

TABLE OF CONTENTS

OVERVIEW

| | |
|--|----------------|
| TABLE OF CONCORDANCE | I |
| ACRONYMS AND ABBREVIATIONS | LXXXVII |
| AUTHORSHIP | XCIX |
| APPLICATION SUMMARY | AS-1 |
| AS1 INTRODUCTION | AS-1 |
| AS2 PROPOSED PROJECT OVERVIEW | AS-2 |
| AS2.1 PROPONENT DESCRIPTION | AS-2 |
| AS2.2 PROJECT DESCRIPTION | AS-3 |
| AS2.2.1 Regulatory (Provincial and Federal) Scope..... | AS-3 |
| AS2.2.2 Technical Project Scope..... | AS-4 |
| AS2.2.3 Purpose | AS-4 |
| AS2.2.4 Location..... | AS-5 |
| AS2.2.5 Project Components and Activities..... | AS-5 |
| AS2.3 LAND AND MARINE USE | AS-7 |
| AS2.4 BENEFITS OF PROJECT | AS-8 |
| AS2.4.1 Project Costs | AS-8 |
| AS2.4.2 Employment..... | AS-8 |
| AS2.4.3 Government Revenue | AS-9 |
| AS2.4.4 Contribution to BC Economy | AS-10 |
| AS2.4.5 Contribution to the Canadian Economy..... | AS-10 |
| AS2.5 APPLICABLE PERMITS AND AUTHORIZATIONS | AS-10 |
| AS3 ENVIRONMENTAL ASSESSMENT PROCESS | AS-12 |
| AS3.1 PROVINCIAL ENVIRONMENTAL ASSESSMENT PROCESS | AS-12 |
| AS3.2 FEDERAL ENVIRONMENTAL ASSESSMENT PROCESS..... | AS-13 |
| AS3.3 KEY INFORMATION AND CONCERNS | AS-15 |
| AS4 ASSESSMENT METHODS | AS-25 |
| AS4.1 SCOPING AND SELECTION OF VALUED COMPONENTS..... | AS-25 |
| AS4.2 ASSESSMENT BOUNDARIES | AS-32 |
| AS4.3 EXISTING CONDITIONS | AS-32 |
| AS4.4 PROJECT INTERACTIONS | AS-32 |
| AS4.5 ASSESSMENT OF PROJECT RESIDUAL EFFECTS..... | AS-33 |
| AS4.6 ASSESSMENT OF CUMULATIVE EFFECTS | AS-33 |
| AS4.7 DETERMINATION OF SIGNIFICANCE | AS-34 |
| AS5 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS | AS-35 |
| AS5.1 ENVIRONMENTAL BACKGROUND | AS-35 |
| AS5.2 AIR QUALITY | AS-35 |

| | | |
|-------------|---|---------------|
| AS5.3 | GREENHOUSE GASES..... | AS-37 |
| AS5.4 | ACOUSTIC ENVIRONMENT | AS-39 |
| AS5.5 | WATER QUALITY | AS-40 |
| AS5.6 | VEGETATION AND WETLAND RESOURCES | AS-43 |
| AS5.7 | WILDLIFE RESOURCES (TERRESTRIAL)..... | AS-45 |
| AS5.8 | FRESHWATER FISH AND FISH HABITAT | AS-48 |
| AS5.9 | MARINE FISH AND FISH HABITAT | AS-51 |
| AS5.10 | MARINE MAMMALS..... | AS-53 |
| AS5.11 | MARINE BIRDS..... | AS-56 |
| AS6 | ASSESSMENT OF POTENTIAL ECONOMIC EFFECTS..... | AS-59 |
| AS7 | ASSESSMENT OF POTENTIAL SOCIAL EFFECTS..... | AS-62 |
| AS7.1 | SOCIAL BACKGROUND..... | AS-62 |
| AS7.2 | VISUAL QUALITY..... | AS-62 |
| AS7.3 | INFRASTRUCTURE AND SERVICES..... | AS-64 |
| AS7.4 | LAND AND RESOURCE USE..... | AS-66 |
| AS7.5 | MARINE USE AND NAVIGABLE WATERS..... | AS-68 |
| AS7.6 | COMMUNITY HEALTH | AS-70 |
| AS8 | ASSESSMENT OF POTENTIAL HERITAGE EFFECTS..... | AS-72 |
| AS9 | ASSESSMENT OF POTENTIAL HEALTH EFFECTS..... | AS-74 |
| AS10 | ACCIDENTS OR MALFUNCTIONS..... | AS-77 |
| AS11 | EFFECTS OF THE ENVIRONMENT ON THE PROJECT..... | AS-80 |
| AS12 | SUMMARY OF FACTORS IDENTIFIED IN SECTION 19 OF CEEA 2012..... | AS-81 |
| AS13 | PART C ABORIGINAL CONSULTATION..... | AS-87 |
| AS14 | PART C ABORIGINAL INTERESTS..... | AS-89 |
| AS14.1 | KEY FINDINGS FOR THE ASSESSMENT OF ABORIGINAL INTERESTS | AS-89 |
| AS14.2 | OTHER MATTERS OF CONCERN..... | AS-97 |
| AS15 | PART D PUBLIC CONSULTATION..... | AS-98 |
| AS16 | PART E SUMMARY OF PROPOSED ENVIRONMENTAL AND OPERATIONAL MANAGEMENT PLANS..... | AS-99 |
| AS17 | PART E SUMMARY OF FOLLOW-UP PROGRAMS AND COMPLIANCE REPORTING | AS-101 |
| AS18 | PART F CONCLUSIONS | AS-104 |
| AS19 | REFERENCES..... | AS-105 |

PART A

| | | |
|----------|---|------------|
| 1 | PROPOSED PROJECT OVERVIEW | 1-1 |
| 1.1 | PROPONENT DESCRIPTION | 1-1 |
| 1.2 | PROPOSED PROJECT DESCRIPTION | 1-3 |
| | 1.2.1 Purpose of the Project | 1-3 |
| | 1.2.2 Project Location | 1-4 |
| | 1.2.3 Project Background and History | 1-10 |
| | 1.2.4 Project Phases | 1-10 |
| | 1.2.5 Project Components | 1-11 |
| | 1.2.6 Construction Activities | 1-33 |
| | 1.2.7 Operations Activities | 1-37 |
| | 1.2.8 Decommissioning Activities | 1-39 |
| | 1.2.9 Design Mitigation | 1-40 |
| | 1.2.10 Environmental Management Policy and Programs | 1-43 |
| 1.3 | LAND AND MARINE USE | 1-44 |
| | 1.3.1 Land Use | 1-44 |
| | 1.3.2 Marine Use | 1-50 |
| 1.4 | BENEFITS OF PROPOSED PROJECT | 1-50 |
| | 1.4.1 Introduction | 1-50 |
| | 1.4.2 Methods | 1-51 |
| | 1.4.3 Project Costs | 1-52 |
| | 1.4.4 Employment | 1-56 |
| | 1.4.5 Government Revenue | 1-66 |
| | 1.4.6 Contribution to BC Economy | 1-70 |
| | 1.4.7 Contribution to the Canadian Economy | 1-71 |
| | 1.4.8 Training and Education | 1-71 |
| 1.5 | CONTRIBUTIONS BY AURORA LNG TO COMMUNITY DEVELOPMENT | 1-72 |
| | 1.5.1 Benefits of the Project to the Five Pillars of Assessment | 1-72 |
| 1.6 | APPLICABLE AUTHORIZATIONS | 1-73 |
| 1.7 | ALTERNATIVE MEANS OF UNDERTAKING THE PROPOSED PROJECT | 1-75 |
| | 1.7.1 Power Supply | 1-76 |
| | 1.7.2 Water Supply | 1-78 |
| | 1.7.3 Orientation of Onsite LNG Facilities | 1-79 |
| | 1.7.4 Marine Terminal Design and Location | 1-82 |
| | 1.7.5 Disposal of Marine Sediments and Terrestrial Overburden | 1-84 |
| | 1.7.6 Access Road Routing | 1-86 |
| | 1.7.7 Flare Design | 1-87 |
| | 1.7.8 Camp Location(s) | 1-88 |
| | 1.7.9 Construction Camp Operations | 1-89 |
| 1.8 | REFERENCES | 1-94 |
| | 1.8.1 Literature Cited | 1-94 |
| 2 | ENVIRONMENTAL ASSESSMENT PROCESS | 2-1 |
| 2.1 | PROVINCIAL ENVIRONMENTAL ASSESSMENT PROCESS | 2-1 |
| 2.2 | FEDERAL ENVIRONMENTAL ASSESSMENT PROCESS | 2-3 |
| 2.3 | SUMMARY OF PRE-APPLICATION MILESTONES | 2-10 |
| 2.4 | ENVIRONMENTAL ASSESSMENT REVIEW PROCESS PARTICIPANTS AND THEIR KEY ISSUES AND CONCERNS | 2-12 |
| | 2.4.1 Working Group | 2-12 |
| | 2.4.2 Public | 2-21 |
| 2.5 | REFERENCES | 2-27 |

PART B

| | | |
|----------|---|------------|
| 3 | ASSESSMENT METHODS | 3-1 |
| 3.1 | SCOPING AND SELECTION OF VALUED COMPONENTS..... | 3-1 |
| 3.1.1 | Valued Components Selected for the Aurora LNG Project | 3-2 |
| 3.2 | ASSESSMENT SCOPE..... | 3-3 |
| 3.2.1 | Regulatory and Policy Setting | 3-4 |
| 3.2.2 | Influence of Consultation on the Assessment | 3-4 |
| 3.2.3 | Traditional Knowledge and Traditional Use Incorporation | 3-4 |
| 3.2.4 | Potential Environmental Effects and Measurable Parameters..... | 3-4 |
| 3.3 | ASSESSMENT BOUNDARIES | 3-11 |
| 3.3.1 | Spatial Boundaries | 3-11 |
| 3.3.2 | Temporal Boundaries | 3-11 |
| 3.3.3 | Administrative Boundaries..... | 3-11 |
| 3.3.4 | Technical Boundaries | 3-12 |
| 3.4 | EXISTING CONDITIONS | 3-12 |
| 3.5 | PROJECT INTERACTIONS | 3-12 |
| 3.6 | ASSESSMENT OF PROJECT RESIDUAL EFFECTS..... | 3-15 |
| 3.6.1 | Analytical Methods | 3-15 |
| 3.6.2 | Project Mechanisms | 3-15 |
| 3.6.3 | Mitigation | 3-15 |
| 3.6.4 | Characterization of Residual Effects | 3-16 |
| 3.6.5 | Likelihood of Residual Effects | 3-16 |
| 3.6.6 | Significance Thresholds for Residual Effects..... | 3-17 |
| 3.6.7 | Confidence and Risk | 3-17 |
| 3.6.8 | Residual Project Effects | 3-17 |
| 3.7 | ASSESSMENT OF CUMULATIVE EFFECTS | 3-18 |
| 3.7.1 | Project and Physical Activities Inclusion List..... | 3-19 |
| 3.7.2 | Identification of Project Effects Likely to Interact Cumulatively | 3-25 |
| 3.7.3 | Project Contribution to Cumulative Effects..... | 3-25 |
| 3.7.4 | Cumulative Effects Mechanisms | 3-25 |
| 3.7.5 | Mitigation for Cumulative Effects..... | 3-25 |
| 3.7.6 | Residual Cumulative Effects | 3-26 |
| 3.7.7 | Likelihood of Cumulative Residual Effects | 3-26 |
| 3.7.8 | Summary of Cumulative Effects | 3-26 |
| 3.8 | DETERMINATION OF SIGNIFICANCE | 3-27 |
| 3.8.1 | Significance of Residual Project Effects..... | 3-27 |
| 3.8.2 | Significance of Residual Cumulative Effects | 3-27 |
| 3.9 | PREDICTION CONFIDENCE..... | 3-27 |
| 3.10 | FOLLOW-UP AND MONITORING | 3-27 |
| 3.11 | CONCLUSIONS | 3-27 |
| 3.12 | REFERENCES | 3-28 |
| 3.12.1 | Literature Cited | 3-28 |

| | | |
|----------|--|--------|
| 4 | ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS | |
| 4.1 | ENVIRONMENTAL BACKGROUND | 4.1-1 |
| 4.1.1 | Atmospheric Environment | 4.1-1 |
| 4.1.2 | Geology and Soils | 4.1-2 |
| 4.1.3 | Groundwater | 4.1-2 |
| 4.1.4 | Vegetation and Wetlands | 4.1-2 |
| 4.1.5 | Wildlife | 4.1-3 |
| 4.1.6 | Aquatic Environment | 4.1-3 |
| 4.1.7 | Sediment Quality | 4.1-4 |
| 4.1.8 | References | 4.1-5 |
| 4.2 | AIR QUALITY | 4.2-1 |
| 4.2.1 | Introduction | 4.2-1 |
| 4.2.2 | Scope of Assessment | 4.2-1 |
| 4.2.3 | Existing Conditions | 4.2-12 |
| 4.2.4 | Project Interactions | 4.2-18 |
| 4.2.5 | Assessment of Residual Effects on Air Quality | 4.2-19 |
| 4.2.6 | Assessment of Cumulative Effects on Air Quality | 4.2-30 |
| 4.2.7 | Determination of Significance | 4.2-42 |
| 4.2.8 | Prediction Confidence | 4.2-43 |
| 4.2.9 | Follow-up and Monitoring | 4.2-43 |
| 4.2.10 | Conclusions | 4.2-44 |
| 4.2.11 | References | 4.2-45 |
| 4.3 | GREENHOUSE GASES | 4.3-1 |
| 4.3.1 | Introduction | 4.3-1 |
| 4.3.2 | Scope of Assessment | 4.3-1 |
| 4.3.3 | Existing Conditions | 4.3-11 |
| 4.3.4 | Project Interactions with Greenhouse Gases | 4.3-16 |
| 4.3.5 | Assessment of Residual Effects on Greenhouse Gases | 4.3-17 |
| 4.3.6 | Assessment of Cumulative Effects on Greenhouse Gases | 4.3-28 |
| 4.3.7 | Determination of Significance | 4.3-29 |
| 4.3.8 | Prediction Confidence | 4.3-31 |
| 4.3.9 | Follow-up and Compliance Monitoring | 4.3-31 |
| 4.3.10 | Conclusions | 4.3-32 |
| 4.3.11 | References | 4.3-34 |
| 4.4 | ACOUSTIC ENVIRONMENT | 4.4-1 |
| 4.4.1 | Introduction | 4.4-1 |
| 4.4.2 | Scope of Assessment | 4.4-1 |
| 4.4.3 | Existing Conditions for Acoustic Environment | 4.4-13 |
| 4.4.4 | Project Interactions with Acoustic Environment | 4.4-18 |
| 4.4.5 | Assessment of Residual Effects on Acoustic Environment | 4.4-20 |
| 4.4.6 | Assessment of Cumulative Effects on Acoustic Environment | 4.4-58 |
| 4.4.7 | Determination of Significance | 4.4-63 |
| 4.4.8 | Prediction Confidence | 4.4-63 |
| 4.4.9 | Follow-up and Monitoring | 4.4-64 |
| 4.4.10 | Conclusions | 4.4-64 |
| 4.4.11 | References | 4.4-65 |
| 4.5 | WATER QUALITY | 4.5-1 |
| 4.5.1 | Freshwater - Introduction | 4.5-1 |
| 4.5.2 | Freshwater - Scope of the Assessment | 4.5-2 |
| 4.5.3 | Freshwater - Existing Conditions for Water Quality | 4.5-12 |
| 4.5.4 | Freshwater - Project Interactions with Water Quality | 4.5-14 |
| 4.5.5 | Freshwater - Assessment of Residual Effects on Water Quality | 4.5-16 |
| 4.5.6 | Freshwater - Assessment of Cumulative Effects | 4.5-33 |
| 4.5.7 | Freshwater - Determination of Significance | 4.5-40 |

| | | |
|--------|--|---------|
| 4.5.8 | Freshwater - Prediction Confidence | 4.5-41 |
| 4.5.9 | Freshwater - Follow-up and Monitoring | 4.5-42 |
| 4.5.10 | Freshwater - Conclusions | 4.5-42 |
| 4.5.11 | Marine Water - Introduction | 4.5-43 |
| 4.5.12 | Marine Water - Scope of the Assessment..... | 4.5-43 |
| 4.5.13 | Marine Water - Existing Sediment and Water Conditions | 4.5-51 |
| 4.5.14 | Marine Water - Project Interactions with Water Quality | 4.5-57 |
| 4.5.15 | Marine Water - Assessment of Residual Effects on Water Quality | 4.5-58 |
| 4.5.16 | Marine Water - Assessment of Cumulative Effects | 4.5-79 |
| 4.5.17 | Marine Water - Determination of Significance..... | 4.5-86 |
| 4.5.18 | Marine Water - Prediction Confidence | 4.5-87 |
| 4.5.19 | Marine Water - Follow-up and Monitoring | 4.5-87 |
| 4.5.20 | Marine Water - Conclusions | 4.5-87 |
| 4.5.21 | References | 4.5-88 |
| 4.6 | VEGETATION AND WETLAND RESOURCES | 4.6-1 |
| 4.6.1 | Introduction | 4.6-1 |
| 4.6.2 | Scope of Assessment..... | 4.6-2 |
| 4.6.3 | Existing Conditions for Vegetation and Wetland Resources | 4.6-17 |
| 4.6.4 | Project Interactions with Vegetation and Wetland Resources | 4.6-21 |
| 4.6.5 | Assessment of Residual Effects on Vegetation and Wetland Resources | 4.6-23 |
| 4.6.6 | Assessment of Cumulative Effects on Vegetation and Wetland Resources | 4.6-59 |
| 4.6.7 | Determination of Significance..... | 4.6-78 |
| 4.6.8 | Prediction Confidence | 4.6-79 |
| 4.6.9 | Follow-up and Monitoring | 4.6-80 |
| 4.6.10 | Conclusions | 4.6-80 |
| 4.6.11 | References | 4.6-82 |
| 4.7 | WILDLIFE RESOURCES (TERRESTRIAL)..... | 4.7-1 |
| 4.7.1 | Introduction | 4.7-1 |
| 4.7.2 | Scope of Assessment..... | 4.7-2 |
| 4.7.3 | Existing Conditions for Wildlife Resources (Terrestrial)..... | 4.7-18 |
| 4.7.4 | Project Interactions with Wildlife Resources (Terrestrial)..... | 4.7-34 |
| 4.7.5 | Assessment of Residual Effects on Wildlife Resources (Terrestrial) | 4.7-36 |
| 4.7.6 | Assessment of Cumulative Effects on Wildlife Resources (Terrestrial) | 4.7-81 |
| 4.7.7 | Determination of Significance..... | 4.7-96 |
| 4.7.8 | Prediction Confidence | 4.7-97 |
| 4.7.9 | Follow-up and Monitoring | 4.7-98 |
| 4.7.10 | Conclusions | 4.7-99 |
| 4.7.11 | References | 4.7-100 |
| 4.8 | FRESHWATER FISH AND FISH HABITAT | 4.8-1 |
| 4.8.1 | Introduction | 4.8-1 |
| 4.8.2 | Scope of Assessment..... | 4.8-2 |
| 4.8.3 | Existing Conditions for Freshwater Fish and Fish Habitat | 4.8-21 |
| 4.8.4 | Project Interactions with Freshwater Fish and Fish Habitat | 4.8-32 |
| 4.8.5 | Assessment of Residual Effects on Freshwater Fish and Fish Habitat | 4.8-35 |
| 4.8.6 | Assessment of Cumulative Effects on Freshwater Fish and Fish Habitat | 4.8-66 |
| 4.8.7 | Determination of Significance..... | 4.8-75 |
| 4.8.8 | Prediction Confidence | 4.8-76 |
| 4.8.9 | Follow-up and Monitoring | 4.8-77 |
| 4.8.10 | Conclusions | 4.8-77 |
| 4.8.11 | References | 4.8-79 |
| 4.9 | MARINE FISH AND FISH HABITAT | 4.9-1 |
| 4.9.1 | Introduction | 4.9-1 |
| 4.9.2 | Scope of Assessment..... | 4.9-2 |
| 4.9.3 | Existing Conditions for Marine Fish and Fish Habitat | 4.9-17 |
| 4.9.4 | Project Interactions with Marine Fish and Fish Habitat | 4.9-27 |

| | | | |
|------|---------|--|---------------|
| | 4.9.5 | Assessment of Residual Effects on Marine Fish and Fish Habitat..... | 4.9-29 |
| | 4.9.6 | Assessment of Cumulative Effects on Marine Fish and Fish Habitat | 4.9-114 |
| | 4.9.7 | Determination of Significance..... | 4.9-126 |
| | 4.9.8 | Prediction Confidence | 4.9-128 |
| | 4.9.9 | Follow-Up and Monitoring..... | 4.9-130 |
| | 4.9.10 | Conclusions | 4.9-130 |
| | 4.9.11 | References | 4.9-131 |
| 4.10 | | MARINE MAMMALS..... | 4.10-1 |
| | 4.10.1 | Introduction | 4.10-1 |
| | 4.10.2 | Scope of Assessment..... | 4.10-2 |
| | 4.10.3 | Existing Conditions for Marine Mammals..... | 4.10-18 |
| | 4.10.4 | Project Interactions with Marine Mammals..... | 4.10-27 |
| | 4.10.5 | Assessment of Residual Effects on Marine Mammals | 4.10-30 |
| | 4.10.6 | Assessment of Cumulative Effects on Marine Mammals..... | 4.10-75 |
| | 4.10.7 | Determination of Significance..... | 4.10-85 |
| | 4.10.8 | Prediction Confidence | 4.10-89 |
| | 4.10.9 | Follow-up and Monitoring | 4.10-90 |
| | 4.10.10 | Conclusions | 4.10-90 |
| | 4.10.11 | References | 4.10-91 |
| 4.11 | | MARINE BIRDS..... | 4.11-1 |
| | 4.11.1 | Introduction | 4.11-1 |
| | 4.11.2 | Scope of Assessment..... | 4.11-2 |
| | 4.11.3 | Existing Conditions for Marine Birds | 4.11-15 |
| | 4.11.4 | Project Interactions with Marine Birds | 4.11-19 |
| | 4.11.5 | Assessment of Residual Effects on Marine Birds | 4.11-22 |
| | 4.11.6 | Assessment of Cumulative Effects on Marine Birds | 4.11-47 |
| | 4.11.7 | Determination of Significance..... | 4.11-56 |
| | 4.11.8 | Prediction Confidence | 4.11-57 |
| | 4.11.9 | Follow-up and Monitoring | 4.11-58 |
| | 4.11.10 | Conclusions | 4.11-58 |
| | 4.11.11 | References | 4.11-59 |
| 4.12 | | SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS..... | 4.12-1 |
| | 4.12.1 | Air Quality | 4.12-1 |
| | 4.12.2 | Greenhouse Gases | 4.12-2 |
| | 4.12.3 | Acoustic Environment..... | 4.12-3 |
| | 4.12.4 | Water Quality..... | 4.12-4 |
| | 4.12.5 | Vegetation and Wetland Resources | 4.12-6 |
| | 4.12.6 | Wildlife Resources | 4.12-7 |
| | 4.12.7 | Freshwater Fish and Fish Habitat | 4.12-10 |
| | 4.12.8 | Marine Fish and Fish Habitat | 4.12-11 |
| | 4.12.9 | Marine Mammals | 4.12-14 |
| | 4.12.10 | Marine Birds | 4.12-16 |

| | | |
|----------|---|--------------|
| 5 | ASSESSMENT OF POTENTIAL EFFECTS ON ECONOMIC CONDITIONS | 5.1-1 |
| 5.1 | ECONOMIC BACKGROUND | 5.1-1 |
| 5.2 | ECONOMIC CONDITIONS | 5.2-1 |
| 5.2.1 | Introduction | 5.2-1 |
| 5.2.2 | Scope of Assessment..... | 5.2-2 |
| 5.2.3 | Existing Conditions for Economic Conditions..... | 5.2-13 |
| 5.2.4 | Project Interactions with Economic Conditions | 5.2-53 |
| 5.2.5 | Assessment of Residual Effects on Economic Conditions..... | 5.2-55 |
| 5.2.6 | Assessment of Cumulative Effects on Economic Conditions | 5.2-88 |
| 5.2.7 | Determination of Significance..... | 5.2-98 |
| 5.2.8 | Prediction Confidence | 5.2-99 |
| 5.2.9 | Follow-up and Monitoring | 5.2-99 |
| 5.2.10 | Conclusions | 5.2-100 |
| 5.3 | SUMMARY OF ASSESSMENT OF POTENTIAL ECONOMIC EFFECTS | 5.3-1 |
| 5.3.1 | Summary of Project Residual Effects on Economic Conditions..... | 5.3-1 |
| 5.3.2 | Summary of Cumulative Effects on Economic Conditions | 5.3-3 |
| 5.4 | REFERENCES | 5.4-1 |
| 6 | ASSESSMENT OF POTENTIAL SOCIAL EFFECTS..... | 6.1-1 |
| 6.1 | SOCIAL BACKGROUND..... | 6.1-1 |
| 6.2 | VISUAL QUALITY..... | 6.2-1 |
| 6.2.1 | Introduction | 6.2-1 |
| 6.2.2 | Scope of Assessment..... | 6.2-1 |
| 6.2.3 | Existing Conditions for Visual Quality..... | 6.2-11 |
| 6.2.4 | Project Interactions with Visual Quality | 6.2-31 |
| 6.2.5 | Assessment of Residual Effects on Visual Quality..... | 6.2-32 |
| 6.2.6 | Assessment of Cumulative Effects on Visual Quality..... | 6.2-48 |
| 6.2.7 | Determination of Significance..... | 6.2-53 |
| 6.2.8 | Prediction Confidence | 6.2-54 |
| 6.2.9 | Follow-up and Monitoring | 6.2-55 |
| 6.2.10 | Conclusions | 6.2-55 |
| 6.2.11 | References | 6.2-57 |
| 6.3 | INFRASTRUCTURE AND SERVICES | 6.3-1 |
| 6.3.1 | Introduction | 6.3-1 |
| 6.3.2 | Scope of Assessment..... | 6.3-1 |
| 6.3.3 | Existing Conditions for Infrastructure and Services | 6.3-11 |
| 6.3.4 | Project Interactions with Infrastructure and Services | 6.3-46 |
| 6.3.5 | Assessment of Residual Effects on Infrastructure and Services..... | 6.3-49 |
| 6.3.6 | Assessment of Cumulative Effects on Infrastructure and Services | 6.3-80 |
| 6.3.7 | Determination of Significance..... | 6.3-93 |
| 6.3.8 | Prediction Confidence | 6.3-93 |
| 6.3.9 | Follow-up and Monitoring | 6.3-94 |
| 6.3.10 | Conclusions | 6.3-94 |
| 6.3.11 | References | 6.3-95 |
| 6.4 | LAND AND RESOURCE USE..... | 6.4-1 |
| 6.4.1 | Introduction | 6.4-1 |
| 6.4.2 | Scope of Assessment..... | 6.4-2 |
| 6.4.3 | Existing Conditions for Land and Resource Use..... | 6.4-10 |
| 6.4.4 | Project Interactions with Land and Resource Use | 6.4-37 |
| 6.4.5 | Assessment of Residual Effects on Land and Resource Use..... | 6.4-39 |
| 6.4.6 | Assessment of Cumulative Effects on Land and Resource Use..... | 6.4-88 |
| 6.4.7 | Determination of Significance..... | 6.4-95 |
| 6.4.8 | Prediction Confidence | 6.4-96 |

| | | |
|------------|---|--------------|
| 6.4.9 | Follow-up and Monitoring | 6.4-96 |
| 6.4.10 | Conclusions | 6.4-97 |
| 6.4.11 | References | 6.4-98 |
| 6.5 | MARINE USE AND NAVIGABLE WATERS..... | 6.5-1 |
| 6.5.1 | Introduction | 6.5-1 |
| 6.5.2 | Scope of Assessment..... | 6.5-2 |
| 6.5.3 | Existing Conditions for Marine Use and Navigable Waters..... | 6.5-14 |
| 6.5.4 | Project Interactions with Marine Use and Navigable Waters | 6.5-46 |
| 6.5.5 | Assessment of Residual Effects on Marine Use and Navigable Waters..... | 6.5-48 |
| 6.5.6 | Assessment of Cumulative Effects on Marine Use and Navigable Waters..... | 6.5-63 |
| 6.5.7 | Determination of Significance..... | 6.5-71 |
| 6.5.8 | Prediction Confidence | 6.5-73 |
| 6.5.9 | Follow-up and Monitoring | 6.5-74 |
| 6.5.10 | Conclusions | 6.5-74 |
| 6.5.11 | References | 6.5-75 |
| 6.6 | COMMUNITY HEALTH | 6.6-1 |
| 6.6.1 | Introduction | 6.6-1 |
| 6.6.2 | Scope of Assessment..... | 6.6-3 |
| 6.6.3 | Existing Conditions for Community Health | 6.6-13 |
| 6.6.4 | Project Interactions with Community Health..... | 6.6-42 |
| 6.6.5 | Assessment of Residual Effects on Community Health | 6.6-45 |
| 6.6.6 | Assessment of Cumulative Effects on Community Health | 6.6-103 |
| 6.6.7 | Determination of Significance..... | 6.6-113 |
| 6.6.8 | Prediction Confidence | 6.6-115 |
| 6.6.9 | Follow-up and Monitoring | 6.6-116 |
| 6.6.10 | Conclusions | 6.6-116 |
| 6.6.11 | References | 6.6-117 |
| 6.7 | SUMMARY OF POTENTIAL SOCIAL EFFECTS | 6.7-1 |
| 6.7.1 | Visual Quality..... | 6.7-1 |
| 6.7.2 | Infrastructure and Services..... | 6.7-3 |
| 6.7.3 | Land and Resource Use..... | 6.7-7 |
| 6.7.4 | Marine Use and Navigable Waters..... | 6.7-9 |
| 6.7.5 | Community Health | 6.7-11 |
| 7 | ASSESSMENT OF POTENTIAL HERITAGE EFFECTS..... | 7-1 |
| 7.1 | ARCHAEOLOGICAL AND HERITAGE BACKGROUND | 7-1 |
| 7.2 | ARCHAEOLOGICAL AND HERITAGE RESOURCES | 7-3 |
| 7.2.1 | Introduction | 7-3 |
| 7.2.2 | Scope of Assessment..... | 7-4 |
| 7.2.3 | Existing Conditions for Archaeological and Heritage Resources | 7-14 |
| 7.2.4 | Project Interactions with Archaeological and Heritage Resources..... | 7-17 |
| 7.2.5 | Assessment of Residual Effects on Archaeological and Heritage Resources | 7-19 |
| 7.2.6 | Assessment of Cumulative Effects on Archaeological and Heritage Resources..... | 7-30 |
| 7.2.7 | Determination of Significance..... | 7-30 |
| 7.2.8 | Prediction Confidence | 7-31 |
| 7.2.9 | Follow-up and Monitoring | 7-31 |
| 7.2.10 | Conclusions | 7-31 |
| 7.3 | SUMMARY OF ASSESSMENT OF POTENTIAL HERITAGE EFFECTS | 7-32 |
| 7.3.1 | Summary of Project Residual Effects on Archaeological and Heritage Resources..... | 7-32 |
| 7.3.2 | Summary of Cumulative Effects on Archaeological and Heritage Resources | 7-32 |
| 7.4 | REFERENCES | 7-33 |

| | | |
|----------|--|------------|
| 8 | ASSESSMENT OF POTENTIAL EFFECTS TO HUMAN HEALTH..... | 8-1 |
| 8.1 | HUMAN HEALTH BACKGROUND | 8-1 |
| 8.2 | HUMAN HEALTH | 8-1 |
| 8.2.1 | Introduction | 8-1 |
| 8.2.2 | Scope of Assessment..... | 8-2 |
| 8.2.3 | Existing Conditions for Human Health..... | 8-16 |
| 8.2.4 | Project Interactions with Human Health | 8-25 |
| 8.2.5 | Assessment of Residual Effects on Human Health..... | 8-27 |
| 8.2.6 | Assessment of Cumulative Effects on Human Health..... | 8-39 |
| 8.2.7 | Determination of Significance..... | 8-47 |
| 8.2.8 | Prediction Confidence | 8-48 |
| 8.2.9 | Follow-up and Monitoring | 8-49 |
| 8.2.10 | Conclusions | 8-49 |
| 8.3 | SUMMARY OF ASSESSMENT OF POTENTIAL EFFECTS TO HUMAN HEALTH | 8-49 |
| 8.3.1 | Summary of Project Residual Effects on Human Health..... | 8-49 |
| 8.3.2 | Summary of Cumulative Effects on Human Health | 8-50 |
| 8.4 | REFERENCES | 8-51 |
| 9 | ACCIDENTS OR MALFUNCTIONS | 9-1 |
| 9.1 | NEXEN'S SAFETY FIRST CULTURE..... | 9-1 |
| 9.2 | METHODS..... | 9-2 |
| 9.2.1 | Definition of Likelihood and Consequence | 9-4 |
| 9.2.2 | Risk Matrix | 9-4 |
| 9.2.3 | Significance Determination..... | 9-5 |
| 9.3 | IDENTIFICATION OF POTENTIAL INTERACTIONS WITH VCS | 9-5 |
| 9.4 | MOTOR VEHICLE COLLISIONS | 9-7 |
| 9.4.1 | Description of Event or Interactions | 9-7 |
| 9.4.2 | Conclusions | 9-7 |
| 9.5 | FACILITY IMPACT FROM AIRCRAFT..... | 9-8 |
| 9.5.1 | Description of Event or Interactions | 9-8 |
| 9.5.2 | Preventative and Response Measures | 9-8 |
| 9.5.3 | Potential Residual Effects..... | 9-9 |
| 9.5.4 | Conclusions | 9-10 |
| 9.6 | ON-SHORE FIRES OR EXPLOSIONS | 9-11 |
| 9.6.1 | Description of Event or Interactions | 9-11 |
| 9.6.2 | Preventative and Response Measures | 9-12 |
| 9.6.3 | Potential Residual Effects..... | 9-13 |
| 9.6.4 | Conclusions | 9-18 |
| 9.7 | LNG PLANT MALFUNCTIONS | 9-20 |
| 9.7.1 | Description of Event or Interactions | 9-20 |
| 9.7.2 | Preventative and Response Measures | 9-20 |
| 9.7.3 | Potential Residual Effects..... | 9-21 |
| 9.7.4 | Conclusions | 9-23 |
| 9.8 | ON-SHORE HAZARDOUS SPILLS | 9-24 |
| 9.8.1 | Description of Event or Interactions | 9-24 |
| 9.8.2 | Preventative and Response Measures | 9-25 |
| 9.8.3 | Potential Residual Effects..... | 9-27 |
| 9.8.4 | Conclusions | 9-32 |
| 9.9 | VESSEL GROUNDING OR COLLISION..... | 9-34 |
| 9.9.1 | Description of Event or Interactions | 9-34 |
| 9.9.2 | Preventative and Response Measures | 9-35 |
| 9.9.3 | Potential Residual Effects..... | 9-36 |

| | | |
|-----------|--|-------------|
| 9.9.4 | Conclusions | 9-42 |
| 9.10 | LNG RELEASES AT THE LOADING FACILITY | 9-44 |
| 9.10.1 | Description of Event or Interactions | 9-44 |
| 9.10.2 | Preventative and Response Measures | 9-44 |
| 9.10.3 | Potential Residual Effects..... | 9-45 |
| 9.10.4 | Conclusions | 9-48 |
| 9.11 | POTENTIAL CUMULATIVE EFFECTS | 9-50 |
| 9.12 | SUMMARY OF EFFECTS OF ACCIDENTS OR MALFUNCTIONS | 9-50 |
| 9.13 | REFERENCES | 9-52 |
| 10 | EFFECTS OF THE ENVIRONMENT ON THE PROPOSED PROJECT | 10-1 |
| 10.1 | SCOPE OF ASSESSMENT METHODS | 10-1 |
| 10.1.1 | Identification of Events | 10-1 |
| 10.1.2 | Spatial and Temporal Boundaries | 10-2 |
| 10.1.3 | Method for Assessment of Potential Effects..... | 10-2 |
| 10.2 | ASSESSMENT OF EFFECTS OF ENVIRONMENT ON THE PROJECT | 10-4 |
| 10.2.1 | Temperature | 10-5 |
| 10.2.2 | Precipitation and Flooding..... | 10-6 |
| 10.2.3 | Winds, Tides and Storms | 10-7 |
| 10.2.4 | Seismic Events | 10-9 |
| 10.2.5 | Slope Instability (Land and Submarine Slope Failures) | 10-12 |
| 10.2.6 | Tsunamis (Seismic, Landslide or Meteorological Generated)..... | 10-13 |
| 10.2.7 | Forest Fires | 10-17 |
| 10.2.8 | Climate change..... | 10-19 |
| 10.3 | SUMMARY | 10-24 |
| 10.4 | REFERENCES | 10-25 |
| 10.4.1 | Cited Literature | 10-25 |
| 10.4.2 | Personal Communications..... | 10-29 |
| 11 | SUMMARY OF STATUTORY REQUIREMENTS UNDER CEEA 2012..... | 11-1 |
| 11.1 | OVERVIEW | 11-1 |
| 11.2 | REQUIREMENTS UNDER CEEA 2012 SECTIONS 5(1)(A)(B) AND 5(2)(A)(B)..... | 11-2 |
| 11.3 | REQUIREMENTS UNDER CEEA 2012 SECTION 5 (1)(C) | 11-21 |
| 11.3.1 | Introduction | 11-21 |
| 11.3.2 | Scope of Assessment..... | 11-22 |
| 11.3.3 | Existing Conditions | 11-43 |
| 11.3.4 | Project Interactions..... | 11-43 |
| 11.3.5 | Methods and Assumptions for Assessing Residual Effects | 11-45 |
| 11.3.6 | Identification of Relevant VCs and Residual Effects | 11-47 |
| 11.3.7 | Assessment of Section 5(1)(c) Effects—Lax Kw’alaams Band..... | 11-63 |
| 11.3.8 | Assessment of Section 5(1)(c) Effects—Metlakatla First Nation..... | 11-110 |
| 11.3.9 | Assessment of Section 5(1)(c) Effects—Gitxaala Nation..... | 11-162 |
| 11.3.10 | Assessment of Section 5(1)(c) Effects—Kitsumkalum First Nation | 11-210 |
| 11.3.11 | Assessment of Section 5(1)(c) Effects—Kitselas First Nation | 11-258 |
| 11.3.12 | Assessment of Section 5(1)(c) Effects—Gitga’at First Nation..... | 11-303 |
| 11.3.13 | Assessment of Section 5(1)(c) Effects—Métis Nation BC | 11-347 |
| 11.4 | ASSESSMENT OF CUMULATIVE EFFECTS FOR CEEA 2012 SECTION 5(1)(C) | 11-381 |
| 11.4.1 | Project Residual Effects Likely to Interact Cumulatively with Residual Effects of Other Physical Activities | 11-382 |
| 11.4.2 | Cumulative Effects Mechanisms | 11-384 |
| 11.4.3 | Assessment of Cumulative Effects for Current Use of Lands and Resources for Traditional Purposes | 11-384 |

| | | |
|---------|--|--------|
| 11.4.4 | Assessment of Cumulative Effects on Aboriginal Health | 11-405 |
| 11.4.5 | Assessment of Cumulative Effects for Aboriginal Socio-Economic Conditions .. | 11-410 |
| 11.4.6 | Assessment of Cumulative Effects for Aboriginal Physical and Cultural Heritage | 11-415 |
| 11.5 | PREDICTION CONFIDENCE | 11-418 |
| 11.6 | ACCIDENTS OR MALFUNCTIONS WITH RESPECT TO CEAA 5(1)(C) | 11-418 |
| 11.7 | VIEWS OF ABORIGINAL GROUPS | 11-422 |
| 11.7.1 | Views of Lax Kw'alaams Band | 11-424 |
| 11.7.2 | Views of Metlakatla First Nation | 11-426 |
| 11.7.3 | Views of Gitxaala Nation | 11-428 |
| 11.7.4 | Views of Kitsumkalum First Nation | 11-432 |
| 11.7.5 | Views of Kitselas First Nation | 11-434 |
| 11.7.6 | Views of Gitga'at First Nation | 11-436 |
| 11.7.7 | Views of Métis Nation BC | 11-439 |
| 11.8 | CONCLUSIONS | 11-439 |
| 11.9 | CEAA 2012 SUMMARY TABLES | 11-439 |
| 11.10 | REFERENCES | 11-447 |
| 11.10.1 | Agreements | 11-451 |

PART C

| | | |
|-----------|--|-------------|
| 12 | ABORIGINAL CONSULTATION | 12-1 |
| 12.1 | INTRODUCTION | 12-1 |
| 12.1.1 | Assessment Approach and Methods | 12-1 |
| 12.1.2 | Key Findings | 12-2 |
| 12.2 | BACKGROUND | 12-12 |
| 12.2.1 | Introduction | 12-12 |
| 12.2.2 | Tsimshian Cultural Groups | 12-12 |
| 12.2.3 | Lax Kw'alaams Band | 12-15 |
| 12.2.4 | Metlakatla First Nation | 12-19 |
| 12.2.5 | Gitxaala Nation | 12-23 |
| 12.2.6 | Kitsumkalum First Nation | 12-26 |
| 12.2.7 | Kitselas First Nation | 12-30 |
| 12.2.8 | Gitga'at First Nation | 12-33 |
| 12.3 | CONSULTATION ACTIVITIES WITH ABORIGINAL GROUPS | 12-36 |
| 12.3.1 | Lax Kw'alaams Band | 12-40 |
| 12.3.2 | Metlakatla First Nation | 12-42 |
| 12.3.3 | Gitxaala Nation | 12-48 |
| 12.3.4 | Kitsumkalum First Nation | 12-49 |
| 12.3.5 | Kitselas First Nation | 12-51 |
| 12.3.6 | Gitga'at First Nation | 12-53 |
| 12.4 | TRADITIONAL KNOWLEDGE AND TRADITIONAL USE | 12-55 |
| 12.5 | ABORIGINAL INTERESTS | 12-60 |
| 12.5.1 | Introduction | 12-60 |
| 12.5.2 | Assessment Methods | 12-61 |
| 12.5.3 | Effects on Aboriginal Title | 12-63 |
| 12.5.4 | Lax Kw'alaams Band | 12-69 |
| 12.5.5 | Metlakatla First Nation | 12-103 |
| 12.5.6 | Gitxaala Nation | 12-152 |
| 12.5.7 | Kitsumkalum First Nation | 12-197 |
| 12.5.8 | Kitselas First Nation | 12-239 |
| 12.5.9 | Gitga'at First Nation | 12-274 |

| | | |
|---------|---|--------|
| 12.6 | ACCIDENTS OR MALFUNCTIONS | 12-308 |
| 12.6.1 | Views of Aboriginal Groups on Accidents or Malfunctions | 12-313 |
| 12.7 | OTHER MATTERS OF CONCERN | 12-313 |
| 12.8 | ISSUES SUMMARY | 12-314 |
| 12.9 | VIEWS OF ABORIGINAL GROUPS ON PART C | 12-321 |
| 12.10 | REFERENCES | 12-341 |
| 12.10.1 | Agreements | 12-350 |
| 12.10.2 | Court Cases | 12-352 |

PART D

| | | |
|-----------|--|-------------|
| 13 | PUBLIC CONSULTATION | 13-1 |
| 13.1 | INTRODUCTION | 13-1 |
| 13.2 | STAKEHOLDER INFORMATION | 13-2 |
| 13.2.1 | Regional and Local Government | 13-3 |
| 13.2.2 | Residents, Landowners and Tenure Holders | 13-6 |
| 13.2.3 | Community Organizations | 13-6 |
| 13.2.4 | Business Groups | 13-6 |
| 13.2.5 | Educational Institutions | 13-6 |
| 13.2.6 | Other Stakeholders | 13-7 |
| 13.3 | SUMMARY OF PUBLIC CONSULTATION | 13-7 |
| 13.4 | CONCERNS AND ISSUES IDENTIFIED DURING CONSULTATION | 13-17 |
| 13.4.1 | Key Values | 13-17 |
| 13.4.2 | Summary of Concerns and Issues Identified During Consultation | 13-17 |
| 13.5 | CONCERNS AND ISSUES NOT ADDRESSED IN PART B OF THE APPLICATION | 13-22 |
| 13.5.1 | Quality of Life/Community Identity | 13-22 |
| 13.5.2 | Social Cohesion | 13-26 |
| 13.5.3 | Private Property Values | 13-29 |
| 13.5.4 | Cost of Living | 13-32 |
| 13.6 | PUBLIC CONSULTATION PLAN AND THE APPLICATION REVIEW STAGE | 13-34 |
| 13.7 | REFERENCES | 13-38 |
| 13.7.1 | Literature Cited | 13-38 |

PART E

| | | |
|-----------|---|-------------|
| 14 | SUMMARY OF PROPOSED ENVIRONMENTAL AND OPERATIONAL MANAGEMENT PLANS | 14-1 |
| 14.1 | INTRODUCTION | 14-1 |
| 14.2 | SCOPE OF ENVIRONMENTAL AND OPERATIONAL MANAGEMENT PLANS | 14-1 |
| 14.3 | AIR QUALITY MANAGEMENT PLAN | 14-2 |
| 14.4 | GREENHOUSE GASES MANAGEMENT PLAN | 14-2 |
| 14.5 | NOISE MANAGEMENT PLAN | 14-2 |
| 14.6 | INVASIVE PLANT MANAGEMENT PLAN | 14-3 |
| 14.7 | WETLAND COMPENSATION PLAN | 14-3 |
| 14.8 | WILDLIFE MANAGEMENT PLAN | 14-3 |
| 14.8.1 | Marbled Murrelet Management Plan | 14-4 |
| 14.8.2 | Bat Management Plan | 14-4 |
| 14.9 | MARINE AND FRESHWATER RESOURCES MANAGEMENT PLAN | 14-4 |
| 14.10 | FISH HABITAT OFFSETTING PLAN | 14-4 |

| | | |
|--------------------------|--|-------------|
| 14.11 | MARINE ACTIVITIES PLAN..... | 14-5 |
| 14.12 | SOCIAL MANAGEMENT PLAN | 14-5 |
| | 14.12.1 Community Engagement Plan..... | 14-5 |
| | 14.12.2 Worker Lodging Plan | 14-6 |
| | 14.12.3 Transportation Management Plan | 14-6 |
| | 14.12.4 Health and Medical Services Plan..... | 14-6 |
| 14.13 | ARCHAEOLOGICAL AND HERITAGE RESOURCES MANAGEMENT PLAN..... | 14-7 |
| 14.14 | WASTE DISPOSAL MANAGEMENT PLAN..... | 14-7 |
| 14.15 | HEALTH AND SAFETY MANAGEMENT PLAN..... | 14-7 |
| 14.16 | EMERGENCY RESPONSE PLAN | 14-7 |
| 14.17 | DECOMMISSIONING AND ABANDONMENT PLANS | 14-8 |
| 14.18 | SUMMARY | 14-9 |
| 14.19 | REFERENCES | 14-14 |
| | 14.19.1 Literature Cited..... | 14-14 |
| 15 | SUMMARY OF FOLLOW-UP PROGRAMS AND COMPLIANCE REPORTING..... | 15-1 |
| 15.1 | ROLES AND RESPONSIBILITIES..... | 15-1 |
| 15.2 | FOLLOW-UP PROGRAMS | 15-1 |
| | 15.2.1 Great Blue Heron Rookery | 15-2 |
| | 15.2.2 Acidification and Eutrophication | 15-2 |
| | 15.2.3 Marine Sediment Deposition Monitoring Program | 15-3 |
| 15.3 | COMPLIANCE MONITORING AND REPORTING | 15-3 |
| | 15.3.1 Wetland Compensation | 15-4 |
| | 15.3.2 Invasive Species..... | 15-4 |
| | 15.3.3 Air Quality | 15-4 |
| | 15.3.4 Greenhouse Gas Emissions..... | 15-4 |
| | 15.3.5 Fish Habitat Offsetting Plan..... | 15-4 |
| | 15.3.6 Marine Water Quality..... | 15-5 |
| 15.4 | REFERENCES | 15-6 |
| <u>PART F</u> | | |
| 16 | CONCLUSIONS..... | 16-1 |
| 17 | REFERENCES..... | 17-1 |

List of Tables

Overview

| | | |
|--------------|--|--------|
| Table AS2-1 | Coordinates of LNG Facility and Marine Terminal..... | AS-5 |
| Table AS2-2 | Key Components of the Project | AS-5 |
| Table AS3-1 | Provincial Thresholds for the Aurora LNG Project..... | AS-12 |
| Table AS3-2 | Federal Thresholds for the Aurora LNG Project | AS-14 |
| Table AS3-3 | Summary of Key Concerns Raised by the Working Group during the Pre-Application Stage | AS-17 |
| Table AS3-4 | Summary of Key Concerns Raised by the Public during the Pre-Application Stage..... | AS-22 |
| Table AS4-1 | Potential Effects and Measurable Parameters | AS-26 |
| Table AS12-1 | CEAA 2012 Summary Table – Section 5 and Section 19..... | AS-83 |
| Table AS14-1 | Key Findings of Effects on Lax Kw’alaams Band Aboriginal Interests | AS-91 |
| Table AS14-2 | Key Findings of Effects on Metlakatla First Nation Aboriginal Interests | AS-92 |
| Table AS14-3 | Key Findings of Effects on Gitxaala Nation Aboriginal Interests | AS-93 |
| Table AS14-4 | Key Findings of Effects on Kitsumkalum First Nation Aboriginal Interests | AS-94 |
| Table AS14-5 | Key Findings of Effects on Kitselas First Nation Aboriginal Interests | AS-95 |
| Table AS14-6 | Key Findings of Effects on Gitga’at First Nation Aboriginal Interests | AS-96 |
| Table AS17-1 | Follow-Up Programs | AS-102 |
| Table AS17-2 | Compliance Monitoring Programs..... | AS-103 |

Part A

| | | |
|------------|---|------|
| Table 1-1 | Proponent Contact Information | 1-2 |
| Table 1-2 | Project Phases, Duration, and Anticipated Schedule | 1-11 |
| Table 1-3 | Key Components of the Project | 1-11 |
| Table 1-4 | Estimated Construction Spending in BC, Canada, and Internationally | 1-52 |
| Table 1-5 | Estimated Construction Spending Breakdown in Canada | 1-53 |
| Table 1-6 | Estimated Annual Operations Spending within Canada by Commodity and Service | 1-54 |
| Table 1-7 | Estimated Decommissioning Spending in Canada by Commodity and Service.... | 1-55 |
| Table 1-8 | Regional Breakdown of Contractor Supply Services | 1-56 |
| Table 1-9 | Estimated Composition of Project Construction Force | 1-58 |
| Table 1-10 | Schedule of Wage Levels for Federal Contracts BC, Island/Coast/North Zone | 1-59 |
| Table 1-11 | Estimated Construction Employment in BC and Canada | 1-61 |
| Table 1-12 | Estimated Labour Income in BC and Canada during Construction | 1-61 |
| Table 1-13 | Estimated Annual Operations Labour Force..... | 1-62 |
| Table 1-14 | Schedule of Wage Levels for Federal Contracts BC, Island/Coast/North Zone | 1-62 |
| Table 1-15 | Indirect Annual Operational Employment in BC and Canada..... | 1-63 |

| | | |
|------------|--|------|
| Table 1-16 | Estimated Annual Operational Employment in BC and Canada | 1-64 |
| Table 1-17 | Estimated Annual Labour Income in BC and Canada during Operation | 1-64 |
| Table 1-18 | Estimated Decommissioning Employment in BC and Canada | 1-65 |
| Table 1-19 | Estimated Revenues for BC and Canada during Construction | 1-67 |
| Table 1-20 | Estimated Annual Revenue for BC and Canada during Operations..... | 1-69 |
| Table 1-21 | Estimated Impact on Gross Domestic Product in BC | 1-70 |
| Table 1-22 | Estimated Impact on Gross Domestic Product in Canada..... | 1-71 |
| Table 1-23 | Authorization Table | 1-73 |
| Table 1-24 | Evaluation Summary – Power Supply..... | 1-77 |
| Table 1-25 | Evaluation Summary – Water Supply | 1-79 |
| Table 1-26 | Evaluation Summary – Orientations of Onsite LNG Facilities | 1-81 |
| Table 1-27 | Evaluation Summary – Marine Terminal..... | 1-83 |
| Table 1-28 | Evaluation Summary – Disposal of Dredge Material | 1-85 |
| Table 1-29 | Evaluation Summary – Access Road Routing | 1-87 |
| Table 1-30 | Evaluation Summary – Flare Design | 1-88 |
| Table 1-31 | Evaluation Summary – Construction Camp Operations | 1-91 |
| Table 2-1 | Provincial Criteria for the Aurora LNG Project | 2-1 |
| Table 2-2 | Listing of Aboriginal Groups in August 30, Section 13 Order | 2-2 |
| Table 2-3 | Federal Criteria for the Aurora LNG Project | 2-4 |
| Table 2-4 | Summary of Approach to CEAA 2012 Requirements in the Application | 2-6 |
| Table 2-5 | Overview of Key Provincial and Federal Pre-Application Milestones | 2-10 |
| Table 2-6 | Summary of Key Concerns Raised by the Working Group during the Pre-Application Stage | 2-15 |
| Table 2-7 | Summary of Concerns Raised by the Public | 2-22 |

Part B

| | | |
|-------------|---|--------|
| Table 3-1 | Potential Effects and Measurable Parameters | 3-7 |
| Table 3-2 | Potential Interactions of the Proposed Project with the Biophysical and Human Environment VCs | 3-13 |
| Table 3-3 | Summary of Project Residual Effects on [VC] | 3-18 |
| Table 3-4 | Project and Physical Activities Inclusion List | 3-20 |
| Table 3-5 | Potential Cumulative Effects on [VC]..... | 3-25 |
| Table 3-6 | Summary of Residual Cumulative Effects on [VC] | 3-26 |
| Table 4.2-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.2-2 |
| Table 4.2-2 | Potential Effects and Measurable Parameters for Air Quality | 4.2-5 |
| Table 4.2-3 | Summary of the Applicable Objectives | 4.2-6 |
| Table 4.2-4 | Spatial Boundaries for Air Quality | 4.2-8 |
| Table 4.2-5 | Characterization of Residual Environmental Effects on Air Quality..... | 4.2-11 |

| | | |
|--------------|--|--------|
| Table 4.2-6 | Baseline CACs within the RAA | 4.2-14 |
| Table 4.2-7 | Base Case Air Emission Summary | 4.2-15 |
| Table 4.2-8 | Base Case Air Dispersion Modelling Results | 4.2-15 |
| Table 4.2-9 | Potential Project Interactions and Effects on Air Quality | 4.2-18 |
| Table 4.2-10 | Mitigation Measures Proposed to Avoid or Reduce Air Emissions..... | 4.2-23 |
| Table 4.2-11 | Annual Average CAC Emissions from Construction..... | 4.2-25 |
| Table 4.2-12 | Project-alone Case Air Emission Summary..... | 4.2-26 |
| Table 4.2-13 | Project-alone Case Dispersion Modelling Results | 4.2-27 |
| Table 4.2-14 | Summary of Project Residual Effects on Air Quality..... | 4.2-30 |
| Table 4.2-15 | Potential Cumulative Effects on Air Quality | 4.2-31 |
| Table 4.2-16 | Application Case Air Emission Summary..... | 4.2-34 |
| Table 4.2-17 | Application Case Air Dispersion Modelling Results..... | 4.2-35 |
| Table 4.2-18 | CEA Case Air Emission Summary..... | 4.2-37 |
| Table 4.2-19 | CEA Case Air Dispersion Modelling Results | 4.2-38 |
| Table 4.2-20 | Summary of Cumulative Effects on Air Quality..... | 4.2-41 |
| Table 4.3-1 | Method for Incorporating GHG Considerations in Environmental Assessments According to CEA Agency (2003) | 4.3-2 |
| Table 4.3-2 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for GHGs | 4.3-2 |
| Table 4.3-3 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.3-4 |
| Table 4.3-4 | Potential Effects and Measurable Parameters for Emissions of GHGs..... | 4.3-6 |
| Table 4.3-5 | Characterization of Residual Effects for Emission of GHGs..... | 4.3-9 |
| Table 4.3-6 | Existing GHG Emissions in BC and Canada | 4.3-13 |
| Table 4.3-7 | Industry Profile of Selected GHG Emission Intensities of LNG Facilities Worldwide | 4.3-14 |
| Table 4.3-8 | Industry Profile of Selected GHG Emission Intensities of Proposed LNG Facilities in BC | 4.3-15 |
| Table 4.3-9 | Potential Project Interactions and Effects on Emission of GHGs | 4.3-16 |
| Table 4.3-10 | Methods for Calculating Construction GHG Emissions | 4.3-18 |
| Table 4.3-11 | Methods for Calculating Operations GHG Emissions..... | 4.3-19 |
| Table 4.3-12 | Mitigation Measures Proposed to Avoid or Reduce GHG Emissions..... | 4.3-23 |
| Table 4.3-13 | Estimated GHG Emissions from Construction..... | 4.3-26 |
| Table 4.3-14 | Estimated GHG Emissions from Operations at Full Build-Out | 4.3-27 |
| Table 4.3-15 | Summary of Project Residual Effects on GHG Emissions..... | 4.3-28 |
| Table 4.4-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.4-5 |
| Table 4.4-2 | Potential Effects and Measurable Parameters for Acoustic Environment | 4.4-7 |
| Table 4.4-3 | Spatial Boundaries for Acoustic Environment..... | 4.4-8 |

| | | |
|--------------|---|--------|
| Table 4.4-4 | Noise Sensitive Receptor Locations | 4.4-10 |
| Table 4.4-5 | Characterization of Residual Effects on Acoustic Environment..... | 4.4-12 |
| Table 4.4-6 | Daytime, Nighttime and Day-Night Sound Levels from Monitoring Program..... | 4.4-15 |
| Table 4.4-7 | Existing Sound Levels at Noise Sensitive Receptors | 4.4-16 |
| Table 4.4-8 | Potential Project Interactions and Effects on Acoustic Environment | 4.4-18 |
| Table 4.4-9 | Mitigation Measures Proposed to Avoid or Reduce Change in Noise Level | 4.4-25 |
| Table 4.4-10 | Project Only Construction Phase Modelling Results – Year 1 | 4.4-27 |
| Table 4.4-11 | Project Only Construction Phase Modelling Results – Year 5..... | 4.4-28 |
| Table 4.4-12 | Project Only Operations Phase Modelling Results | 4.4-33 |
| Table 4.4-13 | Compliance Assessment with BC OGC Noise Limits during Operations Phase | 4.4-36 |
| Table 4.4-14 | Year 1 Construction Phase Comparison with Health Canada Noise Guidance | 4.4-37 |
| Table 4.4-15 | Year 5 Construction Phase Comparison with Health Canada Noise Guidance | 4.4-38 |
| Table 4.4-16 | Operations Phase Comparison with Health Canada Noise Guidance | 4.4-39 |
| Table 4.4-17 | Year 1 Construction Phase Low Frequency Noise Analysis | 4.4-41 |
| Table 4.4-18 | Year 5 Construction Phase Low Frequency Noise Analysis | 4.4-42 |
| Table 4.4-19 | Operations Phase Low Frequency Noise Analysis..... | 4.4-43 |
| Table 4.4-20 | Comparison to Existing Level – Year 1 Construction Noise Effect..... | 4.4-45 |
| Table 4.4-21 | Comparison to Existing Level – Year 5 Construction Noise Effect..... | 4.4-46 |
| Table 4.4-22 | Comparison to Existing Level - Operation Noise Effect..... | 4.4-47 |
| Table 4.4-23 | Construction Phase Magnitude Classification | 4.4-49 |
| Table 4.4-24 | Operations Phase Magnitude Classification | 4.4-50 |
| Table 4.4-25 | Mitigation Measures Proposed to Avoid or Reduce Change in Vibration Level | 4.4-53 |
| Table 4.4-26 | Maximum Blast Charge per Delay | 4.4-55 |
| Table 4.4-27 | Summary of Project Residual Effects on Acoustic Environment | 4.4-57 |
| Table 4.4-28 | Potential Cumulative Effects on Acoustic Environment..... | 4.4-58 |
| Table 4.4-29 | Summary of Residual Cumulative Effects on acoustic environment | 4.4-62 |
| Table 4.5-1 | British Columbia Ministry of Environment Freshwater Quality Criteria for pH | 4.5-3 |
| Table 4.5-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.5-3 |
| Table 4.5-3 | Potential Effects and Measurable Parameters on Freshwater Quality | 4.5-5 |
| Table 4.5-4 | Spatial Boundaries for Freshwater Quality Effect Assessment | 4.5-6 |
| Table 4.5-5 | Characterization of Residual Effects on Freshwater Quality | 4.5-9 |
| Table 4.5-6 | Potential Project Interactions and Effects on Freshwater Quality..... | 4.5-14 |
| Table 4.5-7 | Acidification Categories of Concern..... | 4.5-18 |
| Table 4.5-8 | Risk Categories for Waterbodies with Biologically Significant Changes in pH and Critical Load of Acidity Exceedances..... | 4.5-18 |
| Table 4.5-9 | Nutrient-nitrogen Critical Loads for Oligotrophic and Dystrophic Lakes | 4.5-19 |
| Table 4.5-10 | Risk Categories for Lakes with Nutrient-nitrogen Critical Load Exceedances.... | 4.5-19 |

| | | |
|--------------|---|--------|
| Table 4.5-11 | Mitigation Measures Proposed to Avoid or Reduce Air Emissions..... | 4.5-23 |
| Table 4.5-12 | Critical Load Exceedances for Acidification, Predicted Change in pH (Δ pH), and Risk Categories for Assessed Streams and Lakes..... | 4.5-28 |
| Table 4.5-13 | Results of the Eutrophication Nutrient-nitrogen Analysis for 30 Lakes Under the Mid-Point Critical Load..... | 4.5-31 |
| Table 4.5-14 | Summary of Project Residual Effects on Freshwater Quality..... | 4.5-33 |
| Table 4.5-15 | Potential Cumulative Effects on Freshwater Quality..... | 4.5-34 |
| Table 4.5-16 | Summary of Cumulative Effects on Freshwater Quality..... | 4.5-40 |
| Table 4.5-17 | Summary of Key Legislation, Policy, and Regulatory Documents for Marine Water Quality..... | 4.5-44 |
| Table 4.5-18 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment for Marine Water Quality..... | 4.5-45 |
| Table 4.5-19 | Potential Effects and Measurable Parameters for Marine Water Quality..... | 4.5-46 |
| Table 4.5-20 | Spatial Boundaries for Marine Water Quality Effects Assessment..... | 4.5-47 |
| Table 4.5-21 | Characterization of Residual Effects on Marine Water..... | 4.5-49 |
| Table 4.5-22 | Marine Sediment Screening Criteria and Guidelines..... | 4.5-52 |
| Table 4.5-23 | Seawater Screening Criteria..... | 4.5-53 |
| Table 4.5-24 | Summary of Sediment Chemistry at Proposed Dredge Areas..... | 4.5-54 |
| Table 4.5-25 | Potential Project Interactions and Effects on Marine Water Quality..... | 4.5-57 |
| Table 4.5-26 | Mitigation Measures Proposed to Avoid or Reduce Change in Physical or Chemical Composition of Marine Waters..... | 4.5-63 |
| Table 4.5-27 | Model Inputs for Sediment Dispersion and Deposition Predictions..... | 4.5-66 |
| Table 4.5-28 | Summary of Project Residual Effects on Marine Water Quality..... | 4.5-78 |
| Table 4.5-29 | Potential Cumulative Effects on Marine Water Quality..... | 4.5-79 |
| Table 4.5-30 | Summary of Residual Cumulative Effects on Marine Water Quality..... | 4.5-86 |
| Table 4.6-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Vegetation and Wetland Resources..... | 4.6-3 |
| Table 4.6-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.6-5 |
| Table 4.6-3 | Potential Effects and Measurable Parameters for Vegetation and Wetland Resources..... | 4.6-7 |
| Table 4.6-4 | Spatial Boundaries for Vegetation and Wetland Resources..... | 4.6-9 |
| Table 4.6-5 | Characterization of Residual Effects on Vegetation and Wetland Resources.... | 4.6-14 |
| Table 4.6-6 | Significance Thresholds for Residual Effects..... | 4.6-16 |
| Table 4.6-7 | Broad Vegetation Types in the Regional Assessment Area and Local Study Areas..... | 4.6-19 |
| Table 4.6-8 | Ecological Communities of Interest in the Regional Assessment Area and Local Assessment Areas..... | 4.6-20 |
| Table 4.6-9 | Potential Project Interactions and Effects on Vegetation and Wetland Resources..... | 4.6-22 |

Aurora LNG

Environmental Assessment Certificate Application

Table of Contents

| | | |
|--------------|---|--------|
| Table 4.6-10 | Mitigation Measures Proposed to Avoid or Reduce Change in Abundance of Plant Species of Interest | 4.6-29 |
| Table 4.6-11 | Mitigation Measures Proposed to Avoid or Reduce Change in Abundance or Condition of Ecological Communities of Interest | 4.6-37 |
| Table 4.6-12 | Ecological Communities at Risk in the Project Development Area and Regional Assessment Area | 4.6-42 |
| Table 4.6-13 | Mitigation Measures Proposed to Avoid or Reduce Change in Wetland Function | 4.6-51 |
| Table 4.6-14 | Summary of Project Residual Effects on Vegetation and Wetland Resources | 4.6-58 |
| Table 4.6-15 | Potential Cumulative Effects on Vegetation and Wetland Resources | 4.6-59 |
| Table 4.6-16 | Existing and Reasonably Foreseeable Future Disturbance in the RAA | 4.6-62 |
| Table 4.6-17 | Cumulative Loss of Red- and Blue-listed Ecological Communities from the Project and Reasonably Foreseeable Future Projects | 4.6-67 |
| Table 4.6-18 | Summary of Residual Cumulative Effects on Vegetation and Wetland Resources | 4.6-76 |
| Table 4.7-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Wildlife Resources (Terrestrial)..... | 4.7-2 |
| Table 4.7-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.7-7 |
| Table 4.7-3 | Potential Effects and Measurable Parameters for Wildlife Resources (Terrestrial)..... | 4.7-10 |
| Table 4.7-4 | Spatial Boundaries for Wildlife Resources (Terrestrial)..... | 4.7-11 |
| Table 4.7-5 | Characterization of Residual Effects on Wildlife Resources (Terrestrial)..... | 4.7-15 |
| Table 4.7-6 | Summary of Field Studies Completed for Wildlife Resources (Terrestrial) | 4.7-20 |
| Table 4.7-7 | Wildlife Species of Management Concern Known or Potentially Occurring within the Wildlife Resources (Terrestrial) Local and Regional Assessment Areas | 4.7-22 |
| Table 4.7-8 | Habitat Availability (ha) under Existing Conditions for Species of Management Concern by Suitability Rating Class..... | 4.7-25 |
| Table 4.7-9 | Potential Project Interactions and Effects on Wildlife Resources (Terrestrial) ... | 4.7-34 |
| Table 4.7-10 | Mitigation Measures Proposed to Avoid or Reduce Change in Habitat for Wildlife Resources (Terrestrial) | 4.7-39 |
| Table 4.7-11 | Area of each Wildlife Community Removed by Vegetation Clearing within the Entire Project Development Area..... | 4.7-43 |
| Table 4.7-12 | Total Habitat and Preferred Habitat for Selected Species of Management Concern that will be Removed by Vegetation Clearing within the Entire Project Development Area | 4.7-47 |
| Table 4.7-13 | Total Habitat and Preferred Habitat Alteration by Sensory Disturbance from the Project for Selected Species of Management Concern within the Local Assessment Area | 4.7-48 |
| Table 4.7-14 | Mitigation Measures Proposed to Avoid or Reduce Change in Mortality Risk for Wildlife Resources (Terrestrial)..... | 4.7-59 |
| Table 4.7-15 | Mitigation Measures Proposed to Avoid or Reduce Change in Movement for Wildlife Resources (Terrestrial)..... | 4.7-69 |
| Table 4.7-16 | Summary of Project Residual Effects on Wildlife Resources (Terrestrial)..... | 4.7-75 |

| | | |
|--------------|---|--------|
| Table 4.7-17 | Species Listed on Schedule 1 of SARA Known or Potentially Occurring in the Local Assessment Area | 4.7-77 |
| Table 4.7-18 | Potential Cumulative Effects on Wildlife Resources (Terrestrial) | 4.7-82 |
| Table 4.7-19 | Total Area of each Wildlife Habitat Community Removed by Past, Present, and Reasonably Foreseeable Future Projects and Physical Activities within the Regional Assessment Area..... | 4.7-87 |
| Table 4.7-20 | Summary of Residual Cumulative Effects on Wildlife Resources (Terrestrial)... | 4.7-95 |
| Table 4.8-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Freshwater Fish and Fish Habitat | 4.8-3 |
| Table 4.8-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.8-7 |
| Table 4.8-3 | Potential Effects and Measurable Parameters for Freshwater Fish and Fish Habitat..... | 4.8-11 |
| Table 4.8-4 | Spatial Boundaries for Freshwater Fish and Fish Habitat | 4.8-13 |
| Table 4.8-5 | Characterization of Residual Effects on Freshwater Fish and Fish Habitat | 4.8-17 |
| Table 4.8-6 | Significance Thresholds for Residual Effects | 4.8-20 |
| Table 4.8-7 | Physical Habitat Criteria for the Assessment of Fish Habitat Quality in the Study Area..... | 4.8-23 |
| Table 4.8-8 | Fish Species Captured in LAA | 4.8-27 |
| Table 4.8-9 | Potential Project Interactions and Effects on Freshwater Fish and Fish Habitat | 4.8-33 |
| Table 4.8-10 | Project Interactions, Activities and Potential Effects on Fish Habitat | 4.8-37 |
| Table 4.8-11 | Mitigation Measures Proposed to Avoid or Reduce Change in Fish Habitat..... | 4.8-43 |
| Table 4.8-12 | Instream Area in the PDA | 4.8-47 |
| Table 4.8-13 | Area of Potentially Affected Fish Habitat in the PDA | 4.8-47 |
| Table 4.8-14 | Project Interactions, Activities and Potential Effects on Fish Mortality or Health | 4.8-49 |
| Table 4.8-15 | Mitigation Measures Proposed to Avoid or Reduce Change in Fish Mortality or Health..... | 4.8-55 |
| Table 4.8-16 | Project Interactions, Activities and Potential Effects on Fish Abundance or Relative Abundance..... | 4.8-59 |
| Table 4.8-17 | Summary of Project Residual Effects on Freshwater Fish and Fish Habitat..... | 4.8-64 |
| Table 4.8-18 | Potential Cumulative Effects on Freshwater Fish and Fish Habitat..... | 4.8-67 |
| Table 4.8-19 | Summary of Residual Cumulative Effects on Freshwater Fish and Fish Habitat | 4.8-74 |
| Table 4.9-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Marine Fish and Fish Habitat | 4.9-2 |
| Table 4.9-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.9-5 |
| Table 4.9-3 | Potential Effects and Measurable Parameters for Marine Fish and Fish Habitat | 4.9-9 |
| Table 4.9-4 | Spatial Boundaries for Marine Fish and Fish Habitat | 4.9-11 |
| Table 4.9-5 | Characterization of Residual Effects on Marine Fish and Fish Habitat | 4.9-15 |
| Table 4.9-6 | Summary of Field Studies Completed for Marine Fish and Fish Habitat..... | 4.9-18 |

| | | |
|---------------|--|---------|
| Table 4.9-7 | Marine Fish of Management Concern Known or Potentially Occurring within the Marine Fish and Fish Habitat Local and Regional Assessment Areas..... | 4.9-23 |
| Table 4.9-8 | Potential Project Interactions and Effects on Marine Fish and Fish Habitat..... | 4.9-27 |
| Table 4.9-9 | Marine Fish Habitat Types Potentially Affected by the Project..... | 4.9-31 |
| Table 4.9-10 | Proposed Dredge Areas (m ²) and Volumes (m ³) for the LNG Jetty Berths and MOF | 4.9-32 |
| Table 4.9-11 | Mitigation Measures Proposed to Avoid or Reduce Change in Habitat..... | 4.9-37 |
| Table 4.9-12 | Areas (m ²) of Marine Fish Habitat Permanently Altered or Lost for each Project Component..... | 4.9-41 |
| Table 4.9-13 | Area (m ²) of Marine Fish Habitat Permanently Altered or Lost for each Project Activity..... | 4.9-42 |
| Table 4.9-14 | Areas (m ²) of Substrate and Eelgrass Shaded by Marine Infrastructure..... | 4.9-56 |
| Table 4.9-15 | Mitigation Measures Proposed to Avoid or Reduce Change in Behaviour..... | 4.9-67 |
| Table 4.9-16 | Peak Sound Pressure Levels and Peak Frequency Recorded at Approximately 150 m from Clamshell Dredger in Cook Inlet, Alaska (Results Published in Dickerson et al. 2001) | 4.9-71 |
| Table 4.9-17 | Mortality and Impairment Criteria for Impact Pile Driving (based on Popper et al. 2014) | 4.9-81 |
| Table 4.9-18 | Mitigation Measures Proposed to Avoid or Reduce Change in Mortality Risk ... | 4.9-85 |
| Table 4.9-19 | Modelled Distances to Fish Injury and Mortality Thresholds for Impact Pile Driving with Confined Bubble Curtain at the MOF and LNG Jetty (thresholds based on Popper et al. 2014)..... | 4.9-95 |
| Table 4.9-20 | Mitigation Measures Proposed to Avoid or Reduce Change in Health..... | 4.9-103 |
| Table 4.9-21 | Summary of Project Residual Effects on Marine Fish and Fish Habitat..... | 4.9-113 |
| Table 4.9-22 | Potential Cumulative Effects on Marine Fish and Fish Habitat..... | 4.9-115 |
| Table 4.9-23 | Summary of Residual Cumulative Effects on Marine Fish and Fish Habitat | 4.9-125 |
| Table 4.10-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.10-4 |
| Table 4.10-2 | Potential Effects and Measurable Parameters for Marine Mammals | 4.10-8 |
| Table 4.10-3 | Spatial Boundaries for Marine Mammals | 4.10-9 |
| Table 4.10-4 | Characterization of Residual Effects on Marine Mammals | 4.10-16 |
| Table 4.10-5 | Conservation Status of Marine Mammal Species in the Marine Mammal RAA..... | 4.10-22 |
| Table 4.10-6 | Marine Mammal Estimated Abundance within the RAA from Conventional Distance Sampling | 4.10-25 |
| Table 4.10-7 | Potential Project Interactions and Effects on Marine Mammals | 4.10-28 |
| Table 4.10-8 | Mitigation Measures Proposed to Avoid or Reduce Change in Health for Marine Mammals..... | 4.10-41 |
| Table 4.10-9 | Mitigation Measures Proposed to Avoid or Reduce Change in Behaviour for Marine Mammals..... | 4.10-55 |
| Table 4.10-10 | Mitigation Measures Proposed to Avoid or Reduce Change in Mortality Risk for Marine Mammals..... | 4.10-67 |
| Table 4.10-11 | Summary of Project Residual Effects on Marine Mammals..... | 4.10-71 |

| | | |
|---------------|--|---------|
| Table 4.10-12 | Species Listed on Schedule 1 of SARA Known or Potentially Occurring in the Regional Assessment Area..... | 4.10-73 |
| Table 4.10-13 | Potential Cumulative Effects on Marine Mammals | 4.10-76 |
| Table 4.10-14 | Summary of Residual Cumulative Effects on Marine Mammals..... | 4.10-84 |
| Table 4.11-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Marine Birds | 4.11-2 |
| Table 4.11-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 4.11-5 |
| Table 4.11-3 | Potential Effects and Measurable Parameters for Marine Birds | 4.11-7 |
| Table 4.11-4 | Spatial Boundaries for Marine Birds | 4.11-8 |
| Table 4.11-5 | Characterization of Residual Effects on Marine Birds | 4.11-12 |
| Table 4.11-6 | Summary of Field Studies Completed for Marine Birds..... | 4.11-16 |
| Table 4.11-7 | Marine Bird Species of Management Concern Known or Potentially Occurring within the Marine Bird Local and Regional Assessment Areas..... | 4.11-18 |
| Table 4.11-8 | Potential Project Interactions and Effects on Marine Birds..... | 4.11-20 |
| Table 4.11-9 | Mitigation Measures Proposed to Avoid or Reduce Change in Habitat..... | 4.11-25 |
| Table 4.11-10 | Mitigation Measures Proposed to Avoid or Reduce Change in Mortality Risk for Marine Birds..... | 4.11-31 |
| Table 4.11-11 | Mitigation Measures Proposed to Avoid or Reduce Change in Behaviour for Marine Birds | 4.11-39 |
| Table 4.11-12 | Summary of Project Residual Effects on Marine Birds | 4.11-42 |
| Table 4.11-13 | Species Listed on Schedule 1 of SARA Known or Potentially Occurring in the Regional Assessment Area..... | 4.11-45 |
| Table 4.11-14 | Potential Cumulative Effects on Marine Birds..... | 4.11-47 |
| Table 4.11-15 | Summary of Residual Cumulative Effects on Marine Birds | 4.11-55 |
| Table 4.12-1 | Summary of Project Residual Effects on Air Quality..... | 4.12-1 |
| Table 4.12-2 | Summary of Project Residual Effects on Greenhouse Gases | 4.12-2 |
| Table 4.12-3 | Summary of Project Residual Effects on Acoustic Environment | 4.12-4 |
| Table 4.12-4 | Summary of Project Residual Effects on Water Quality | 4.12-5 |
| Table 4.12-5 | Summary of Project Residual Effects on Vegetation and Wetland Resources .. | 4.12-6 |
| Table 4.12-6 | Summary of Project Residual Effects on Wildlife Resources | 4.12-8 |
| Table 4.12-7 | Summary of Project Residual Effects on Freshwater Fish and Fish Habitat | 4.12-10 |
| Table 4.12-8 | Summary of Project Residual Effects on Marine Fish and Fish Habitat | 4.12-12 |
| Table 4.12-9 | Summary of Project Residual Effects on Marine Mammals..... | 4.12-15 |
| Table 4.12-10 | Summary of Project Residual Effects on Marine Birds | 4.12-17 |
| Table 5.2-1 | Summary of Influence of Consultation on the Assessment | 5.2-4 |
| Table 5.2-2 | Potential Effects and Measurable Parameters for Economic Conditions | 5.2-5 |
| Table 5.2-3 | Spatial Boundaries for Economic Conditions..... | 5.2-7 |
| Table 5.2-4 | Census Subdivisions Comprising the LAA and RAA..... | 5.2-9 |
| Table 5.2-5 | Characterization of Residual Effects on Economic Conditions..... | 5.2-11 |

| | | |
|--------------|--|--------|
| Table 5.2-6 | Population of the LAA, RAA and British Columbia, 2006 and 2011 | 5.2-15 |
| Table 5.2-7 | Aboriginal Population of the LAA, RAA and British Columbia, 2006 and 2011 .. | 5.2-16 |
| Table 5.2-8 | Population of Aboriginal Groups with Reserves in the RAA, July 2016..... | 5.2-17 |
| Table 5.2-9 | ER 5950 North Coast and ER 5970 Nechako, Labour Force Survey, 2011 to 2015 | 5.2-17 |
| Table 5.2-10 | Labour Force Participation in the LAA and RAA, 2006 and 2011 | 5.2-19 |
| Table 5.2-11 | Unemployment in LAA and RAA, 2006 and 2011..... | 5.2-20 |
| Table 5.2-12 | Aboriginal Labour Force Characteristics, 2006 and 2011..... | 5.2-21 |
| Table 5.2-13 | Aboriginal Unemployment in the LAA and RAA, 2006 and 2011 | 5.2-22 |
| Table 5.2-14 | Income and Earnings, 2010 | 5.2-23 |
| Table 5.2-15 | Educational Attainment as Percent of Population Aged 15 Years and Older (2011)..... | 5.2-25 |
| Table 5.2-16 | Employment by Occupation – LAA, RAA and BC (2010) | 5.2-27 |
| Table 5.2-17 | LAA (Total Population) Labour Force by Industry (2006 and 2011)..... | 5.2-30 |
| Table 5.2-18 | LAA Aboriginal Labour Force by Industry (2006 and 2011) | 5.2-32 |
| Table 5.2-19 | RAA (Total Population) Labour Force by Industry (2006 and 2011) | 5.2-33 |
| Table 5.2-20 | RAA Aboriginal Labour Force by Industry (2006 and 2011)..... | 5.2-34 |
| Table 5.2-21 | Metlakatla Average Income Levels, 2015 | 5.2-36 |
| Table 5.2-22 | Average Metlakatla Educational Attainment as Percent of Population Aged 15 Years and Older (2011) | 5.2-37 |
| Table 5.2-23 | Top Employers in the LAA | 5.2-38 |
| Table 5.2-24 | Employers in the RAA..... | 5.2-39 |
| Table 5.2-25 | Major Projects Proposed in LAA | 5.2-41 |
| Table 5.2-26 | Major Projects Within RAA..... | 5.2-43 |
| Table 5.2-27 | Major Projects Outside the RAA Likely to Affect RAA Communities | 5.2-44 |
| Table 5.2-28 | Annual Allowable Harvest Volume of North Coast TSA license holders | 5.2-45 |
| Table 5.2-29 | Value of Commercial Salmon Landings (\$)ª, FMA 4 and 104 | 5.2-46 |
| Table 5.2-30 | Value of Commercial Groundfish Trawl Landings (\$)ª, FMA 4 | 5.2-47 |
| Table 5.2-31 | Value of Commercial Shrimp Trawl Fishery (\$)ª, FMA 4 | 5.2-48 |
| Table 5.2-32 | Potential Project Interactions and Effects on Economic Conditions | 5.2-53 |
| Table 5.2-33 | Prince Rupert Employment Ratios..... | 5.2-56 |
| Table 5.2-34 | Mitigation Measures Proposed to Avoid or Reduce Labour Supply and Demand..... | 5.2-59 |
| Table 5.2-35 | Summary of Potential Project Construction Employment Effects in the RAA..... | 5.2-62 |
| Table 5.2-36 | Summary of Potential Project Operations Employment Effects in the RAA | 5.2-65 |
| Table 5.2-37 | Mitigation Measures Proposed to Avoid or Reduce Change in activities for Commercial Businesses affected by Project Spending | 5.2-69 |
| Table 5.2-38 | Estimated Purchases of Goods and Services in Northwest BC during Construction | 5.2-72 |

| | | |
|--------------|--|--------|
| Table 5.2-39 | Estimated Annual Purchases of Goods and Services within BC by Commodity and Service During Operations | 5.2-74 |
| Table 5.2-40 | Mitigation Measures Proposed to Avoid or Reduce Change in Resource-based Primary and Subsistence Economies | 5.2-79 |
| Table 5.2-41 | Summary of Project Residual Effects on Economic Conditions | 5.2-87 |
| Table 5.2-42 | Potential Cumulative Effects on Economic Conditions | 5.2-88 |
| Table 5.2-43 | Summary of Residual Cumulative Effects on Economic Conditions | 5.2-97 |
| Table 5.3-1 | Summary of Project Residual Effects on Economic Conditions | 5.3-2 |
| Table 6.2-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Visual Quality | 6.2-2 |
| Table 6.2-2 | Summary of Key Information and Issues that Influence the Scope of the Assessment..... | 6.2-3 |
| Table 6.2-3 | Potential Effects and Measurable Parameters for Visual Quality | 6.2-5 |
| Table 6.2-4 | Spatial Boundaries for Visual Quality..... | 6.2-6 |
| Table 6.2-5 | Characterization of Residual Effects on Visual Quality..... | 6.2-9 |
| Table 6.2-6 | Visual Quality Class Definitions | 6.2-13 |
| Table 6.2-7 | Environmental Zones | 6.2-14 |
| Table 6.2-8 | Bortle Scale..... | 6.2-15 |
| Table 6.2-9 | Visual Sensitivity Classification..... | 6.2-18 |
| Table 6.2-10 | Viewpoints..... | 6.2-22 |
| Table 6.2-11 | Priority Viewpoints Existing Conditions..... | 6.2-25 |
| Table 6.2-12 | Potential Project Interactions and Effect on Visual Quality..... | 6.2-31 |
| Table 6.2-13 | Mitigation Measures Proposed to Avoid or Reduce Reduction in Visual Quality | 6.2-35 |
| Table 6.2-14 | Existing Visual Condition of Priority Viewpoints - Existing and Project Condition | 6.2-39 |
| Table 6.2-15 | Summary of Project Residual Effects on Visual Quality | 6.2-48 |
| Table 6.2-16 | Potential Cumulative Effects on Visual Quality..... | 6.2-49 |
| Table 6.2-17 | Summary of Residual Cumulative Effects on Visual Quality | 6.2-52 |
| Table 6.3-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 6.3-3 |
| Table 6.3-2 | Potential Effects and Measurable Parameters for Infrastructure and Services | 6.3-5 |
| Table 6.3-3 | Spatial Boundaries for Infrastructure and Services | 6.3-7 |
| Table 6.3-4 | Characterization of Residual Effects on Infrastructure and Services | 6.3-10 |
| Table 6.3-5 | LAA and RAA Population Characteristics, 2011 | 6.3-12 |
| Table 6.3-6 | LAA and RAA Population Change, 2001-2011 | 6.3-14 |
| Table 6.3-7 | 2016 Registered On and Off Reserve Aboriginal Populations in the LAA and RAA ¹ | 6.3-15 |
| Table 6.3-8 | School District 52 (Prince Rupert) 2014 Average Class Sizes | 6.3-17 |
| Table 6.3-9 | Available Health Practitioners per 100,000 Population, 2009-2010 | 6.3-18 |

| | | |
|--------------|--|--------|
| Table 6.3-10 | Aboriginal Health Services in the LAA | 6.3-25 |
| Table 6.3-11 | Fire Departments in the LAA..... | 6.3-27 |
| Table 6.3-12 | Estimate of Investment Required to Maintain Current Operations (Potable Water) | 6.3-29 |
| Table 6.3-13 | Potable Water and Waste Water Capacity, Prince Rupert and Port Edward | 6.3-30 |
| Table 6.3-14 | Estimate of Investment Required to Maintain Current Operations (Waste Water) | 6.3-31 |
| Table 6.3-15 | Traffic Volumes on Provincial Highways in the LAA | 6.3-34 |
| Table 6.3-16 | Private Dwellings, Owned and Rented in the LAA and RAA, 2011 | 6.3-37 |
| Table 6.3-17 | Households in Core Housing Need in 2011 – LAA and Terrace CMA | 6.3-40 |
| Table 6.3-18 | STRI in 2011, LAA, Terrace CMA and BC..... | 6.3-42 |
| Table 6.3-19 | Non-Market Housing Sector Capacity, Prince Rupert | 6.3-44 |
| Table 6.3-20 | Potential Project Interactions and Effects on Infrastructure and Services | 6.3-47 |
| Table 6.3-21 | Mitigation Measures Proposed to Avoid or Reduce Effects on Community Infrastructure and Services | 6.3-55 |
| Table 6.3-22 | Mitigation Measures Proposed to Avoid or Reduce Effects on Accommodations..... | 6.3-63 |
| Table 6.3-23 | Mitigation Measures Proposed to Avoid or Reduce Effects on Transportation Infrastructure and Services | 6.3-69 |
| Table 6.3-24 | Change in Traffic Volumes on Highway 16 - Construction | 6.3-72 |
| Table 6.3-25 | Change in Traffic Volumes on Highway 16 - Operations..... | 6.3-73 |
| Table 6.3-26 | Mitigation Measures Proposed to Avoid or Reduce Effects on Health Care Infrastructure and Services | 6.3-75 |
| Table 6.3-27 | Summary of Project Residual Effects on Infrastructure and Services | 6.3-79 |
| Table 6.3-28 | Potential Cumulative Effects on Infrastructure and Services..... | 6.3-81 |
| Table 6.3-29 | Summary of Residual Cumulative Effects on Infrastructure and Services | 6.3-92 |
| Table 6.4-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Land and Resource Use | 6.4-3 |
| Table 6.4-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 6.4-3 |
| Table 6.4-3 | Potential Effects and Measurable Parameters for Land and Resource Use | 6.4-5 |
| Table 6.4-4 | Spatial Boundaries for Land and Resource Use..... | 6.4-5 |
| Table 6.4-5 | Administrative Boundaries for Land and Resource Use | 6.4-8 |
| Table 6.4-6 | Characterization of Residual Effects on Land and Resource Use..... | 6.4-9 |
| Table 6.4-7 | Great Bear Rainforest Areas within the RAA..... | 6.4-14 |
| Table 6.4-8 | Guide Outfitter Areas Overlapped..... | 6.4-17 |
| Table 6.4-9 | Trapline Tenure Areas Overlapped..... | 6.4-18 |
| Table 6.4-10 | Map Reserve and Crown Land Withdrawals Overlap within PDA and LAA | 6.4-21 |
| Table 6.4-11 | Notations of Interest Overlap within the PDA and LAA..... | 6.4-22 |
| Table 6.4-12 | Community and Residential Tenures..... | 6.4-27 |

| | | |
|--------------|---|--------|
| Table 6.4-13 | Wildlife Management Units Overlapped..... | 6.4-34 |
| Table 6.4-14 | Resident Hunter and Non-Resident Hunter Statistics: WMU 6-14 (2013)..... | 6.4-35 |
| Table 6.4-15 | Potential Project Interactions and Effects on Land and Resource Use | 6.4-37 |
| Table 6.4-16 | Mitigation Measures Proposed to Avoid or Reduce Effects on Tenured Land Use and Private Property | 6.4-43 |
| Table 6.4-17 | Mitigation Measures for Change in Non-Tenured Land Use | 6.4-63 |
| Table 6.4-18 | Summary of Project Residual Effects on Land and Resource Use | 6.4-87 |
| Table 6.4-19 | Potential Cumulative Effects on Land and Resource Use | 6.4-88 |
| Table 6.4-20 | Summary of Residual Cumulative Effects on Land and Resource Use | 6.4-94 |
| Table 6.5-1 | Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Marine Use and Navigable Waters | 6.5-2 |
| Table 6.5-2 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 6.5-4 |
| Table 6.5-3 | Potential Effects and Measurable Parameters for Marine Use and Navigable Waters..... | 6.5-6 |
| Table 6.5-4 | Spatial Boundaries for Marine Use and Navigable Waters..... | 6.5-7 |
| Table 6.5-5 | Characterization of Residual Effects on Marine Use and Navigable Waters..... | 6.5-12 |
| Table 6.5-6 | Number of Large Vessel Visits by Port, 2010-2015..... | 6.5-21 |
| Table 6.5-7 | Length Overall Summary by Port..... | 6.5-22 |
| Table 6.5-8 | Commercial Fisheries | 6.5-23 |
| Table 6.5-9 | Dive-Based Fishing Grounds | 6.5-30 |
| Table 6.5-10 | Recreational Fishing Grounds | 6.5-34 |
| Table 6.5-11 | Species Harvested by Aboriginal Groups | 6.5-36 |
| Table 6.5-12 | Potential Project Interactions and Effects on Marine Use and Navigable Waters | 6.5-46 |
| Table 6.5-13 | Mitigation Measures Proposed to Avoid or Reduce Effects on Marine Navigation | 6.5-51 |
| Table 6.5-14 | Mitigation Measures Proposed to Avoid or Reduce Effects on Marine Fisheries and Other Uses | 6.5-57 |
| Table 6.5-15 | Summary of Potential Fishery-Shipping Interactions..... | 6.5-59 |
| Table 6.5-16 | Summary of Project Residual Effects on Marine Use and Navigable Waters | 6.5-63 |
| Table 6.5-17 | Potential Cumulative Effects on Marine Use and Navigable Waters..... | 6.5-64 |
| Table 6.5-18 | Summary of Residual Cumulative Effects on Marine Use and Navigable Waters..... | 6.5-71 |
| Table 6.6-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 6.6-4 |
| Table 6.6-2 | Potential Effects and Measurable Parameters for Community Health | 6.6-6 |
| Table 6.6-3 | Spatial Boundaries for Community Health | 6.6-7 |
| Table 6.6-4 | Administrative Boundaries | 6.6-9 |
| Table 6.6-5 | Characterization of Residual Effects on Community Health..... | 6.6-11 |

| | | |
|--------------|--|---------|
| Table 6.6-6 | DOH Not Included in Section 6.6 (Community Health)..... | 6.6-15 |
| Table 6.6-7 | 2005/2007 Age-Standardized Mortality Rates (per 100,000 population) – NW HSDA and BC | 6.6-18 |
| Table 6.6-8 | Newly Diagnosed Select Health Conditions – LHA 52 and 88, NW HSDA and BC (2011) and Metlakatla (2015)..... | 6.6-19 |
| Table 6.6-9 | Income Distribution – LAA & RAA (2011), Metlakatla First Nation (2015)..... | 6.6-22 |
| Table 6.6-10 | Children and Youth on Income Assistance and Youth Receiving EI – LHA 52, LHA 88, BC | 6.6-26 |
| Table 6.6-11 | Serious Violent Crime and Serious Drug Crime – LHA 52, LHA 88 BC | 6.6-29 |
| Table 6.6-12 | Serious Juvenile Crime and Serious Juvenile Drug Crime – LHA 52, LHA 88 and BC | 6.6-29 |
| Table 6.6-13 | Consumption of Healthy Foods – Metlakatla Membership (2015)..... | 6.6-30 |
| Table 6.6-14 | Student Consumption of Fruits and Vegetables, Physical Activity and Smoking – LHA 52, LHA 88 and BC – 2010 to 2011..... | 6.6-32 |
| Table 6.6-15 | Country Foods Harvested by Aboriginal Groups Within the Project Vicinity | 6.6-34 |
| Table 6.6-16 | Health Benefits of Select Country Foods | 6.6-36 |
| Table 6.6-17 | Potential Project Interactions and Effects on Community Health | 6.6-43 |
| Table 6.6-18 | Mitigation Measures Proposed to Avoid or Reduce Change in Community Health and Wellness | 6.6-53 |
| Table 6.6-19 | Estimated Reportable Injuries..... | 6.6-66 |
| Table 6.6-20 | Estimated Motor Vehicle Incidents..... | 6.6-68 |
| Table 6.6-21 | Mitigation Measures Proposed to Enhance, Avoid or Reduce Change in Harvested Foods..... | 6.6-75 |
| Table 6.6-22 | Summary of Project Residual Effects on Community Health | 6.6-103 |
| Table 6.6-23 | Potential Cumulative Effects on Community Health | 6.6-104 |
| Table 6.6-24 | Summary of Residual Cumulative Effects on Community Health..... | 6.6-112 |
| Table 6.7-1 | Summary of Project Residual Effects on Visual Quality | 6.7-2 |
| Table 6.7-2 | Summary of Project Residual Effects on Infrastructure and Services | 6.7-4 |
| Table 6.7-3 | Summary of Project Residual Effects on Land and Resource Use | 6.7-8 |
| Table 6.7-4 | Summary of Project Residual Effects on Marine Use and Navigable Waters | 6.7-10 |
| Table 6.7-5 | Summary of Project Residual Effects on Community Health | 6.7-12 |
| Table 7-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 7-6 |
| Table 7-2 | Potential Effects and Measurable Parameters for Archaeological and Heritage Resources | 7-9 |
| Table 7-3 | Spatial Boundaries for Archaeological and Heritage Resources | 7-9 |
| Table 7-4 | Characterization of Residual Effects on Archaeological and Heritage Resources | 7-11 |
| Table 7-5 | Summary of Field Studies Completed for Archaeological and Heritage Resources | 7-15 |

| | | |
|--------------|---|-------|
| Table 7-6 | Potential Project Interactions and Effects on Archaeological and Heritage Resources | 7-18 |
| Table 7-7 | Mitigation Measures Proposed to Avoid or Reduce Loss of Information About, or Alteration to, Site Contents or Context | 7-23 |
| Table 7-8 | Archaeological and Heritage Resources within the LAA | 7-27 |
| Table 7-9 | Summary of Project Residual Effects on Archaeological and Heritage Resources | 7-29 |
| Table 7-10 | Summary of Project Residual Effects on Archaeological and Heritage Resources | 7-32 |
| Table 8.2-1 | Summary of Key Information and Concerns that Influenced the Scope of the Assessment..... | 8-5 |
| Table 8.2-2 | Potential Effects and Measurable Parameters for Human Health | 8-8 |
| Table 8.2-3 | Spatial Boundaries for Human Health..... | 8-9 |
| Table 8.2-4 | Characterization of Residual Effects on Human Health..... | 8-13 |
| Table 8.2-5 | Significance Thresholds for Residual Effects | 8-15 |
| Table 8.2-6 | Base Case (Existing) Concentration Ratios for Health Risks from Airborne COPCs | 8-19 |
| Table 8.2-7 | Baseline Hazard Quotients for Toddlers and Adults Consuming Marine Foods ... | 8-22 |
| Table 8.2-8 | Project Interactions with Human Health..... | 8-26 |
| Table 8.2-9 | Base Case (Existing) and Application Case (Operations) Concentration Ratio | 8-32 |
| Table 8.2-10 | Summary of Project Residual Effects on Human Health | 8-39 |
| Table 8.2-11 | Potential Cumulative Effects on Human Health..... | 8-40 |
| Table 8.2-12 | Base (Existing), Application (Operations) and Cumulative Effects Assessment Case Concentration Ratios | 8-45 |
| Table 8.2-13 | Summary of Residual Cumulative Effects on Human Health | 8-47 |
| Table 8.3-1 | Summary of Project Residual Effects on Human Health | 8-50 |
| Table 9.2-1 | Risk Matrix | 9-5 |
| Table 9.3-1 | Potential Interactions of Project Accident or Malfunction Events with VCs | 9-6 |
| Table 9.5-1 | Summary of Residual Effects – Facility Impact from Aircraft..... | 9-11 |
| Table 9.6-1 | Summary of Residual Effects – On-shore Fires and Explosions..... | 9-19 |
| Table 9.7-1 | Summary of Residual Effects – LNG Plant Malfunctions..... | 9-23 |
| Table 9.8-1 | Summary of Residual Effects – On-shore Hazardous Spills | 9-33 |
| Table 9.9-1 | Summary of Residual Effects – Vessel Grounding or Collision..... | 9-43 |
| Table 9.10-1 | Summary of Residual Effects – LNG Release at the Loading Facility..... | 9-49 |
| Table 10.1-1 | Risk Matrix for Effects of the Environment on the Project | 10-3 |
| Table 10.2-1 | Summary of Design Spectra for the Aurora LNG Facility (Al Atik and Gregor 2015) | 10-11 |
| Table 10.2-2 | Seismic Generated Tsunamis Recorded at Prince Rupert..... | 10-13 |
| Table 10.2-3 | Wildfire Statistics for BC, Northwest Fire Centre and Skeena Zone | 10-17 |

| | | |
|---------------|---|--------|
| Table 10.2-4 | Projected Changes in Climate Variables from the Baseline for the greater Prince Rupert Area..... | 10-22 |
| Table 11.2-1 | Application Sections Applicable to the Environmental Effects Defined by Sections 5(1)(a) and (b) and 5(2)(a) and (b) of CEAA 2012..... | 11-3 |
| Table 11.2-2 | Summary of Assessment of CEAA Requirements..... | 11-7 |
| Table 11.2-3 | Summary of Residual Effects on Federal Lands Not Limited to Environmental Effects Defined Under Paragraph (5(1)(a) of CEAA 2012..... | 11-13 |
| Table 11.2-4 | Section 5(2): Changes to the Environmental that are Directly Linked or Necessarily Incidental to Federal Decisions Under Acts other than CEAA 2012..... | 11-17 |
| Table 11.3-1 | Regulatory Guidance Documents..... | 11-23 |
| Table 11.3-2 | Section (5)(1)(c) Effects, Referenced Environmental Effects, Measurable Parameters, and Referenced VCs..... | 11-25 |
| Table 11.3-3 | Potential Project Environmental Effects on Section 5(1)(c) Effects..... | 11-27 |
| Table 11.3-4 | Spatial Boundaries for Each Section 5(1)(c) Effect..... | 11-30 |
| Table 11.3-5 | Strategic Land Use Planning Agreements..... | 11-36 |
| Table 11.3-6 | Characterization of Residual Effects on Section 5(1)(c) Effects..... | 11-38 |
| Table 11.3-7 | Further Definitions of Magnitude..... | 11-40 |
| Table 11.3-8 | Potential Project Interactions with Section 5(1)(c) Effects..... | 11-44 |
| Table 11.3-9 | VCs and Relevant Potential Effects for Consumptive Current Use..... | 11-48 |
| Table 11.3-10 | VCs and Relevant Potential Effects for Non-Consumptive Current Use..... | 11-50 |
| Table 11.3-11 | Key Part B Mitigation Measures Proposed to Avoid or Reduce Effects Relevant to Current Use..... | 11-51 |
| Table 11.3-12 | Key Part B Mitigation Measures Proposed to Avoid or Reduce Effects Relevant to Aboriginal Health..... | 11-60 |
| Table 11.3-13 | Key Part B Mitigation Measures Proposed to Avoid or Reduce Effects Relevant to Aboriginal Socio-economic conditions..... | 11-62 |
| Table 11.3-14 | Characterizations for Current Use—Lax Kw’alaams Band..... | 11-98 |
| Table 11.3-15 | Characterizations for Aboriginal Health—Lax Kw’alaams Band..... | 11-103 |
| Table 11.3-16 | Characterizations for Socio-Economic Conditions - Lax Kw’alaams Band..... | 11-106 |
| Table 11.3-17 | Characterizations for Aboriginal Physical and Cultural Heritage—Lax Kw’alaams Band..... | 11-109 |
| Table 11.3-18 | Characterizations for Current Use—Metlakatla First Nation..... | 11-149 |
| Table 11.3-19 | Characterizations for Aboriginal Health—Metlakatla First Nation..... | 11-154 |
| Table 11.3-20 | Characterizations for Socio-Economic Conditions—Metlakatla First Nation..... | 11-157 |
| Table 11.3-21 | Characterizations for Aboriginal Physical and Cultural Heritage—Metlakatla First Nation..... | 11-161 |
| Table 11.3-22 | Characterizations for Current Use - Gitxaala Nation..... | 11-198 |
| Table 11.3-23 | Characterizations for Aboriginal Health—Gitxaala Nation..... | 11-203 |
| Table 11.3-24 | Characterizations for Socio-Economic Conditions—Gitxaala Nation..... | 11-206 |

| | | |
|---------------|--|--------|
| Table 11.3-25 | Characterizations for Aboriginal Physical and Cultural Heritage - Gitxaala Nation..... | 11-209 |
| Table 11.3-26 | Characterizations for Current Use—Kitsumkalum First Nation | 11-246 |
| Table 11.3-27 | Characterizations for Aboriginal Health—Kitsumkalum First Nation | 11-251 |
| Table 11.3 28 | Characterizations for Socio-Economic Conditions—Kitsumkalum First Nation..... | 11-252 |
| Table 11.3-29 | Characterizations for Aboriginal Physical and Cultural Heritage—Kitsumkalum First Nation | 11-257 |
| Table 11.3-30 | Characterizations for Current Use - Kitselas First Nation | 11-291 |
| Table 11.3-31 | Characterizations for Aboriginal Health—Kitselas First Nation | 11-295 |
| Table 11.3 32 | Characterizations for Socio-Economic Conditions—Kitselas First Nation..... | 11-297 |
| Table 11.3-33 | Characterizations for Aboriginal Physical and Cultural Heritage—Kitselas First Nation | 11-302 |
| Table 11.3-34 | Characterizations for Current Use—Gitga’at First Nation..... | 11-335 |
| Table 11.3-35 | Characterizations for Aboriginal Health – Gitga’at First Nation | 11-340 |
| Table 11.3 36 | Characterizations for Socio-Economic Conditions - Gitga’at First Nation | 11-341 |
| Table 11.3-37 | Characterizations for Aboriginal Physical and Cultural Heritage—Gitga’at First Nation | 11-346 |
| Table 11.3-38 | Characterizations for Current Use - Métis Nation BC | 11-370 |
| Table 11.3-39 | Characterizations for Aboriginal Health—Métis Nation BC | 11-374 |
| Table 11.3 40 | Characterizations for Socio-Economic Conditions—Métis Nation BC..... | 11-375 |
| Table 11.3-41 | Characterizations for Aboriginal Physical and Cultural Heritage—Métis Nation BC | 11-380 |
| Table 11.4-1 | Potential Cumulative Effects on Section 5(1)(c) Effects | 11-382 |
| Table 11.4-2 | Summary of Residual Cumulative Effects on Current Use..... | 11-404 |
| Table 11.4-3 | Summary of Residual Cumulative Effects on Aboriginal Health..... | 11-409 |
| Table 11.4-4 | Summary of Residual Cumulative Effects on Aboriginal Socio-Economic Conditions | 11-414 |
| Table 11.4-5 | Summary of Residual Cumulative Effects on Aboriginal Physical and Cultural Heritage..... | 11-417 |
| Table 11.6-1 | Summary of Potential Adverse Effects Caused by Accident or Malfunction Events related to Section 5(1)(c) Effects | 11-419 |
| Table 11.7-1 | Views of Lax Kw’alaams Band on the Assessment of Section 5(1)(c) Effects .. | 11-424 |
| Table 11.7-2 | Views of Metlakatla First Nation on the Assessment of Section 5(1)(c) Effects | 11-426 |
| Table 11.7-3 | Views of Gitxaala Nation on the Assessment of Section 5(1)(c) Effects | 11-428 |
| Table 11.7-4 | Views of Kitsumkalum First Nation on the Assessment of Section 5(1)(c) Effects..... | 11-432 |
| Table 11.7-5 | Views of Kitselas First Nation on the Assessment of Section 5(1)(c) Effects.... | 11-434 |
| Table 11.7-6 | Views of Gitga’at First Nation on the Assessment of Section 5(1)(c) Effects | 11-436 |
| Table 11.9-1 | CEAA 2012 Summary Table..... | 11-441 |

Part C

| | | |
|--------------|--|--------|
| Table 12.1-1 | Aboriginal Groups as Set Out in the Section 11 Order (as amended)..... | 12-1 |
| Table 12.1-2 | Key Findings of Effects on Lax Kw’alaams Band Aboriginal Interests | 12-3 |
| Table 12.1-3 | Key Findings of Effects on Metlakatla First Nation Aboriginal Interests | 12-4 |
| Table 12.1-4 | Key Findings of Effects on Gitxaala Nation Aboriginal Interests | 12-6 |
| Table 12.1-5 | Key Findings of Effects on Kitsumkalum First Nation Aboriginal Interests | 12-8 |
| Table 12.1-6 | Key Findings of Effects on Kitselas First Nation Aboriginal Interests | 12-10 |
| Table 12.1-7 | Key Findings of Effects on Gitga’at First Nation Aboriginal Interests | 12-11 |
| Table 12.3 1 | Key Concerns for Lax Kw’alaams Band..... | 12-40 |
| Table 12.3-2 | Key Concerns for Metlakatla First Nation | 12-42 |
| Table 12.3-3 | Key Concerns for Gitxaala Nation..... | 12-48 |
| Table 12.3-4 | Key Concerns for Kitsumkalum First Nation | 12-49 |
| Table 12.3-5 | Key Concerns for Kitselas First Nation | 12-51 |
| Table 12.3-6 | Key Concerns for Gitga’at First Nation | 12-53 |
| Table 12.4-1 | Incorporation of TK or TU Information in the Assessment of VCs in Part B of the Application..... | 12-57 |
| Table 12.5-1 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-90 |
| Table 12.5-2 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-128 |
| Table 12.5-3 | Species Harvested by Gitxaala Nation at or near the Water’s Edge during Low Tides..... | 12-172 |
| Table 12.5-4 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-179 |
| Table 12.5-5 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-220 |
| Table 12.5 6 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-260 |
| Table 12.5-7 | Archaeological Sites, Not Including CMT-Only Sites, that will be Wholly or Partially Affected by the Construction of the Project..... | 12-294 |
| Table 12.6-1 | Summary of Potential Adverse Effects Caused by Accident or Malfunction Events related to Aboriginal Interests | 12-309 |
| Table 12.8-1 | Summary Table of the Results of Aboriginal Consultation related to Aboriginal Interests of Aboriginal Groups | 12-315 |
| Table 12.9-1 | Pre-Application Views of Aboriginal Groups on Part C..... | 12-323 |

Part D

| | | |
|------------|---|-------|
| Table 13-1 | Aurora LNG Stakeholders | 13-2 |
| Table 13-2 | Summary of Aurora LNG Consultation | 13-8 |
| Table 13-3 | Concerns and Issues Identified During Consultation..... | 13-19 |

Part E

| | | |
|------------|---|-------|
| Table 14-1 | Potential Project Effects and Management Plans..... | 14-10 |
| Table 15-1 | Follow-up Programs..... | 15-2 |
| Table 15-2 | Compliance Monitoring and Reporting | 15-3 |

Part F

| | | |
|------------|---|-------|
| Table 16-1 | Mitigation Measures for the Aurora LNG Project | 16-3 |
| Table 16-2 | Summary of Project Activities, Potential Effects, and Significance of Residual Project and Cumulative Effects..... | 16-12 |

List of Figures

Part A

| | | |
|-------------|---|------|
| Figure 1-1 | Project Location | 1-6 |
| Figure 1-2 | Conceptual Layout of Project Components at Full Build-out | 1-7 |
| Figure 1-3 | Asserted Traditional Territories of Aboriginal Groups in the Project Area | 1-8 |
| Figure 1-4 | Shipping Route..... | 1-9 |
| Figure 1-5 | Block Scheme for the LNG Facility, Phase 1 | 1-14 |
| Figure 1-6 | APCI C3 MR Liquefaction Train Schematic..... | 1-16 |
| Figure 1-7 | ConocoPhillips Cascade System Liquefaction Train Schematic | 1-17 |
| Figure 1-8 | Marine Infrastructure Jetty Design | 1-21 |
| Figure 1-9 | Material Offloading Facility Design Options..... | 1-24 |
| Figure 1-10 | Crown Land Reserves, Withdrawals and Notations and Dodge Cove OCP Area..... | 1-45 |

Part B

| | | |
|--------------|---|--------|
| Figure 3-1 | Location of Projects on the Project Inclusion List | 3-24 |
| Figure 4.2-1 | Local and Regional Assessment Boundaries for Air Quality | 4.2-9 |
| Figure 4.2-2 | Predicted 98 th Percentile of the Daily 1-hour Maximum Ground-Level NO ₂ Concentrations (µg/m ³) With Baseline Added (Base Case) | 4.2-17 |
| Figure 4.2-3 | Predicted 98 th Percentile of the Daily 1-hour Maximum Ground-Level NO ₂ Concentrations (µg/m ³) Without Baseline Added (Project-alone Case) | 4.2-28 |
| Figure 4.2-4 | Predicted 98 th Percentile of the Daily 1-hour Maximum Ground-Level NO ₂ Concentrations (µg/m ³) With Baseline Added (Application Case)..... | 4.2-36 |
| Figure 4.2-5 | Predicted 98 th Percentile of the Daily 1-hour Maximum Ground-Level NO ₂ Concentrations (µg/m ³) With Baseline Added (CEA Case)..... | 4.2-40 |
| Figure 4.3-1 | Comparison of Global and British Columbia LNG Facility GHG Intensities..... | 4.3-15 |
| Figure 4.4-1 | Local and Regional Assessment Boundaries for Acoustic Environment | 4.4-9 |
| Figure 4.4-2 | Year 1 Construction Daytime Noise Contours | 4.4-29 |
| Figure 4.4-3 | Year 1 Construction Nighttime Noise Contours | 4.4-30 |
| Figure 4.4-4 | Year 5 Construction Daytime Noise Contours | 4.4-31 |
| Figure 4.4-5 | Year 5 Construction Nighttime Noise Contours | 4.4-32 |
| Figure 4.4-6 | Operation Noise Contours | 4.4-34 |
| Figure 4.5-1 | Freshwater Quality Local and Regional Assessment Area Boundaries and Acidification and Eutrophication Assessment Locations..... | 4.5-7 |
| Figure 4.5-2 | Waterbodies with Critical Load Exceedances: Application Case | 4.5-30 |
| Figure 4.5-3 | Waterbodies with Critical Load Exceedances: Cumulative Case | 4.5-38 |
| Figure 4.5-4 | Marine Water Quality Local and Regional Assessment Area Boundaries..... | 4.5-48 |
| Figure 4.5-5 | Proposed Dredge Areas for Material Offloading Facility (Casey Cove) and LNG Jetties (South Digby Island)..... | 4.5-61 |

| | | |
|---------------|---|--------|
| Figure 4.5-6 | Maximum TSS extent for the entire dredge period in Winter One (dredging at the MOF, Berth 1 North, and Berth 1 South) | 4.5-67 |
| Figure 4.5-7 | Maximum TSS Time Series for Casey Cove throughout the MOF Construction Phase..... | 4.5-69 |
| Figure 4.5-8 | Deposition in the MOF at the End of the Entire 48 Days of Dredging | 4.5-70 |
| Figure 4.5-9 | Maximum TSS Event for Disposal of Sediment from the MOF | 4.5-72 |
| Figure 4.5-10 | Maximum TSS Event for Disposal of Sediment from Berth 2..... | 4.5-73 |
| Figure 4.5-11 | Total Bottom Deposition at Brown Passage following Disposal of Sediment from the MOF, including 20 Days Settling Out | 4.5-74 |
| Figure 4.5-12 | Cumulative Effects Amalgamation Predicted Total Suspended Solids | 4.5-83 |
| Figure 4.5-13 | Cumulative Effects Amalgamation Predicted Deposition..... | 4.5-84 |
| Figure 4.6-1 | Local and Regional Assessment Boundaries for Vegetation and Wetland Resources | 4.6-10 |
| Figure 4.6-2 | Ecological Communities and Plant Species at Risk in the Terrestrial Local Assessment Area | 4.6-33 |
| Figure 4.6-3 | Old-Growth Forest in the Terrestrial Local Assessment Area | 4.6-43 |
| Figure 4.6-4 | Application Case Potential Soil Acidification..... | 4.6-46 |
| Figure 4.6-5 | Application Case Potential Soil Eutrophication..... | 4.6-47 |
| Figure 4.6-6 | Wetlands in the Terrestrial Local Assessment Area | 4.6-56 |
| Figure 4.6-7 | Application and Cumulative Effects Assessment Case Potential NO ₂ >30µg/m ³ | 4.6-69 |
| Figure 4.6-8 | Cumulative Effects Assessment Case Potential Soil Acidification | 4.6-71 |
| Figure 4.6-9 | Cumulative Effects Assessment Case Potential Soil Eutrophication..... | 4.6-72 |
| Figure 4.7-1 | Local and Regional Assessment Boundaries for Wildlife Resources (Terrestrial)..... | 4.7-12 |
| Figure 4.7-2 | Existing Conditions of Wildlife Habitat Communities within the Local Assessment Area | 4.7-26 |
| Figure 4.7-3 | Marbled Murrelet Breeding Habitat Suitability within the Local Assessment Area | 4.7-27 |
| Figure 4.7-4 | Western Screech-owl kennicotti subspecies All Season Living Habitat Suitability within the Local Assessment Area | 4.7-28 |
| Figure 4.7-5 | Little Brown Myotis Roosting Habitat Suitability within the Local Assessment Area | 4.7-29 |
| Figure 4.7-6 | Western Toad Breeding Habitat Suitability within the Local Assessment Area | 4.7-30 |
| Figure 4.7-7 | Sensitive Wildlife Habitat Features Present within the Local Assessment Area | 4.7-33 |
| Figure 4.7-8 | Wildlife Habitat Communities at Full Project Build-out within the Local Assessment Area | 4.7-45 |
| Figure 4.7-9 | Full Build-Out Marbled Murrelet Habitat Suitability for Breeding Requirements during Spring and Summer in the Local Assessment Area | 4.7-50 |
| Figure 4.7-10 | Full Build-Out Western Screech-Owl kennicottii subspecies Habitat Suitability for Living Requirements during All Seasons in the Local Assessment Area | 4.7-51 |

| | | |
|---------------|--|---------|
| Figure 4.7-11 | Full Build-Out Little Brown Myotis Habitat Suitability for Maternal Roosting Requirements during Spring and Summer in the Local Assessment Area..... | 4.7-52 |
| Figure 4.7-12 | Full Build-Out Western Toad Habitat Suitability for Breeding Requirements during Spring and Summer in the Local Assessment Area | 4.7-53 |
| Figure 4.8-1 | Freshwater Fish and Fish Habitat Local and Regional Assessment Areas..... | 4.8-14 |
| Figure 4.8-2 | Freshwater Fish Habitat..... | 4.8-25 |
| Figure 4.8-3 | Freshwater Streams to be Protected | 4.8-31 |
| Figure 4.9-1 | Local and Regional Assessment Boundaries for Marine Fish and Fish Habitat..... | 4.9-12 |
| Figure 4.9-2 | Marine Fish and Fish Habitat Study Areas | 4.9-20 |
| Figure 4.9-3 | Alteration or Loss of Marine Substrate and Vegetation: LNG Jetty | 4.9-43 |
| Figure 4.9-4 | Alteration or Loss of Marine Substrate and Vegetation: Concrete Caisson MOF Option..... | 4.9-44 |
| Figure 4.9-5 | Alteration or Loss of Marine Substrate and Vegetation: Pile-and-Deck MOF Option..... | 4.9-45 |
| Figure 4.9-6 | Comparison of Predicted Natural Changes in Bed Thickness (per year, from Hydrodynamic Modelling of Changes in Sediment Erosion and Accretion due to Project Infrastructure, Appendix M) and Sediment Deposition Resulting From Dredging (from Technical Memorandum - Aurora LNG: MOF and Terminal Dredge Modelling, Appendix G) at the Proposed MOF Site | 4.9-50 |
| Figure 4.9-7 | Comparison of Predicted Natural Changes in Bed Thickness (per year, from Hydrodynamic Modelling of Changes in Sediment Erosion and Accretion due to Project Infrastructure, Appendix M) and Sediment Deposition Resulting From Dredging (from Technical Memorandum - Aurora LNG: MOF and Terminal Dredge Modelling, Appendix G) at the Proposed LNG Jetty Site | 4.9-51 |
| Figure 4.9-8 | Predicted Maximum Bed Thickness Change at the Proposed LNG Jetty Site (from Hydrodynamic Modelling of Changes in Sediment Erosion and Accretion due to Project Infrastructure, Appendix M) | 4.9-59 |
| Figure 4.9-9 | Predicted Maximum Bed Thickness Change at the Proposed MOF Site (from Hydrodynamic Modelling of Changes in Sediment Erosion and Accretion due to Project Infrastructure, Appendix M) | 4.9-60 |
| Figure 4.10-1 | Local and Regional Assessment Boundaries for Marine Mammals | 4.10-10 |
| Figure 4.10-2 | Marine Mammal Administrative Boundaries | 4.10-13 |
| Figure 4.11-1 | Local and Regional Assessment Boundaries and Important Bird Areas for Marine Birds | 4.11-10 |
| Figure 5.2-1 | Local and Regional Assessment Boundaries for Economic Conditions | 5.2-8 |
| Figure 5.2-2 | Average Unemployment Rates, ER 5950 North Coast and ER 5970 Nechako, 2011 to July 2016..... | 5.2-18 |
| Figure 5.2-3 | 2011 Employment by Occupation (Total Population) – LAA, RAA, BC | 5.2-28 |
| Figure 5.2-4 | 2011 Employment by Occupation (Aboriginal Population) – LAA, RAA, BC | 5.2-29 |
| Figure 5.2-5 | On- and Off-Reserve Employment (by Category) – Metlakatla First Nation, 2015 | 5.2-35 |
| Figure 5.2-6 | Estimated Labour Requirements of Major Reasonably Foreseeable Projects in or Near the RAA..... | 5.2-90 |

| | | |
|---------------|--|--------|
| Figure 6.2-1 | Local and Regional Assessment Boundaries for Visual Quality | 6.2-7 |
| Figure 6.2-2 | Visual Sensitivity | 6.2-19 |
| Figure 6.2-3 | Visual Quality Objectives | 6.2-21 |
| Figure 6.2-4 | Candidate and Priority Viewpoints | 6.2-24 |
| Figure 6.2-5 | Degree of Project Visibility | 6.2-38 |
| Figure 6.3-1 | Local and Regional Assessment Boundaries for Infrastructure and Services | 6.3-8 |
| Figure 6.3-2 | Prince Rupert Hospital Registrations (ER - Scheduled and Unscheduled) Fiscal 2015-2016 | 6.3-20 |
| Figure 6.3-3 | Prince Rupert Hospital Registrations (Daycare) Fiscal 2015-2016 | 6.3-21 |
| Figure 6.3-4 | Prince Rupert Hospital Registrations (Inpatient) Fiscal 2015-2016 | 6.3-22 |
| Figure 6.3-5 | Prince Rupert Hospital Registrations (X-Ray Outpatient) Fiscal 2015-2016 | 6.3-23 |
| Figure 6.3-6 | Prince Rupert Hospital Registrations (Lab Outpatient) Fiscal 2015-2016 | 6.3-24 |
| Figure 6.3-7 | Prince Rupert Average Selling Price & Number of Units Sold, 2005-2014 | 6.3-38 |
| Figure 6.3-8 | Total Number of Residential Building Permits Sold, 2004-2014 | 6.3-39 |
| Figure 6.3-9 | Total Value (\$000) of Residential Building Permits Sold, 2004-2014 | 6.3-39 |
| Figure 6.3-10 | Renters and Owners in Core Housing Need 2006 and 2011 | 6.3-41 |
| Figure 6.3-11 | Renters and Owners Average STIR 2006 and 2011 | 6.3-43 |
| Figure 6.3-12 | Percent of Aboriginal and Non-Aboriginal Households in Core Housing Need, 2011 | 6.3-45 |
| Figure 6.3-13 | Aurora LNG Construction and Operations Workforces 2019 - 2030 | 6.3-57 |
| Figure 6.3-14 | LAA Population Forecast Associated with the Project | 6.3-58 |
| Figure 6.3-15 | Estimated Labour Requirements of Major Reasonably Foreseeable Projects in or Near the RAA | 6.3-83 |
| Figure 6.3-16 | Population Change in RAA in Cumulative Effects Case | 6.3-84 |
| Figure 6.4-1 | Local and Regional Assessment Boundaries for Land and Resource Use | 6.4-7 |
| Figure 6.4-2 | Resource Management Plans | 6.4-12 |
| Figure 6.4-3 | Digby Island Trails and Dodge Cove OCP Boundary | 6.4-16 |
| Figure 6.4-4 | Trapline Tenures | 6.4-19 |
| Figure 6.4-5 | Crown Land Reserves, Withdrawals and Notations | 6.4-23 |
| Figure 6.4-6 | Private Property | 6.4-25 |
| Figure 6.4-7 | Electric Power Lines, Communication Sites and Community and Residential Tenures | 6.4-28 |
| Figure 6.5-1 | Local and Regional Assessment Boundaries for Marine Use and Navigable Waters | 6.5-3 |
| Figure 6.5-2 | Marine Navigation Assessment Areas | 6.5-8 |
| Figure 6.5-3 | DFO Fisheries Management Areas and Subareas | 6.5-10 |
| Figure 6.5-4 | Port of Prince Rupert: Boundaries, Terminals, and Anchorages | 6.5-17 |
| Figure 6.5-5 | Piloted Shipping Traffic by Vessel Type and Port, 2010-2015 | 6.5-21 |
| Figure 6.5-6 | Commercial Fishing Grounds: All Pacific Salmon | 6.5-25 |

| | | |
|---------------|---|--------|
| Figure 6.5-7 | Commercial Fishing Grounds: Groundfish..... | 6.5-27 |
| Figure 6.5-8 | Commercial Fishing Grounds: Pacific Herring..... | 6.5-29 |
| Figure 6.5-9 | Commercial Fishing Grounds: Dive-based Fisheries | 6.5-31 |
| Figure 6.5-10 | Commercial Fishing Grounds: Prawn and Shrimp..... | 6.5-32 |
| Figure 6.5-11 | Commercial Fishing Grounds: Dungeness Crab | 6.5-33 |
| Figure 6.5-12 | Recreational Fishing Grounds | 6.5-35 |
| Figure 6.5-13 | Recreational Boating Routes and Other Features..... | 6.5-41 |
| Figure 6.5-14 | Parks and Important Ecological Areas..... | 6.5-42 |
| Figure 6.5-15 | North Coast Spatial Planning Zones..... | 6.5-45 |
| Figure 6.6-1 | Local and Regional Assessment Boundaries for Community Health | 6.6-8 |
| Figure 6.6-2 | Income (Individual) Distribution – LAA, RAA, BC and Metlakatla..... | 6.6-24 |
| Figure 6.6-3 | Income (Household) Distribution – LAA, RAA, BC and Metlakatla..... | 6.6-25 |
| Figure 7-1 | Archaeological Sites HCA Protected | 7-2 |
| Figure 7-2 | Heritage Sites Non-HCA Protected..... | 7-26 |
| Figure 8.2-1 | Local and Regional Assessment Boundaries for Human Health | 8-10 |
| Figure 8.2-2 | Air Quality Modelling Gridpoint Locations for the Human Health Valued Component..... | 8-18 |
| Figure 10.2-1 | Location of Tectonic Plate Boundaries off the Coast of British Columbia | 10-10 |
| Figure 10.2-2 | Locations of Seismic Generated Tsunamis, Recorded at Prince Rupert | 10-14 |
| Figure 10.2-3 | Area of Regional Data Used in Climate Change Prediction | 10-21 |
| Figure 11.3-1 | Local and Regional Assessment Boundaries for Current Use | 11-31 |
| Figure 11.3-2 | Local and Regional Assessment Boundaries for Aboriginal Health | 11-32 |
| Figure 11.3-3 | Local and Regional Assessment Boundaries for Aboriginal Socio-Economic Conditions | 11-33 |
| Figure 11.3-4 | Local and Regional Assessment Boundaries for Aboriginal Physical and Cultural Heritage | 11-34 |
| Figure 11.3-5 | Assessment Methods..... | 11-46 |

Part C

| | | |
|---------------|---|-------|
| Figure 12.2-1 | Lax Kw'alaams Band Traditional Territory | 12-17 |
| Figure 12.2-2 | Metlakatla First Nation Traditional Territory..... | 12-20 |
| Figure 12.2-3 | Gitxaala Nation Traditional Territory | 12-24 |
| Figure 12.2-4 | Kitsumkalum First Nation Traditional Territory..... | 12-28 |
| Figure 12.2-5 | Kitselas First Nation Traditional Territory..... | 12-31 |
| Figure 12.2-6 | Gitga'at First Nation Traditional Territory..... | 12-34 |

Part D

| | | |
|-------------|---------------------------|------|
| Figure 13-1 | Public Consultation | 13-4 |
|-------------|---------------------------|------|

List of Photos

| | | |
|--------------|---|--------|
| Photo 6.2-1 | VP01 - Ferry Route and Sacred Places | 6.2-27 |
| Photo 6.2-2 | VP02 - Mount Hays | 6.2-27 |
| Photo 6.2-3 | VP03 - Prince Rupert Residences | 6.2-28 |
| Photo 6.2-4 | VP04 - Mount Comblain | 6.2-28 |
| Photo 6.2-5 | VP03 – Prince Rupert Residences Night View | 6.2-30 |
| Photo 6.2-6 | VP01 - Ferry Route and Sacred Places – Project Photo Simulation | 6.2-43 |
| Photo 6.2-7 | VP02 - Mount Hays – Project Photo Simulation | 6.2-43 |
| Photo 6.2-8 | VP03 - Prince Rupert Residences – Project Photo Simulation | 6.2-44 |
| Photo 6.2-9 | VP04 - Mount Comblain – Project Photo Simulation | 6.2-44 |
| Photo 6.2-10 | Night View from Prince Rupert Residences – Project Photo Simulation | 6.2-45 |
| Photo 6.4-1 | Structure on East Side of Delusion Bay | 6.4-29 |
| Photo 6.4-2 | Structure on West Side of Delusion Bay | 6.4-30 |
| Photo 6.4-3 | Frisbee Golf | 6.4-31 |
| Photo 6.4-4 | Mount Comblain | 6.4-32 |
| Photo 6.4-5 | View of Trail | 6.4-32 |

List of Appendices

APPENDIX A AIR QUALITY TECHNICAL DATA REPORT
APPENDIX B GREENHOUSE GASES TECHNICAL DATA REPORT
APPENDIX C ACOUSTIC ENVIRONMENT TECHNICAL DATA REPORT
APPENDIX D SOILS ACIDIFICATION AND EUTROPHICATION TECHNICAL DATA REPORT
APPENDIX E SURFACE FRESHWATER QUALITY TECHNICAL DATA REPORT
APPENDIX F MARINE SEDIMENT AND WATER QUALITY TECHNICAL DATA REPORT
APPENDIX G AURORA LNG: MOF AND TERMINAL DREDGE MODELLING
APPENDIX H TECHNICAL MEMORANDUM AURORA LNG: DISPOSAL AT SEA MODELLING
APPENDIX I VEGETATION AND WETLAND RESOURCES TECHNICAL DATA REPORT
APPENDIX J WILDLIFE RESOURCES (TERRESTRIAL) TECHNICAL DATA REPORT
APPENDIX K AURORA LNG FRESHWATER FISH AND FISH HABITAT FINAL REPORT 2014-2015
APPENDIX L MARINE FISH AND FISH HABITAT TECHNICAL DATA REPORT
APPENDIX M HYDRODYNAMIC MODELLING OF CHANGES IN SEDIMENT EROSION AND ACCRETION DUE TO PROJECTS INFRASTRUCTURE TECHNICAL DATA REPORT
APPENDIX N MARINE MAMMALS TECHNICAL DATA REPORT
APPENDIX O PRINCE RUPERT – AURORA LNG ACOUSTIC MONITORING STUDY
APPENDIX P AURORA LNG ACOUSTIC STUDY
APPENDIX Q MARINE BIRD TECHNICAL DATA REPORT
APPENDIX R HUMAN HEALTH TECHNICAL DATA REPORT
APPENDIX S ABORIGINAL CONSULTATION TECHNICAL DATA REPORT
APPENDIX T HYDROLOGY TECHNICAL DATA REPORT
APPENDIX U CONCEPTUAL WETLAND COMPENSATION PLAN
APPENDIX V CONCEPTUAL FISH HABITAT OFFSETTING PLAN
APPENDIX W ARCHAEOLOGICAL IMPACT ASSESSMENT