TO: **James L. App, City Manager**

FROM: **Meg Williamson, Interim Director of Public Works**

SUBJECT: **Wastewater Treatment Plant NPDES Discharge Permit Progress Report**

DATE: **April 6, 2004**

NEEDS: For the City Council to receive an update concerning the City's Wastewater Treatment Plant discharge (NPDES) permit renewal.

FACTS:

1. In 1997, the U.S. Environmental Protection Agency promulgated wastewater discharge regulations under the National Toxic Rule (NTR). USEPA allowed each state to adopt their own version of the NTRs and, in the case of California, the state defaulted to EPA's regulations now known as the California Toxic Rules (CTR). The state adopted the CTRs in 2000. The rules affect the City's NPDES permit renewal.

2. In 2000, the State Water Resource Control Board (SWRCB), through the Regional Water Quality Control Boards (RWQCB), introduced a Policy for Implementation of Toxics Standards (CTR) for Inland Surface Water, Enclosed Bays, and Estuaries of California. The policy is specific to inland river, stream, pond, and basin wastewater dischargers.

3. The City of Paso Robles is an inland discharger to the Salinas River. The City is the last known Salinas River discharger.

4. The Board has set Salinas River waste water discharge quality for some constituents at a higher level than for drinking water, presumably to protect aquatic life as well as river water quality in general.

5. It is a critical and significant challenge to meet the new (draft) CTR discharge limits (see attached), and implementing more frequent detailed monitoring program.

6. A final permit hearing is expected in May 2004. The only appeal process from RWQCB's discharge limits is to undertake full environmental impact assessment and receive approval from all affected agencies, including RWQCB, EPA, Fish and Wildlife, and others.

7. The City will need to study advanced treatment processes to comply with these limits. Review of advance treatment processes include tertiary filtration, nano-filtration, Reverse Osmosis-filtration, ion exchange, and EDR. The study will also evaluate beneficial use of the treated discharge water either for recharge or reuse. The timeframe to begin this study is December 2004.

ANALYSIS AND CONCLUSION:

Cost effective discharge of treated effluent will be severely complicated by the CTR discharge limits. The City has already implemented a WWTP audit to enhance the existing secondary treatment process, and is developing an action plan that identifies advanced treatment processes for treated effluent use.

Completion of the WWTP audit is essential to enhance the existing secondary process. The plant utilizes a trickling filters process that are designed to treat a low level of mass loading (Mass loading is the amount of solid particles in the water). The WWTP currently experiences daily mass loading spikes higher than the plant was designed to process. The effect these spikes have

is that they diminish plant capacity (from 5 MGD to approximately 3.7 MGD). Review of plant audit modifications includes: solids handling, flow-equalization, disinfections, booster revamps, automation, and electrical renovations. Review of audit recommendations for secondary treatment enhancements include: activated sludge, dissolved aeration flotation, and oxidation ditch treatment. The time completion for the plant audit is October 2004.

The City's need to improve its Wastewater Treatment Plant process is driven by regulatory mandates.

FISCAL IMPACT: None.

OPTIONS: **a.** Receive and file staff report.

b. Amend, modify, or reject the above option.

Attachments (1)
1) CTR Discharge Limits

different from the controls). Examples of chronic toxicity include but are not limited to measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects. Test results shall be reported in TUc, where TUc = 100/NOEC. For this discharge, the presence of chronic toxicity at more than 1 TUc shall trigger the Effluent Toxicity Provisions of Waste Discharge Requirements Order No. R3-2003-XXXX.

The chronic in-stream waste concentration (IWC) for this discharge is 100 percent effluent. Effluent toxicity testing shall be conducted at the IWC.

[6] Effluent samples will be collected and analyzed for this pollutant approximately one time every three months (four times, total) in accordance with Finding 28 of Order No. R3-20003-XXXX. Monitoring requirements of Table C for bis(2-ethylyhexyl)phthalate will become effective only if/when interim effluent limitations become effective and will remain effective thereafter.

EFFLUENT MONITORING FOR PRIORITY TOXIC POLLUTANTS

24-hour, composite effluent samples from Sample Station B shall be collected one time, in a dry weather season and within the twelve-month period before application is made to renew Waste Discharge Requirements, and analyzed for the following parameters (listed by the California Toxics Rule) in accordance with the analytical methods and Minimum Levels presented in Table D, below.

Table D

VOLATILE COMPOUNDS	Acceptable Analytical Methods*	Respective Minimum Level (ML)** (µg/L)
1,1 Dichloroethane	GC, GCMS	0.5, 1
1,1 Dichloroethene	GC	0.5
1,1,1 Trichloroethane	GC, GCMS	0.5, 2
1,1,2 Trichloroethane	GC	0.5
1,1,2,2 Tetrachloroethane	GC	0.5
1,2 Dichlorobenzene (v)	GC, GCMS	0.5, 2
1,2 Dichloroethane	GC	0.5
1,2 Dichloropropane	GC	0.5
1,3 Dichlorobenzene (v)	GC, GCMS	0.5, 2
1,3 Dichloropropene (v)	GC, GCMS	0.5, 2
1,4 Dichlorobenzene (v)	GC, GCMS	0.5, 2
Acrolein	GC, GCMS	2, 5
Acrylonitrile	GC, GCMS	2, 2
Benzene	GC	0.5
* Bromoform	GC, GCMS	0.5, 2
Bromomethane	GC, GCMS	1, 2
Carbon Tetrachloride	GC	0.5
Chlorobenzene	GC, GCMS	0.5, 2
* Chlorodibromo-methane	GC	0.5
Chloroethane	GC, GCMS	0.5, 2
Chloroform	GC, GCMS	0.5, 2
Chloromethane	GC, GCMS	0.5, 2
* Dichlorobromo-methane	GC	0.5
Dichloromethane	GC, GCMS	0.5, 2
Ethylbenzene	GC, GCMS	0.5, 2
Tetrachloroethene	GC	0.5
Toluene	GC, GCMS	0.5, 2
Trans-1,2 Dichloroethylene	GC	0.5
Trichloroethene	GC, GCMS	0.5, 2
Vinyl Chloride	GC, GCMS	0.5, 2

SEMI-VOLATILE COMPOUNDS	Acceptable Analytical Methods	Respective Minimum Level (ML) (µg/L)

SEMI-VOLATILE COMPOUNDS	Acceptable Analytical Methods	Respective Minimum Level (ML) (µg/L)
1,2 Benzanthracene	GCMS	5
1,2 Dichlorobenzene (sv)	GC, GCMS	2, 2
1,2 Diphenylhydrazine	GCMS	1
1,2,4 Trichlorobenzene	GC, GCMS	1, 5
1,3 Dichlorobenzene (sv)	GC, GCMS	2, 1
1,4 Dichlorobenzene (sv)	GC, GCMS	2, 1
2 Chlorophenol	GC, GCMS	2, 5
2,4 Dichlorophenol	GC, GCMS	1, 5
2,4 Dimethyphenol	GC, GCMS	1, 2
2,4 Dinitrophenol	GC, GCMS	5, 5
2,4 Dinitrotoluene	GCMS	5
2,4,6 Trichlorolphenol	GC, GCMS	10, 10
2,6 Dinitrotoluene	GCMS	5
2-Nitrophenol	GCMS	10
2-Chloroethyl vinyl ether	GC, GCMS	1, 1
2- Chloronaphthalene	GCMS	10
3,3' Dichlorobenzidine	GCMS	5
3,4 Benzofluoranthene	GCMS, LC	10, 10
4 Chloro-3-methylphenol	GC, GCMS	5, 1
4,6 Dinitro-2-methylphenol	GCMS	5
4-Nitrophenol	GC, GCMS	5, 10
4-Bromophenyl phenyl ether	GC, GCMS	10, 5
4-Chlorophenyl phenyl ether	GCMS	5
Acenaphthene	GC, GCMS, LC	1, 1, 0.5
Acenaphylene	GCMS, LC	10, 0.2
Anthracene	GCMS, LC	10, 2
Benzidine	GCMS	5
Benzo(a) pyrene(3,4 Benzopyrene)	LC	2
Benzo(g,h,I)perylene	GCMS, LC	5, 0.1
Benzo(k)fluoranthene	LC	2
bis2-(1-Chloroethoxy) methane	GCMS	5
bis(2-chloroethyl) ether	GCMS	1
bis(2-chloroisopropyl) ether	GC, GCMS	10, 2
Bis(2-Ethylhexyl) phthalate	GCMS	5
Butyl benzyl phthalate	GC, GCMS	10, 10
Chrysene	LC	5
di-n-Butyl phthalate	GCMS	10
di-n-Decyl phthalate	GCMS	10
Dibenzo(a,h)-anthracene	LC	0.1
Diethyl phthalate	GC, GCMS	10, 2
Dimethyl phthalate	GC, GCMS	10, 2
Fluoranthene	GC, GCMS, LC	10, 1, 0.05
Fluorene	GCMS, LC	10, 0.1
Hexachloro-cyclopentadiene	GC, GCMS	5, 5
Hexachlorobenzene	GCMS	1
Hexachlorobutadiene	GCMS	1
Hexachloroethane	GCMS	1
Indeno(1,2,3,cd)-pyrene	LC	0.05
Isophorone	GCMS	1
N-Nitroso diphenyl amine	GCMS	1
N-Nitroso-dimethyl amine	GCMS	5
N-Nitroso –di n-propyl amine	GCMS	5
Naphthalene	GC, GCMS, LC	10, 1, 0.2
Nitrobenzene	GC, GCMS	10, 1

SEMI-VOLATILE COMPOUNDS	Acceptable Analytical Methods	Respective Minimum Level (ML) (µg/L)
Pentachlorophenol	GC	1
Phenanthrene	GCMS, LC	5, 0.05
Phenol	GC, GCMS, COLOR	1, 1, 50
Pyrene	GCMS, LC	10, 0.05

INORGANICS	Acceptable Analytical Methods	Respective Minimum Level (ML) (µg/L)
Antimony	FAA, GFAA, ICPMS, SPGFAA, HYDRIDE	10, 5, 0.5, 5, 0.5
Arsenic	GFAA, ICP, ICPMS, SPGFAA	2, 10, 2, 2, 1
Beryllium	FAA, GFAA, ICP, ICPMS, SPGFAA, DCP	20, 0.5, 2, 0.5, 1, 1000
Cadmium	GFAA, ICPMS, SPGFAA	0.5, 0.25, 0.5
Chromium (total)	FAA, GFAA. ICP, ICPMS, SPGFAA	50, 2, 10, 0.5, 1
Chromium VI	FAA, COLOR	5, 10
Copper	GFAA, ICPMS, SPGFAA	5, 0.5, 2
Cyanide	COLOR	5
Lead	ICPMS, SPGFAA	0.5, 2
Mercury	CVAA	0.2
Nickel	FAA, GFAA, ICP, ICPMS, SPGFAA	50, 5, 20, 1, 5
Selenium	GFAA, ICPMS, SPGFAA, HYDRIDE	5, 2, 5, 1
Silver	GFAA, ICPMS, SPGFAA	1, 0.25, 2
Thallium	ICPMS	1
Zinc	FAA, ICP, ICPMS, SPGFAA	20, 20, 1,10

PESTICIDES – PCBs	Acceptable Analytical Methods	Respective Minimum Level (ML) (µg/L)
4,4'-DDD	GC	0.05
4,4'-DDE	GC	0.05
4,4'-DDT	GC	0.01
a-Endosulfan	GC	0.02
a-Hexachloro-cyclohexane	GC	0.01
Aldrin	GC	0.005
b-Endosulfan	GC	0.01
b-Hexachloro-cyclohexane	GC	0.005
Dieldrin	GC	0.1
Endosulfan Sulfate	GC	0.005
Endrin	GC	0.01
Endrin Aldehyde	GC	0.01
Heptachlor	GC	0.01
Heptachlor Epoxide	GC	0.01
Lindane (g-Hexachloro-cyclohexane)	GC	0.02
PCB 1016	GC	0.5
PCB 1221	GC	0.5
PCB 1232	GC	0.5
PCB 1242	GC	0.5
PCB 1248	GC	0.5
PCB 1254	GC	0.5
PCB 1260	GC	0.5
Toxaphene	GC	0.5

* For each constituent the Discharger may select one of the above analytical methods, which are described in 40 CFR 136.3.

** The ML value represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. Discharger shall instruct