

TABLE OF CONTENTS**TABLE OF CONTENTS****VOLUME 1****SECTION 1 INTRODUCTION AND SUMMARY**

- 1.1 Purpose, Scope and Organization of Report
- 1.2 Principal Design Criteria
- 1.3 Summary Design Description and Safety Analysis
- 1.4 Identification and Qualification of Contractors
- 1.5 References

1.FIGURES**SECTION 2 SITE AND ENVIRONS**

- 2.1 Introduction
- 2.2 Site Description
- 2.3 Meteorology
- 2.4 Hydrology
- 2.5 Geology and Soil Investigation
- 2.6 Seismology
- 2.7 Radiation Environmental Monitoring Program (REMP)
- 2.8 Ecological and Biological Studies
- 2.9 Consequences of Hypothetical Local Catastrophes
- 2.10 References

2.FIGURES**SECTION 3 REACTOR**

- 3.1 General Summary
- 3.2 Thermal and Hydraulic Characteristics

TABLE OF CONTENTS (CONT'D)

- 3.3 Nuclear Characteristics
- 3.4 Fuel Mechanical Characteristics
- 3.5 Reactivity Control Mechanical Characteristics
- 3.6 Other Reactor Vessel Internals
- 3.7 References

3.FIGURES

SECTION 4 REACTOR COOLANT SYSTEM

- 4.1 Summary Description
- 4.2 Reactor Vessel
- 4.3 Recirculation System
- 4.4 Reactor Pressure Relief System
- 4.5 Reactor Coolant System Vents
- 4.6 Hydrogen Water Chemistry
- 4.7 On-Line Noble Chemistry (OLNC)
- 4.8 Zinc Water Chemistry (GEZIP)
- 4.9 References

4.FIGURES

VOLUME 2

SECTION 5 CONTAINMENT SYSTEM

- 5.1 Summary Description
- 5.2 Primary Containment System
- 5.3 Secondary Containment System and Reactor Building
- 5.4 References

5.FIGURES

TABLE OF CONTENTS (CONT'D)**SECTION 6 PLANT ENGINEERED SAFEGUARDS**

- 6.1 Summary Description
- 6.2 Emergency Core Cooling System (ECCS)
- 6.3 Main Steam Line Flow Restrictions
- 6.4 Control Rod Velocity Limiters
- 6.5 Control Rod Drive Housing Supports
- 6.6 Standby Liquid Control System
- 6.7 Main Control Room, Emergency Filtration Train Building and Technical Support Center Habitability
- 6.8 References

6.FIGURES**SECTION 7 PLANT INSTRUMENTATION AND CONTROL SYSTEMS**

- 7.1 Summary Description
- 7.2 Reactor Control Systems
- 7.3 Nuclear Instrumentation System
- 7.4 Reactor Vessel Instrumentation
- 7.5 Plant Radiation Monitoring Systems
- 7.6 Plant Protection System
- 7.7 Turbine-Generator System Instrumentation and Control
- 7.8 NUMAC Rod Worth Minimizer and Plant Process Computer
- 7.9 Other Systems Control and Instrumentation
- 7.10 Seismic and Transient Performance Instrumentation Systems
- 7.11 Reactor Shutdown Capability
- 7.12 Detailed Control Room Design Review

TABLE OF CONTENTS (CONT'D)

7.13 Safety Parameter Display System

7.14 References

7.FIGURES

VOLUME 3

SECTION 8 PLANT ELECTRICAL SYSTEMS

8.1 Summary

8.2 Transmission System

8.3 Auxiliary Power System

8.4 Plant Standby Diesel Generator Systems

8.5 DC Power Supply Systems

8.6 Reactor Protection System Power Supplies

8.7 Instrumentation and Control AC Power Supply Systems

8.8 Electrical Design Considerations

8.9 Environmental Qualification of Safety-Related Electrical Equipment

8.10 Adequacy of Station Electrical Distribution System Voltages

8.11 Power Operated Valves

8.12 Station Blackout

8.13 References

8.FIGURES

SECTION 9 PLANT RADIOACTIVE WASTE CONTROL SYSTEMS

9.1 Summary Description

9.2 Liquid Radwaste System

9.3 Gaseous Radwaste System

TABLE OF CONTENTS (CONT'D)

9.4 Solid Radwaste System

9.5 References

9.FIGURES

SECTION 10 PLANT AUXILIARY SYSTEMS

10.1 Summary Description

10.2 Reactor Auxiliary Systems

10.3 Plant Service Systems

10.4 Plant Cooling System

10.5 References

10.FIGURES

SECTION 11 PLANT POWER CONVERSION SYSTEMS

11.1 Summary Description

11.2 Turbine-Generator System

11.3 Main Condenser System

11.4 Main Turbine Bypass System

11.5 Circulating Water System

11.6 Cooling Tower System

11.7 Condensate Demineralizer System

11.8 Condensate and Reactor Feedwater Systems

11.9 References

11.FIGURES

TABLE OF CONTENTS (CONT'D)**VOLUME 4****SECTION 12 PLANT STRUCTURES AND SHIELDING**

- 12.1 Summary Description
- 12.2 Plant Principal Structures and Foundations
- 12.3 Shielding and Radiation Protection
- 12.4 Radioactive Materials Safety
- 12.5 References

12.FIGURES**SECTION 13 PLANT OPERATIONS**

- 13.1 Summary Description
- 13.2 Organization, Responsibilities, and Qualifications
- 13.3 Personnel Experience and Training
- 13.4 Operational Procedures
- 13.5 Operational Records and Reporting Requirements
- 13.6 Operational Review and Audits
- 13.7 Emergency Procedures
- 13.8 References

SECTION 14 PLANT SAFETY ANALYSIS

- 14.1 Summary Description
- 14.2 Fuel Cladding Integrity Safety Limit
- 14.3 Operating Limits
- 14.4 Transient Events Analyzed for Core Reload
- 14.5 Special Events
- 14.6 Plant Stability Analysis

TABLE OF CONTENTS (CONT'D)

14.7	Accident Evaluation Methodology
14.8	Anticipated Transients Without Scram (ATWS)
14.10	Other Analyses
14.11	References
14.FIGURES	
14.A	UPDATED SAFETY ANALYSIS REPORT - Section 14A Update for Monticello Cycle 28 NAD-MN-039, Revision 0, July 2015

VOLUME 5

SECTION 15	USAR DRAWINGS
------------	---------------

VOLUME 6

APPENDIX A	Seismic Design Criteria
------------	-------------------------

VOLUME 7

APPENDIX C	Quality Assurance Program
APPENDIX D	Pre-Operational and Startup Tests
APPENDIX E	Plant Comparative Evaluation with the Proposed AEC 70 Design Criteria
APPENDIX F	Containment Vessel Design Summary Report

VOLUME 8

APPENDIX G	Probable Maximum Flood
APPENDIX H	Reactor Pressure Vessel Design Summary Report
APPENDIX I	Evaluation of High Energy Line Breaks Outside Containment
APPENDIX J	Fire Protection Program
APPENDIX K	Renewed Operating License - USAR Supplement