Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone 804-273-3467

Dominion™

November 13, 2002

Mr. Terry H. Darton
Air Permit Manager
Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193

Re: North Anna Power Station (Registration No. 40726) Air Permit Application for a Portable Concrete Plant

Dear Mr. Darton:

North Anna Power Station (North Anna) is scheduled to undergo repairs over the next several months. Approximately 490 yards of concrete will be required in order to complete these repairs. Dominion is proposing to contract Williams Concrete, Inc. of Maumee, Ohio, to provide a portable batch concrete plant at North Anna to produce the concrete. It is anticipated that the concrete plant will be on-site from early December 2002 through March 2003. The concrete plant will be located on North Anna property, approximately 0.5 miles from the pour site.

Raw materials in support of the project will include one 500 ton pile of sand, one 500 ton pile of aggregate, and 125 tons of cement in watertight bins. The piles of sand and aggregate will be covered and penned-in on all four sides while not being used.

A 241 horsepower diesel generator will power the concrete plant. In addition, two small heaters will be used in the event of extreme cold weather. One heater will be a propane-fired water heater to heat the water used in the concrete. The other heater will be a diesel-fired ground heater, which will heat ethylene glycol that will be circulated through piping. The ground heater piping would be placed on the aggregate pile to keep the aggregate from freezing. Both heaters are less than 1 MMBtu/hr heat input capacity.

Pursuant to discussions with Mr. Dean Gossett of your office, pages 1, 2, and 3 of the Air Permit Application (Form 7) have been included (Attachment 1) and Mr. Mark Williams, President of Williams Concrete, Inc. (owner of the concrete plant), has signed the Form.

A001

Conservative calculations of the raw material handling and truck traffic using AP-42 emission factors yielded estimates of 1.56 tons of total particulate matter (PM) per year and 0.33 tons of particulate matter less than 10 microns (PM_{10}) per year. Actual site conditions will result in much lower PM and PM_{10} emissions. Emissions from the diesel generator and heaters in addition to the PM and PM_{10} emissions from raw material transfers and truck traffic will be far below permit exemption levels in 9 VAC 5-80-1320(C). See Attachment 2 for emissions calculations.

If you have any questions, please contact Andy Gates at 804-273-2950 or Andy_Gates@dom.com.

Sincerely,

Pamela F. Faggert

Attachment 1 – Form 7 (pages 1-3)
Attachment 2 – Emissions Calculations

cc:

U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
Docket Nos. 50-338/50-339

License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

ATTACHMENT 1

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality

AIR PERMIT APPLICATION
General Information
CHECK ALL FORMS THAT APPLY AND LIST ALL ATTACHED DOCUMENTS

MAP AND LOCALITIES LIST (information), Pages iii-vi

CONFIDENTIAL INFORMATION, Page vii

FORMULA-BASED HAZARDOUS AIR POLLUTANT INFORMATION, Page viii

HAZARDOUS AIR POLLUTANT LIST (information), Pages ix-x

__ REQUEST FOR LOCAL GOVERNMENT CERTIFICATION FORM, Pages xi-xii

X CONTENTS AND DOCUMENT CERTIFICATION, Page 1

X GENERAL INFORMATION, Page 2

X GENERAL INFORMATION (continued), Page 3

__ FUEL-BURNING EQUIPMENT, Page 4

__ PROCESSING, Page 5

__ INKS, COATINGS, STAINS, AND ADHESIVES, Page 6

__ INCINERATORS, Page 7

__ VOLATILE ORGANIC COMPOUND/PETROLEUM STORAGE TANKS, Page 8

__ VOLATILE ORGANIC COMPOUND/PETROLEUM STORAGE TANKS - CONTINUED, Page 9

__ LOADING RACKS AND OIL-WATER SEPARATORS, Page 10

__ STACK PARAMETERS AND FUEL DATA, Page 11

__ AIR POLLUTION CONTROL AND MONITORING EQUIPMENT, PAGE 12

__ AIR POLLUTION CONTROL/SUPPLEMENTAL INFORMATION, PAGE 13

__ CRITERIA POLLUTANT EMISSIONS, Page 14

__ TOXIC OR HAP OR OTHER EMISSIONS, Page 15

__ OPERATING PERIODS, Page 16

LIST ATTACHED DOCUMENTS

__ MAP of SITE LOCATION

__ FACILITY SITE PLAN

__ PROCESS FLOW DIAGRAM/SCHEMATIC

__ MSDS or CPDS SHEETS

X ESTIMATED EMISSIONS CALCULATIONS

__ STACK TESTS

__ AIR MODEL DATA

__ LOCAL GOVERNING BODY CERTIFICATION FORM

_____

_____

_____

_____

_____

_____

Note added form sheets above; also indicate the number of copies of each form in blank provided.

DOCUMENT CERTIFICATION FORM
(see other side for instructions)

I certify under penalty of law that this document and all attachments [as noted above] were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE. _____ DATE:: 4/2/2002

NAME Mark Williams

TITLE President REGISTRATION

COMPANY Williams Concrete, Inc NUMBER: N/A

References Virginia Regulations, 9 VAC 5-80-10.D.4. See reverse of this form for instructions

COMMONWEALTH OF VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR PERMIT APPLICATION GENERAL INFORMATION

PERSON COMPLETING FORM	DATE	REGISTRATION NUMBER
Bob Asplund	11-9-02	N/A

REASON(S) FOR SUBMISSION:

[ ] OPERATING PERMIT

[ ] RENEWAL OF OPERATING PERMIT (CURRENT PERMIT EXPIRATION DATE: _____)

[ ] MODIFICATION

[X] NEW SOURCE

[ ] EXEMPTION

[ ] REGISTRATION UPDATE

[ ] OWNERSHIP OR NAME CHANGE - EFFECTIVE DATE: _____
(COMPLETE PAGES 1 AND 2 ONLY)

[ ] OTHER (SPECIFY) _____

THIS PERMIT IS APPLIED FOR PURSUANT TO THE FOLLOWING PROVISION(S) OF THE VIRGINIA REGULATIONS OR FEDERAL REGULATIONS (IF KNOWN):

X 9 VAC 5-80-1100 (NEW AND MOD. SOURCES)

__ 9 VAC 5 Chapter 80, Article 8 (PSD, MAJOR SOURCES)

__ 9 VAC 5 Chapter 80, Article 9 (NON-ATTAINMENT MAJOR SOURCES)

__ 9 VAC 5 Chapter 80, Article 5 (STATE OPERATING PERMITS)

Would you be interested in a DEQ Pollution Prevention (P2) site visit to discuss the potential benefits of implementing P2 practices at your facility? Please note that there is no charge for this service and that the site visit is not limited to air pollution issues. Site visits can yield air/water pollution or waste minimization recommendations that can benefit your facility. The purpose of these visits is not to assess compliance with applicable regulatory requirements.

[ ] Yes [X] No

If yes, would you prefer the P2 site visit to occur:

[ ] Before permit issuance [ ] After permit issuance

COMPANY AND DIVISION NAME:
Williams Concrete, Inc.

MAILING ADDRESS
P O. Box 147
Maumee, OH 43537-0147

TELEPHONE NUMBER:	NUMBER OF EMPOLYEES AT SITE:	PROPERTY AREA AT SITE:
(888) 893-3251	4	0.75 Acres

EXACT SOURCE LOCATION – INLCUDE NAME OF CITY (COUNTY) AND FULL STREET ADDRESS OR DIRECTIONS:
North Anna Power Station – North end of Route 700, Louisa County, Virginia

PERSON TO CONTACT ON AIR POLLUTION MATTERS – NAME AND TITLE:	PHONE NUMBER:
Pamela F Faggert Vice President and Chief Environmental Officer Dominion	(804) 273 - 3467
	FAX NUMBER: (804) 273 - 3410

[X] Please check here if you obtained this form from the DEQ website.

FOR OFFICIAL USE ONLY

COUNTY CODE:	PLANT ID NUMBER:	UTM NUMBERS:

COMMONWEALTH OF VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR PERMIT APPLICATION GENERAL INFORMATION (continued)

COMPANY NAME	DATE	REGISTRATION NUMBER
Williams Concrete, Inc.	11-9-02	N/A

IS THE FACILITY TO BE PERMITTED AS A PORTABLE PLANT? YES X NO __

DESCRIBE THE PRODUCTS MANUFACTURED AND/OR SERVICES PERFORMED AT THIS FACILITY:

This portable concrete plant will be on-site at North Anna Power Station from December 2002 through March 2003 and will produce approximately 390 yards of concrete to complete facility repairs.

LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE(S) FOR THE FACILITY:

3531

PRIMARY SIC SECONDARY SICs

PLEASE LIST ALL THE FACILITIES IN VIRGINIA UNDER COMMON OWNERSHIP OR CONTROL BY THE OWNER OF THIS FACILITY:

N/A

MILESTONES. This section is to be completed if the permit application includes a new emissions unit or modification to existing operations.

MILESTONES*	STARTING DATE	ESTIMATED COMPLETION DATE
New equipment installation	12-1-02	3-31-03
Modification of existing process or equipment		
Start-up dates	December 2002	

* For new or modified installations to be constructed in phased schedule, give construction/installation starting and completion date for each phase.

ATTACHMENT 2

North Anna Power Station
Concrete Batch Plant
PM Emissions from Raw Materials and Truck Traffic

Project entails making 490 yards of concrete for facility repairs.
Each yard weighs approximately 3,500 lbs.

Table displaying Component Weights of Concrete

Data from footnote in Table 11.12-1	Cement Dust	Cement Supplement	Sand	Coarse Aggregate	Water	Total
weight (lbs)	491	73	1,428	1,865	167	4,024
percent of total weight	12.2%	1.8%	35.5%	46.4%	4.1%	100.0%

Table displaying the component weights of 386 yards of concrete

Parameter	Cement Dust	Cement Supplement	Sand	Coarse Aggregate	Water	Total
weight (lbs)	209,281	31,115	608,664	794,929	71,011	1,715,000
percent of total weight	12.2%	1.8%	35.5%	46.4%	4.1%	100.0%

PM Emissions from Portable Concrete Plant [Emission Factors from Table 11.12-2 in AP-42 dated 10/01]

Activity	Emission Factor*	Parameter	PM emissions (lbs)
Sand transfer to elevated bin	0.0021 lbs PM/ton	304 tons sand	1
Aggregate transfer to elevated bin	0.0069 lbs PM/ton	397 tons aggregate	3
Cement unloading to elevated storage silo (pneumatic)	0.72 lbs PM/ton	105 tons cement dust	75
Cement supplement unloading to elevated storage silo (pneumatic)	3.14 lbs PM/ton	16 tons cement supp	49
Weigh hopper loading	0.0051 lbs PM/ton	822 tons dry materials	4
Mixer loading (central mix)	0.22 lbs PM/ton	822 tons dry materials	181
TOTAL PM EMISSIONS FROM PORTABLE CONCRETE PLANT			313

* Uncontrolled emission factors. The cement transfer point will be controlled by a 98.5% efficient baghouse.

Vehicle Traffic PM Emissions (paved roads) [from Section 13.2.1 of AP-42]

$E = k (sL/2)^{0.65} (W/3)^{1.5}$

where:

E = particulate emission factor (lbs PM/VMT)

k = particle size multiplier for particle size range and units of interest

sL = road surface silt loading (g/m^2)

W = average weight (tons) of the vehicles traveling the road

$E =$ 0.082 lbs PM/VMT $\times$ $(400 \text{ grams/m}^2 / 2)^{0.65}$ $\times$ $(20.5 \text{ tons} / 3)^{1.5}$ = 46 lbs PM/VMT

PM emission factor from Table 13 2-1.1.

Worst case according to AP-42.

14 tons of concrete per truck, 13.5 ton trucks
1 trip empty, 1 trip full

The length of road to travel from the portable concrete plant to the reactor is approximately 0.5 miles for a roundtrip distance of 1.0 miles.

The number of truck roundtrips will be: $\frac{490 \text{ yards of concrete}}{8 \text{ yards concrete/truck}} = 61$

Total distance traveled for the concrete trucks will be: 61 roundtrips x 1.0 miles/trip = 48 VMT

Emissions from truck traffic = 46 lbs PM/VMT x 61 VMT = 2,809 lbs PM

TOTAL PM Emissions from Portable Concrete Plant and Associated Truck Traffic = 1.56 tons

North Anna Power Station
Concrete Batch Plant
PM_{10} Emissions from Raw Materials and Truck Traffic

Project entails making 490 yards of concrete for facility repairs.
Each yard weighs approximately 3,500 lbs.

Table displaying Component Weights of Concrete

Data from footnote in Table 11.12-1	Cement Dust	Cement Supplement	Sand	Coarse Aggregate	Water	Total
weight (lbs)	491	73	1,428	1,865	167	4,024
percent of total weight	12.2%	1.8%	35.5%	46.4%	4.1%	100.0%

Table displaying the component weights of 386 yards of concrete

Parameter	Cement Dust	Cement Supplement	Sand	Coarse Aggregate	Water	Total
weight (lbs)	209,281	31,115	608,664	794,929	71,011	1,715,000
percent of total weight	12.2%	1.8%	35.5%	46.4%	4.1%	100.0%

PM_{10} Emissions from Portable Concrete Plant [Emission Factors from Table 11.12-2 in AP-42 dated 10/01]

Activity	Emission Factor	Parameter	PM_{10} emissions (lbs)
Sand transfer to elevated bin*	0.00099 lbs PM10/ton	304 tons sand	0
Aggregate transfer to elevated bin*	0.0033 lbs PM10/ton	397 tons aggregate	1
Cement unloading to elevated storage silo (pneumatic)*	0.46 lbs PM10/ton	105 tons cement dust	48
Cement supplement unloading to elevated storage silo (pneumatic)*	1.10 lbs PM10/ton	16 tons cement supp	17
Weigh hopper loading*	0.0024 lbs PM10/ton	822 tons dry materials	2
Mixer loading (central mix)*	0.08 lbs PM10/ton	822 tons dry materials	64
TOTAL PM_{10} EMISSIONS FROM PORTABLE CONCRETE PLANT			133

* Uncontrolled emission factors. The cement transfer point will be controlled by a 98.5% efficient baghouse.

Vehicle Traffic PM_{10} Emissions (paved roads) [from Section 13.2.1 of AP-42]

$E = k\,(sL/2)^{0.65}\,(W/3)^{1.5}$

where:

E = particulate emission factor (lbs PM_{10}/VMT)

k = particle size multiplier for particle size range and units of interest

sL = road surface silt loading (g/m^2)

W = average weight (tons) of the vehicles traveling the road

$E =$ 0.016 lbs PM10/VMT x $(400\ grams/m^2 / 2)^{0.65}$ x $(20.5\ tons / 3)^{1.5}$ = 9 lbs PM10/VMT

PM_{10} emission factor from Table 13.2-1.1.

Worst case according to AP-42.

14 tons of concrete per truck, 13.5 ton trucks
1 trip empty, 1 trip full

The length of road to travel from the portable concrete plant to the reactor is approximately 0.5 miles for a roundtrip distance of 1.0 miles.

The number of truck roundtrips will be: $\frac{490\ \text{yards of concrete}}{8\ \text{yards concrete/truck}} = 61$

Total distance traveled for the concrete trucks will be: 61 roundtrips x 1.0 miles/trip = 61 VMT

PM_{10} Emissions from truck traffic = 9 lbs PM10/VMT x 61 VMT = 528 lbs PM10

TOTAL PM_{10} Emissions from Portable Concrete Plant and Associated Truck Traffic = 0.33 tons

North Anna Power Station
Concrete Batch Plant
Diesel Generator &
Ground Heater Emissions

The concrete batch plant will be using a 241 Hp Caterpiller 3208 diesel generator to power the mixing drum. In the event of extreme cold weather, a diesel-fired "ground heater" will be used to keep the aggregate from freezing. The generator and ground heater are expected to burn no more than 4,000 gallons of diesel fuel to complete the project.

4,000 gallons diesel x 137,000 BTU/gal = 548 MMBtu Total Heat Input

Diesel Generator Emissions [Emission Factors from Table 3.3-1 in AP-42 dated 10/96]

Pollutant	Emission Factor	Total Emissions
NO_x	4.41 lb/MMBtu	1.21 tons
CO	0.95 lb/MMBtu	0.26 tons
SO_x	0.29 lb/MMBtu	0.08 tons
PM/PM_{10}	0.31 lb/MMBtu	0.08 tons
VOC	0.36 lb/MMBtu	0.10 tons

North Anna Power Station
Concrete Batch Plant
Hot Water Heater Emissions

In the event of extreme cold weather, a hot water heater will be used to heat water for use in the concrete. The heater is rated at 900,000 Btu/hr. As a very conservative estimate, the calculation has assumed operation of 24 hours/day for 1 full month.

0.9 MMBtu/hr	x	31 days/month	x	24 hrs/day	=	669.6 MMBtu/month
669.6 MMBtu/month	/	0.094 MMBtu/gal	=	7,123 gallons propane		

Emission Factors for LPG Combustion [Emission Factors from Table 1.5-1 in AP-42 dated 10/96]

Pollutant	Emission Factor	Total Emissions
NO_x	14 lb/1000 gal	0.05 tons
CO	1.9 lb/1000 gal	0.01 tons
SO_x	0.016 lb/1000 gal	0.00 tons
PM/PM_{10}	0.4 lb/1000 gal	0.00 tons
VOC	0.5 lb/1000 gal	0.00 tons