

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF AIR QUALITY

AIR PERMIT NO. 1756R17

RECEIVED

DEC 21 2004

H.R. STRICKLER

Issue Date: December 15, 2004

Effective Date: December 15, 2004

Expiration Date: December 1, 2009

Replaces Permit: 1756R16

To construct and operate air emission source(s) and/or air cleaning device(s), and for the discharge of the associated air contaminants into the atmosphere in accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina (NCGS) as amended, and other applicable Laws, Rules and Regulations,

Global Nuclear Fuel – Americas, LLC
3901 Castle Hayne Road
Wilmington, New Hanover County, North Carolina
Fee Class: Synthetic Minor
Site Number: 08/65/00070

(the Permittee) is hereby authorized to construct and operate the air emissions sources and/or air cleaning devices and appurtenances described below:

Emission Source ID	Emission Source Description	Control System ID	Control System Description
ID No. ES-S13	one 1,200 pounds per hour capacity, natural gas-fired multiple chambered incinerator (ID No. S13, primary burner, 1.5 million Btu/hr minimum heat input and secondary burner, 2.5 million Btu/hr minimum heat input) burning Type 0 waste and used oil	ID No. CD-S0004572, ID No. CD-S0004570, ID No. CD-S0004573, and ID No. CD-S0004605	one flue gas quencher (ID No. S0004572, 58 gal/min water nominal), one venturi scrubber (ID No. S0004570, 100 gal/min water nominal), one vertical countercurrent packed bed scrubber (ID No. S0004573, 162 gal/min water nominal) & one bagfilter (ID No. S0004605, 1,696 sq. ft. of filter area, nominal) installed in series
ID No. ES-S37	one 100 ton capacity hydrated lime storage tank	ID No. CD-S0008064	one bagfilter with 178 square feet of filter area nominal
ID No. ES-S07	two steam jacketed wastewater treatment plant sludge (calcium fluoride) dryers	ID No. CD-S0002304 and ID No. CD-S0002302	one impingement-type wet scrubber (ID No. S0002304, 6 gallons of water per minute nominal) installed in series with one cyclonic wet scrubber (ID No. S0002302, 4 gallons of water per minute nominal)

Emission Source ID	Emission Source Description	Control System ID	Control System Description
ID No. ES-FM12 and ID No. ES-FM14	two natural gas and/or No. 2 fuel oil-fired 350 horsepower boilers	N/A	N/A
ID No. ES-S04	one natural gas and/or No. 2 fuel oil-fired 600 horsepower boiler	N/A	N/A
ID No. ES-S35	one 650 kW diesel fuel-fired emergency generator	N/A	N/A
ID No. ES-S39 and ID No. ES-S40	two diesel fuel-fired load shedding generators, each with a capacity of 1,250 kW	N/A	N/A
ID No. ES-FM03 and ID No. ES-FM04	one system 541X dissolver and liquid filter area and one system 546X FMOX conversion area exhaust	ID No. CD-H0007144	one impingement plate-type wet scrubber, 762 gallons of water per minute nominal
ID No. ES-FM06	one process operation in the uranium waste recovery system	ID No. CD-H0008002 (alt. ID No. S-965), ID No. CD-S0007450, ID No. CD-S0008740, and ID No. CD-H0008000	one cross flow gravity spray chamber (ID No. H0008002/S-965, 120 gallons of water per minute nominal), one condenser (De-entrainer, ID No. S0007450), one venturi scrubber (ID No. S0008740, 30 gallons of water per minute nominal), and one plate tower scrubber (ID No. H0008000, 3 gal. water per min. nominal)
ID No. ES-FM15	one powder preparation system composed of nine hammermills (ID Nos. W0008021-W0008026 and W0008028-W0008030)	ID No. CD-W0008030	one filter housing unit (7 square feet of filter area, nominal) ducted to the system 2020 exhaust
ID No. ES-H3001	three identical dry conversion process (DCP) lines	ID Nos. CD-DCP06005 and CD-DCP06006	one HF recovery system including two countercurrent absorption columns (ID Nos. DCP06005 and DCP06006)
ID No. ES-H3003	one HF Building Emergency Vent	ID No. CD-DCP09010	one emergency ventilation two stage wet scrubber system, 25 gallons of water per minute nominal
ID No. ES-S58	one drum sand blasting unit	ID No. CD-H0002030	one filter housing unit (3,616 square feet filter area nominal)
ID No. ES-FM01	one combined exhaust from the north chemical area dust collection system (system 541) and the south chemical area dust collection system (system 546)	ID No. CD-H0007143	one spray-type wet scrubber, 600 gallons of water per minute nominal
ID No. ES-FC02	one FCO etch line	ID No. CD-M0007940	one cross flow wet scrubber, 250 gallons of water per minute nominal

Emission Source ID	Emission Source Description	Control System ID	Control System Description
ID No. ES-FC06	one grit blasting operation composed of two grit blasting units	ID No. CD-M0002200 and ID No. CD-M0002208	two filter housing units, 1,410 square feet filter area each, nominal

in accordance with the completed application 6500070.04B received October 1, 2004 including any plans, specifications, previous applications, and other supporting data, all of which are filed with the Department of Environment and Natural Resources, Division of Air Quality (DAQ) and are incorporated as part of this permit.

This permit is subject to the following specified conditions and limitations including any TESTING, REPORTING, OR MONITORING REQUIREMENTS:

A. SPECIFIC CONDITIONS AND LIMITATIONS

- Any air emission sources or control devices authorized to construct and operate above must be operated and maintained in accordance with the provisions contained herein. The Permittee shall comply with applicable Environmental Management Commission Regulations, including Title 15A North Carolina Administrative Code (NCAC), Subchapter 2D .0202, 2D .0503, 2D .0515, 2D .0516, 2D .0521, 2D .0535, 2D .0958, 2D .1100, 2D .1208, 2Q .0315, and 2Q .0711.
- EMISSION INVENTORY REQUIREMENT - At least 90 days prior to the expiration date of this permit, the Permittee shall submit the air pollution emission inventory report in accordance with 15A NCAC 2D .0202, pursuant to N.C. General Statute 143 215.65. The report shall be submitted to the Regional Supervisor, DAQ. The report shall document air pollutants emitted for the **2008** calendar year. The Regional Office will send information on how to submit the emissions inventory, along with a reminder to renew your permit, about six months prior to your permit expiration. If you do not receive this information, please contact the Regional Supervisor, DAQ.
- PARTICULATE CONTROL REQUIREMENT - As required by 15A NCAC 2D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers," particulate matter emissions from the fuel burning indirect heat exchangers (ID Nos. ES-FM12, ES-FM14, and ES-S04) shall not exceed the allowable emission rates listed below:

$$E = 1.09 * Q^{(-0.2594)}$$

Where E = allowable emission limit for particulate matter in lb/Million Btu, and
Q = maximum heat input in Million Btu/hr heat input.

- PARTICULATE CONTROL REQUIREMENT - As required by 15A NCAC 2D .0515 "Particulates from Miscellaneous Industrial Processes," particulate matter emissions from the emission sources shall not exceed allowable emission rates. The allowable emission rates are, as defined in 15A NCAC 2D .0515, a function of the process weight rate and shall be

determined by the following equation(s), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr):

$$E = 4.10 * (P)^{0.67} \quad \text{for } P \leq 30 \text{ tons/hr, or}$$
$$E = 55 * (P)^{0.11} - 40 \quad \text{for } P > 30 \text{ tons/hr.}$$

5. SULFUR DIOXIDE CONTROL REQUIREMENT - As required by 15A NCAC 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources," sulfur dioxide emissions from the combustion sources shall not exceed 2.3 pounds per million Btu heat input.
6. As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from emission sources existing after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four (4) times in any 24-hour period. However, sources that must comply with 15A NCAC 2D .0524 "New Source Performance Standards" or 2D .1110 "National Emission Standards for Hazardous Air Pollutants" must comply with applicable visible emissions requirements contained therein.
7. As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from emission sources existing as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four (4) times in any 24-hour period. However, sources that must comply with 15A NCAC 2D .0524 "New Source Performance Standards" or 2D .1110 "National Emission Standards for Hazardous Air Pollutants" must comply with applicable visible emissions requirements contained therein.
8. WORK PRACTICES REQUIREMENTS - As required by 15A NCAC 2D .0958(c) "Work Practices for Sources of Volatile Organic Compounds," the Permittee shall adhere to the following required work practices:
 - a. The Permittee shall store all VOC-containing material not in use (including waste material) in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects.
 - b. The Permittee shall clean up spills as soon as possible following proper safety procedures.
 - c. The Permittee shall store wipe rags in closed containers.
 - d. The Permittee shall not clean sponges, fabric, wood, paper products, and other absorbent materials.
 - e. The Permittee shall drain solvents used to clean supply lines and other coating equipment into closable containers and close containers immediately after each use.

- f. The Permittee shall clean mixing, blending, and manufacturing vats and containers by adding cleaning solvent, closing the vat or container before agitating the cleaning solvent.
 - g. The Permittee shall pour spent cleaning solvent into closable containers and close containers immediately after each use.
9. NOTIFICATION REQUIREMENT - As required by 15A NCAC 2D .0535, the Permittee of a source of excess emissions that last for more than four hours and that results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, shall:
- a. Notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
 - i. the name and location of the facility,
 - ii. the nature and cause of the malfunction or breakdown,
 - iii. the time when the malfunction or breakdown is first observed,
 - iv. the expected duration, and
 - v. an estimated rate of emissions.
 - b. Notify the Director or his designee immediately when the corrective measures have been accomplished.

This reporting requirement does not allow the operation of the facility in excess of Environmental Management Commission Regulations.

10. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT - Pursuant to 15A NCAC 2D .1100 and .1208, and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

<u>EMISSION SOURCE</u>	<u>TOXIC AIR POLLUTANT</u>	<u>EMISSION LIMITS</u>
Incinerator (ID No. ES-S13)	Arsenic & Compounds	0.166 lb/yr
Incinerator (ID No. ES-S13)	Cadmium Metal	1.66 lb/yr

- (a) To ensure compliance with the above limits, the charge rate into the incinerator shall not exceed 1,200 pounds per hour of Type 0 waste and used oil.
- (b) For compliance purposes, within thirty (30) days after each calendar year, the previous year's log of waste charge rates into the incinerator, in units of pounds per hour, shall be reported to the Regional Supervisor, Division of Air Quality.

11. TOXIC AIR POLLUTANT EMISSIONS LIMITATION REQUIREMENT - Pursuant to 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit," for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.

- a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
- b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".
- c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

<u>EMISSION SOURCE</u>	<u>TOXIC AIR POLLUTANT</u>	<u>MEERs</u>
Dry Conversion Process (ID No. ES-H3001)	Hydrogen fluoride	0.63 lb/day and 0.064 lb/hr

12. LIMITATION TO AVOID 15A NCAC 2Q .0501 "TITLE V" - Pursuant to 15A NCAC 2Q .0315 "Synthetic Minor Facilities," to avoid the applicability of 15A NCAC 2Q .0501 "Title V Permits", as requested by the Permittee, facility-wide emissions shall be less than the following:

Pollutant	Emission Limit (Tons per consecutive 12-month period)
SO ₂	100
NO _x	100
Individual HAPs	10 (HF)
PM ₁₀	100

- (A) For SO₂ and NO_x emissions, to ensure enforceability of this limit, the following restrictions shall apply:
- (i) the operating hours of the 650 kW generator (ID No. S35) shall not exceed 240 hours per consecutive twelve (12) month period.
 - (ii) the operating hours of the two 1,250 kW load shedding generators (ID Nos. S39 and S40) shall not exceed 1,320 hours per generator per consecutive twelve (12) month period.

- (iii) the sulfur content of the No. 2 fuel oil used for the boilers (ID Nos. ES-FM12, ES-FM14, and ES-S04) shall be limited to 0.4 percent by weight. (These boilers are allowed to operate 8,760 hours per year.)
- (iv) the sulfur content of the diesel fuel used for the diesel generators shall be limited to 0.2 percent by weight.
- (v) For compliance purposes, the Permittee shall record monthly and total annually the following:
 - (a) the hours of operation for each generator.
 - (b) the facility-wide gallons of No. 2 fuel oil and diesel fuel combusted.
- (B) For HF emissions, to ensure enforceability of this limit, the following restrictions shall apply:
 - (i) to comply with this limit, the Permittee shall maintain a minimum flow rate of 20 liters per hour (0.088 gal/min) to each washing column (i.e., scrubber) associated with the HF recovery system (ID No. ES-H3001) during normal source operations.
- (C) For PM-10 emissions, to ensure enforceability of this limit, the following restrictions shall apply:
 - (i) Inspection and Maintenance Requirements for all Permitted Fabric Filters that are in Operation

To comply with the provisions of this permit and ensure that the maximum control efficiency is maintained, the Permittee shall perform periodic inspections and maintenance as recommended by the manufacturer on all fabric filters that are in operation. An annual internal inspection shall be conducted on the bagfilters by the Permittee to insure the structural integrity such that the maximum control efficiency is achieved. The results of this inspection, and any maintenance performed on the bagfilters, shall be recorded in a logbook (written or electronic format) that will be kept onsite and made available to the DAQ upon request.

- (ii) Inspection and Maintenance Requirements for all Permitted Wet Scrubbers that are in Operation

To comply with the provisions of this permit and ensure that the maximum control efficiency is maintained, the Permittee shall perform periodic inspections and maintenance as recommended by the manufacturer on all scrubbers that are in operation. As a minimum, the inspection and maintenance program will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.

A scrubber logbook (written or electronic format) for all scrubbers that are in operation shall be kept onsite and made available to DAQ personnel upon request. Any variance from manufacturers' recommendations shall be investigated with corrections made and date of actions recorded in the logbook.

B. GENERAL CONDITIONS AND LIMITATIONS

1. REPORTS, TEST DATA, MONITORING DATA, NOTIFICATIONS, AND REQUESTS FOR RENEWAL shall be submitted to the:

Wayne Cook
Regional Air Quality Supervisor
North Carolina Division of Air Quality
Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 395-3900

2. RECORDS RETENTION REQUIREMENT - Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. These records must be kept on site for a minimum of 2 years, unless another time period is otherwise specified.
3. PERMIT RENEWAL REQUIREMENT - The Permittee, at least 90 days prior to the expiration date of this permit, shall request permit renewal by letter in accordance with 15A NCAC 2Q .0304(d) and (f). Pursuant to 15A NCAC 2Q .0203(i), no permit application fee is required for renewal of an existing air permit. The renewal request should be submitted to the Regional Supervisor, DAQ.
4. ANNUAL FEE PAYMENT - Pursuant to 15A NCAC 2Q .0203(a), the Permittee shall pay the annual permit fee within 30 days of being billed by the DAQ. Failure to pay the fee in a timely manner will cause the DAQ to initiate action to revoke the permit.
5. EQUIPMENT RELOCATION - A new air permit shall be obtained by the Permittee prior to establishing, building, erecting, using, or operating the emission sources or air cleaning equipment at a site or location not specified in this permit.
6. This permit is subject to revocation or modification by the DAQ upon a determination that information contained in the application or presented in the support thereof is incorrect, conditions under which this permit was granted have changed, or violations of conditions contained in this permit have occurred. The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air cleaning device(s) and appurtenances.

7. REPORTING REQUIREMENT - Any of the following that would result in previously unpermitted, new, or increased emissions must be reported to the Regional Supervisor, DAQ:

- a. changes in the information submitted in the application regarding facility emissions;
- b. changes that modify equipment or processes of existing permitted facilities; or
- c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

- 8. This permit is nontransferable by the Permittee. Future owners and operators must obtain a new air permit from the DAQ.
- 9. This issuance of this permit in no way absolves the Permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the effective date of this permit.
- 10. This permit does not relieve the Permittee of the responsibility of complying with all applicable requirements of any Federal, State, or Local water quality or land quality control authority.
- 11. Reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Regional Supervisor, DAQ at such intervals and in such form and detail as may be required by the DAQ. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 12. A violation of any term or condition of this permit shall subject the Permittee to enforcement pursuant to G.S. 143-215.114A, 143-215.114B, and 143-215.114C, including assessment of civil and/or criminal penalties.
- 13. Pursuant to North Carolina General Statute 143-215.3(a)(2), no person shall refuse entry or access to any authorized representative of the DAQ who requests entry or access for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
- 14. The Permittee must comply with any applicable Federal, State, or Local requirements governing the handling, disposal, or incineration of hazardous, solid, or medical wastes, including the Resource Conservation and Recovery Act (RCRA) administered by the Division of Waste Management.

15. PERMIT RETENTION REQUIREMENT - The Permittee shall retain a current copy of the air permit at the site. The Permittee must make available to personnel of the DAQ, upon request, the current copy of the air permit for the site.
16. CLEAN AIR ACT SECTION 112(r) REQUIREMENTS - Pursuant to 40 CFR Part 68 "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)," if the Permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the Federal Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.
17. PREVENTION OF ACCIDENTAL RELEASES - GENERAL DUTY - Pursuant to Title I Part A Section 112(r)(1) of the Clean Air Act "Hazardous Air Pollutants - Prevention of Accidental Releases - Purpose and General Duty," although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release. **This condition is federally-enforceable only.**

Permit issued this the 15th of December, 2004.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



Wayne Cook, Regional Air Quality Supervisor
Division of Air Quality

By Authority of the Environmental Management Commission

Air Permit No. 1756R17

ATTACHMENT to Permit No. 1756R17, December 15, 2004

Insignificant / Exempt Activities

Source	Date of Application	Exemption Regulation	Source of TAPs?	Source of Title V Pollutants?
I-ES-S38 - one diesel fueled emergency use generator (150 kW rating)	10/01/2004	2Q .0102 (c)(2)(B)(iv)(III)	No	Yes
I-ES-S41 - one diesel fueled emergency use generator (460 kW rating)	10/01/2004	2Q .0102 (c)(2)(E)(i)	No	Yes
I-ES-S42 - one diesel fueled emergency use generator (25 kW rating)	10/01/2004	2Q .0102 (c)(2)(B)(iv)(III)	No	Yes

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1. Because an activity is exempted from being required to have a permit or permit modification does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.
 2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 2D .1100 "Control of Toxic Air Pollutants" or 2Q .0711 "Emission Rates Requiring a Permit."