

# TABLE OF CONTENTS

	<u>Section</u>	<u>Page</u>
1		
2		
3		
4		
5	<b>TABLE OF CONTENTS</b> .....	i
6	Table of Contents .....	i
7	List of Appendices .....	v
8	List of Tables .....	vi
9	List of Figures .....	viii
10	List of Acronyms and Abbreviations .....	ix
11	<b>EXECUTIVE SUMMARY</b> .....	<b>ES-1</b>
12	PROJECT OBJECTIVES, PURPOSE AND NEED .....	ES-1
13	DESCRIPTION OF PROPOSED PROJECT .....	ES-1
14	ALTERNATIVES TO PROPOSED PROJECT .....	ES-2
15	ENVIRONMENTAL IMPACTS AND MITIGATION.....	ES-2
16	COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES .....	ES-3
17	ENVIRONMENTALLY SUPERIOR ALTERNATIVE.....	ES-3
18	KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES .....	ES-13
19	<b>1.0 INTRODUCTION</b> .....	<b>1-1</b>
20	1.1 Project objectives, Purpose and Need .....	1-1
21	1.2 Purpose and Scope of EIR .....	1-2
22	1.3 Public Review and Comment .....	1-3
23	1.3.1 Scoping.....	1-3
24	1.3.2 Public Comment on the Draft EIR.....	1-4
25	1.4 Permits, Approvals, and Regulatory Requirements.....	1-4
26	1.5 Consistency with Regional and Local Plans.....	1-4
27	<b>2.0 PROJECT DESCRIPTION</b> .....	<b>2-1</b>
28	2.1 Environmental setting .....	2-1
29	2.1.1 Geographic Setting .....	2-1
30	2.1.2 Historic Setting.....	2-1
31	2.2 Existing Structures and Facilities.....	2-4
32	2.3 Components of the Proposed Project.....	2-4
33	2.3.1 Removal of Terminal Structures .....	2-7
34	2.3.2 Removal of Buoys.....	2-9
35	2.3.3 Removal of Manhole Risers.....	2-9
36	2.3.4 Duration of Offshore Activities .....	2-13
37	2.3.5 Materials Removal .....	2-13
38	2.3.6 Materials Processing and Recycling.....	2-14
39	2.3.7 Marine Safety.....	2-14
40	2.3.8 Oil Spill Response Plan .....	2-14
41	2.3.10 Conduit Plugs .....	2-14
42	2.3.11 Potential Future Reuse of Conduits.....	2-15
43	2.3.12 Lease Termination .....	2-15
44	2.4 Disposition Schedule .....	2-15
45	2.5 Environmental Compliance Inspection and Mitigation Monitoring.....	2-17

1	<b>3.0</b>	<b>ALTERNATIVES</b> .....	<b>3-1</b>
2	3.1	FACTORS USED IN SELECTION OF ALTERNATIVES .....	3-1
3	3.1.1	Alternatives Development and Screening Process.....	3-1
4	3.1.2	Alternatives Screening Methodology .....	3-1
5	3.1.3	Summary of Screening Results .....	3-3
6	3.2	ALTERNATIVES ELIMINATED FROM FULL EVALUATION.....	3-4
7	3.2.1	Removal of Terminal Structures Alternative, with Use of Inflatable Bags for Pipeline Removal .....	3-4
8	3.2.2	Hydraulic Sand Fill Alternative.....	3-5
9	3.2.3	Partial Removal of Terminal Structures, with Open Conduits.....	3-6
10	3.2.4	Crush Conduits, with Terminal Structures Remaining in Place .....	3-6
11	3.2.5	Removal of Nearshore Components, Crush Offshore Conduits, with Terminal Structures Remaining in Place .....	3-7
12	3.3	ALTERNATIVES EVALUATED IN THIS EIR .....	3-7
13	3.3.1	Complete Removal of Conduits.....	3-7
14	3.3.2	Removal of Nearshore Portions of Conduits .....	3-11
15	3.3.3	Crush Conduits and Remove Terminal Structures .....	3-11
16	3.3.4	Artificial Reef.....	3-12
17	3.3.5	No Project.....	3-13
18			
19			
20	<b>4.0</b>	<b>ENVIRONMENTAL ANALYSIS</b> .....	<b>4.0-1</b>
21		INTRODUCTION TO ENVIRONMENTAL ANALYSIS .....	4.0-1
22		ASSESSMENT METHODOLOGY .....	4.0-2
23		Environmental Baseline.....	4.0-2
24		Significance Criteria .....	4.0-2
25		Impact Analysis .....	4.0-2
26		Formulation of Mitigation Measures and Mitigation Monitoring Program .....	4.0-3
27		Cumulative Projects .....	4.0-3
28		Impacts of Alternatives .....	4.0-6
29	4.1	Marine Biological Resources .....	4.1-1
30	4.1.1	Description of Resource/Environmental Setting .....	4.1-1
31	4.1.2	Essential Fish Habitat.....	4.1-31
32	4.1.3	Other Special Status or Species of Concern .....	4.1-34
33	4.1.4	Regulatory Setting .....	4.1-37
34	4.1.5	Significance Criteria.....	4.1-41
35	4.1.6	Impact Analysis and Mitigation .....	4.1-41
36	4.1.7	Alternatives .....	4.1-47
37	4.1.8	Cumulative Impacts .....	4.1-56
38	4.1.9	References .....	4.1-56
39	4.2	Commercial Fishing.....	4.2-1
40	4.2.1	Description of Resource/Environmental Setting .....	4.2-1
41	4.2.2	Regulatory Setting .....	4.2-1
42	4.2.3	Significance Criteria.....	4.2-2
43	4.2.4	Impact Analysis and Mitigation .....	4.2-2
44	4.2.5	Impacts of Alternatives .....	4.2-5
45	4.2.6	Cumulative Projects Impact Analysis.....	4.2-11
46	4.2.7	References .....	4.2-11
47	4.3	Marine Water Quality.....	4.3-1
48	4.3.1	Description of Resource/Environmental Setting .....	4.3-1
49	4.3.2	Regulatory Setting .....	4.3-10
50	4.3.3	Significance Criteria.....	4.3-14

1	4.3.4	Impact Analysis and Mitigation .....	4.3-14
2	4.3.5	Impacts of Alternatives .....	4.3-20
3	4.3.6	Cumulative Projects Impact Analysis.....	4.3-25
4	4.3.7	References .....	4.3-26
5	4.4	Recreation .....	4.4-1
6	4.4.1	Description of Resource/Environmental Setting .....	4.4-1
7	4.4.2	Regulatory Setting .....	4.4-8
8	4.4.3	Significance Criteria.....	4.4-9
9	4.4.4	Impacts and Mitigation Measures .....	4.4-9
10	4.4.5	Impacts of Alternatives .....	4.4-12
11	4.4.6	Cumulative Impacts .....	4.4-18
12	4.4.7	References .....	4.4-19
13	4.5	Air Quality.....	4.5-1
14	4.5.1	Description of Resource/Environmental Setting .....	4.5-1
15	4.5.2	Regulatory Setting .....	4.5-4
16	4.5.3	Significance Criteria.....	4.5-10
17	4.5.4	Impact Analysis and Mitigation .....	4.5-12
18	4.5.5	Impacts of Alternatives .....	4.5-17
19	4.5.6	Cumulative Project Impact Analysis .....	4.5-21
20	4.5.7	References .....	4.5-22
21	4.6	Transportation .....	4.6-1
22	4.6.1	Description of Resource/Environmental Setting .....	4.6-1
23	4.6.2	Regulatory Setting .....	4.6-5
24	4.6.3	Significance Criteria.....	4.6-6
25	4.6.4	Impact Analysis and Mitigation .....	4.6-6
26	4.6.5	Impacts of Alternatives .....	4.6-9
27	4.6.6	Cumulative Projects Impact Analysis.....	4.6-15
28	4.7	Geology and Soils .....	4.7-1
29	4.7.1	Description of Resource/Environmental Setting .....	4.7-1
30	4.7.2	Regulatory Setting .....	4.7-4
31	4.7.3	Significance Criteria.....	4.7-5
32	4.7.4	Impact Analysis and Mitigation .....	4.7-5
33	4.7.5	Impacts of Alternatives .....	4.7-7
34	4.7.6	Cumulative Projects Impact Analysis.....	4.7-10
35	4.7.7	References .....	4.7-10
36	4.8	Hazards.....	4.8-1
37	4.8.1	Description of Resource/Environmental Setting .....	4.8-1
38	4.8.2	Regulatory Setting .....	4.8-2
39	4.8.3	Significance Criteria.....	4.8-2
40	4.8.4	Impact Analysis and Mitigation .....	4.8-3
41	4.8.5	Alternatives.....	4.8-6
42	4.8.6	References .....	4.8-11
43	4.9	Noise .....	4.9-1
44	4.9.1	Description of Resource/Environmental Setting .....	4.9-1
45	4.9.2	Regulatory Setting .....	4.9-3
46	4.9.3	Significance Criteria.....	4.9-4
47	4.9.4	Impact Analysis and Mitigation .....	4.9-5
48	4.9.5	Alternatives .....	4.9-9
49	4.9.6	Cumulative Project Impact Analysis .....	4.9-11
50	4.9.7	References .....	4.9-12
51	4.10	Cultural Resources.....	4.10-1

1	4.10.1	Description of Resource/Environmental Setting .....	4.10-1
2	4.10.2	Regulatory Setting .....	4.10-5
3	4.10.3	Significance Criteria.....	4.10-6
4	4.10.4	Impact Analysis and Mitigation .....	4.10-6
5	4.10.5	Alternatives .....	4.10-8
6	4.10.6	Cumulative Projects Impacts Analysis.....	4.10-10
7	4.10.7	References .....	4.10-10
8	4.11	Environmental Justice .....	4.11-1
9	4.11.1	Introduction .....	4.11-1
10	4.11.2	Description of Resource/Environmental Setting .....	4.11-3
11	4.11.3	Regulatory Setting .....	4.11-20
12	4.11.4	Significance Criteria.....	4.11-20
13	4.11.5	Impact Analysis and Mitigation .....	4.11-20
14	4.11.6	Impacts of Alternatives .....	4.11-24
15	4.11.7	Cumulative Project Impact Analysis .....	4.11-28
16	4.11.8	References .....	4.11-29
17	<b>5.0</b>	<b>OTHER REQUIRED CEQA SECTIONS .....</b>	<b>5-1</b>
18	5.1	INTRODUCTION TO ADDITIONAL CEQA REQUIREMENTS	
19		DISCUSSED IN THIS SECTION.....	5-1
20	5.2	SIGNIFICANT ENVIRONMENTAL EFFECTS OF PROPOSED PROJECT	
21		THAT CANNOT BE MITIGATED TO LESS THAN SIGNIFICANT.....	5-1
22	5.3	IRREVERSIBLE Environmental Changes of the Proposed Project .....	5-1
23	5.4	GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT .....	5-2
24	<b>6.0</b>	<b>MITIGATION MONITORING PROGRAM .....</b>	<b>6-1</b>
25	6.1	MONITORING AUTHORITY .....	6-1
26	6.2	ENFORCEMENT RESPONSIBILITY .....	6-2
27	6.3	MITIGATION COMPLIANCE RESPONSIBILITY .....	6-2
28	6.4	GENERAL MONITORING PROCEDURES.....	6-2
29		Environmental Monitors.....	6-2
30		Contractor Personnel .....	6-2
31		General Reporting Procedures.....	6-3
32		Public Access to Records.....	6-3
33	6.5	MITIGATION MONITORING TABLE.....	6-3
34	<b>7.0</b>	<b>REPORT PREPARATION SOURCES.....</b>	<b>7-1</b>
35	7.1	AGENCY REVIEWERS.....	7-1
36		California State Lands Commission .....	7-1
37	7.2	EIR CONSULTANTS.....	7-1
38		EDAW, Inc.....	7-1
39		AMEC, Inc. ....	7-4
40		Allwest Geosciences, Inc. ....	7-4
41	7.3	EIR Information Contacts .....	7-5
42			

1	<b>APPENDICES</b>	
2		
3	<b>APPENDIX A</b>	DISTRIBUTION LIST (LIST OF AGENCIES AND ORGANIZATIONS
4		TO WHICH DOCUMENT WAS SENT FOR REVIEW)
5	<b>APPENDIX B</b>	NOTICE OF PREPARATION, COMMENTS ON NOP, AND INDEX TO
6		LOCATION WHERE EACH INDIVIDUAL NOP COMMENT IS
7		ADDRESSED IN EIR
8	<b>APPENDIX C</b>	AIR QUALITY CALCULATIONS
9	<b>APPENDIX D</b>	ANCHORING PLAN
10	<b>APPENDIX E</b>	SEAFLOOR DEBRIS REMOVAL PLAN
11	<b>APPENDIX F</b>	MARINE SAFETY PLAN
12	<b>APPENDIX G</b>	OIL SPILL RESPONSE PLAN
13	<b>APPENDIX H</b>	DIVER'S SAFETY PLAN
14		

**LIST OF TABLES**

1

2

3 Table ES.1. Summary of Environmental Impacts for the Proposed Project..... ES-4

4 Table ES.2. Summary of Environmental Impacts for Proposed Project and

5 Alternatives ..... ES-9

6 Table 3-1. Summary of Alternative Screening Results..... 3-4

7 Table 3-2. Comparison of Alternatives..... 3-7

8 Table 4.1-1. Scientific and Common Names of Fish Species Collected in

9 Trawl Samples in the Vicinity of SONGS ..... 4.1-13

10 Table 4.1-2. Relative Abundance of Species by Habitat Type Observed

11 Subtidally along the Conduit Corridor (from SCE 2003)..... 4.1-13

12 Table 4.1-3. Summary of Marine Biology Impacts and Mitigation Measures ..... 4.1-46

13 Table 4.2-1. Summary of Commercial Fishing Impacts and Mitigation

14 Measures ..... 4.2-5

15 Table 4.3-1. Mean Background Concentrations of Metals in Surface

16 Sediments of the Southern California Bight ..... 4.3-6

17 Table 4.3-2. Worst Case Estimates of Dredging Impacts, SONGS Unit 1

18 Disposition\* ..... 4.3-16

19 Table 4.3-3. Summary of Water Quality Impacts and Mitigation Measures ..... 4.3-20

20 Table 4.4-1. Public Parks within 5 Miles (8 km) of the Proposed Project ..... 4.4-3

21 Table 4.4-2. Summary of Recreation Impacts and Mitigation/Preventative

22 Measures ..... 4.4-12

23 Table 4.5-1. National and California Ambient Air Quality Standards..... 4.5-6

24 Table 4.5-2. Ambient Air Quality Summary, MCB Camp Pendleton ..... 4.5-11

25 Table 4.5-3. SCAQMD CEQA Significance Thresholds - Construction ..... 4.5-12

26 Table 4.5-4. Estimated Emissions from Barge Towing..... 4.5-14

27 Table 4.5-5. Estimated Maximum Daily Emissions from Onshore Activities..... 4.5-14

28 Table 4.5-6. Estimated Maximum Daily Emissions from Nearshore Activities..... 4.5-15

29 Table 4.5-7. Estimated Maximum Daily Emissions from Offshore Activities ..... 4.5-16

30 Table 4.5-8. Estimated Maximum Daily Emissions from Debris Survey and

31 Clearance ..... 4.5-16

32 Table 4.5-9. Estimated Annual Emissions ..... 4.5-17

33 Table 4.5-10. Air Quality Impacts and Mitigation Measures..... 4.5-17

34 Table 4.5-11. Estimated Daily and Quarterly Emissions in the SCAB –

35 Complete Removal Alternative ..... 4.5-18

36 Table 4.5-12. Estimated Annual Emissions in the SDAB – Complete Removal

37 Alternative ..... 4.5-19

38 Table 4.6-1. Commercial Vessel Arrivals in Ports of Long Beach and Los

39 Angeles (January-December 2003) ..... 4.6-5

40 Table 4.6-2. Summary of Transportation Impacts and Mitigation Measures ..... 4.6-9

41 Table 4.7-1. Summary of Geologic Impacts and Mitigation Measures ..... 4.7-7

42 Table 4.8-1. Summary of Hazards Impacts and Mitigation/Preventative

43 Measures ..... 4.8-6

44 Table 4.9-1. Sound Levels of Typical Noise Sources ..... 4.9-2

45 Table 4.9-2. Existing Measured Noise Levels..... 4.9-3

46 Table 4.9-3. Demolition and Construction Equipment Noise Levels ..... 4.9-6

1	Table 4.9-4. Onshore Construction Noise .....	4.9-7
2	Table 4.9-5. Summary of Noise Impacts and Mitigation Measures .....	4.9-8
3	Table 4.10-1. Shipwrecks .....	4.10-4
4	Table 4.10-2. Summary of Cultural Resources Impacts and Mitigation	
5	Measures .....	4.10-8
6	Table 4.11-1. Value of Commercial Fishing Catch by Species, Fish Block No.	
7	756, 1998-2002 and 2003 (preliminary) .....	4.11-12
8	Table 4.11-2. Value of Lobster Harvest by Month, Fish Block 756, 1999-2000	
9	Season through 2003-2004 Season .....	4.11-16
10	Table 4.11-3. Value of All Species Landings, Value of Lobster Landings, and	
11	Value of Lobster Landings from Fish Block 756 by Year and by	
12	Port, 1998-2002 and 2003 (preliminary) .....	4.11-17
13	Table 4.11-4. Volume of All Species Landings, Volume of Lobster Landings,	
14	and Volume of Lobster Landings from Fish Block 756 (in	
15	pounds) by Year and by Port, 1998-2002 and 2003 (preliminary) ...	4.11-17
16	Table 4.11-5. Value of Annual Port Landings for All Species, All Lobster, and	
17	Lobster from Fish Block 756, 1998-2002 and 2003 (preliminary)	
18	for the Port of Dana Point .....	4.11-19
19	Table 4.11-6. Value of Annual Port Landings for All Species, All Lobster, and	
20	Lobster from Fish Block 756, 1998-2002 and 2003 (preliminary)	
21	for the Port of Newport Beach.....	4.11-19
22	Table 4.11-7. Value of Annual Port Landings for All Species, All Lobster, and	
23	Lobster from Fish Block 756, 1998-2002 and 2003 (preliminary)	
24	for the Port of Oceanside .....	4.11-19
25	Table 4.11-8. Summary of Environmental Justice Impacts and Mitigation	
26	Measures .....	4.11-24
27		

**LIST OF FIGURES**

1

2

3 Figure 2-1 Regional Location Map ..... 2-2

4 Figure 2-2 SONGS and Offshore Lease Area ..... 2-3

5 Figure 2-3 Cross Sections of Intake Terminal Structure ..... 2-5

6 Figure 2-4 Plan View of Terminal Structure without Velocity Cap ..... 2-6

7 Figure 2-5 Typical Crane Barge ..... 2-8

8 Figure 2-6 Manhole Risers ..... 2-10

9 Figure 2-7 Surf Sled Vehicle (SSV) ..... 2-11

10 Figure 2-8 SSV Beach Winch ..... 2-12

11 Figure 2-9 Conduit Plug ..... 2-16

12 Figure 3.3-1 Aerial View of Onshore Components Complete Removal of

13 Conduits Alternative ..... 3-9

14 Figure 4.1-1 Surface Circulation of the California Current and California

15 Countercurrent in the SCB ..... 4.1-2

16 Figure 4.1-2 Bottom Habitat ..... 4.1-4

17 Figure 4.1-3 Distribution of Rocky and Sandy Intertidal Habitats and Extent of

18 Giant Kelp Canopy ..... 4.1-5

19 Figure 4.3-1 Hydrologic Areas Near San Onofre Nuclear Generating Station ..... 4.3-1

20 Figure 4.3-2 Example of Vertical Water Quality Profiles of Stratified (June)

21 and Unstratified (December) Water Columns in Southern

22 California Coastal Waters ..... 4.3-4

23 Figure 4.3-3 Wave Rose for Oceanside Buoy CA045 ..... 4.3-8

24 Figure 4.3-4 Wave Height, Period, and Frequency of Occurrence as Recorded

25 at Oceanside Buoy CA045 (May 1997 to July 2003) ..... 4.3-8

26 Figure 4.3-5 Average Annual Current Velocity Profiles For NOAA

27 Buoy 46054, Santa Barbara ..... 4.3-9

28 Figure 4.3-6 Kelp Bed Resources in the Vicinity of SONGS ..... 4.3-15

29 Figure 4.4-1 Local Beaches in Project Vicinity ..... 4.4-2

30 Figure 4.11-1 Minority Population ..... 4.11-6

31 Figure 4.11-2 Individuals Below Poverty ..... 4.11-7

32 Figure 4.11-3 Fish Block 756 ..... 4.11-11

33 Figure 4.11-4 Bottom Composition ..... 4.11-15

34