

PPL BELL BEND NUCLEAR POWER PLANT

Individual National Pollutant Discharge Elimination System Permit Application Package (Revision 1)

Applicant:
PPL Bell Bend, LLC
38 Bomboy Lane
Suite 2
Berwick, PA 18603

Submitted by:
Pennoni Associates Inc.
100 North Wilkes-Barre Blvd.
Suite 409
Wilkes-Barre, PA 18702

MASTER Table of Contents

The following bound documents and plan sets create the Bell Bend Nuclear Power Plant full Individual NPDES Submission:

Binders

Binder 1 of 6 – NPDES Permit Application Binder
Binder 2 of 6 – Post Construction Stormwater Management Narrative
Binder 3 of 6 – Post Construction Stormwater Management Narrative (Continued)
Binder 4 of 6 – Post Construction Stormwater Management Narrative (Continued)
Binder 5 of 6 – Erosion and Sedimentation Control Plan Narrative
Binder 6 of 6 – Erosion and Sedimentation Control Plan Narrative (Continued)

Plans

Post Construction Stormwater Management Plans
Erosion and Sedimentation Control Plans

Also Plans

Sequence of Construction Plans

BINDERS

Binder 1 of 6 – NPDES Permit Application Binder

Table of Contents

- A. Individual NPDES (For Construction Activities) Application Checklist**

- B. Notice of Intent Form (NOI)**

- C. General Information Form (GIF)**

- D. Luzerne Conservation District Erosion & Sediment Pollution Control Plan Review Application**

NPDES Application Fee - \$75,600 Payable to Luzerne Conservation District

Permit Filing Fee - \$500.00 Payable to the Luzerne County Clean Water Fund

- E. Municipal and County Notifications-Certified Mail Receipts of Municipal/County**

- F. Cultural Resource Notice**

- G. PNDI Project Environmental Review and Receipt**

- H. BMP Stormwater Worksheet and Calculations**

- I. Permanent Stormwater BMP Calculations (Volume of Water Treated)**

- J. Sensitive Resource Maps**
 - **BMP-MAP-1 – Sensitive Resources**
 - **BMP-MAP-2 – Steep Slopes**

Table of Contents

I.	EXECUTIVE SUMMARY	1
II.	EXISTING LAND USE AND SITE FEATURES	2
III.	PROPOSED LAND USE AND SITE FEATURES.....	6
IV.	PRE-DEVELOPMENT HYDROLOGY.....	7
V.	POST-DEVELOPMENT HYDROLOGY	10
VI.	STORMWATER MANAGEMENT	12
A.	REQUIREMENTS	12
B.	STORMWATER DETENTION	12
C.	INFILTRATION AND VOLUME ANALYSIS	18
D.	2-YEAR STORM EVENT RUNOFF VOLUME FOR INTAKE AREA.....	19
VII.	STORMWATER CONVEYANCE.....	19
VIII.	STORMWATER BEST MANAGEMENT PRACTICES	19
IX.	ANITDEGRADATION ANALYSIS	20
X.	THERMAL IMPACT ANAYLSIS.....	23
XI.	MAINTENANCE OF STORMWATER FACILITIES.....	24
XII.	CONCLUSION.....	26

Appendices

- | | |
|------------|--|
| Appendix A | Location Map |
| Appendix B | Soils Map |
| Appendix C | Pre-Development Analysis |
| Appendix D | Post-Development Analysis (Uncontrolled) |
| Appendix E | Site Photos and Photo Location Map |
| Appendix F | Drainage Area Maps |
- DRN-MAP-1 Pre-Development Drainage Areas
 - DRN-MAP-2 Post-Development Drainage Areas
 - DRN-MAP-3 Post-Development Drainage Areas POI 1 and POI 8
 - DRN-MAP-4 Post-Development Drainage Areas POI 2
 - DRN-MAP-5 Post-Development Drainage Areas POI 3
 - DRN-MAP-6 Post-Development Drainage Areas POI 6
 - DRN-MAP-7 Post-Development Drainage Areas POI 4, POI 5, and POI 7
 - DRN-MAP-8 Post-Development Drainage Areas POI 9
 - DRN-MAP-9 Post-Development Drainage Areas POI 10

Table of Contents

Appendices (cont.)

Appendix G Post – Development Analysis (Controlled)

Binder 3 of 6 – Post Construction Stormwater Management Narrative

Appendix H Detention Basin Routing

Appendix I Volume & Infiltration Calculations

Binder 4 of 6 – Post Construction Stormwater Management Narrative

Appendix J Infiltration Testing Results

Appendix K Intake Area Report

Appendix L Culvert Reports

Appendix M Level Spreader Calculations

Table of Contents

I.	EXECUTIVE SUMMARY	1
II.	EXISTING LAND USE AND SITE FEATURES.....	1
III.	PROPOSED LAND USE AND SITE FEATURES	1
IV.	ANALYSIS OF PROJECT IMPACT ON DOWNSTREAM WATERCOURSES	2
V.	SOILS.....	2
VI.	SEQUENCE OF EARTHMOVING OPERATIONS.....	7
VII.	EROSION CONTROL MEASURES.....	40
VIII.	SEEDING	41
IX.	MAINTENANCE.....	42
X.	SUMMARY.....	43

Appendices

Appendix A	Location Map
Appendix B	Soils Map
Appendix C	Slope Protection Calculations
Appendix D	Silt Barrier Fence Calculations
Appendix E	Sediment Basin Calculations
Appendix F	Dewatering/Temporary Spray Irrigation Plan
Appendix G	Outlet Protection Calculations
Appendix H	Swale Calculations (Permanent & Temporary)
Appendix I	Runoff Calculation Summary
Appendix J	Plan Designer Qualifications

Binder 6 of 6 – Erosion and Sedimentation Control Plan Narrative (Continued)

Appendix K	Drainage Area Maps
• DRN-MAP-1	Pre-Development Drainage Areas
• DRN-MAP-2	Post-Development Drainage Areas
• DRN-MAP-3	Post-Development Drainage Areas POI 1 and POI 8
• DRN-MAP-4	Post-Development Drainage Areas POI 2
• DRN-MAP-5	Post-Development Drainage Areas POI 3
• DRN-MAP-6	Post-Development Drainage Areas POI 6
• DRN-MAP-7	Post-Development Drainage Areas POI 4, POI 5, and POI 7
• DRN-MAP-8	Post-Development Drainage Areas POI 9
• DRN-MAP-9	Post-Development Drainage Areas POI 10
• SF-Map-1 thru 9	Silt Barrier Fence Drainage Areas
• SB&T-Map-1 thru 7	Sediment Basin Drainage Areas
• PERM-SWL-1 thru 6	Drainage Areas to Swales (Permanent)
• TEMP-SWL-1 thru 3	Drainage Areas to Swales (Temporary)

PLANS

Post Construction Stormwater Management Plans

DRAWING LIST

CS1401 -PCSM - PCSM INDEX PLAN
CS1402 -PCSM - LEGEND & NOTES
CS1501 -PCSM - PCSM PLAN
CS1502 -PCSM - PCSM PLAN
CS1503 -PCSM - PCSM PLAN
CS1504 -PCSM - PCSM PLAN
CS1505 -PCSM - PCSM PLAN
CS1506 -PCSM - PCSM PLAN
CS1507 -PCSM - PCSM PLAN
CS1508 -PCSM - PCSM PLAN
CS1509 -PCSM - PCSM PLAN
CS1510 -PCSM - PCSM PLAN
CS1511 -PCSM - PCSM PLAN
CS1512 -PCSM - PCSM PLAN
CS1513 -PCSM - PCSM PLAN
CS1514 -PCSM - PCSM PLAN
CS1515 -PCSM - PCSM PLAN
CS1516 -PCSM - PCSM PLAN
CS1517 -PCSM - PCSM PLAN
CS1518 -PCSM - PCSM PLAN
CS1519 -PCSM - PCSM PLAN
CS1520 -PCSM - PCSM PLAN
CS1521 -PCSM - PCSM PLAN
CS1522 -PCSM - PCSM PLAN
CS1523 -PCSM - PCSM PLAN
CS1524 -PCSM - PCSM PLAN
CS1525 -PCSM - PCSM PLAN
CS1526 -PCSM - PCSM PLAN
CS1527 -PCSM - PCSM PLAN
CS1528 -PCSM - PCSM PLAN
CS1529 -PCSM - PCSM PLAN
CS1530 -PCSM - PCSM PLAN
CS1531 -PCSM - PCSM PLAN
CS1532 -PCSM - PCSM PLAN
CS1533 -PCSM - PCSM PLAN
CS1534 -PCSM - PCSM PLAN
CS1535 -PCSM - PCSM PLAN
CS1536 -PCSM - PCSM PLAN
CS6100 -PCSM - PCSM DETAILS
CS6101 -PCSM - PCSM DETAILS
CS6102 -PCSM - PCSM DETAILS
CS6103 -PCSM - PCSM DETAILS
CS6104 -PCSM - PCSM DETAILS

Erosion and Sedimentation Control Plans

DRAWING LIST

CS8001 - E & S INDEX PLAN
CS8002 - E & S SOIL CHARACTERISTICS
CS8003 - E & S CONSTRUCTION SEQUENCE
CS8004 - E & S CONSTRUCTION SEQUENCE
CS8101A - E & S CONTROL PLAN
CS8101B - E & S CONTROL PLAN
CS8102A - E & S CONTROL PLAN
CS8102B - E & S CONTROL PLAN
CS8103A - E & S CONTROL PLAN
CS8103B - E & S CONTROL PLAN
CS8104A - E & S CONTROL PLAN
CS8104B - E & S CONTROL PLAN
CS8105A - E & S CONTROL PLAN
CS8105B - E & S CONTROL PLAN
CS8106A - E & S CONTROL PLAN
CS8106B - E & S CONTROL PLAN
CS8107 - E & S CONTROL PLAN
CS8108 - E & S CONTROL PLAN
CS8109 - E & S CONTROL PLAN
CS8110A - E & S CONTROL PLAN
CS8110B - E & S CONTROL PLAN
CS8111 - E & S CONTROL PLAN
CS8112A - E & S CONTROL PLAN
CS8112B - E & S CONTROL PLAN
CS8113 - E & S CONTROL PLAN
CS8114 - E & S CONTROL PLAN
CS8115A - E & S CONTROL PLAN
CS8115B - E & S CONTROL PLAN
CS8116 - E & S CONTROL PLAN
CS8117 - E & S CONTROL PLAN
CS8118A - E & S CONTROL PLAN
CS8118B - E & S CONTROL PLAN
CS8119A - E & S CONTROL PLAN
CS8119B - E & S CONTROL PLAN
CS8120 - E & S CONTROL PLAN
CS8121A - E & S CONTROL PLAN
CS8121B - E & S CONTROL PLAN
CS8122 - E & S CONTROL PLAN
CS8123 - E & S CONTROL PLAN
CS8124 - E & S CONTROL PLAN
CS8125 - E & S CONTROL PLAN
CS8126A - E & S CONTROL PLAN
CS8126B - E & S CONTROL PLAN
CS8127 - E & S CONTROL PLAN
CS8128A - E & S CONTROL PLAN
CS8128B - E & S CONTROL PLAN
CS8129 - E & S CONTROL PLAN
CS8130 - E & S CONTROL PLAN

Erosion and Sedimentation Control Plans (Cont.)

CS8131 - E & S CONTROL PLAN
CS8132 - E & S CONTROL PLAN
CS8133 - E & S CONTROL PLAN
CS8134 - E & S CONTROL PLAN
CS8135A - E & S CONTROL PLAN
CS8135B - E & S CONTROL PLAN
CS8136 - E & S CONTROL PLAN
CS8201 - E & S CONTROL PLAN
CS8202 - E & S CONTROL PLAN
CS8203 - E & S CONTROL PLAN
CS8204 - E & S CONTROL PLAN
CS8205 - E & S CONTROL PLAN
CS8301* - LSI STREAM AND WETLAND MITIGATION E&S PLAN-WALKER RUN
CS8302* - LSI STREAM AND WETLAND MITIGATION E&S PLAN-WALKER RUN
CS8303* - LSI STREAM AND WETLAND MITIGATION E&S PLAN-WALKER RUN
CS8304* - LSI STREAM AND WETLAND MITIGATION E&S DETAILS-WALKER RUN
CS8305* - LSI STREAM AND WETLAND MITIGATION E&S NOTES-WALKER RUN
CS8306* - LSI STREAM AND WETLAND MITIGATION E&S CONSTRUCTION SCHEDULE-WALKER RUN
CS8307* - LSI WETLAND MITIGATION E&S PLAN- CONFERS LANE
CS8308* - LSI WETLAND MITIGATION E&S DETAILS AND NOTES-CONFERS LANE
CS8309* - LSI WETLAND MITIGATION E&S PLAN- RIVERLANDS SITE
CS8310* - LSI WETLAND MITIGATION E&S DETAILS AND NOTES-RIVERLANDS SITE
CS8501 - EROSION AND SEDIMENTATION CONTROL DETAILS
CS8502 - EROSION AND SEDIMENTATION CONTROL DETAILS
CS8503 - EROSION AND SEDIMENTATION CONTROL DETAILS
CS8504 - EROSION AND SEDIMENTATION CONTROL DETAILS
CS8505 - EROSION AND SEDIMENTATION CONTROL NOTES

ALSO PLANS

Sequence of Construction Plans

DRAWING LIST

CS9000-Construction Area Map
CS9001- Phase 1 Map
CS9002- Phase 2 Map
CS9003- Phase 3 Map
CS9004- Phase 4 Map
CS9005- Phase 5 Map
CS9006- Phase 6 Map
CS9007- Phase 7 Map
CS9008- Phase 8 Map
CS9009- Phase 9 Map
CS9010- Phase 10 Map