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PERMIT TO OPERATE EVALUATION

Applicant's Name

U.S. GOVT., DEPT. OF NAVY

Company ID

800263

Mailing Address

937 N. HARBOR DR., BOX 81, ROOM S510, SAN DIEGO, CA 92132

Equipment Address

NALF, SAN CLEMENTE ISLAND, SAN CLEMENTE, CA 91235

EQUIPMENT DESCRIPTION:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
PROCESS 2: PUBLIC WORKS CENTER, SAN CLEMENTE ISLAND (ID NO. 66802)					
SYSTEM 6: SEWAGE TREATMENT PLANT, Aer-O-Flo Aerobic Digestion, Model No. S-300					S1.1
HEADWORK, COMMON TO TITAN MBR SYSTEM, WITH ONE COMMUNTOR, SCREEN, GRIT CHAMBER, PRIMARY LET AND SECONDARY LET A/N: 273438-554637	D189				C1.6, K67.2
DIGESTER, SECONDARY TREATMENT, WITH AERATION BASIN AND CLARIFIERS A/N: 273438-554637	D194				C1.6, K67.2
EVAPORATOR, SLUDGE DRYING BEDS, FOUR A/N: 273438-554637	D195				
SYSTEM 7: Waste Water Treatment Plant, Smith and Loveless, Titan MBR					S1.2
HEADWORK, WITH ONE COMMUNTOR, SCREEN, GRIT CHAMBER, PRIMARY LET AND SECONDARY LET A/N: 273438-554637	D189				
<u>SCREEN, FINE</u> A/N: 554637	<u>D234</u>				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
<u>TANK, FLOW EQUILIZATION, WITH A 3 HP BLOWER</u> A/N: 554637	<u>D235</u>				
<u>TANK, SLUDGE HOLDING, 1,200 CUBIC FEET CAPACITY</u> A/N: 554637	<u>D236</u>				
<u>TANK, WITH TWO ANOXIC ZONES, EACH WITH 800 CU. FT. CAPACITY, WITH MIXERS</u> A/N: 554637	<u>D237</u>				
<u>TANK, AERATION ZONE, 3,544 CUBIC FEET CAPACITY, WITH TWO 20-HP BLOWERS, CONTAINING AN IMMERSION TYPE MEMBRANE,</u> A/N: 554637	<u>D238</u>				
<u>TANK, CHLORINE CONTACT, 1,000 GALLON CAPACITY, WITH A TABLET CHLORINATOR</u> A/N: 554637	<u>D239</u>				
<u>TANK, BLENDING, CITRIC ACID OR SODIUM HYPOCHLORITE, MEMBRANE CLEANING SOLUTION, 325 GALLONS CAPACITY, UNHEATED</u> A/N: 554637	<u>D240</u>				
<u>TANK, SPENT MEMBRANE CLEANING</u>	<u>D241</u>				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
<u>SOLUTION, 1,100 GALLONS CAPACITY</u> <u>A/N: 554637</u>					

A/N 554638

TITLE V PERMIT REVISION, DE MINIMIS SIGNIFICANT

BACKGROUND:

US Navy, on San Clemente Island conducts training exercises for various military operations including landing military aircraft. This is an existing facility on San Clemente Island. This facility has permits to operate for diesel fired emergency engines, boilers (less than 1 MM Btu/hr each), JP-5 fuel storage tanks, Gasoline Storage tanks used for fuel dispensing, non-emergency engines, an abrasive blasting system, and a sewage treatment plant. This is a Title V facility and currently operates under a Title V facility permit that was initially issued on June 2, 2000. The first renewal was issued on February 2, 2007 and second renewal was issued on August 29, 2012. Review of the compliance file for this facility reveals that one NOV (P54097) was issued to the facility in last 2 years for failure to conduct the 2010 and 2011 annual reverification tests on gasoline fueling system as required by Rule 461. The facility has since complied with the requirements and is currently apparently operating in compliance with all applicable rules and permit conditions.

The facility filed this application to modify its existing Sewage Treatment system operating under device nos D189, D194, & D195 by adding a waste water treatment plant (WWTP) to produce recycled water to be used on the island. The company proposes to use a packaged treatment system manufactured by Smith and Loveless Corporation. The packaged treatment plant model is the Titan™ MBR using Toray Membray® membranes. The Titan™ MBR using Toray Membray® membranes utilizes an activated sludge treatment process and includes membrane filtration resulting in a dynamic membrane bioreactor (MBR) treatment system, the MBR treatment combined with effluent disinfection creates a Disinfected Tertiary Recycled Water. Once operational, the new WWTP will become primary treatment plant with the existing plant acting as a backup.

PROCESS DESCRIPTION:

The recycled water to be used on San Clemente Island will be produced from treated domestic wastewater using a 30,000 gallon per day packaged wastewater treatment plant manufactured by the Smith and Loveless Corporation of Lenexa, Kansas. The packaged treatment plant model is the Titan™ MBR using Toray Membray® membranes. The Titan™ MBR using Toray Membray® membranes utilizes an activated sludge treatment process and includes membrane filtration resulting in a dynamic membrane bioreactor (MBR) treatment system, the MBR treatment combined with effluent disinfection creates a Disinfected Tertiary Recycled Water. The Titan™ MBR using Toray Membray® membranes treatment equipment includes flow equalization, waste activated sludge storage, anoxic and MBR aeration zones with submerged flat plate membranes, and a chlorine

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contact chamber. Aeration for the aeration zone is accomplished using two 20 horsepower blowers with diffusers. Aeration is provided in the flow equalization zone using one three horsepower blower with diffusers.

Pretreatment includes coarse screening and grinding using a comminutor of the existing WWTP and a new 3 millimeter fine screening unit process as part of the new WWTP.

Citric Acid and Sodium Hypochlorite are used to clean the membranes for inorganic and organic cleaning. Cleaning with sodium hypochlorite is expected to be required two times per year. Citric acid cleaning is expected to be required once every two years or less. Treated wastewater effluent used for recycled water is chlorinated using a tablet chlorinator from the existing WWTP. Treated effluent not used as recycled water passes through the dechlorination unit process of the existing WWTP prior to discharge in the ocean.

The recycled water treated with new MBR system is used to supply water to the toilets for the new Bachelors Enlisted Quarters, 2 decorative water fountains, and a water truck fill station on the island.

The plant will be in operation 24 hrs/day, 7 days/week, 52 weeks/yr.

For detailed process description, please see 'Engineering Report' dated July 5, 2012 provided by the applicant.

EMISSIONS CALCULATIONS:

VOC emissions

VOC emissions are calculated Based on JEIP Basinwide Emissions Summary Flow-Related Non Combustion VOC Emissions for JEIP POTWs.

R1 = R2

R1 = 200 (lbs/yr/mgd) x 0.03 mgd
= 6 lbs/yr = 0.0007 lbs/hr = 0.02 lbs/day

VOC emissions from the use of citric acid are considered negligible since it is used only once every two years for cleaning of membrane, it is diluted (22 pounds of citric acid powder mixed with 264 gallons of water), and the tank is unheated. Per Rule 219, m(4), the tank is exempt from the requirement of a written permit since citric acid has a boiling point which is above 302 °F.

RULES:

Rule 212(c)(1): This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. Since there are no schools within 1,000 feet of the facility, a public notice will not be required per this section.

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Rule 212(c)(2) & (g) : These sections require a public notice for all new or modified facilities which have on-site emission increases for the equipment or the facility exceeding any of the daily maximums as specified in subdivision (g). Since the daily emissions are less than specified in section (g), public notice will not be required by this section.

Rule 212(c) (3) : There will not be an increase in TACs resulting from the use of this system. Therefore, a public notice will not be required per this section.

Rule 401 With proper operation of this equipment, no visible emissions are expected from this operation. Hence compliance with this rule is achieved.

Rule 402 With proper operation of this equipment, the waste water treatment system is not expected to create a nuisance.

Rule 1179 The wastewater treatment plant is not publicly owned as per the definition in the rule. Hence the requirements of this rule are not applicable.

REG. XIII The new treatment unit will be used as the primary unit and the existing unit will be used as a backup only. Therefore, no increase in emissions are expected as a result of this modification. Compliance with this regulation is expected.

BACT:

The daily VOC emissions from the project are less than 1 lb/day. Therefore, BACT is not applicable.

OFFSETS & MODELING:

VOC emissions are not subject to modeling. Also, the VOC emissions from the project are less than 0.42 lb/day. Hence offsets will not be required.

Rule 1401: The new treatment unit will be used as the primary unit and the existing unit will be used as a backup only. Therefore, no increase in toxic compounds emissions are expected as a result of this modification. Compliance with this rule is expected.

Regulation XXX:

The modification of the WWTP is considered as a “de minimis significant permit revision” to the Title V permit for this facility

Rule 3000(b)(6) defines a “de minimis significant permit revision” as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAPs) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30

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NOx	40
PM10	30
SOx	60
CO	220

To determine if a project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is 2nd permit revision to the Title V renewal permit issued to this facility on August 29, 2012. The following table summarizes the cumulative emission increases resulting from all permit revisions since the Title V renewal permit was issued.

Title V Permit Revisions Summary

	Revision	HAP	VOC	NO _x	PM ₁₀	SO _x	CO
1 st	Permit Revision: Installation of Oxidation Catalysts on Non-emergency engines (Devices D17-20, a/nos. 547219-22).	0	0	0	0	0	0
2 nd	Permit Revision: Modification of existing waste water treatment system (a/no. 554637).	0	0	0	0	0	0
Cumulative Total		0	0	0	0	0	0
Maximum Daily		30	30	40	30	60	220

Since the cumulative emission increases resulting from permit revision are not greater than any of the emission threshold levels, this proposed project is considered as a “de minimis significant permit revision”.

CONCLUSION:

The proposed project is expected to comply with all applicable District Rules and Regulations. Also, since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed facility permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility subject to conditions below:

S1.1 THE OPERATOR SHALL LIMIT THE THROUGHPUT TO NO MORE THAN 60000 GALLON(S) PER DAY.

The operator shall use this system for the treatment of domestic wastewater.

The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

This system shall only be used as a backup to Process 2, System 7.

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S1.2 THE OPERATOR SHALL LIMIT THE THROUGHPUT TO NO MORE THAN 30000 GALLON(S) PER DAY.

The operator shall use this system for the treatment of domestic wastewater.

The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

~~C1.16. The operator shall limit the throughput to no more than 60000 gallon(s) per day.
The operator shall use this equipment for the treatment of domestic wastewater.~~

~~K67.2 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):
throughput~~