Department of Energy
Brookhaven Area Office
P. O. Box 5000
Upton, New York 11973

FEB 10 2004

Mr. George Goode
Brookhaven Science Associates, LLC
Brookhaven National Laboratory
Upton, NY 11973

Dear Mr. Goode:

SUBJECT: REVISED STATE POLLUTANT ELIMINATION SYSTEM PERMIT

Enclosed please find the subject permit. Please ensure that all terms and conditions are reviewed and adhered to. If you should have any questions, please contact Jerry Granzen of my staff at extension 4089.

Sincerely,

Scott J. Mallette, Director
Operations Management Division

Enclosure:
As Stated

cc: M. Allocco, BNL, w/encl.
R. Lee, BNL, w/encl.
E. Murphy, BNL, w/o encl.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region One
Building 40 - SUNY, Stony Brook, New York 11790-2356
Phone: (631) 444-0365 • **FAX:** (631) 444-0360
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

February 4, 2004

Michael Holland
Department of Energy
Building 464
PO Box 5000
Upton, NY 11973

Re: Permit # 1-4722-00032/00072
SPDES I.D. # NY-0005835

Dear Permittee:

Enclosed is your State Pollutant Discharge Elimination System (SPDES) permit.

Please read all permit conditions carefully. All permit documents must be available upon request by the Department staff and must be distributed to and understood by personnel responsible for the proper operation of the facility and compliance with the discharge limits. Any violation of these permit conditions constitutes a violation of the Environmental Conservation Law.

Pursuant to 621.9(2), if a permit is issued with objectionable conditions the applicant may request a hearing. This must be done within 30 days of the postmark on this letter. To request a hearing, contact the Regional Permit Administrator at the above address.

If you have any other questions regarding this permit, you may contact the Division of Environmental Permits at the above address. Please refer to the above referenced numbers when you are corresponding with this office or when you are applying to renew or modify this permit.

Any questions regarding the annual pollutant discharge elimination fee should be addressed directed to the Regulatory Fee Determination Unit at 1-800-225-2566.

Sincerely,

Mark Carrara
Permit Administrator

cc: W. Spitz, Region1
BWP, Albany
File

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT
Special Conditions

First3.99

Industrial Code: 8731
Discharge Class (CL): 03
Toxic Class (TX): T
Major Drainage Basin: 17
Sub Drainage Basin: 01
Water Index Number: FB3-112
Compact Area:

SPDES Number: NY- 000 5835
DEC Number: 1-4722-00032/00072-0
Effective Date (EDP): March 1, 2000
Expiration Date (ExDP): March 1, 2005
Modification Dates: 3/24/01, 2/1/02, 2/4/04
Attachment(s): General Conditions (Part II) Date: 11/90

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **United States Department of Energy** Attention: **Michael Holland Brookhaven Grp Mgr**
Street: **Brookhaven Area Office**
City: **Upton** State: **NY** Zip Code: **11973**
is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Brookhaven National Laboratory**
Location (C,T,V): **Brookhaven (T)** County: **Suffolk**
Facility Address: **53 Bell Avenue**
City: **Upton** State: **NY** Zip Code: **11973**
NYTM -E: NYTM - N:
From Outfall No.: **001** at Latitude: **40 ° 52 ′ 39 ″** & Longitude: **72 ° 53 ′ 01 ″**
into receiving waters known as: **Peconic River** Class: **C**
and; (list other Outfalls, Receiving Waters & Water Classifications)
002, 005 - 012 Groundwater GA

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in Special Conditions (Part I) and General Conditions (Part II) of this permit.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **U. S. Department of Energy - Brookhaven National Laboratory**
Street: **Brookhaven Area Office**
City: **Upton** State: **NY** Zip Code: **11973**
Responsible Official or Agent: **Michael Holland, Brookhaven Group Mgr.** Phone: **(631) 344 - 3424**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

Bureau of Water Permits, Permit Coordinator
W. H. Spitz/A. Leung
A Santino, SCDHS

Permit Administrator: Mark Carrara, Deputy RPA	
Address: Building 40 SUNY Stony Brook, NY 11790-2356	
Signature: M Carrara	Date: 1/4/2004

PERMIT LIMITS, LEVELS AND MONITORING

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OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Process, Sanitary and Storm Runoff	Peconic River	2/4/04	3/01/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	5.8	9.0	SU	Daily	Grab	

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	2.3			MGD	Continuous	Recorded	1, 2
Copper, Total	NA	0.15			mg/l	Monthly	24 hr Comp.	
Iron, Total	NA	0.37			mg/l	Monthly	24 hr Comp.	
Lead, Total	NA	0.019			mg/l	Monthly	24 hr Comp.	
Mercury, Total	NA	0.0008			mg/l	Monthly	24 hr Comp.	
Nickel, Total	NA	0.11			mg/l	Monthly	24 hr Comp.	
Silver, Total	NA	0.015			mg/l	Monthly	24 hr Comp.	
Zinc, Total	NA	0.1			mg/l	Monthly	24 hr Comp.	
BOD_5	NA	20			mg/l	Monthly	24 hr Comp.	3
Solids, Total Suspended	NA	20			mg/l	Monthly	24 hr Comp.	3
Ammonia (as N)	NA	2			mg/l	Monthly	24 hr Comp.	
Total Nitrogen	NA	10			mg/l	Monthly	24 hr Comp.	
Total Phosphorous	NA	Monitor			mg/l	Monthly	24 hr Comp.	
Solids, Settleable	NA	0.1			ml/l	Daily	Grab	
Temperature	NA	90			^{o}F	Daily	Grab	
1,1,1-Trichloroethane	NA	5			ug/l	Twice/Month	Grab	
Methylene Chloride	NA	5			ug/l	Twice/Month	Grab	
Toluene	NA	5			ug/l	Twice/Month	Grab	
2-Butanone	NA	50			ug/l	Twice/Month	Grab	
Cyanide, Total	NA	0.1			mg/l	Twice/Month	Grab	
Fecal Coliform	200	400			MPN/100ml	Monthly	Grab	
PCBs	NA	Monitor			ug/l	Quarterly	Grab	4

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PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
002	ASG Non Contact Cooling Water, Precipitation Drainage from Secondary Containment, Floor Drains and Storm Runoff and the STAR (Bldg 1006) Detector's Cooling Tower Blowdown, PHENIX (Bldg 1008) Detector's Blowdown, and the PHOSBOS (Bldg 1010) Cooling Tower Blowdown	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	9.0	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			MGD	Monthly	Recorded	2, 9
Oil & Grease	NA	15			mg/l	Monthly	Grab	5
1,1,1-Trichloroethane	NA	5			ug/l	Quarterly	Grab	5
Chloroform	NA	7			ug/l	Quarterly	Grab	5
Bromodichloromethane	NA	50			ug/l	Quarterly	Grab	5
HEDP	NA	0.5			mg/l	Quarterly	Grab	5
Tolytriazole	NA	0.2			mg/l	Quarterly	Grab	5
Aluminum, Total	NA	2			mg/l	Quarterly	Grab	5

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
02B	RF (Bdlg 1004) & BRAHMS (Bldg 1002) Cooling Tower Blowdown	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	9.0	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			MGD	Monthly	Recorded	2, 6, 9
Oil & Grease	NA	15			mg/l	Monthly	Grab	
HEDP	NA	0.5			mg/l	Quarterly	Grab	
Tolytriazole	NA	0.2			mg/l	Quarterly	Grab	

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PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
003	HFBR and AGS Non Contact Cooling Water	Groundwater	2/4/04	3/1/05

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
No Monitoring Required								

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
005	NSLS Cooling Tower Blowdown and Storm Runoff from Parking Area Drains in Warehouse Area (Station HS)	Gourndwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	8.5	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			MGD	Monthly	Recorded	2, 9
Oil & Grease	NA	15			mg/l	Monthly	Grab	
HEDP	NA	0.5			mg/l	Quarterly	Grab	
Tolytriazole	NA	0.2			mg/l	Quarterly	Grab	
Copper, Total	NA	1.0			mg/l	Quarterly	Grab	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
06A	LINAC Non Contact Cooling Water and Storm Runoff (Station HT1 - Southwest Side of Basin)	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	9.0	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			MGD	Monthly	Recorded	2, 9
Oil & Grease	NA	15			mg/l	Monthly	Grab	
HEDP	NA	0.5			mg/l	Quarterly	Grab	
Tolytriazole	NA	0.2			mg/l	Quarterly	Grab	

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
06B	Cooling Towers from Building 919, Floor Drains and Storm Runoff (Station HT2)	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	9.0	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			MGD	Monthly	Recorded	2, 9
Oil & Grease	NA	15			mg/l	Monthly	Grab	
HEDP	NA	0.5			mg/l	Quarterly	Grab	
Tolytriazole	NA	0.2			mg/l	Quarterly	Grab	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
007	Water Treatment Plant Backwash (Station HX)	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	9.0	SU	Monthly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			gpd	Monthly	Instantaneous	2

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
008	Storm Runoff from Warehouse Area on South Railroad Street (Station HW)	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	8.5	SU	Monthly	Grab	7

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			gpd	Monthly	Instantaneous	2
1,1-Dichloroethane	NA	5			ug/l	Monthly	Grab	7
1,1,1-Trichloroethane	NA	5			ug/l	Monthly	Grab	7
Oil & Grease	NA	15			mg/l	Monthly	Grab	7
Aluminum, Dissolved	NA	2.0			mg/l	Quarterly	Grab	7,8

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
009	Miscellaneous Sanitary and Non Contact Cooling Water Discharges	Ground	2/4/04	3/1/05

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
No Monitoring Required								

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
010	Storm Runoff from Central Steam Facility (Station H)	Groundwater	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	8.5	SU	Monthly	Grab	7

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			gpd	Monthly	Instantaneous	2
Oil & Grease	NA	15			mg/l	Monthly	Grab	7
Aluminum, Dissolved	NA	2.0			mg/l	Quarterly	Grab	7
Copper, Dissolved	NA	1.0			mg/l	Quarterly	Grab	7
Lead, Dissolved	NA	0.05			mg/l	Quarterly	Grab	7
Vanadium, Dissolved	NA	Monitor			mg/l	Quarterly	Grab	7

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
011	Storm Runoff from Main Gate HWMF	Groundwater	2/4/04	3/1/05

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
No Monitoring Required								

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
012	Storm Runoff and Non Contact Cooling Water from Building 902	Groundwater	2/4/04	3/1/05

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
No Monitoring Required								

ADDITIONAL REQUIREMENTS FOR ALL NON-SANITARY DISCHARGES TO THE SEWER COLLECTION SYSTEM

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01A	Acid/Caustic Cleaning Waters and Rinse Waters from Plating and Etching Processes in Building 535B	Sewer Collection system	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	Monitor	SU	Quarterly	Grab	11

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			gpd	Quarterly	Recorded	10, 11

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01B	Rinse Water from Centralized Degreasing Facility in Building 498	Sewer Collection System	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	Monitor	SU	Quarterly	Grab	11

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			gpd	Quarterly	Recorded	10, 11
Bis - (2-ethylhexyl) Phthalate	NA	Monitor			ug/l	Quarterly	Grab	11
Di -n - Butyl Phthalate	NA	Monitor			ug/l	Quarterly	Grab	11
Copper, Total	NA	Monitor			ug/l	Quarterly	Grab	11
Chromium, Total	NA	Monitor			ug/l	Quarterly	Grab	11
Iron, Total	NA	Monitor			ug/l	Quarterly	Grab	11
Manganese, Total	NA	Monitor			ug/l	Quarterly	Grab	11
Nickel, Total	NA	Monitor			ug/l	Quarterly	Grab	11
Zinc, Total	NA	Monitor			ug/l	Quarterly	Grab	11

ADDITIONAL REQUIREMENTS FOR ALL NON-SANITARY DISCHARGES TO THE SEWER COLLECTION SYSTEM

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01C	Photoprocessing Rinse Water from Building 118	Sewer Collection System	2/4/04	3/1/05

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
No Monitoring Required								

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01D	Photoprocessing Rinse Water from Building 197B	Sewer collection System	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	Monitor	SU	Quarterly	Grab	12

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			gpd	Quarterly	Recorded	10, 12
Silver, Total	NA	Monitor			ug/l	Quarterly	Grab	12
Cyanide, TotaL	NA	Monitor			ug/l	Quarterly	Grab	12
Phenols	NA	Monitor			ug/l	Quarterly	Grab	12
Nitrogen, Total	NA	Monitor			ug/l	Quarterly	Grab	12

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01E	Boiler Blowdown from Buildings 244, 405, 422, 423, and 96	Sewer Collection System	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	Monitor	SU	Quarterly	Grab	11

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			gpd	Quarterly	Recorded	10, 11

ADDITIONAL REQUIREMENTS FOR ALL NON-SANITARY DISCHARGES TO THE SEWER COLLECTION SYSTEM

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01F	Cooling Tower Water and Blowdown from Building 902	Sewer Collection System	2/4/04	3/1/05

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	Monitor	Monitor	SU	Quarterly	Grab	11

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	NA			gpd	Quarterly	Recorded	10, 11, 13
Polypropylene Glycol	NA	Monitor			ug/l	Quarterly	Grab	11
Monobutyl Ether	NA	Monitor			ug/l	Quarterly	Grab	11

FOOTNOTES APPLICABLE TO PERMIT LIMITS, LEVELS, MONITORING AND ADDITIONAL REQUIREMENTS

1. Approximately 15% of the STP effluent is permitted to be discharged to groundwater via exfiltration from the sand filter beds.

2. Quantities or concentrations of radioactivity in the effluent from all outfalls are subject to the requirements of the United States Department of Energy Order 5400.5.

3. The effluent value for BOD_5 and Total Suspended Solids shall not exceed 15% of the influent value.

4. Samples shall be analyzed for PCBs using EPA method 608, with an MDL goal of 0.065 ug/l.

5. Sampling shall be conducted at a location downstream from where the existing discharge mixes with the cooling tower blowdown from the STAR detector.

6. This discharge may be directed to the surrounding low lying area inside the roadway that is inside the RHIC ring. Once the stormwater collection system is extended to Building 1010 and a new basin is constructed, this discharge shall be directed to the new basis.

7. Samples shall be collected during a storm event.

8. Results of filtered samples shall be reported for compliance.

9. Effluent limits for HEDP and Tolytriazole are based on the understanding that the following water treatment chemicals are being used:
   Outfall 002: Drew 261T, Drew 739 and Drew 187.
   Outfall 005: Drew 261T, Drew 250, Drew 744, and Drew 187.
   Outfall 006: Drew 261T, Drew 739, and drew 187.

10. These discharges to the sanitary collection system shall be monitored to determine if any are causing an adverse impact on the Sewage Treatment Plant. Sampling and analyses for these discharges may be conducted in house and are not required to be analyzed be a State certified laboratory.

11. Samples shall be collected from either a dedicated drain line installed on the systems or from holding tanks used to collect waste prior to discharge to the sewer collection system.

12. Samples shall be collected from the manhole nearest the building.

13. A detailed daily log of oil consumption shall be maintained. Should an unaccountable loss of oil be realized, an investigation shall be conducted to determine the source of the oil loss. If the loss cannot be reconciled, the cooling tower must be shut down, sampled, and analyzed prior to discharge. If significant levels of contamination are found in the cooling tower oil, results shall be submitted to the Regional Water Engineer for approval to discharge.

TOXICITY TESTING PROGRAM, TIER 2 - CHRONIC TEST

The Department has determined that a chronic effluent toxicity monitoring program is required. The permittee shall implement the program as follows:

Effluent Toxicity Monitoring Requirements

Outfall No.	Effluent Parameters (Units)	Reason for Testing Requirement	Sample Frequency	Sample Type
001	Toxicity (% Effluent)	Uncertainties in the development of TMDLs, WLAs, WQBELs, etc. The possibility of complex or synergistic interactions of chemicals.	Quarterly, for a period of one year, during calendar years ending in **2 and 5**	24 hr. Composite/ static renewal

(a) The effluent toxicity monitoring program shall begin in January of the years noted in the table above. Subsequent modification or renewal of this permit does not reset or revise the deadline(s) set forth in the preceding sentence unless a new deadline is set explicitly by such modification or renewal

(b) The results of each toxicity test shall be submitted no later than 60 days following the end of each test period. These reports shall be submitted to the NYS DEC Regional Water Manager, Building 40, SUNY Campus, Stony Brook, N.Y. 11790-2356, and to the Toxicity Testing Unit, Bureau of Watershed Assessment and Research, 625 Broadway, Albany, NY 12233-3502.

(c) Effluent toxicity shall mean the toxicity of the effluent in chronic static renewal tests as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* Third Edition, EPA/600/4-91/002 (1994), the EPA Chronic Manual for Marine Organisms (EPA/600/4-91/003(1994), or the most recent editions (herein referred to as the EPA Chronic Manuals). Both a vertebrate and invertebrate species shall be used for the tests. Where the outfall being tested discharges to estuarine or ocean waters, marine organisms shall be tested. Where the outfall being tested discharges to fresh waters, freshwater organisms shall be tested. Each test run shall be 'bracketed' with a test of pure effluent and a test of effluent diluted sufficiently such that at least one diluted sample shows no toxic effects. Appropriate dilutions between the endpoints shall be tested to allow calculation of the Maximum Allowable Waste Concentration. Dilution water shall be collected according to the EPA Chronic Manuals. Receiving water shall be used as dilution water unless the Department approves a different source. Effluent sampling and holding shall be done as outlined in of the EPA Chronic Manuals. Any deviation from procedures in the EPA Chronic Manuals requires prior written approval by the Department.

(d) The Maximum Allowable Waste Concentration (MAWC) in % Effluent, for both a vertebrate and an invertebrate species, shall be determined and reported. The MAWC in % Effluent shall be compared to the calculated Instream Waste Concentration (IWC) of the effluent. The IWC in % Effluent shall be determined using the daily average effluent flow at the time of sampling and a critical receiving water flow of **.11** cubic feet per second for the **Peconic River.**.

(e) Where practicable, monitoring of chemical and physical parameters limited in this permit shall be coordinated so that the resulting analysis is also representative of the samples used for toxicity testing.

(f) Discharges which use chlorination as part of the waste treatment process for disinfection should be dechlorinated prior to toxicity testing or samples shall be taken immediately prior to the chlorination system.

(g) In accordance with NYSDEC guidance, the Department may require the permittee to conduct additional toxicity testing. If such additional testing is necessary, the permittee shall be notified in writing by the NYS DEC Regional Water Manager. The written notification shall include the reason(s) why such testing is required.

TOXICITY REDUCTION EVALUATION COMPLIANCE SCHEDULE

(a) In accordance with Department guidance on whole effluent toxicity monitoring and control, the Department will evaluate the results of acute and/or chronic toxicity testing of discharges authorized by this permit. Based on this evaluation, the Department may require the permittee to perform a Toxicity Reduction Evaluation (TRE). Should a TRE be required, the permittee shall be notified in writing by the NYS DEC Regional Water Manager. The written notification shall include the reasons why the TRE is required.

(b) Within 60 days of the date of the written notification from the NYS DEC Regional Water Manager in (a), the permittee shall submit an approvable proposal for Toxicity Reduction Evaluation to the Bureau of Watershed Assessment and Research, 625 Broadway , Albany, NY 12233-3502. The TRE proposal shall be directed towards identifying the source of the toxicity, describing procedures to reduce the toxicity to an acceptable level, identifying monitoring parameters suitable for insuring control of the toxicity, and proposing a schedule for completing the TRE.

(c) Within 14 days of receipt of written approval of the TRE proposal from the DEC Regional Water Managere, the permittee shall implement the approved TRE proposal in accordance with the approved schedule.

(d) The completed TRE, including data findings and recommendations for corrective action, permit limits, and proposed self-monitoring requirements shall be submitted to the Bureau of Watershed Assessment and Research at the address noted in (b) on this page. The Department will review the TRE and may modify the permit, in accordance with applicable law & regulation, to incorporate one or more of the following: substance specific numerical limits, toxicity limits, monitoring requirements, and/or a schedule of compliance that will ensure acceptable toxicity levels of the effluent.

SPECIAL CONDITIONS - BEST MANAGEMENT PRACTICES

1. If an approved Best Management Practices (BMP) plan is not already in effect, the permittee shall develop a BMP plan to prevent, or minimize the potential for, release of significant amounts of toxic or hazardous pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and storm water discharges including, but not limited to, drainage from raw material storage. Completed BMP plans shall be submitted by **WITHIN 6 MONTHS OF EFFECTIVE DATE OF MODIFICATION** to the Regional Water Engineer at the address shown on the Recording, Reporting and Additional Monitoring Requirements. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by this Department.
2. Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (1) above, unless a new deadline is set explicitly by such permit modification or renewal.
3. The permittee shall review all facility components or systems (including material storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where toxic or hazardous pollutants are used, manufactured, stored or handled to evaluate the potential for the release of significant amounts of such pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. For hazardous pollutants, the list of reportable quantities as defined in 40 CFR, Part 117 may be used as a guide in determining significant amounts of releases. For toxic pollutants, the relative toxicity of the pollutant shall be considered in determining the significance of potential releases.

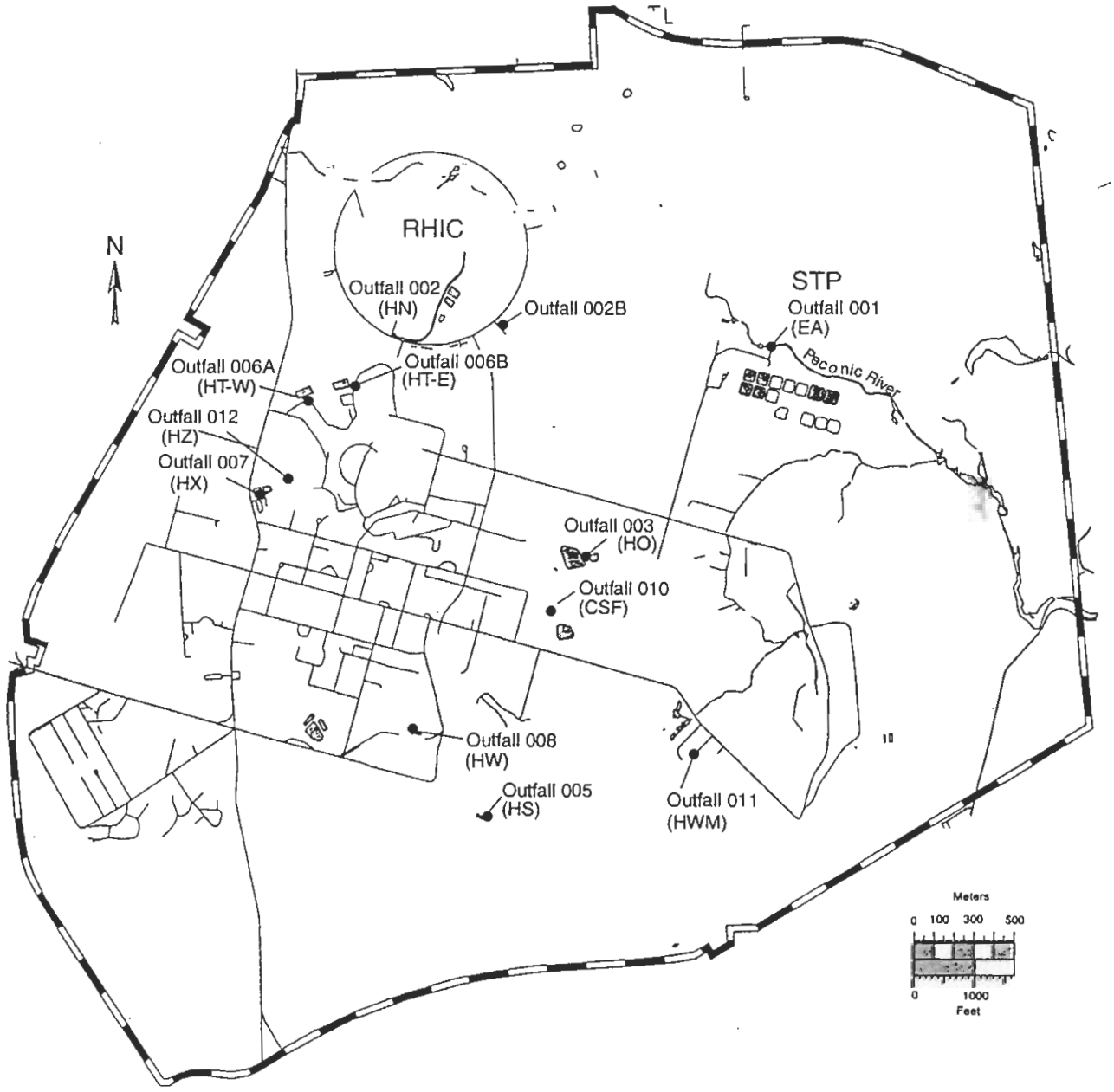
   The review shall address all substances present at the facility that are listed as toxic pollutants under Section 307(a)(1) of the Clean Water Act or as hazardous pollutants under Section 311 of the Act or that are identified as Chemicals of Concern by the Industrial Chemical Survey.
4. Whenever the potential for a significant release of toxic or hazardous pollutants to State waters is determined to be present, the permittee shall identify Best Management Practices that have been established to minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider typical industry practices such as spill reporting procedures, risk identification and assessment, employee training, inspections and records, preventive maintenance, good housekeeping, materials compatibility and security. In addition, the permittee may consider structural measures (such as secondary containment and erosion/sediment control devices and practices) where appropriate.
5. Development of the BMP plan shall include sampling of waste stream segments for the purpose of toxic "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility; including but not limited to soil, equipment, material storage areas, sewer lines etc.; which contributes elevated levels of problem pollutants to the wastewater and/or storm water collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.
6. The BMP plan shall be documented in narrative form and shall include any necessary plot plans, drawings or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. USEPA guidance for development of storm water elements of the BMP is available in the September 1992 manual "Storm Water Management for Industrial Activities," USEPA Office of Water Publication EPA 832-R-92-006 (available from NTIS, (703)487-4650, order number PB 92235969). A copy of the BMP plan shall be maintained at the facility and shall be available to authorized Department representatives upon request. As a minimum, the plan shall include the following BMP's:

a. BMP Committee	e. Inspections and Records	i. Security
b. Reporting of BMP Incidents	f. Preventive Maintenance	j. Spill prevention & response
c. Risk Identification & Assessment	g. Good Housekeeping	k. Erosion & sediment control
d. Employee Training	h. Materials Compatibility	l. Management of runoff

7. The BMP plan shall be reviewed annually and shall be modified whenever: (a) changes at the facility materially increase the potential for significant releases of toxic or hazardous pollutants, (b) actual releases indicate the plan is inadequate or (c) a letter from the Regional Water Engineer highlights inadequacies in the plan..

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (f) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.
(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address :

NYSDEC Division of Water Regional Phone: ( ) - ### -####

(e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of three years.
(f) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a) of the ECL, but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.
(g) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) The permittee shall also refer to the General Conditions (Part II) of this permit for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of three years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each __1__ month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

[ ] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[ ] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:
Department of Environmental Conservation
Division of Water
Bureau of Water Compliance Programs
625 Broadway
Albany, New York 12233-3506
Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:
Department of Environmental Conservation

Regional Water Engineer
Building 40, SUNY Campus
Stony Brook, New York 11790-2356

Phone: (631) 444 0354

Send an **additional copy** of each DMR page to:
Alex Santino, PE
SCDHS, Office of Pollution Control
15 Horseblock Place
Farmingville, NY 11738

c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in the attached General Conditions (Part II).

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences , The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

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OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.		

PARA-METER	EFFLUENT LIMIT	PRACTICAL QUANTITATION LIMIT (PQL)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This PQL can be neither lowered nor raised without a modification of this permit.	Type I or Type II Action Levels are monitoring requirements, as defined below in Note 2, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily diseharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The lowest allowable daily discharge.

MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.

30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of : the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.

RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

Note 2: ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards. TYPE I : The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results in excess of the stated Action Level. TYPE II: The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results that show the stated action level exceeded for four of six consecutive samples or [illegible]