIG’s Wetland and Waterbody Construction and Mitigation Procedures (Procedures)
Appendix E – CIG’s Waste and Spill Management Specification (Spill Plan)

LIST OF APPENDICES (cont.)

- Appendix F – CIG’s Best Management Practices (BMPs)
- Appendix G – CIG’s Hydrostatic Test Plan
- Appendix h – CIG’s Reclamation Plan
- Appendix I – CIG’s Invasive Species Plan
- Appendix J – Waterbody Crossings
- Appendix K – Temporary Extra Workspaces
- Appendix L – Contracor, Pipe Storage, and Offloading Yards
- Appendix M – Access Roads
- Appendix N – Biological Assessment
- Appendix O – List of Preparers
- Appendix P – References

LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
ACHP	Advisory Council on Historic Preservation
APE	area of potential effect
ARS	Agricultural Research Service
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	Best Management Practices
BO	Biological Opinion
Btu	British thermal units
CAA	Clean Air Act
C&H	C&H Investment, Inc.
CDOW	Colorado Department of Natural Resources, Division of Wildlife
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CI	Chief Inspector
CIG	Colorado Interstate Gas Company
CNHP	Colorado Natural Heritage Program
CO	carbon monoxide
Commission	Federal Energy Regulatory Commission
CPER	Central Plains Experimental Range
CRP	Conservation Reserve Program
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dbh	diameter at breast height
Dth/d	dekatherms per day
EAC	Early Action Compact
EFH	Essential Fish Habitat
EI	environmental inspector
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
gpm	gallons per minute
GPS	Global Positioning System
HCAs	High Consequence Areas
HDD	horizontal directional drill
Kinder Morgan	Kinder Morgan Interstate Gas Transmission LLC
L _{dn}	day-night equivalent sound level
L _{eq(24)}	24-hour equivalent sound level
LRMP	Land and Resource Management Plan
µg/m ³	micrograms per cubic meter
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act
Memorandum	Memorandum of Understanding on Natural Gas Transportation Facilities
MLV	mainline valve or block valve
MP	milepost
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NAAQS	National Ambient Air Quality Standards

LIST OF ACRONYMS AND ABBREVIATIONS (cont.)

NEPA	National Environmental Policy Act
NGA	Natural Gas Act
NGPSA	Natural Gas Pipeline Safety Act
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
O ₃	ozone
OEP	Office of Energy Projects
OPS	Office of Pipeline Safety
OSHA	Occupational Safety and Health Administration
Overland Pass	Overland Pass Liquid Petroleum Pipeline Project
Pb	lead
PCA	Potential Conservation Areas
PD	Preliminary Determination on Non-Environmental Issues
PEM	palustrine emergent
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PMJM	Preble's Meadow Jumping Mouse
PNG	Pawnee National Grassland
ppm	parts per million
Procedures	Wetland and Waterbody Construction and Mitigation Procedures
Project	High Plains Expansion Project
PRRIP	Platte River Recovery Implementation Program
PSC	Public Service Company of Colorado
psig	pounds per square inch gauge
PSS	palustrine scrub-shrub
R&BCM Plan	Residence and Business Construction Mitigation Plan
REX-West Project	Rockies Express Western Phase Project
Rockies Express	Rockies Express Pipeline LLC
RV	recreational vehicle
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Office
SO ₂	sulfur dioxide
South	South Platte Wetland Focus Area Committee and Centennial Land Trust
Southern Star	Southern Star Central Gas Pipeline, Inc.
Spill Plan	Waste and Spill Management Specifications
SPWRAP	South Platte Water Related Activities Program
TMDL	total maximum daily load
Totem	Totem Storage Field Project
USACE	U.S. Army Corps of Engineers
USC	United States Code

LIST OF ACRONYMS AND ABBREVIATIONS (cont.)

USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey