

TABLE OF CONTENTS

CHAPTER 1 – PEA SUMMARY

1.0	PROJECT COMPONENTS	1-1
1.1	PROJECT LOCATION	1-1
1.2	PROJECT NEED AND ALTERNATIVES.....	1-1
1.3	AGENCY COORDINATION.....	1-1
1.4	PROPONENT’S ENVIRONMENTAL ASSESSMENT CONTENTS.....	1-2
1.5	PROPONENT’S ENVIRONMENTAL ASSESSMENT CONCLUSIONS.....	1-4
1.6	AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED.....	1-4
1.7	PUBLIC OUTREACH EFFORTS.....	1-4

CHAPTER 2 – PROJECT PURPOSE AND NEED

2.0	OVERVIEW	2-1
2.1	PROJECT OBJECTIVES.....	2-3
2.2	CONCLUSION	2-4
2.3	REFERENCES.....	2-4

CHAPTER 3 – PROJECT DESCRIPTION

3.0	PROJECT LOCATION	3-1
	3.0.0 TL674A Reconfiguration.....	3-2
	3.0.1 TL666D Removal	3-7
	3.0.2 C510 Conversion	3-8
	3.0.3 C738 Conversion	3-8
3.1	EXISTING SYSTEM.....	3-9
3.2	PROJECT OBJECTIVES.....	3-9
3.3	PROPOSED PROJECT	3-9
	3.3.0 TL674A Reconfiguration.....	3-10
	3.3.1 TL666D Removal	3-20
	3.3.2 C510 Conversion	3-27
	3.3.3 C738 Conversion	3-35
3.4	RIGHT-OF-WAY REQUIREMENTS	3-36
3.5	CONSTRUCTION.....	3-36
	3.5.0 Temporary Work Areas	3-36
	3.5.1 Access	3-52
	3.5.2 Permanent Work Areas.....	3-53
	3.5.3 Vegetation Clearance	3-53
	3.5.4 Erosion and Sediment Control and Pollution Prevention during Construction .	3-54
	3.5.5 Methods.....	3-54
	3.5.6 Construction Equipment and Personnel.....	3-65
	3.5.7 Construction Schedule	3-76
3.6	OPERATION AND MAINTENANCE.....	3-76
3.7	ANTICIPATED PERMITS AND APPROVALS	3-78

3.8 PROJECT DESIGN FEATURES AND ORDINARY CONSTRUCTION RESTRICTIONS..... 3-78

3.9 APPLICANT-PROPOSED MEASURES..... 3-81

3.9.0 Implementation of Applicant-Proposed Measures..... 3-81

CHAPTER 4 – ENVIRONMENTAL IMPACT ASSESSMENT SUMMARY

4.0 INTRODUCTION..... 4-1

4.1 AESTHETICS..... 4.1-1

4.1.0 Introduction..... 4.1-1

4.1.1 Methodology..... 4.1-1

4.1.2 Existing Conditions..... 4.1-2

4.1.3 Impacts..... 4.1-12

4.1.4 Applicant-Proposed Measures 4.1-18

4.1.5 References..... 4.1-18

4.2 AGRICULTURE AND FORESTRY RESOURCES..... 4.2-1

4.2.0 Introduction..... 4.2-1

4.2.1 Methodology..... 4.2-2

4.2.2 Existing Conditions..... 4.2-2

4.2.3 Agricultural Setting..... 4.2-4

4.2.4 Impacts..... 4.2-5

4.2.5 Applicant-Proposed Measures 4.2-6

4.2.6 References..... 4.2-6

4.3 AIR QUALITY..... 4.3-1

4.3.0 Introduction..... 4.3-1

4.3.1 Methodology..... 4.3-1

4.3.2 Existing Conditions..... 4.3-2

4.3.3 Impacts..... 4.3-13

4.3.4 Applicant-Proposed Measures 4.3-19

4.3.5 References..... 4.3-19

4.4 BIOLOGICAL RESOURCES..... 4.4-1

4.4.0 Introduction..... 4.4-2

4.4.1 Methodology..... 4.4-2

4.4.2 Existing Conditions..... 4.4-8

4.4.3 Impacts..... 4.4-58

4.4.4 Applicant-Proposed Measures 4.4-78

4.4.5 References..... 4.4-80

4.5 CULTURAL, PALEONTOLOGICAL, AND TRIBAL RESOURCES 4.5-1

4.5.0 Introduction..... 4.5-2

4.5.1 Methodology..... 4.5-2

4.5.2 Existing Conditions..... 4.5-3

4.5.3 Impacts..... 4.5-19

4.5.4 Applicant-Proposed Measures 4.5-26

4.5.5 References..... 4.5-26

4.6	GEOLOGY AND SOILS	4.6-1
4.6.0	Introduction.....	4.6-2
4.6.1	Methodology.....	4.6-2
4.6.2	Existing Conditions.....	4.6-3
4.6.3	Impacts.....	4.6-12
4.6.4	Applicant-Proposed Measures	4.6-18
4.6.5	References.....	4.6-19
4.7	GREENHOUSE GAS EMISSIONS.....	4.7-1
4.7.0	Introduction.....	4.7-1
4.7.1	Methodology.....	4.7-1
4.7.2	Existing Conditions.....	4.7-1
4.7.3	Impacts.....	4.7-8
4.7.4	Applicant-Proposed Measures	4.7-10
4.7.5	References.....	4.7-10
4.8	HAZARDS AND HAZARDOUS MATERIALS	4.8-1
4.8.0	Introduction.....	4.8-2
4.8.1	Methodology.....	4.8-2
4.8.2	Existing Conditions.....	4.8-3
4.8.3	Impacts.....	4.8-14
4.8.4	Applicant-Proposed Measures	4.8-22
4.8.5	References.....	4.8-22
4.9	HYDROLOGY AND WATER QUALITY	4.9-1
4.9.0	Introduction.....	4.9-2
4.9.1	Methodology.....	4.9-2
4.9.2	Existing Conditions.....	4.9-3
4.9.3	Impacts.....	4.9-13
4.9.4	Applicant-Proposed Measures	4.9-19
4.9.5	References.....	4.9-19
4.10	LAND USE AND PLANNING	4.10-1
4.10.0	Introduction.....	4.10-1
4.10.1	Methodology.....	4.10-1
4.10.2	Existing Conditions.....	4.10-2
4.10.3	Impacts.....	4.10-8
4.10.4	Applicant-Proposed Measures	4.10-17
4.10.5	References.....	4.10-17
4.11	MINERAL RESOURCES.....	4.11-1
4.11.0	Introduction.....	4.11-1
4.11.1	Methodology.....	4.11-1
4.11.2	Existing Conditions.....	4.11-1
4.11.3	Impacts.....	4.11-3
4.11.4	Applicant-Proposed Measures	4.11-4
4.11.5	References.....	4.11-4
4.12	NOISE	4.12-1
4.12.0	Introduction.....	4.12-1
4.12.1	Methodology.....	4.12-2
4.12.2	Existing Conditions.....	4.12-2

4.12.3	Impacts	4.12-9
4.12.4	Applicant-Proposed Measures	4.12-17
4.12.5	References	4.12-17
4.13	POPULATION AND HOUSING	4.13-1
4.13.0	Introduction.....	4.13-1
4.13.1	Methodology	4.13-1
4.13.2	Existing Conditions.....	4.13-1
4.13.3	Impacts.....	4.13-3
4.13.4	Applicant-Proposed Measures	4.13-4
4.13.5	References.....	4.13-4
4.14	PUBLIC SERVICES	4.14-1
4.14.0	Introduction.....	4.14-1
4.14.1	Methodology	4.14-1
4.14.2	Existing Conditions.....	4.14-2
4.14.3	Impacts.....	4.14-6
4.14.4	Applicant-Proposed Measures	4.14-9
4.14.5	References.....	4.14-9
4.15	RECREATION	4.15-1
4.15.0	Introduction.....	4.15-1
4.15.1	Methodology	4.15-1
4.15.2	Existing Conditions.....	4.15-1
4.15.3	Impacts.....	4.15-8
4.15.4	Applicant-Proposed Measures	4.15-12
4.15.5	References.....	4.15-12
4.16	TRANSPORTATION AND TRAFFIC	4.16-1
4.16.0	Introduction.....	4.16-2
4.16.1	Methodology	4.16-2
4.16.2	Existing Conditions.....	4.16-2
4.16.3	Impacts.....	4.16-6
4.16.4	Applicant-Proposed Measures	4.16-11
4.16.5	References.....	4.16-11
4.17	UTILITIES AND SERVICE SYSTEMS.....	4.17-1
4.17.0	Introduction.....	4.17-1
4.17.1	Methodology	4.17-2
4.17.2	Existing Conditions.....	4.17-2
4.17.3	Impacts.....	4.17-5
4.17.4	Applicant-Proposed Measures	4.17-8
4.17.5	References.....	4.17-8
4.18	CUMULATIVE ANALYSIS.....	4.18-1
4.18.0	Introduction.....	4.18-1
4.18.1	Significance Criteria	4.18-1
4.18.2	Timeframe of Analysis	4.18-1
4.18.3	Area of Analysis	4.18-1
4.18.4	Methodology	4.18-2
4.18.5	Existing/Operating Projects	4.18-2
4.18.6	Foreseeable Projects Inventory	4.18-2

4.18.7 Potential Cumulative Impacts 4.18-2
 4.18.8 Conclusion 4.18-18
 4.18.9 References..... 4.18-18

CHAPTER 5 – DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

5.0 INTRODUCTION..... 5-1
5.1 APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS 5-1
5.2 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS... 5-1
 5.2.0 Introduction..... 5-1
 5.2.1 Methodology 5-2
 5.2.2 Proposed Project Objectives 5-2
 5.2.3 Alternative Descriptions and Evaluations..... 5-3
 5.2.4 Conclusion 5-4
5.3 GROWTH-INDUCING IMPACTS 5-5
 5.3.0 Growth Caused by Direct and Indirect Employment..... 5-5
 5.3.1 Growth Related to the Provision of Additional Electric Power..... 5-5
 5.3.2 Proposed Project and Growth 5-6
5.4 REFERENCES..... 5-7

LIST OF FIGURES

Figure 3-1: Project Location Map..... 3-3

Figure 3-2: Project Overview Map 3-5

Figure 3-3: Existing System Configuration 3-11

Figure 3-4: Proposed System Configuration..... 3-13

Figure 3-5: Proposed 69 kV Steel Riser Pole Typical Drawing 3-15

Figure 3-6: Proposed 69 kV Steel Pole Typical Drawing..... 3-17

Figure 3-7: Existing 69 kV Tap Pole Typical Drawing 3-21

Figure 3-8: Proposed 69 kV Underground Duct Bank Typical Drawing 3-23

Figure 3-9: Proposed 69 kV Splice Vault Typical Drawing..... 3-25

Figure 3-10: Existing 69 kV Wood and Steel Pole Typical Drawings 3-29

Figure 3-11: Proposed 12 kV Steel Riser Pole Typical Drawing 3-31

Figure 3-12: Proposed 12 kV Wood Riser Pole Typical Drawing 3-33

Figure 3-13: Proposed 12 kV Underground Duct Bank Typical Drawing 3-37

Figure 3-14: Proposed 12 kV Hand Hole Typical Drawing 3-39

Figure 3-15: Proposed 12 kV Transformer Pad Typical Drawing..... 3-41

Figure 3-16: Proposed 12 kV Pad-Mounted Transformer Typical Drawing..... 3-43

Figure 3-17: Proposed Guard Structure Typical Drawing..... 3-49

Figure 3-18: Typical Overhead Conductor Stringing Process..... 3-59

Figure 3-19: Typical Underground Construction Process within Roadways 3-61

Figure 4.1-1: Viewpoint Locations 4.1-9

Figure 4.8-1: Wildland Fire Threat Map..... 4.8-11

Figure 4.9-1: Hydrologic Regions and Groundwater Basins Map 4.9-9

Figure 4.10-1: Existing Land Uses 4.10-11

Figure 4.10-2: General Plan Land Uses..... 4.10-13

Figure 4.15-1: Recreational Facilities within One Mile of the Proposed Project..... 4.15-5

LIST OF TABLES

Table 1-1: PEA Checklist Key.....	1-5
Table 2-1: TL666D Outage History.....	2-2
Table 3-1: Modified and Proposed 69 kV Pole Summary.....	3-19
Table 3-2: Temporary Work Area Requirements.....	3-45
Table 3-3: Access Characteristics.....	3-52
Table 3-4: Permanent Work Area Summary.....	3-53
Table 3-5: Construction Equipment Requirements.....	3-66
Table 3-6: Construction Personnel Requirements.....	3-74
Table 3-7: Proposed Construction Schedule.....	3-77
Table 3-8: Anticipated Permits and Authorizations.....	3-79
Table 3-9: Applicant-Proposed Measures.....	3-83
Table 4.3-1: State and Federal Ambient Air Quality Standards.....	4.3-3
Table 4.3-2: SDAPCD Attainment Status.....	4.3-11
Table 4.3-3: Recent Air Quality Concentrations.....	4.3-12
Table 4.3-4: Frequency of Air Quality Standard Violations.....	4.3-12
Table 4.3-5: SDAPCD Significance Thresholds.....	4.3-13
Table 4.3-6: Peak Daily Uncontrolled Construction Emissions.....	4.3-14
Table 4.3-7: Peak Daily Controlled Construction Emissions.....	4.3-15
Table 4.4-1: Natural Communities and Other Land Covers within the BSA.....	4.4-17
Table 4.4-2: Special-Status Plants with the Potential to Occur in the BSA.....	4.4-23
Table 4.4-3: Special-Status Wildlife with the Potential to Occur in the BSA.....	4.4-37
Table 4.4-4: Summary of Jurisdictional Waters and Wetlands.....	4.4-58
Table 4.4-5: Anticipated Impacts on Sensitive Natural Communities in the Proposed Project Construction Areas.....	4.4-72
Table 4.5-1: Cultural Resources within the Proposed Project Study Area.....	4.5-15
Table 4.5-2: Paleontologically Sensitive Geologic Formations Crossed.....	4.5-18
Table 4.6-1: Active Faults in the Vicinity of the Proposed Project.....	4.6-5
Table 4.6-2: Earthquake Intensity Scale.....	4.6-7
Table 4.6-3: Soils in the Proposed Project Area.....	4.6-10
Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of GHGs.....	4.7-2
Table 4.7-2: State of California Greenhouse Gas Emissions by Sector.....	4.7-3
Table 4.7-3: Greenhouse Gas Construction Emissions.....	4.7-9
Table 4.8-1: Hazardous Materials Sites Records Review.....	4.8-9
Table 4.8-2: Hazardous Materials Typically Used During Construction.....	4.8-16
Table 4.9-1: Hydrologic Units, Areas, and Subareas within the Proposed Project Area.....	4.9-8
Table 4.9-2: Beneficial Uses of Hydrological Features.....	4.9-12
Table 4.9-3: 303(d)-Listed Waterbodies.....	4.9-13
Table 4.10-1: Zoning Designations Crossed by the Proposed Project.....	4.10-4
Table 4.10-2: Existing Land Uses Crossed by the Proposed Project.....	4.10-9
Table 4.10-3: General Plan Land Uses Crossed by the Proposed Project.....	4.10-10
Table 4.11-1: MRZ Definitions.....	4.11-3
Table 4.12-1: Human Response to Transient Vibration.....	4.12-5
Table 4.12-2: City of San Diego Noise Limits.....	4.12-7
Table 4.12-3: City of Del Mar Noise Limits.....	4.12-8

Table of Contents

Table 4.12-4: Sensitive Noise Receptors within 500 Feet of the Proposed Project 4.12-9

Table 4.12-5: Typical Construction Sound Levels 4.12-11

Table 4.12-6: Typical Eight-Hour Average Construction Sound Levels 4.12-13

Table 4.12-7: Anticipated Staging Area/Fly Yard Noise Levels 4.12-14

Table 4.12-8: Typical Construction Equipment Vibration Levels..... 4.12-15

Table 4.13-1: Population Totals and Trends 4.13-2

Table 4.14-1: Schools within 1 Mile of the Proposed Project 4.14-4

Table 4.15-1: Recreational Facilities within One Mile of the Proposed Project 4.15-3

Table 4.16-1: Roadways within the Vicinity of the Proposed Project Area 4.16-5

Table 4.18-1: Planned and Proposed Projects within One Mile 4.18-3

LIST OF ATTACHMENTS

Attachment 1-A: Letters of Support
Attachment 3-A: Detailed Project Components Map
Attachment 4.1-A: Visual Character Photographs
Attachment 4.1-B: Visual Simulations of the Proposed Project
Attachment 4.4-A: Natural Communities Map
Attachment 4.4-B: Hydrological Features Map
Attachment 4.4-C: SDG&E Subregional NCCP Operational Protocols
Attachment 4.5-A: NAHC Correspondence
Attachment 4.8-A: EDR DataMap Corridor Study
Attachment 4.8-B: Water Quality Construction Best Management Practices
Attachment 4.8-C: SDG&E Operations and Maintenance Wildland Fire Prevention Plan
Attachment 4.10-A: Applicable Land Use Plans and Policies Consistency Analysis