



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

March 29, 2007

RECEIVED
APR 03 2007

Mark Leik – Manager Site EHS
Global Nuclear Fuels – America, LLC
P.O. Box 3780, M/C G26
Wilmington, North Carolina 28402-0780

BY:

Subject: Permit No. WQ0031317
Global Nuclear Fuels – America, LLC
Wastewater Treatment and Reclaimed
Water Utilization System
New Hanover County

Dear Mr. Leik:

In accordance with your permit application request received February 20, 2007, and subsequent additional information received March 20, 2007, we are forwarding herewith Permit No. WQ0031317, dated March 29 2007, to Global Nuclear Fuels – America, LLC for the construction and operation of the subject wastewater treatment and reclaimed water utilization facilities.

This permit shall be effective from the date of issuance until February 29, 2012 and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made this permit shall be final and binding.

One set of approved plans and specifications is being forwarded to you. If you need additional information concerning this matter, please contact Lori Veal at (919) 715-6187 or lori.veal@ncmail.net.

Sincerely,

Alan W. Klimek, P.E.

cc: New Hanover County Health Department
Wilmington Regional Office, Aquifer Protection Section
Michael Wicker, PE – Withers & Ravenel
Technical Assistance and Certification Unit
APS Central Files
LAU Files

One
North Carolina
Naturally

Aquifer Protection Section
Internet: www.ncwaterquality.org

1636 Mail Service Center
Location: 2728 Capital Boulevard

Raleigh, NC 27699-1636
Raleigh, NC 27604

Telephone : (919) 733-3221
Fax 1: (919) 715-0588
Fax 2: (919) 715-6048
Customer Service: (877) 623-6748

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NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
RALEIGH
WASTEWATER TREATMENT AND RECLAIMED WATER UTILIZATION SYSTEM PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

GLOBAL NUCLEAR FUELS – AMERICA, LLC
NEW HANOVER County

FOR THE

construction and operation of a 75,000 gallon per day (GPD) wastewater treatment and reclaimed water utilization facility consisting of a mechanical screw screen, a rotary fine screen with 2 millimeter (mm) spacing, one (1) 19,400 gallon equalization tank with dual 80 gallon per minute (gpm) recirculation pumps, one (1) 100,000 gallon equalization tank with dual 80 gpm recirculation pumps, one (1) 5,302 gallon anoxic tank with one (1) 1 horsepower (hp) submersible mixer, one (1) 5,494 gallon anoxic tank with two (2) 1 hp submersible mixers, four (4) aeration basins with a total volume of 21,926 gallons and fine bubble diffusers, dual 300 cubic feet per minute (cfm) main plant blowers to serve for equalization, aeration and sludge digestion; dual 277 gpm anoxic recirculation pumps, dual 277 gpm effluent transfer pumps, six (6) sludge holding tanks with a total capacity of 32,470 gallons, two (2) Zenon[®] Membrane Bioreactor (MBR) Units, each unit has two chambers consisting of two cassettes with 8 filtration modules per cassette; each unit has dual 55 gpm permeate pumps, dual 55 gpm backwash pumps, dual 160 cfm air scour blowers and a citric acid and chlorine cleaning system; two (2) ultraviolet (UV) disinfection units with 12 lamps each, one (1) 20,000 gallon reclaimed water storage tank, a liquid chlorine injection pump to provide chlorine residual in the reclaimed utilization system, dual 55 gpm reclaimed utilization pumps, approximately 3,500 linear feet (lf) of 3-inch PVC piping to provide reclaimed water to the existing 200,000 GPD reverse osmosis water treatment facility for industrial process use, and to the SCO HVAC cooling tower, the FCO cooling tower and the FMO cooling tower

to serve Global Nuclear Fuels – America, LLC , with no discharge of wastes to the surface waters, pursuant to the application received February 20, 2007, and subsequent additional information received by the Division of Water Quality (Division), and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until February 29, 2012, and shall be subject to the following specified conditions and limitations:

I. SCHEDULES [please review the entire permit for reporting, monitoring, and other on-going activities]

1. Upon completion of construction and prior to operation of this permitted facility, a certification (see attached form) must be received from a professional engineer certifying that the permitted facility has been installed in accordance with this permit, the approved plans and specifications, and other supporting materials including the location of all monitoring wells as applicable. If this project is to be completed in phases and partially certified, you shall retain the responsibility to track further construction approved under the same permit, and shall provide a final certificate of completion once the entire project has been completed. Mail the Certification to the Aquifer Protection Section, Division of Water Quality, 1636 Mail Service Center, Raleigh, NC 27699-1636.
2. The Wilmington Regional Office, telephone number (910)-796-7215, shall be notified at least forty-eight (48) hours in advance (excluding weekends and holidays) of operation of the installed facilities so that an in-place inspection can be made. Such notification to the regional supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.
3. No later than six (6) months prior to the expiration of this permit, the Permittee shall request renewal of this permit on official Division form(s). Upon receipt of the request, the Division will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate. Please note that Rule 15A NCAC 02T .0105(d) requires an updated site map to be submitted with the permit renewal application.

II. PERFORMANCE STANDARDS

1. The reclaimed water utilization facilities shall be effectively maintained and operated at all times so that there is no discharge to the surface waters, nor any contravention of groundwater or surface water standards. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective actions including those actions that may be required by the Division, such as the construction of additional or replacement wastewater treatment and disposal facilities.
2. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to ground or surface waters resulting from the operation of this facility.
3. Reclaimed water shall be used only for the purposes of providing water to the reverse osmosis (RO) water treatment facility for industrial process use; and to the SCO HVAC cooling tower, the FCO cooling tower, and the FMO cooling tower. Cooling tower blowdown and treated RO industrial process waters shall be ultimately discharged through Outfall 001 under NPDES Permit No. NC0001228.
4. Effluent limitations shall not exceed those specified in Attachment A.

5. The facilities permitted herein must be constructed according to the following setbacks:
- a. The setbacks for utilization areas shall be as follows (all distances in feet):
 - i. Surface waters not classified SA: 25
 - ii. Surface waters classified SA: 100
 - iii. Any well with exception of monitoring wells: 100
 - b. The setbacks for Treatment and storage units shall be as follows (all distances in feet):
 - i. Any habitable residence or place of public assembly under separate ownership: 100
 - ii. Any private or public water supply source: 100
 - iii. Surface waters: 50
 - iv. Any well with exception of monitoring wells: 100
 - v. Any property line: 50
6. The following shall be requirements for the reclaimed water distribution, storage, and utilization facilities:
- a. All reclaimed water valves, storage facilities, and outlets shall be tagged or labeled to warn the public or employees that the water is not intended for drinking. Where appropriate, such warning shall inform the public or employees to avoid contact with the water.
 - b. All reclaimed water piping, valves, outlets, and other appurtenances shall be color-coded, taped, or otherwise marked to identify the source of the water as being reclaimed water.
 - i. All reclaimed water piping and appurtenances shall be either colored purple (i.e., Pantone 522) and embossed or integrally stamped or marked "CAUTION: RECLAIMED WATER – DO NOT DRINK" or be installed with a purple (i.e., Pantone 522) identification tape or polyethylene vinyl wrap. The warning shall be stamped on opposite sides of the pipe and repeated every three feet or less.
 - ii. Identification tape shall be at least three inches wide and have white or black lettering on purple (i.e., Pantone 522) field stating "CAUTION: RECLAIMED WATER – DO NOT DRINK." Identification tape shall be installed on top of reclaimed water pipelines, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.
 - c. All reclaimed water valves and outlets shall be of a type, or secured in a manner, that permits operation by authorized personnel only.
 - d. Above-ground hose bibs (i.e., spigots or other hand-operated connections) shall not be present. Hose bibs shall be located in locked below-grade vaults that shall be clearly labeled as being of non-potable quality. As an alternative to the use of locked below-grade vaults with standard hose bibs services, hose bibs, which can only be operated by a special tool or connected to a special hose connection, may be placed in non-lockable underground services boxes clearly labeled as non-potable water.
7. Reclaimed water distribution lines shall be located 10 feet horizontally from and 18 inches below any water line where practicable. Where these separation distances cannot be met, the piping and integrity testing procedures shall meet water main standards in accordance with 15A NCAC 18C.
8. Reclaimed water distribution lines shall not be less than 100 feet from a well unless the piping and integrity testing procedures meet water main standards in accordance with 15A NCAC 18C, but no case shall they be less than 25 feet from a private well or 50 feet from a public well.
9. Reclaimed water distribution lines shall meet the separation distances to sewer lines in accordance with Rule .0305 of Subchapter 02T.

III. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility. The Permittee shall maintain an Operation and Maintenance Plan pursuant to 15A NCAC 02T .0913 including operational functions, maintenance schedules, safety measures, and a spill response plan.
2. Upon classification of the wastewater treatment and irrigation facilities by the Water Pollution Control System Operators Certification Commission (WPCSOCC), the Permittee shall designate and employ a certified operator to be in responsible charge (ORC) and one or more certified operator(s) to be back-up ORC(s) of the facilities in accordance with 15A NCAC 08G .0200. The ORC shall visit the facilities in accordance with 15A NCAC 08G .0200 or as specified in this permit and shall comply with all other conditions specified in these rules.
3. All reclaimed water distribution equipment must be tested and calibrated at least once per year. Records of the calibration must be maintained for five years.
4. No type of wastewater other than that from Global Nuclear Fuels – America, LLC shall be utilized in the reclaimed water utilization system.
5. An automatically activated standby power source shall be on site and operational at all times capable of powering all essential treatment units. If a generator is employed as an alternate power supply, it shall be tested weekly by interrupting the primary power source.
6. Notification shall be provided by the permittee to inform employees of the use of reclaimed water (Non Potable Water) and that the reclaimed water is not intended for drinking. Such notification may include signage posted in work areas and employee training programs.
7. The residuals generated from these treatment facilities must be disposed / utilized in accordance with 15A NCAC 02T .1100. The Permittee shall maintain a residual management plan pursuant to 15A NCAC 02T .0914.
8. Diversion or bypassing of the untreated wastewater from the treatment facilities is prohibited.
9. Effluent from the treatment facility shall not be discharged to the storage, distribution, or utilization system if the limit for fecal coliform (daily maximum concentration of 25 per 100 ml) or turbidity (instantaneous maximum of 10 NTU) is exceeded, until such time that the problems associated with the treatment capability of the wastewater treatment plant have been corrected. In this case, the wastewater may either be held in the storage tank and routed back to the headworks of the wastewater treatment plant, or be discharged through Outfall 002 under NPDES Permit No. NC0001228.

IV. MONITORING AND REPORTING REQUIREMENTS

1. Any monitoring (including groundwater, surface water, soil or plant tissue analyses) deemed necessary by the Division to ensure surface and ground water protection will be established and an acceptable sampling reporting schedule shall be followed.
2. All laboratory analyses for effluent, ground waters, or surface waters shall be made by a laboratory certified by the Division for the required parameter(s) under 15A NCAC 02H .0800.

3. Flow through the treatment facility shall be continuously monitored and daily flow values shall be reported on Form NDMR.

The Permittee shall install and maintain an appropriate flow measurement device consistent with approved engineering and scientific practices to ensure the accuracy and reliability of flow measurement. Flow measurement devices selected shall be capable of measuring flows with a maximum deviation of less than 10 percent from true flow, accurately calibrated at a minimum of once per year, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. The Permittee shall keep records of flow measurement device calibration on file for a period of at least three years. At a minimum, data to be included in this documentation shall be:

- a. Date of flow measurement device calibration,
 - b. Name of person performing calibration, and
 - c. Percent from true flow.
4. The effluent from the subject facilities shall be monitored by the Permittee at the frequency(ies) and location(s) for the parameter(s) specified in Attachment A.
 5. The Permittee tracking the amount of reclaimed water utilized shall maintain adequate records. These records shall include, but are not necessarily limited to, the following information:
 - a. Date of reclaimed water use,
 - b. Volume of reclaimed water used,
 - c. Industrial use(s) of the reclaimed water.
 6. Three (3) copies of all monitoring data [as specified in Conditions IV. 3. and IV. 4.] on Form NDMR for each PPI shall be submitted on or before the last day of the following month. If no activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All information shall be submitted to the following address:

Division of Water Quality
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

7. Noncompliance Notification:

The Permittee shall report by telephone to the Wilmington Regional Office, telephone number (910) 796-7215, as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

- a. Any occurrence at the wastewater treatment facility which results in the treatment of significant amounts of wastes which are abnormal in quantity or characteristic, such as the dumping of the contents of a sludge digester; the known passage of a slug of hazardous substance through the facility; or any other unusual circumstances including ponding in the irrigation field or runoff from the irrigation fields.
- b. Any process unit failure, due to known or unknown reasons, that render the facility incapable of adequate wastewater treatment such as mechanical or electrical failures of pumps, aerators, compressors, etc.
- c. Any failure of disposal system resulting in a by-pass directly to receiving waters.

- d. Any time that self-monitoring information indicates that the facility has gone out of compliance with its permit limitations including, but not limited to, freeboard measurements, effluent limitations, exceedances of groundwater standards, or overloading of any field.

For any emergency that requires immediate reporting (e.g., discharges to surface waters, imminent failure of a storage structure, etc.) outside normal business hours must be reported to the Division's Emergency Response personnel at telephone number (800) 662-7956, (800) 858-0368, or (919) 733-3300. Persons reporting such occurrences by telephone shall also file a written report in letter form within five (5) days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

V. INSPECTIONS

1. Adequate inspection and maintenance shall be provided by the Permittee to ensure proper operation of the subject facilities.
2. The Permittee or his designee shall inspect the wastewater treatment and disposal facilities to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of wastes to the environment, a threat to human health, or a nuisance. The Permittee shall keep an inspection log or summary including at least the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken by the Permittee. This log of inspections shall be maintained by the Permittee for a period of five years from the date of the inspection and shall be made available upon request to the Division or other permitting authority.
3. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the disposal site or facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be maintained under the terms and conditions of this permit, and may obtain samples of groundwater, surface water, or leachate.

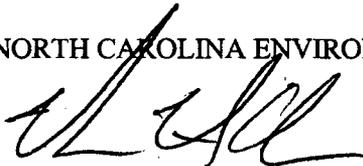
VI. GENERAL CONDITIONS

1. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division in accordance with North Carolina General Statute 143-215.6A to 143-215.6C.
2. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.
3. This permit is effective only with respect to the nature and volume of wastes described in the application and other supporting data. No variances to applicable rules governing the construction and / or operation of the permitted facilities are granted unless specifically requested and granted in this permit.
4. The issuance of this permit does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other government agencies (local, state, and federal) that have jurisdiction. Of particular concern to the Division are applicable river buffer rules in 15A NCAC 02B .0200, erosion and sedimentation control requirements in 15A NCAC Chapter 4 and under the Division's General Permit NCG010000, and any requirements pertaining to wetlands under 15A NCAC 02B .0200 and 02H .0500.

5. In the event there is a desire for the facilities to change ownership, or there is a name change of the Permittee, a formal permit request must be submitted to the Division on official Division form(s), documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved. The Permittee of record shall remain fully responsible for compliance until a permit is issued to the new owner.
6. The Permittee shall retain a set of approved plans and specifications for the life of the facilities permitted herein.
7. The Permittee shall maintain this permit until all permitted facilities herein are properly closed or permitted under another permit issued by the appropriate permitting authority.
8. The Permittee must pay the annual fee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit pursuant to 15A NCAC 02T .0105(e).

Permit issued this the 29th of March, 2007

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



Alan W. Klimek, P.E., Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number WQ0031317

Permit No. WQ0031317
March 29, 2007

ENGINEER'S CERTIFICATION

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project,

_____ *Project Name*

_____ *Location and County*

for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of this permit, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

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ATTACHMENT A - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Permit No.: WQ0031317

Version: 1.0

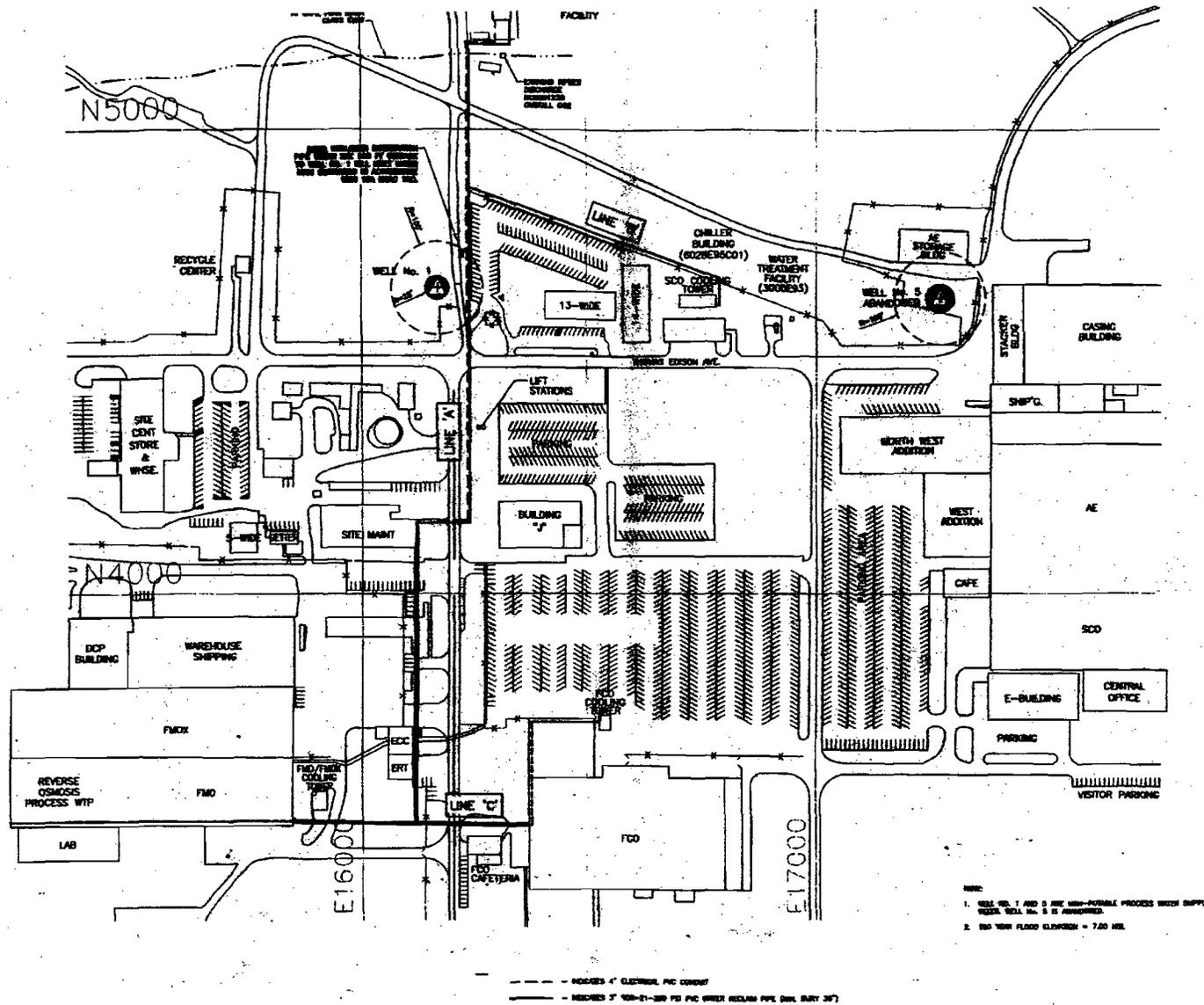
PPI - 001 Prior to Reclaimed Distribution

Parameter Description - PCS Code	EFFLUENT LIMITS			MONITORING REQUIREMENTS		
	Monthly Average ^a	Weekly Average	Daily Maximum ^c	Measurement Frequency	Sample Type	
Turbidity, HCH Turbidimeter - 00076			10	ntu	Continuous	Continuous
Nitrogen, Ammonia Total (as N) - 00610	4	mg/l	6	mg/l	2 X month	Composite
BOD, 5-Day (20 Deg. C) - 00310	10	mg/l	15	mg/l	2 X month	Composite
Solids, Total Suspended - 00530	5	mg/l	10	mg/l	2 X month	Composite
Coliform, Fecal MF, M-FC Broth,44.5C - 31616 (geom.mean)	14 ^b	#/100ml	25	#/100ml	2 X month	Grab
Flow, in conduit or thru treatment plant - 50050	75,000	gpd			Continuous	Recorder

^a Monthly averages for all but fecal coliform shall be the arithmetic mean of all samples collected during the reporting period.

^b Monthly average for fecal coliform shall be the geometric mean of all samples collected during the reporting period.

^c Daily maximum shall be the maximum value of all samples collected during the reporting period.



RECEIVED/DEVELOPING
AQUIFER PROTECTION SECTION
MAR 20 2007

- NOTE:
1. WELL NO. 1 AND 5 ARE NON-POTABLE PROCESS WATER SUPPLY WELLS. WELL NO. 5 IS ABANDONED.
 2. 100 YEAR FLOOD ELEVATION = 7.00 MSL.

--- INDICATES 4" OVERHEAD PVC CONDUIT
- - - - - INDICATES 2" 100-01-000 PVC UNDER GROUND PIPE (SEE SURE 307)

SITE PLAN
7/07



WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS

ANDREW CONSULTING ENGINEERS, P.C.
STRUCTURAL, GEOTECHNICAL, CIVIL, MECHANICAL, ELECTRICAL, ENVIRONMENTAL, PROJECT MANAGEMENT
200 W. BROADWAY, SUITE 2000, NEW YORK, NY 10038
TEL: 212-512-2000 FAX: 212-512-2001
WWW.ACE-PC.COM

NO.	DATE FOR CONSTRUCTION	ISS.	BY	DATE	APPROVAL	NO.
1						

REVISIONS	
NO.	DESCRIPTION
1	AS SHOWN

	GENE R&FS GENERAL ELECTRIC COMPANY GE SANITARY PLANT MBR UPGRADES SITE PLAN DATE: 1/18/07 SHEET NO: 7002 E07 SH1 0 OF: 1 2
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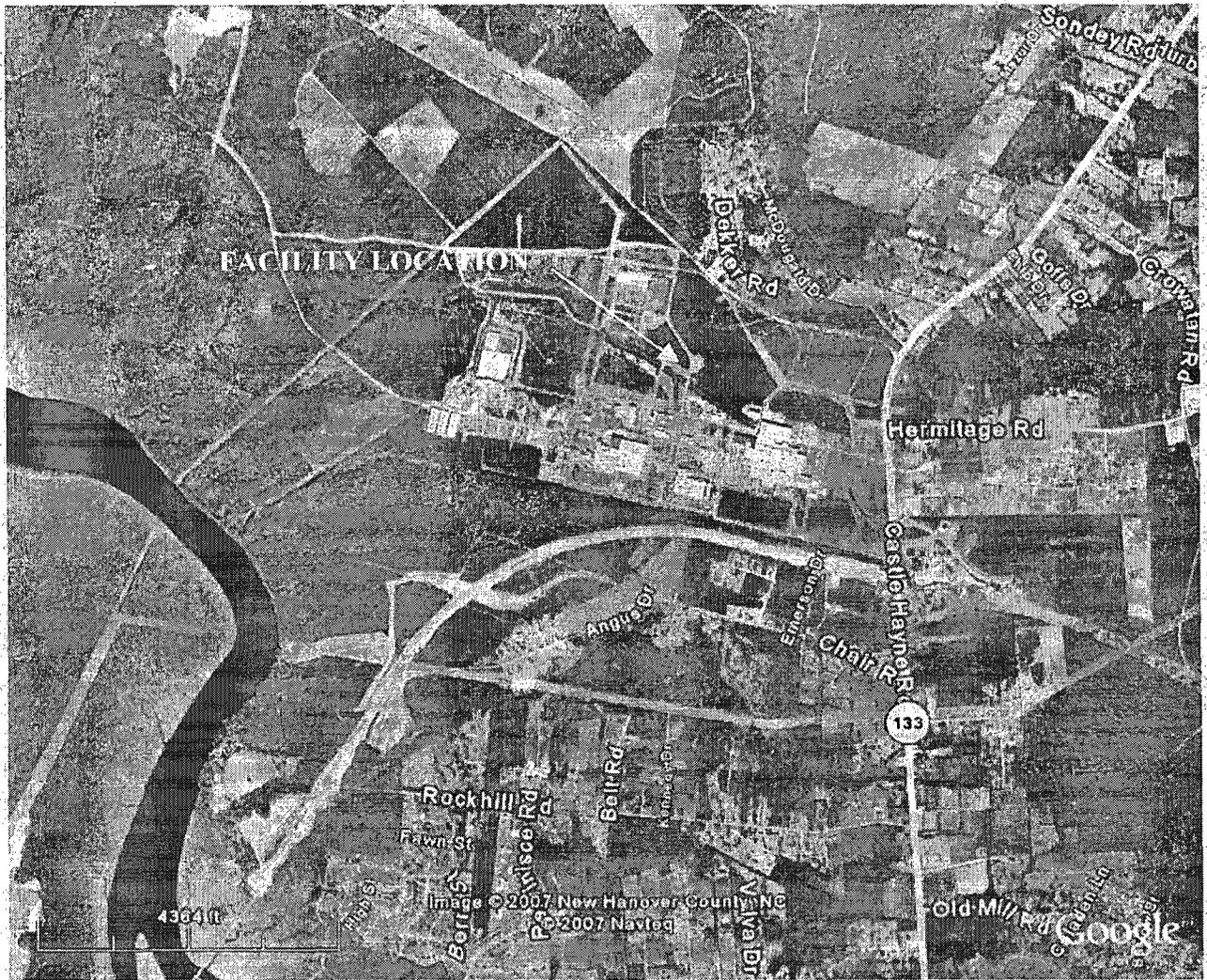


Figure 2 – Global Nuclear Fuels – America, LLC – Aerial View