

From: <Joseph_Hegner@dom.com>
To: <mis3@nrc.gov>
Date: Wed, Jun 11, 2003 3:09 PM
Subject: Draft North Anna ESP Application Table of Contents

Mike,

I told you I would send you the North Anna ESP table of contents yesterday or today. I sent it yesterday. Unfortunately, I wasn't paying attention and the Mike Scott I sent it to works for Dominion, not NRC. He sent me back an e-mail today advising me of my mistake. So...below is the e-mail that was intended for you with the information you requested.

Joe H.

----- Forwarded by Joseph Hegner/NUC/VANCPower on 06/11/03 03:05 PM -----

Joseph Hegner
To: Michael Scott/IN/FH/VANCPower@VANCPower
06/10/03 11:53 AM **cc:** Marvin Smith, sdrouth@bechtel.com
Subject: Draft North Anna ESP Application Table of Contents

Mike,

You recently requested a copy of the North Anna ESP application Table of Contents (TOC) for planning purposes. A draft TOC is attached.

I don't expect the final version to change much as we assemble the application, but it's labeled "Draft" because we might still see a better way to organize some of the information, or might be able to take advantage of feedback NRC provides to the other lead applicants once they've submitted. Also, you'll note that a few subsections in the Chapter 15 Accident Analyses portion don't fully align with the current SRP. That occurs because our thinking is still evolving on how best to present that particular set of information. Not a biggie.

Bottom line, this TOC should work well for your planning purposes and for lining up resources with the various North Anna ESP application sections.

Let me know if you need anything else.

Joe H.

(See attached file: North Anna ESP Application Draft TofC - 061003.doc)

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
<u>PART 0 – TRANSMITTAL LETTER</u>		
---	Transmittal Letter – Signed under Oath or Affirmation	
<u>PART 1 – ADMINISTRATIVE INFORMATION</u>		
---	Table of Contents List of Tables List of Figures Abbreviations	
1.	INTRODUCTION	
2	APPLICATION FORMAT AND CONTENT	
3.	INFORMATION REQUIRED BY 10 CFR 50.33(a) THROUGH (d)	
4.	REFERENCES	
<u>PART 2 – SITE SAFETY ANALYSIS REPORT</u>		
---	Table of Contents Acronyms List of Tables List of Figures Abbreviations	
1.	INTRODUCTION AND GENERAL DESCRIPTIONS	
1.1	Introduction	
1.2	General Plant Description	
1.3	Plant Parameter Envelopes	
1.3.1	Plant Parameter Envelope Approach	
1.4	Identification of Agents and Contractors	
1.5	Requirements for Further Technical Information	
1.6	Material Incorporated by Reference	
1.7	Drawings and Other Detailed Information	
1.8	Conformance to NRC Regulatory Guides	
1.9	Standard Designs	
2.	SITE CHARACTERISTICS	
2.1	Geography and Demography	
2.1.1	Site Location and Description	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
2.1.2	Exclusion Area Authority and Control	
2.1.3	Population Distribution	
2.2	Nearby Industrial, Transportation, and Military Facilities	
2.2.1	Locations and Routes	
2.2.2	Descriptions	
2.2.3	Evaluation of Potential Accidents	
2.3	Meteorology	
2.3.1	Regional Climatology	
2.3.2	Local Meteorology	
2.3.3	Onsite Meteorological Measurements Program	
2.3.4	Short Term Diffusion Estimates	
2.3.5	Long Term Diffusion Estimates	
2.4	Hydrology	
2.4.1	Hydrologic Description	
2.4.2	Floods	
2.4.3	Probable Maximum Flood (PMF) on Streams and Rivers	
2.4.4	Potential Dam Failures, Seismically Induced	
2.4.5	Probable Maximum Surge and Seiche Flooding	
2.4.6	Probable Maximum Tsunami Flooding	
2.4.7	Ice Effects	
2.4.8	Cooling Water Canals and Reservoirs	
2.4.9	Channel Diversions	
2.4.10	Flooding Protection Requirements	
2.4.11	Low Water Considerations	
2.4.12	Dispersion, Dilution, and Travel Times of Accidental Releases of Liquid Effluents in Surface Waters	
2.4.13	Groundwater	
2.5	Geology, Seismology, and Geotechnical Engineering	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
2.5.1	Basic Geologic and Seismic Information	
2.5.2	Vibratory Ground Motion	
2.5.3	Surface Faulting	
2.5.4	Stability of Subsurface Materials and Foundations	
2.5.5	Stability of Slopes	
2.5.6	Embankments and Dams	
3.	DESIGN OF STRUCTURES, SYSTEMS, COMPONENTS, EQUIPMENT, AND SYSTEMS	This section is not applicable to the North Anna ESP.
4.	REACTOR	This section is not applicable to the North Anna ESP.
5.	REACTOR COOLANT SYSTEM AND CONNECTED SYSTEMS	This section is not applicable to the North Anna ESP.
6.	ENGINEERED SAFETY FEATURES	This section is not applicable to the North Anna ESP.
7.	INSTRUMENTATION AND CONTROLS	This section is not applicable to the North Anna ESP.
8.	ELECTRIC POWER	This section is not applicable to the North Anna ESP.
9.	AUXILIARY SYSTEMS	This section is not applicable to the North Anna ESP.
10.	STEAM AND POWER CONVERSION SYSTEM	This section is not applicable to the North Anna ESP.
11.	RADIOACTIVE WASTE MANAGEMENT	This section is not applicable to the North Anna ESP.
12.	RADIATION PROTECTION	
12.1	Ensuring that Occupational Radiation Exposures Are As Low As Is Reasonably Achievable	
12.2	Radiation Sources	This section is not applicable to the North Anna ESP.
12.3	Radiation Protection Design Features	
12.4	Dose Assessment	
12.5	Health Physics Program	
13.	CONDUCT OF OPERATIONS	
13.1	Organizational Structure of Applicant	This section is not applicable to the North Anna ESP.
13.2	Training	This section is not applicable to the North Anna ESP.
13.3	Emergency Planning	
13.3.1	Preliminary Planning	
13.3.2	Emergency Plan	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
---	Table of Contents List of Tables List of Figures Abbreviations	
13.3.2.1	IDENTIFICATION OF PHYSICAL CHARACTERISTICS	
13.3.2.1.1	Site Description	
13.3.2.1.2	Evacuation Time Estimate Analysis	
13.3.2.2	MAJOR FEATURES OF THE EMERGENCY PLAN	
13.3.2.2.1	Emergency Planning Zones	
13.3.2.2.2	Planning Standards and Evaluation Criteria	
13.3.2.2.2.1	Assignment of Responsibility (Organization Control)	
13.3.2.2.2.2	Onsite Emergency Organization	
13.3.2.2.2.3	Emergency Response Support and Resources	
13.3.2.2.2.4	Emergency Classification System	
13.3.2.2.2.5	Notification Methods and Procedures	
13.3.2.2.2.6	Emergency Communications	
13.3.2.2.2.7	Public Education and Information	
13.3.2.2.2.8	Emergency Facilities and Equipment	
13.3.2.2.2.9	Accident Assessment	
13.3.2.2.2.10	Protective Response	
13.3.2.2.2.11	Radiological Exposure Control	
13.3.2.2.2.12	Medical and Public Health Support	
13.3.2.2.2.13	Recovery and Reentry Planning and Postaccident Operations	
13.3.2.2.2.14	Exercises and Drills	
13.3.2.2.2.15	Radiological Emergency Response Training	
13.3.2.2.2.16	Responsibility for the Planning Effort	
13.3.2.3	CONTACTS AND ARRANGEMENTS	
13.3.2.4	CONFORMANCE WITH REGULATORY REQUIREMENTS AND GUIDANCE	
13.3.2.5	REFERENCES	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
13.4	Review and Audit	This section is not applicable to the North Anna ESP.
13.5	Plant Procedures	This section is not applicable to the North Anna ESP.
13.6	Industrial Security	
14.	INITIAL TEST PROGRAM	This section is not applicable to the North Anna ESP.
15.	ACCIDENT ANALYSES	
15.1	Selection of Design Basis Accidents	
15.2	Evaluation of Radiological Consequences	
15.3	Source Terms	
15.4	Postulated Accidents	
15.5	References	
16.	TECHNICAL SPECIFICATIONS	This section is not applicable to the North Anna ESP.
17.	QUALITY ASSURANCE	
17.1	Quality Assurance During Design and Construction	
17.2	Quality Assurance During the Operations Phase	This section is not applicable to the North Anna ESP.
18.	HUMAN FACTORS ENGINEERING	This section is not applicable to the North Anna ESP.
19.	PROBABILISTIC RISK ASSESSMENT	This section is not applicable to the North Anna ESP.
<u>PART 3 – ENVIRONMENTAL REPORT</u>		
---	Table of Contents Acronyms List of Tables List of Figures Abbreviations	
1.	INTRODUCTION	
1.1	The Proposed Project	
1.2	Status of Reviews, Approvals, and Consultations	
2.	ENVIRONMENTAL DESCRIPTION	
2.1	Station Location	
2.2	Land	
2.2.1	The Site and Vicinity	
2.2.2	Transmission Corridors and Offsite Areas	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
2.2.3	The Region	
2.3	Water	
2.3.1	Hydrology	
2.3.2	Water Use	
2.3.3	Water Quality	
2.4	Ecology	
2.4.1	Terrestrial Ecology	
2.4.2	Aquatic Ecology	
2.5	Socioeconomics	
2.5.1	Demography	
2.5.2	Community Characteristics	
2.5.3	Historic Properties	
2.5.4	Environmental Justice	
2.6	Geology	
2.7	Meteorology and Air Quality	
2.8	Related Federal Project Activities	
3.	Plant Description	
3.1	External Appearance and Plant Layout	
3.2	Reactor Power Conversion System	
3.3	Plant Water Use	
3.3.1	Water Consumption	
3.3.2	Water Treatment	
3.4	Cooling System	
3.4.1	Description and Operational Modes	
3.4.2	Component Descriptions	
3.5	Radioactive Waste Management System	
3.6	Nonradioactive Waste Systems	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
3.6.1	Effluents Containing Chemicals or Biocides	
3.6.2	Sanitary System Effluents	
3.6.3	Other Effluents	
3.7	Power Transmission System	
3.8	Transportation of Radioactive Materials	
4.	Environmental Impacts of Construction	
4.1	Land-Use Impacts	
4.1.1	The Site and Vicinity	
4.1.2	Transmission Corridors and Offsite Areas	
4.1.3	Historic Properties	
4.2	Water-Related Impacts	
4.2.1	Hydrologic Alterations	
4.2.2	Water-Use Impacts	
4.3	Ecological Impacts	
4.3.1	Terrestrial Ecosystems	
4.3.2	Aquatic Ecosystems	
4.4	Socioeconomic Impacts	
4.4.1	Physical Impacts	
4.4.2	Social and Economic Impacts	
4.4.3	Environmental Justice Impacts	
4.5	Radiation Exposure to Construction Workers	
4.6	Measures and Controls to Limit Adverse Impacts During Construction	
5.	Environmental Impacts of Station Operation	
5.1	Land-Use Impacts	
5.1.1	The Site and Vicinity	
5.1.2	Transmission Corridors and Offsite Areas	
5.1.3	Historic Properties	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
5.2	Water-Related Impacts	
5.2.1	Hydrologic Alterations and Plant Water Supply	
5.2.2	Water-Use Impacts	
5.3	Cooling System Impacts	
5.3.1	Intake System	
5.3.1.1	Hydrodynamic Descriptions and Physical Impacts	
5.3.1.2	Aquatic Ecosystems	
5.3.2	Discharge System	
5.3.2.1	Thermal Description and Physical Impacts	
5.3.2.2	Aquatic Ecosystems	
5.3.3	Heat-Discharge System	
5.3.3.1	Heat Dissipation to the Atmosphere	
5.3.3.2	Terrestrial Ecosystems	
5.3.4	Impacts to Members of the Public	
5.4	Radiological Impacts of Normal Operation	
5.4.1	Exposure Pathways	
5.4.2	Radiation Doses to Members of the Public	
5.4.3	Impacts to Members of the Public	
5.4.4	Impacts to Biota Other than Members of the Public	
5.5	Environmental Impacts of Waste	
5.5.1	Nonradioactive-Waste-System Impacts	
5.5.2	Mixed Waste Impacts	
5.6	Transmission System Impacts	
5.6.1	Terrestrial Ecosystems	
5.6.2	Aquatic Ecosystems	
5.6.3	Impacts to Members of the Public	
5.7	Uranium Fuel Cycle Impacts	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
5.8	Socioeconomic Impacts	
5.8.1	Physical Impacts of Station Operation	
5.8.2	Social and Economic Impacts of Station Operation	
5.8.3	Environmental Justice Impacts	
5.9	Decommissioning	
5.10	Measures and Controls to Limit Adverse Impacts During Operation	
6.	Environmental Measurements and Monitoring Programs	
6.1	Thermal Monitoring	
6.2	Radiological Monitoring	
6.3	Hydrological Monitoring	
6.4	Meteorological Monitoring	
6.5	Ecological Monitoring	
6.5.1	Terrestrial Ecology and Land Use	
6.5.2	Aquatic Ecology	
6.6	Chemical Monitoring	
6.7	Summary of Monitoring Programs	
7.	Environmental Impacts of Postulated Accidents Involving Radioactive Materials	
7.1	Design Basis Accidents	
7.2	Severe Accidents	
7.3	Severe Accident Mitigation Alternatives	
7.4	Transportation Accidents	
8.	Need for Power	
9.	Alternatives to the Proposed Action	
9.1	No-Action Alternative	
9.2	Energy Alternatives	
9.2.1	Alternatives Not Requiring New Generating Capacity	
9.2.2	Alternatives Requiring New Generating Capacity	

NORTH ANNA EARLY SITE PERMIT APPLICATION DRAFT TABLE OF CONTENTS		
Section	Section Title	
9.2.3	Assessment of Alternative Energy Sources and Systems	
9.3	Alternative Sites	
9.4	Alternative Plant and Transmission Systems	
9.4.1	Heat Dissipation Systems	
9.4.2	Circulating Water Systems	
9.4.3	Transmission Systems	
10.	Environmental Consequences of the Proposed Action	
10.1	Unavoidable Adverse Environmental Impacts	
10.2	Irreversible and Irrecoverable Commitments of Resources	
10.3	Relationship Between Short Term Uses and Long Term Productivity of the Human Environment	
10.4	Benefit-Cost Balance	
10.4.1	Benefits	
10.4.2	Costs	
10.4.3	Summary	
<u>PART 4 - PROGRAMS AND PLANS</u>		
---	Table of Contents	
SITE REDRESS PLAN		
1.	DESCRIPTION OF SITE PREPARATION ACTIVITIES	
2.	SITE REDRESS PLAN	
2.1	General	
2.2	Site Redress Criteria	
2.3	Description of Redress Plan	
2.4	Impacts on Existing Redress and Decommissioning Plans	
2.5	Financial Capability	