I.	SUMMARY OF REPORTS FROM THE PUBLIC'S RIGHT TO	
	INFORMATION TASK FORCE	1
ASSESSMEN	T OF PUBLIC INFORMATION	15
II.	LIST OF PARTICIPANTS	17
III.	PUBLIC INFORMATION CHRONOLOGY	24
IV.	MET ED PUBLIC RELATIONS: WHAT THE PUBLIC KNEW ABOUT TMI BEFORE THE ACCIDENT	29
	A. Introduction	29
	B. Public Relations Policy at Met Ed	29
	C. Public Relations Staff at Met Ed	33
	D. Met Ed Public Relations Activities	34
	E. Media Coverage of TMI Before the Accident	41
	F. Public Attitudes and Involvement	45
V .	FLOW OF PUBLIC INFORMATION DURING THE ACCIDENT AT THREE MILE ISLAND: A STRUCTURAL OVERVIEW	47
	A. Introduction	47
	B. The Past as Prelude: Public Information at the NRC and Met Ed	48
	C. Planning for an Accident	52
	D. Seat-of-the-Pants Mode	55
	E. Disaster Public Relations	73
	F. Special Communication Problems Associated with TMI	74
VI.	FLOW OF PUBLIC INFORMATION ON FIVE KEY EVENTS DURING THE ACCIDENT AT THREE MILE ISLAND	78
	A. Introduction	78
	B. Met Ed Declares a General Emergency, March 28, 7:24 a.m.	79

	C.	Causes of the Accident: Equipment Malfunction or Human Error?	103
	D.	Met Ed Releases Slightly Contaminated Industrial Wastewater into the Susquehanna River, Afternoon, March 29	111
	E.	Met Ed Vents a 1,200 Millirem Burst of Radioactive Gas into the Atmosphere, Morning, March 30	125
	F.	Hydrogen Bubble	143
ASSESSME	NT OF	MEDIA PERFORMANCE	167
VII.	THR	EE MILE ISLAND: THE JOURNALIST'S PERSPECTIVE	169
VIII.		TENT ANALYSIS OF MASS MEDIA COVERAGE OF THE IDENT AT THREE MILE ISLAND	182
	Α.	Introduction and Methodology	182
	В.	Overview of News Media Coverage	187
	С.	News Media Coverage of Specific Events During the Accident	189
	D.	Analysis of Alarming and Reassuring Statements	198
	E.	Media Use of Sources	207
	F.	Radiation Reporting	215
IX.	LOCA	AL RADIO NEWS COVERAGE OF THE ACCIDENT	218
X.	V 200 200 4	LITATIVE SURVEY OF NEWSPAPER COVERAGE OF THE IDENT	225
NOTES.			232
APPENDIX	A	PERSONS INTERVIEWED	260
APPENDIX	В	LOCAL BROADCAST STATIONS	262

INTRODUCTION	4
SUMMARY OF THE HEALTH PHYSICS AND DOSIMETRY TASK GROUP REPORT	6
Introduction	6
Radiation Dose to the General Population	6
Radiation Doses to the Workers at Three Mile Island	10
SUMMARY OF THE RADIATION HEALTH EFFECTS TASK GROUP REPORT	12
Introduction	12
Radiation-Induced Cancer	14
Concept of Estimation of Risk of Radiation-Induced Cancer	15
Genetically Related Ill-Health	15
Developmental Abnormalities	17
SUMMARY OF THE BEHAVIORAL EFFECTS TASK GROUP REPORT	18
Introduction	18
Objectives	18
The Main Measures of Mental Health, Attitudes, and Behavior	19
Behavioral Responses to the Accident at Three Mile Island	20
SUMMARY OF THE PUBLIC HEALTH AND EPIDEMIOLOGY TASK GROUP REPORT	22
Introduction	22
General Issues	22
Specific Issues Three Mile Island Nuclear Station	28
Response to the Accident at Three Mile Island	29
NOTES	30

I.	SUMMARY		39
II.	INTRODUCTIO		41
III.	SEQUENCE OF	EVENTS	42
IV.	POPULATION	DOSES BASED ON TLD MEASUREMENTS	53
٧.	RADIOACTIVI	TY RELEASED	55
VI.	CALCULATED	POPULATION DOSES BASED ON RADIOACTIVITY RELEASED	56
VII.	ANALYSIS OF	DOSES DUE TO INHALED AND INGESTED RADIOSOTOPES	57
VIII.	ANALYSIS OF	DOSES RECEIVED BY PERSONNEL WITHIN THE PLANT AREA	61
IX.		ALTH PHYSICS AND MONITORING PROCEDURES IN USE AT IME OF THE ACCIDENT	64
X.	TASK GROUP F	INDINGS	66
	GLOSSARY		68
	METHODOLOGY		71
	REFERENCES		72
	APPENDIX A:	MEASUREMENT OF DOSES AT AND AROUND THREE MILE ISLAND WITH THERMOLUMINESCENT DOSIMETERS	73
	APPENDIX B:	CALCULATION OF COLLECTIVE DOSE AT THREE MILE ISLAND	123
	APPENDIX C:	SHELTER FACTOR	139
	APPENDIX D:	CALCULATION OF POPULATION DOSE FROM SOURCE TERM AT TMI	146
	APPENDIX E:	DISCUSSION AND REPORT OF WHOLE-BODY COUNTING AS A TECHNIQUE TO DETERMINE INTERNAL DOSE	153
	APPENDIX F:	THE DOSE TO ORGANS AND TOTAL BODY DUE TO INTERNAL DEPOSITION OF RADIONUCLIDES RELEASED DURING THE ACCIDENT AT THREE MILE ISLAND (TMI)	159

Ι.	SUMM	ARY AND CONCLUSION	199
	A.	Cancer	202
	В.	Genetic Effects	203
	C.	Teratogenic (Developmental) Effects	204
	D.	Detectability of Effects	205
II.	INTR	ODUCTION	206
III.	RADI	ATION EXPOSURE DOSES	209
	Α.	Background Radiation	209
	В.	Off-Site Population Doses From the TMI Accident	210
	C.	On-Site Population Doses From the TMI Accident.	213
IV.	RADI	OGENIC CANCER RISKS	214
	Α.	General Considerations	214
	В.	Existing "Natural" Rates (Risks) From All Causes	216
	C.	Radiogenic Cancer Risks to Off-Site TMI Population	218
	D.	Radiogenic Cancer Risks to On-Site Population (Occupational Exposure)	234
	E.	Comparison of Radiogenic Cancer Risks From TMI Accident With Other Radiogenic And Nonradiogenic Cancer Risks	236
	F.	Conclusions	238
٧.	RADI	ATION GENETIC RISKS	240
	Α.	Introduction	240
	В.	Principles of Genetic Risk Estimation	241
	C.	Specific Estimates of Radiation Genetic Risks From The TMI Accident	244
	D.	Somatic Chromosome Aberrations	246
	E.	Summary And Conclusions	247

	VI.	RADIATION TERATOGENIC EFFECTS			
		Α.	Introduction	249	
		В.	Background Information	249	
		C.	Radiation Teratogenic Risk From the TMI Accident	251	
RF	FERENCE	S		254	

₩

* *

€

.

•

.e (€)

•

I.	INTRODUCTION AND SUMMARY	261
II.	OVERVIEW OF PEOPLE, PLACES, AND TIMES	265
III.	STRATEGY OF DATA ANALYSIS	271
IV.	THE GENERAL POPULATION AND MOTHERS OF PRESCHOOL CHILDREN	272
	Measures	272
	Results	273
	Main Conclusions	279
V .	THE STUDY OF SEVENTH, NINTH, AND ELEVENTH GRADERS	281
	Measures	281
	Results	281
	Main Conclusions	283
VI.	THE STUDY OF THE WORKERS	284
	Measures	284
	Results	284
	Main Conclusions	287
VII.	FURTHER RESEARCH	289
PPENDIX	A: Description of Six Measures of Mental Health and Behavioral Effects Used in the Studies of the General Population, Mothers of Preschool Children, and Clients of Community	290
	Health Centers	
PPENDIX	B: Description of Three Measures of Mental Health and Behavioral Effects Used in the Study of the 7th, 9th, and 11th Grade Pupils in Lower Dauphin School District	297
PPENDIX	C: Description of Six Measures of Mental Health and Behavioral Effects Used in the Study of the Workers at TMI and Peach Bottom	299
שארוואיםממ	D: The Use of Telephone Surveys	303
TERMITY	D. THE ORE OF TOTOLOGICAL	

METHODOLOGY	30
REFERENCES	30

€

	SUMM	ARY	316
	FIND	INGS	325
I.	INTRO	ODUCTION	332
II.	APPR	OACH AND METHODS OF THE INQUIRY	333
	A.	Approach	333
	В.	Methodology	333
	C.	Structure of the Report	334
III.		VIEW AND HISTORY OF FEDERAL AND STATE HEALTH ONSIBILITIES REGARDING NUCLEAR POWER PLANTS	335
	Α.	Off-Site Considerations Health and Safety of the Public	335
	В.	On-Site Considerations Health and Safety of the Workers	339
	C.	Research on the Biological Effects of Ionizing Radiation	340
IV.	RADI	ATION PROTECTION STANDARDS	342
	Α.	Maximum Permissible Dose Levels	342
	В.	The ALARA Concept	346
ν.	SITI	NG AND CONSTRUCTION OF NUCLEAR PLANTS	349
	Α.	The Nuclear Regulatory Commission Siting	349
	В.	Commonwealth of Pennsylvania Siting	350
	C.	Construction	351
VI.	MONI	TORING AND SURVEILLANCE	353
	Α.	Environmental Monitoring NRC	353
	B.	Environmental Monitoring Metropolitan Edison	354
	C.	Environmental Monitoring State of Pennsylvania	354
	D.	Monitoring and Surveillance of Workers	355

VII.	TRAI	NING, EDUCATION, AND INFORMATION EXCHANGE	363
	A.	Public Education	363
	В.	Education of Area Health Care Professionals	365
	C.	Worker Education and Training in Radiological Health	366
VIII.	EMER	RGENCY PREPAREDNESS AND HEALTH CARE	369
	Α.	Protection of the Public	369
	В.	Protection of Nuclear Workers	372
IX.	THE	RESPONSE OF HEALTH AGENCIES TO THE ACCIDENT AT TMI	375
	Α.	The HEW Response	375
**	В.	The State Response	386
	C.	Worker Health and Safety Concerns During the Accident	395
X.	HEAI	TH AND SAFETY CONSIDERATIONS: THE AFTERMATH	398
	A.	Long-Term Health Effects	398
	В.	Emergency Preparedness	399
	C.	Public and Professional Education	400
	D.	Organizational Change	401
	E.	Recovery Operations at TMI	401
NOTES			404
APPENDIX	A	Documents Reviewed	416
APPENDIX	B	Interviewees and Deponents	421