LPDES PERMIT NO. LA0094587, AI No. 26461

LPDES STATEMENT OF BASIS
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Matheson Tri-Gas, Inc.
2745 Houston River Road
Westlake, LA 70669

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. Prepared By: Jenniffer Sheppard
Industrial Permits Section
Water Permits Division
Phone #: 225-219-3138
E-mail: jenniffer.sheppard@la.gov

Date Prepared: February 13, 2008

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

B. NPDES permit - NPDES permit effective date: N/A
NPDES permit expiration date: N/A
EPA has not retained enforcement authority.

C. LPDES permit - LPDES permit effective date: June 1, 2003
LPDES permit expiration date: May 31, 2008

D. Application received on January 16, 2008. Updated application received on April 1, 2008 and via e-mail on July 2, 2008.

V. Facility Information:

A. Location - 2745 Houston River Road in Westlake

B. Applicant Activity -

According to the application, Matheson Tri-Gas, Inc., is an air separation facility that produces liquid and gaseous oxygen, nitrogen, and liquid argon by separation of these gases from atmospheric air. The separation is accomplished by cooling an incoming air stream until it liquefies and then distilling the liquefied air into principal components: oxygen, nitrogen, and argon.

Atmospheric air is the primary raw material used in the air separation process. The air separation process is one of physical separation rather than chemical change. Hence, no pollutants are created.

Air is drawn into the facility, filtered, then compressed by electrically driven centrifugal compressors. The hot compressed air is cooled by direct contact with a cooling water supply from the facility's cooling tower and the cooling water return is directed back to the cooling tower. Cooling water from the cooling tower is also directed to the electrically driven compressor's inter coolers (non-contact cooling) and then returned back to the cooling tower.

The now cooled air, saturated with water vapor, flows into one of two parallel molecular sieve beds. Water vapor, carbon dioxide, and other atmospheric trace component gases are captured by absorption onto the bed material. Removal of these gases is necessary to protect downstream equipment, which operates at cryogenic temperatures, from becoming blocked with ice formation. While one molecular sieve bed is on line, the other is being regenerated with warm nitrogen gas.

The nitrogen is heated in an auxiliary natural gas-fired regeneration heater prior to introduction to the beds. The regeneration stream contains captured water vapor, carbon dioxide, and other atmospheric gases.

Process air exiting the mole sieve beds enters the cryogenic portion of the process. In a number of expansion, heat exchange, and distillation steps, air is liquefied and separated into its major components. Cryogenic process equipment is grouped together and contained in heavily insulated "cold boxes" which are continuously purged with nitrogen to keep out water vapor.

Products of the separation process are liquid and gaseous oxygen, nitrogen and liquid argon. The process produces an excess of nitrogen gas at sub-ambient temperatures. Rather than venting it directly to the atmosphere, the excess nitrogen is used as a purge gas, as a reactivation gas for the mole sieve beds, and to produce cooling of the cooling water stream to the direct contact after cooler (DCAC). Cooling of the water with the sub-ambient nitrogen gas takes place in the waste nitrogen chill tower.

Product oxygen and nitrogen are delivered to onsite storage tanks for delivery by truck to gas merchant customers. Product oxygen and nitrogen are also compressed by electrically driven compressors for delivery to pipeline customers.

Defrosting operation is necessary to remove the traces of water vapor, carbon dioxide, and other atmospheric impurities that are not captured in the mole sieves and which have slowly collected over time in the cryogenic process equipment. The defrost is accomplished by passing gaseous nitrogen through the system and venting.

Air separation produces an impure argon stream, which requires further processing. The cryogenic portion of the argon purifier vents a continuous stream consisting of a mixture of argon and nitrogen. The warm portion removes traces of oxygen from the argon by combining the oxygen with a small stream of hydrogen gas over a catalyst to form water.

The pure argon product is stored on-site in a tank. Facilities are provided for loading this liquid product into trucks for delivery to argon gas customers.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Inorganic Chemicals-	
Oxygen and Nitrogen Production Subcategory	40 CFR 415.492 Subpart AW
Monthly Production:	
Oxygen lbs. of O2/month	18,758,511
Nitrogen lbs. of N2/month	29,849,390
Total Monthly Production (O2 and N2)	48,607,901

Other sources of technology based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: minor
2. Complexity Type: II
3. Wastewater Type: II
4. SIC code: 2813

E. Continuous Facility Effluent Flow - 0.049 MGD.

VI. Receiving Waters: Bayou Verdine (Outfall 001) and the Calcasieu River (Outfalls 002, 003, and 004)

Bayou Verdine (Outfall 001)

1. River Basin: Calcasieu River, Segment No. 030306
2. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Calcasieu River (Outfalls 002, 003, and 004)

1. River Basin: Calcasieu River, Segment No. 030301
2. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the discharge of process wastewater from the Argon/Oxygen Separator, cooling tower blowdown, filter backwash, air compressor condensate, and chiller condensate.

B. Location - at the point of discharge from the southwest corner of the facility, prior to combining with waters of Bayou Verdine, at Latitude 30°15'31", Longitude 93°17'20".

C. Treatment - None.

D. Flow - Continuous, 0.049 MGD (Max 30 Day Flow).

E. Receiving waters - Bayou Verdine via subsurface piping.

F. Basin and segment - Calcasieu River Basin, Segment 030306.

Outfall 002

A. Type of wastewater - the discharge of low contamination potential stormwater runoff.

B. Location - at the point of discharge from the northeast corner of the facility, prior to combining with waters of the Calcasieu River, at Latitude 30°15'37", Longitude 93°17'17".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters - Calcasieu River via storm sewer and parish drainage ditch.

F. Basin and segment - Calcasieu River Basin, Segment 030301.

Outfall 003

A. Type of wastewater - the discharge of low contamination potential stormwater runoff.

B. Location - at the point of discharge from the northwest corner of the facility, prior to combining with waters of the Calcasieu River, at Latitude 30°15'37", Longitude 93°17'21".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters - Calcasieu River via storm sewer and parish drainage ditch.

F. Basin and segment - Calcasieu River Basin, Segment 030301.

Outfall 004

A. Type of wastewater - the discharge of low contamination potential stormwater runoff.

B. Location -at the point of discharge from the northeast corner of the facility southwest of Outfall 002, prior to combining with waters of the Calcasieu River, at Latitude 30°15'37", Longitude 93°17'17".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters - Calcasieu River via drainage pipe and parish drainage ditch.

F. Basin and segment - Calcasieu River Basin, Segment 030301.

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. Outfall 001 - Oxygen and Nitrogen production increased from a total of 33,360,000 lbs production per month to 48,607,901 lbs production per month. Oil & Grease mass limitations have increased in accordance with the Oxygen and Nitrogen Production Guidelines at 40 CFR 415.492.

B. Outfall 003 and 004 - newly created outfalls for low contamination potential stormwater runoff. The following parameters were established based on current stormwater guidance for industrial facilities, the Multi-Sector General Permit (MSGP), and best professional judgment: Flow - Report, TOC - 50 mg/L daily maximum, Oil & Grease - 15 mg/L daily

maximum, and pH - 6.0 to 9.0 (standard units). A monitoring frequency of 1/quarter is consistent with similarly permitted outfalls (Outfall 002) and the MSGP.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit.

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)]. The following section(s) explain the rationale for the monitoring frequencies stated in the draft permit.

A. Outfall 001 -the discharge of process wastewater from the Argon/Oxygen Separator, cooling tower blowdown, filter backwash, air compressor condensate, and chiller condensate.

Process and utility wastewaters being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER	MONTHLY AVERAGE LBS/DAY	DAILY MAXIMUM LBS/DAY	MONTHLY AVERAGE MG/L	DAILY MAXIMUM MG/L	MONITORING FREQUENCY
Flow (MGD)	Report	Report	---	---	1/day
Temperature (°F)	---	---	Report	Report	1/day
Oil & Grease	1.60	3.20	10	15	1/week
Total Residual Chlorine	---	---	---	1.0	1/week
Total Zinc	---	---	---	1.0	1/week
pH (standard units)	---	---	6.0	9.0	1/week

Matheson Tri-Gas, Inc. is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Guideline	Reference
Inorganic Chemicals-	
Oxygen and Nitrogen Production Subcategory	40 CFR 415.492 Subpart AW
Monthly Production:	
Oxygen lbs. of O2/month	18,758,511
Nitrogen lbs. of N2/month	29,849,390
Total Monthly Production (O2 and N2)	48,607,901

Site-Specific Considerations for Outfall 001

Flow - established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 1/day. These requirements have been retained from the current LPDES permit, effective on June 1, 2003.

Temperature - This requirement has been retained from the current LPDES permit, effective on June 1, 2003 based on best professional judgment. The monitoring frequency of 1/day has also been retained.

Oil & Grease - limitation basis has been retained from the current LPDES permit, effective on June 1, 2003. This was based on the BCT EPA Guidelines at 40 CFR Part 415, Subpart AW for nitrogen and oxygen production by air liquefication. The BCT guideline established here is 0.001 pounds O&G/1000 pounds production (Monthly Average) and 0.002 pounds O&G/1000 pounds production (Daily Maximum). The oil and grease limits were established as follows:

Oxygen Production	Nitrogen Production
18,758,511 lbs/month	29,849,390 lbs/month

Total Production
48,607,901 lbs/month

Monthly Average Oil & Grease Limit:

$$\frac{48{,}607{,}901 \text{ lb product}}{\text{Month}} \times \frac{\text{Month}}{30.4 \text{ days}} \times \frac{0.0010 \text{ lb Oil \& Grease}}{1{,}000 \text{ lb product}} = \frac{1.60 \text{ lb}}{\text{Day}}$$

Daily Maximum Oil & Grease Limit:

$$\frac{48{,}607{,}901 \text{ lb product}}{\text{Month}} \times \frac{\text{Month}}{30.4 \text{ days}} \times \frac{0.0020 \text{ lb Oil \& Grease}}{1{,}000 \text{ lb product}} = \frac{3.20 \text{ lb}}{\text{Day}}$$

The Oil & Grease concentrations of 10 mg/L monthly average and 15 mg/L daily maximum have been retained from the current LPDES permit, effective on June 1, 2003. The monitoring frequency of 1/week has also been retained.

Total Residual Chlorine - This limitation has been retained from the current LPDES permit, effective on June 1, 2003 based on best professional judgment. The monitoring frequency of 1/week has also been retained.

Be advised that a limitation of 0.2 mg/L daily maximum may be applied to your facility upon the next permit reissuance based on requirements established for similar discharges and the Light Commercial General Permit.

Total Zinc - This limitation has been retained from the current LPDES permit, effective on June 1, 2003 based on best professional judgment. The monitoring frequency of 1/week has also been retained.

PH - established in accordance with LAC 33:IX.1113.C.1. PH shall be monitored 1/week. These requirements have been retained from the current LPDES permit, effective on June 1, 2003.

B. Outfall 002 - the discharge of low contamination potential stormwater runoff.

Uncontaminated or low potential contaminated stormwater discharged through discrete outfall(s) not associated with process wastewater shall receive the following BPJ limitations in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

PARAMETER	**MONTHLY AVERAGE MG/L**	**DAILY MAXIMUM MG/L**	**MONITORING FREQUENCY**
Flow (MGD)	Report	Report	1/quarter
TOC	---	50	1/quarter
Oil & Grease	---	15	1/quarter
pH (standard units)	6.0	9.0	1/quarter

Site-Specific Considerations for Outfall 002

Flow - established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 1/quarter. These requirements have been retained from the current LPDES permit, effective on June 1, 2003 and are consistent with LDEQ's current guidance for industrial stormwater and the requirements established in the MSGP.

TOC and Oil & Grease - These limitations and monitoring frequencies have been retained from the current LPDES permit, effective on June 1, 2003 and are consistent with LDEQ's current guidance for industrial stormwater and the requirements established in the MSGP. These parameters shall be monitored 1/quarter.

PH - established in accordance with LAC 33:IX.1113.C.1. PH shall be monitored 1/quarter. These requirements have been retained from the current LPDES permit, effective on June 1, 2003 and are consistent with LDEQ's current guidance for industrial stormwater and the requirements established in the MSGP.

C. Outfalls 003 and 004 - the discharge of low contamination potential stormwater runoff.

Uncontaminated or low potential contaminated stormwater discharged through discrete outfall(s) not associated with process wastewater shall receive the following BPJ limitations in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

PARAMETER	**MONTHLY AVERAGE MG/L**	**DAILY MAXIMUM MG/L**	**MONITORING FREQUENCY**
Flow (MGD)	Report	Report	1/quarter
TOC	---	50	1/quarter
Oil & Grease	---	15	1/quarter
pH (standard units)	6.0	9.0	1/quarter

Site-Specific Considerations for Outfalls 003 and 004

Flow - established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 1/quarter. These requirements are consistent with LDEQ's current guidance for industrial stormwater and the requirements established in the MSGP.

TOC and Oil & Grease - daily maximum limitations of 50 mg/L TOC and 15 mg/L Oil & Grease have been established at a frequency of 1/quarter. These requirements are based on best professional judgment are consistent with LDEQ's current guidance for industrial stormwater and the requirements in the MSGP.

PH - established in accordance with LAC 33:IX.1113.C.1. PH shall be monitored 1/quarter. These requirements are consistent with LDEQ's current guidance for industrial stormwater and the requirements established in the MSGP.

Additional Requirements Applicable To All Stormwater From This Site

In accordance with LAC 33:IX.2707.I.3 and [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are

not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS

The following pollutants received water quality based effluent limits:

PARAMETER(S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfall 001

Outfall 001 discharges process wastewater from the Argon/Oxygen Separator, cooling tower blowdown, filter backwash, and condensate into Bayou Verdine via subsurface piping to Subsegment 030306 of the Calcasieu River Basin for Bayou Verdine. Subsegment 030306 was not listed on the 2004 303(d) list of impairments due to the Upper Calcasieu Estuary Toxics TMDL being issued June 13, 2002. This TMDL addressed the following impairments: Priority Organics, Metals, Mercury, Nickel, and Contaminated Sediments. On June 13, 2002, the following impairments were officially delisted: Oil & Grease and Non-Priority Organics.

To date one TMDL has been finalized and two impairments have been delisted for Bayou Verdine.

Oil & Grease
As per the June 13, 2002 LA TMDL Delist, Oil & Grease has been delisted as an impairment in this subsegment. Assessment of new data and information shows this subsegment is meeting water quality standards for this impairment. However, technology based limitations are established for in the permit for oil & grease based on the Inorganic Chemical Guidelines for Oxygen and Nitrogen Production under 40 CFR Part 415.492, Subpart AW.

Non-priority Organics
As per the June 13, 2002 LA TMDL Delist, Non-Priority Organics has been delisted as an impairment in this subsegment. Assessment of new data and information shows this subsegment is meeting water quality standards for this impairment. Consequently, no limits will be set for Non-Priority Organics.

Priority Organics, Metals, Mercury, Nickel, and Contaminated Sediments
No waste load allocations were given to Matheson Tri-Gas in the Bayou Verdine TMDL effective on June 13, 2002. Based on a review of the facility's operations, the types of discharges, materials stored, and compliance history, LDEQ has determined that these outfalls are not expected to contribute these parameters at levels which could cause, have reasonable potential to cause, or contribute to receiving stream impairments; thus, no requirements for these parameters/impairments are established for this outfall in the draft permit.

Outfalls 002, 003, and 004

Outfalls 002, 003, and 004 discharges low contamination potential stormwater runoff to the Calcasieu River via storm sewer and a parish drainage ditch to Subsegment 030301 of the Calcasieu River Basin. Subsegment 030301 was not listed on the 2004 303(d) list of impairments due to the Upper Calcasieu Estuary Toxics TMDL being issued June 13, 2002. This TMDL addressed Copper, Mercury, PCBs, and Priority Organics.

Copper, Mercury, PCBs, and Priority Organics
The TMDL for Toxics for the Calcasieu Estuary was finalized on June 13, 2002, addressing the presence of toxic substances, including Copper, Mercury, PCBs, and Priority Organics in the watershed. The applicant's facility was not listed in the TMDL and did not receive any wasteload allocations based upon the TMDL for toxics. Consequently, no new limits will be added to this permit.

Site-Specific Consideration(s)

None

X. Compliance History/DMR Review:

A compliance history and DMR review was completed for the period of January 2006 to January 2008.

A. DMR Review - The following excursions were reported:

DATE	PARAMETER	OUTFALL	REPORTED VALUE	PERMIT LIMITS
10/01/06	Total Zinc	001	2.91 mg/L daily maximum	1.0 mg/L daily maximum

B. Inspections - The last facility compliance evaluation inspection was done on December 31, 2002. The inspector noted a small calculation discrepancy for Oil & Grease. There were no other issues of concern.

C. Enforcement Actions - None

XI. "IT" Questions - Applicant's Responses

Matheson Tri-Gas is an existing minor facility, therefore, IT Questions were not required to be submitted.

XII. ENDANGERED SPECIES

The receiving waterbody, Subsegments 030306 and 030301 of the Calcasieu River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List