

TABLE OF CONTENTS

LIST OF EXHIBITS.....	iii
LIST OF ACRONYMS.....	iv
INTRODUCTION.....	1-1
1.1 Background.....	1-1
1.2 Purpose and Scope of this Document.....	1-2
1.3 Intended Audience.....	1-3
1.4 The NRDA Process.....	1-3
1.4.1 Preassessment Phase.....	1-3
1.4.2 Restoration Planning Phase.....	1-3
1.4.2.1 Injury Assessment.....	1-5
1.4.2.2 Restoration Selection.....	1-5
1.4.3 Restoration Implementation Phase.....	1-7
1.5 Basic Terms and Definitions.....	1-7
1.5.1 Baseline.....	1-8
1.5.2 Exposure.....	1-9
1.5.3 Incident.....	1-9
1.5.4 Injury.....	1-9
1.5.5 Natural Resources and Services.....	1-10
1.5.6 Oil.....	1-11
1.5.7 Pathway.....	1-11
MATRIX OF MODEL RUNS.....	2-1
ENVIRONMENTAL CONDITIONS.....	3-1
SETTING UP CASE EXAMPLES OF RUNS USED TO DEVELOP THE COMPENSATION FORMULA.....	4-1
INTERPRETATION OF RESULTS.....	5-1
GENERATION OF THE COMPENSATION FORMULA AND RESULTING DAMAGES.....	6-1
REFERENCES.....	R-1

APPENDICES

Appendix A	Data Specification for Compensation Formula Model Runs.....	A-i
Appendix B	Sources of Environmental Data for Compensation Formula Cases.....	B-i
Appendix C	Summary of U.S Oil Spills and Cargos	C-i

LIST OF EXHIBITS

Exhibit 1.1	NRDA Process under the OPA regulations	1-4
Exhibit 2.1	Provinces and their boundaries (National Estuarine Atlas, NOAA, 1985)	2-5
Exhibit 2.2	Marine subtidal (rock, cobble, sand, mud) cases.....	2-10
Exhibit 2.3	Estuarine and nearshore subtidal and intertidal cases	2-11
Exhibit 2.4	Intertidal cases for beach damages	2-13
Exhibit 4.1	Summary of model inputs for compensation formula runs using the NRDAM/CME (Version 2.4)	4-3
Exhibit A.1	Location key for estuarine and marine compensation formula cases.....	A-1
Exhibit A.2	Case IDs for each province and habitat combination.....	A-3
Exhibit A.3	Spill locations, wind direction (degrees, from), and wind speed (m/sec) used in model runs for each case (* = hypothetical scenario assuming the desired habitat is present and extensive at the spill location)	A-6
Exhibit A.4	Habitat editing for creation of hypothetical scenarios in uniform habitats. The default habitat types in the grid(s) noted should be changed to the desired habitat type using the NRDAM/CME (Version 2.4) habitat editor	A-9
Exhibit A.5	Tidal currents used for model runs for those cases where tidal currents were assumed non-zero. The direction is that of the major axis and the flood tide	A-10
Exhibit A.6	Closest oil type in compensation formula to various oils which may be spilled.....	A-11
Exhibit B.1	Mean wind speed assumed for each case, based on reference station summaries from International Station Meteorological Climate Summary (ISMCS) data. The mean wind direction is for the same data, but was not necessarily used in the simulations (see text for explanation)	B-1
Exhibit B.2	Mean wind speed for each case, based on NOAA data buoy and ISMCS summaries. The mean wind direction is for the same data, but was not necessarily used in the simulations (see text for explanation)	B-2
Exhibit C.1	Oil Types and Volumes (Gallons) spilled into U.S. Waters (1973-90) from the U.S. Coast Guard Coastal Oil Spill Data Set.....	C-1
Exhibit C.2	1987 cargo tons by port, from port needs study (Maio, et al., 1991).	C-2
Exhibit C.3	Percent of 1987 cargo tons by port, from port needs study (Maio, et al., 1991).	C-3
Exhibit C.4	Oil Spills in U.S. Coastal Waters (Timothy Goodspeed, NOAA, Strategic Environm. Assess. Div., pers. comm., Nov. 1991).	C-4

LIST OF ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
ISMCS	International Station Meteorological Climate Summary
NCDC	National Climate Data Center
NDBC	National Data Buoy Center
NOAA	National Oceanic and Atmospheric Administration
NRDA/CME	Natural Resource Damage Assessment Model for Coastal and Marine Environments
OPA	Oil Pollution Act of 1990