Attachment F
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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

WDID	**1B83104OHUM**
Discharger	**Town of Scotia Company, LLC**
Name of Facility	**Town of Scotia**
Facility Address	**125 Main Street**
	Scotia, CA 95565
	Humboldt County
Facility Contact, Title and Phone	**Robert Vogt** **Director of Environnemental and Community Services** **(707) 764-4268**
Authorized Person to Sign and Submit Reports	**Director of Environnemental and Community Services, Chief Executive Officer, Vice President, or Lead WWTF Operator**
Mailing Address	**P.O Box 37** **Scotia, CA 95565**
Billing Address	**P.O Box 37** **Scotia, CA 95565**
Type of Facility	**WWTF SIC 4952**
Type of Facility	**Steam Electric Power Plant SIC 4911**
Major or Minor Facility	**Minor**
Threat to Water Quality	**2**
Complexity	**B**
Pretreatment Program	**N/A**
Reclamation Requirements	**N/A**
Facility Permitted Flow WWTF	**0.77 MGD Maximum Wet Weather Flow**
Facility Design Flow WWTF	**To Be Determined By Special Study** **See Provision VI.C.2. of Order R1-2006-0020**
Facility Design Flow (process) Power Plant	**1.0 MGD**
Facility Design Flow (discharge) Power Plant	**0.2 MGD**
Watershed	**Scotia Hydrologic Sub area**
Receiving Water	**Eel River**
Receiving Water Type	**Inland Surface Water**

A. Town of Scotia Company, LLC (hereinafter Discharger) is the owner and operator of the Town of Scotia's wastewater treatment facility (WWTF) and

wood-fueled steam electric power plant (power plant) (hereinafter collectively called Facilities). The Discharger owns the property in the Town of Scotia on which the Facilities are located.

B. The Facilities discharge wastewater to the Eel River, a water of the United States and are currently regulated by Order No. 99-59, which was adopted on August 26, 1999 and expired on August 26, 2004. The terms of Order 99-59 automatically continued in effect after the permit expiration date.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollution Discharge Elimination System (NPDES) permit on February 10, 2004. Supplemental information was requested on August 11, 2004 and was received on September 8, 2004. Two site visits were conducted on July 14, 2004 and August 25, 2004, to observe operations and collect additional data to develop permit limitations and conditions. Based on the submitted information and inspection observations, on November 2, 2004, Regional Water Board staff requested re-submittal of the NPDES renewal application. The revised application was received on December 7, 2004. Supplemental information was requested on February 22, 2005 and was received on March 28, April 1, and April 6, 2005.

II. FACILITY DESCRIPTION

A. Description of Wastewater Sources, Treatment and Controls

Approximately 1,000 residents and between 715 and 500 employees generate municipal wastewater in the Town of Scotia. Wastewater is conveyed to the municipal WWTF system through approximately 5 miles of underground collection system. Reported average flows into the WWTF are 0.246 MGD. Once at the WWTF, raw sewage enters the headworks where it passes through a bar screen, chop pump, and grit chamber. The sewage is then pumped to the primary clarifier for solids settling and removal. Wastewater is decanted from the primary clarifier and pumped to a redwood-media tricking filter. At optimum flows, 60% of the trickling filter effluent is routed to a secondary clarifier and the remaining 40% is recirculated through the redwood filter media. Flow from the secondary clarifier enters a serpentine chlorine contact chamber for disinfection before it is pumped to a series of three vegetated treatment ponds. Treated effluent discharges from the final treatment pond to a 20-acre storage pond at Discharge Serial No. 012B.

Solids are pumped from the bottom of the primary clarifier into a sludge digester, where it undergoes anaerobic decomposition. The sludge is then pumped to a dewatering/holding trench located between the WWTF and the active channel of

the Eel River. The trench is unlined and little information related to the potential threats to water quality is currently available. If the discharger wishes to continue use of the unlined trench for dewatering and/or temporary storage, a special study is required. The special study required in accordance with Provision VI.C.2.b. of Order R1-2006-0020 will need to evaluate existing and future onsite biosolids handing as well as proper disposal options.

The Town of Scotia generating facility is a wood waste fired power plant with an average generating output of 639 megawatts (MW) per day in three steam-generating boilers. The power plant draws water from the Scotia potable water system through two multimedia filters then through a reverse osmosis system. Seventy five percent (75%) of the water is highly purified. The highly purified permeate is stored for use in the boilers to generate steam. The remaining twenty-five percent (25%) reject water with high impurities is sent to the cooling towers. Steam from the boilers drives turbines, which in turn generate electricity. The power plant discharges filter back-flush water, cooling tower blow-down, once through cooling water, boiler blowdown, and rock-wood separator water.

An average total of 1.0 MGD of wastewater is discharged from the power plant into the storage pond through five points located at the southeast end of the pond. Once through cooling water accounts for about eighty-seven percent (87%) of the total discharge from the power plant. Power plant process wastewaters and sanitary wastewater from the WWTF are discharged to a 20-acre storage pond and combined with storm water runoff from the town of Scotia. Overflow from the storage pond discharges to either the Eel River or a percolation pond adjacent to the Eel River.

The Discharges from the Town of Scotia WWTF and power plant are made up of the following:

Discharge Point	Wastewater Discharge	Average Flow (MGD)
003	Storage Pond final discharge to Eel River	0.292
012 A	Chlorine contact chamber	0.246
012 B	Final oxidation treatment pond	See Provision VI.C.2.
013	Multimedia filters back flush water	.003
014 A/B	Cooling tower Blow-down towers A & B	0.118[1]
015	Boiler blow-down & Hydraulic rock/wood separator water	0.012[2]
016	Once-through cooling water	0.864

[1] Flow represents the combined average discharge from both 014A and 014B.
[2] Represents the portion of the flow attributable to boiler blow-down. Does not include 0.072 MGD from combined flow hydraulic rock-wood separator water.

B. Cooling Water Systems

To provide condenser cooling at the power plant, the facility operates two separate cooling water systems. The main system generates power using turbine units A and B. These units are cooled using recirculated water passing through cooling towers A and B. This cooling system operates condensers A and B using a combination of reject water from the reverse osmosis system and recirculated water from the Scotia fire water system. Blow-down from cooling towers A and B is continuous at an average rate of 41 gpm from each tower. Turbine 3 is cooled using once-through cooling water that circulates from the storage pond through condenser 3 at an average rate of 600 gpm.

Chemical compounds currently associated with systems at the Scotia power plant are used either alone or in formulated combinations to treat various components as follows:

System Component	Product Name(s)	Chemical Name(s)	Primary Function
Reverse Osmosis System	PermaTreat® PC-191	Phosphonate	Antiscalant
Reverse Osmosis System	NALCO 7408	Sodium Bisulfite	Chlorine Scavenger
Reverse Osmosis System	RoQuest™ 4500	Ferric Salt/Cationic Polymer	Coagulant
Boiler System	NALCO BT-3011	Sodium Hydroxide Sodium Tripolyphosphate	Boiler Water Treatment
Boiler System	NALCO ELIMIN-OX®	Carbohydrazide	Oxygen Scavenger
Steam Line	TRI-ACT® 1800	Cyclohexylamine Monoethanolamine Methoxypropylamine	Corrosion Inhibitor
Cooling Towers	NALCO 23274	N/A	Cooling Water Treatment
Cooling Towers	NALCO 1336	Sodium Tolyltriazole	Corrosion Inhibitor
Cooling Towers	NALCO 73550	Nonionic Surfactant Nonionic Alkyl Polyglycoside	Clean Tower Biodetergent
Cooling Towers	NALCO 73551	Polyalkylene glycol	Deposit Penetrant
Cooling Towers	Sodium Hypochlorite	Sodium Hypochlorite Sodium Hydroxide	Biocide
Cooling Towers	Sulfuric Acid	Sulfuric Acid	pH Control

The chemical compounds used for treatment in the Power Plant may change periodically, with prior notification to the Regional Water Board. Each time a change is made the Discharger will provide material safety data sheets (MSDS) for the new compounds.

C. Receiving Waters

The Scotia storage pond (former log pond) overflows through a clarifier at Latitude 40°28'45", Longitude 124°6'27" through Discharge Serial No. 003 into the Scotia Hydrologic Sub-Unit of the lower Eel River.

The main tributaries to the Eel River are the Van Duzen River, and Yager, Larabee, Bull and Salmon Creeks. The upper watershed is mountainous and vegetated by redwood, Douglas fir interspersed with some hardwoods and meadows. Toward the coast, the river spreads out on a coastal plain where the Salt River joins it in the Eel River estuary. The Eel River is designated as a Critical Coastal Area.

The Eel River is also listed in the Federal Clean Water Act (CWA) section 303(d) list as impaired by sediment and temperature. The Eel River Watershed Management Area (WMA) encompasses roughly 3,684 square miles in highly erodible soils in the steep coastal mountains of the Region, supporting a variety of water uses including municipal and agricultural supply systems, salmonid fisheries, and recreation. The Eel River WMA is a prime recreational area boasting numerous state and private campgrounds along its length with both water contact and non-contact uses such as boating and swimming. The Eel River is the third largest producer of salmon and steelhead in the State of California and supports a large recreational fishing industry. The erodible soils, steep terrain, and other contributing factors evoke a high level of concern for the anadromous fishery resource. Coho salmon, a native species of the Eel River watershed, were listed as endangered under the federal Endangered Species Act in 1997.

D. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations are contained in the existing Order for discharges from the storage pond, which overflows through a clarifier to the Eel River at Discharge Serial No. 003. Discharge Serial No. 003 limitations and representative monitoring data from the term of the previous Order are as follows:

Parameter (units)	Effluent Limitations		Monitoring Data (From January 2002 – To November 2005)		
	Average Monthly	Maximum Daily	Highest Average Monthly Result	Highest Daily Result	No. of Violations
BOD (20°C, 5-day) (mg/l)	30[3]	---	3.4	---	0
Total Suspended Solids (mg/l)	30[3]	---	21	---	0
Total Coliform Organisms (MPN/100 ml)	23[4]	230	130	130	3
Settleable Solids (ml/l)	0.1	0.2	0.1	0.1	0
Hydrogen Ion	Not less than 6.0 nor greater than 9.0		8.2	8.2	0

E. Compliance Summary

The facility has violated coliform effluent limitations (daily maximum and monthly median) a total of 3 times between January 2002 and November 2005. The Discharger has reported that these violations occurred as a result of equipment failures. The Discharger's effort to assess the cause of the violations and correct equipment difficulties has resulted in a return to consistent compliance with coliform effluent limitations.

F. Planned Changes

Depending on the pursuit of options and the resultant outcomes from special studies required under Order R1-2006-0020, the Discharger may propose changes to the facility during the term of this permit. Town of Scotia is currently investigating different options for combining discharges at the Power Plant in an effort to reduce water usage. Potential changes include using the boiler blow-down as make-up water in the colling towers, and using cooling tower blow-down for the hydraulic rock/wood separator.

[3] In addition to the 30 mg/l concentration limit, mass limits (lbs/day) are based on the product of board feet of lumber produced times 12.5.
[4] Limit based on monthly median.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the CWA and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans

The Regional Water Board adopted a Water Quality Control Plan for the North Coast Region (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

a. Beneficial uses are designated for all waters in the North Coast Region. The waterbodies are separated into various categories. Wetlands and groundwater are described outside of the Coastal and Inland Waters categories, as they are unique waterbodies that require more detailed descriptions. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to the Eel River are as follows:

Discharge Point	Receiving Water	Beneficial Uses
003	**Eel River**	Existing: MUN – Municipal and Domestic Supply AGR – Agricultural Supply IND – Industrial Service Supply GWR – Groundwater Recharge FRSH – Freshwater Replenishment NAV – Navigation REC1 – Water Contact Recreation REC2 – Non-Contact Water Recreation COMM – Commercial and Sport Fishing COLD – Cold Freshwater Habitat WILD – Wildlife Habitat RARE – Preservation of Rare, Threatened, or Endangered Species MIGR – Migration of Aquatic Organisms SPWN – Spawning, Reproduction, and/or Early Development AQUA – Aquaculture Potential: PRO – Industrial Process Supply POW – Hydropower Generation WARM – Warm Freshwater Habitat
	Groundwater	Existing: MUN – Municipal and Domestic Supply AGR – Agricultural Supply IND – Industrial Service Supply CUL – Native American Culture Potential: PRO – Industrial Process Supply AQUA – Aquaculture

b. The Basin Plan includes water quality objectives, implementation plans for point source and non-point source discharges, prohibitions, and statewide plans and policies.

c. The Basin Plan contains a narrative objective (standard) for toxicity that requires:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassay of appropriate duration or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater 18th Edition (1992). At a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

Effluent limits based upon acute bioassays of effluent will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

2. Thermal Plan

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

3. National Toxics Rule (NTR) and California Toxics Rule (CTR)

USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

4. State Implementation Policy

On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP*).* The SIP became effective on April 28, 2000, with respect to the priority pollutant

criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so. The SIP applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the state's Porter-Cologne Water Quality Control Act (Division 7 of the CWC and the CWA). The SIP establishes: (1) implementation provisions for priority pollutant criteria promulgated by the USEPA through the NTR and through the CTR, and for priority pollutant objectives established by Regional Water Boards in their basin plans; (2) monitoring requirements for 2,3,7,8-TCDD equivalents; and (3) chronic toxicity control provisions.

5. Antidegradation Policy

Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

6. Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.

7. Monitoring and Reporting Requirements

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require

technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

The Lower Eel River Hydrologic Unit is listed as an impaired water body for sediment and temperature pursuant to Section 303(d) of the CWA. A Total Maximum Daily Load has not been established to address temperature or sediment loadings. An analysis of the Scotia's discharge determined that it does not contain temperature or sediment at levels which will cause, have the reasonable potential to cause, or contribute to increases in temperature or sediment levels in the Eel River. This finding is based in part on monitoring results collected during the last permit cycle. This finding is based on the Facility's monitoring data, the 100:1 dilution rate the discharge receives in the river and the summer seasonal discharge prohibition.

E. Other Plans, Polices and Regulations

1. The Discharger has storm water discharges associated with industrial activities, category "ix" as defined in 40 CFR Section 122.26(b)(14). The Discharger described storm water discharges, appropriate pollution prevention practices and best management practices in a completed Notice of Intent dated March 28, 2005 and submitted it to the State Water Board pursuant to the Statewide General Permit Program.

    a. The Discharger is currently covered under State Water Resources Control Board (State Water Board), Water Quality Order No. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS000001 (General Permit).

    b. The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPP Plan) and has implemented the provisions of the SWPP Plan. The SWPP Plan includes source identification, practices to reduce or eliminate pollutant discharge to storm water, an assessment of potential pollutant sources, a materials inventory, a preventive maintenance program, spill prevention and response procedures, general storm water management practices, employee training, record keeping, and elimination of nonstorm water discharges to the storm water system. It also includes a storm water monitoring plan to verify the effectiveness of the SWPP Plan.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations; and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

1. Discharge Prohibition III. A. The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition is based on the Basin Plan, previous Order, and State Water Board Order WQO 2002-0012 regarding the petition of WDR Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In Order WQO 2002-0012, the State Water Board found that this prohibition is acceptable in permits, but should be interpreted to apply only to constituents that are either not disclosed by the discharger or are not reasonably anticipated to be present in the discharge, but have not been disclosed by the discharger. It specifically does not apply to constituents in the discharge that do not have "reasonable potential" to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were "disclosed to the permitting authority and . . . can be reasonably contemplated." (In re the Petition of East Bay Municipal Utilities District et al., (State Water Board 2002) Order No. WQ 2002-0012, p. 24.) The case cited in that order by the State Water Board reasoned that the Discharger is liable for discharges "not within the reasonable contemplation of the permitting authority . . . , whether spills or otherwise . . . ." (Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F.3d 255, 268.) Thus, State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Discharger and (2) can be reasonably contemplated by the Regional Water Board.

The Regional Water Board has the authority to determine whether the discharge of a constituent is "reasonably contemplated." The Piney Run case makes clear that the Discharger is liable for discharges "not within the reasonable contemplation of the permitting authority . . . , whether spills or otherwise . . . ." (268 F.3d 255, 268) In other words, whether or not the Discharger reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Discharger disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of permit adoption.

2. **Discharge Prohibition III.B. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code (CWC) is prohibited.**

   This prohibition is based on CWC Section 13050.

3. **Discharge Prohibition III.C. The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.**

   This prohibition is similar to that which was included in the previous Order, which stated, "*The discharge of bark, twigs, branches, sawdust, or woodchips, is prohibited."* The current prohibition is taken from the Basin Plan. The Discharger uses waste wood products and other sources of biomass to fuel the power plant. These materials are stored outdoors, without cover. This prohibition applies to discharges associated with Discharge Point 003. Storm water discharges associated with runoff from wood waste stockpiles shall be regulated in accordance with the General Storm Water Permit.

4. **Discharge Prohibition III.D. The discharge of sludge is prohibited, except as authorized under Section VI.C.6.d. Solids Disposal and Handling Requirements.**

   This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations (40 CFR Part 503 (Biosolids) Part 527 and Part 258) and Title 27 CCR.

5. **Discharge Prohibition III.E. The discharge or reclamation of untreated or partially treated waste (receiving a lower level of treatment than described in Finding No. II.B.) from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Attachment D, Standard Provision G *[Bypass Provision]*.**

   This prohibition is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of CWC sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued a permit. This prohibition applies to, but is not limited to, sanitary sewer overflows, spills, and other unauthorized discharges of wastewater within the collection, treatment, reclamation, and disposal facilities.

6. **Discharge Prohibition III. F. The discharge of wastewater effluent from the WWTF to the Eel River or its tributaries is prohibited during the period May 15 through September 30 each year.**

   This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Eel River and its tributaries during the period May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Eel River during the period of the year when the Eel River and its tributaries experience the heaviest water-contact recreation use.

7. **Discharge Prohibition III.G. During the period of October 1 through May 14, discharges of wastewater shall not exceed one percent of the flow of the Eel River.**

   This prohibition is required by the Basin Plan (Chapter 4 Implementation Plans, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Eel River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 3 does not specify how compliance to the one-percent flow requirement will be determined. The previous permit, Order No. 99-59 does not specify how compliance to the one-percent flow requirement will be determined. The draft Order corrects this oversight and specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Discharger makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Eel River at the Scotia gage (USGS Station 11477000). This modification provides day-to-day operational flexibility for the Discharger while retaining the intent of the prohibition.

8. **Discharge Prohibition III.H. The discharge of waste to land that is not owned by or under agreement to use by the permittee is prohibited.**

   Land used for the application of wastewater must be owned by, or be under the control of, the Discharger by contract so that the Discharger maintains a means for ultimate disposal of treated wastewater.

9. **Discharge Prohibition III.I. The discharge of waste at any point not described in Finding II.B. or authorized by any State Water Board or other Regional Water Board permit is prohibited.**

This prohibition is a general prohibition that allows the Discharger to discharge waste only in accordance with waste discharge requirements. It is based on Sections 301 and 402 of the federal CWA and CWC Section 13263.

10. **Discharge Prohibition III. J. Flow of waste into the Discharger's WWTF in excess of 0.77 MGD, is prohibited.**

    This prohibition is based on the maximum hydraulic capacity of the wastewater treatment plant. The actual treatment capacity of the wastewater treatment plant shall be evaluated during this permit cycle, and design flow limitations will be adjusted accordingly during the next renewal process.

B. Technology-Based Effluent Limitations

1. Scope and Authority

a. The Clean Water Act requires that technology-based effluent limitations be established based on several levels of controls:

   i Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.

   ii Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.

   iii Best conventional pollutant control technology (BCT) represents the level of control from existing industrial point sources of conventional pollutants, including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the cost reasonableness of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

   iv New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of

NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

b. The Clean Water Act requires the USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS for specific industrial categories. Section 301(b)(1)(B) of the Clean Water Act requires that POTWs, at a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator. Pursuant to section 304(d) of the Clean Water Act, the USEPA established the minimum performance requirements for POTWs at Part 133 of the Code of Federal Regulations. Secondary treatment standards constitute BPT, the minimum effluent limitations for point source discharges. In developing secondary treatment standards, USEPA was required to take into account specific factors identical to those requiring consideration in developing limits, including cost/benefits, age of equipment, process employed, engineering aspects, and non-water quality environmental impacts. (33 U.S.C. § 1314(b)(1)(B).)

c. Where the USEPA has not yet developed ELGs for a particular industry or a particular pollutant, section 402 (a)(1) of the Clean Water Act and 40 CFR section 125.3 authorize the use of best professional judgment to derive technology-based effluent limitations on a case-by-case basis.

d. Regulations promulgated in 40 CFR section 125.3(c)(2) require the permit writer to consider: 1) the appropriate technology for the category or class of point sources of which the applicant is a member; and 2) any unique factors relating to the applicant.

e. The Town of Scotia WWTF is in the same category or class of point source dischargers as a POTW. The Town of Scotia WWTF is not a POTW because it is currently privately owned; however, the waste stream associated with processes at the WWTF are identical to waste streams associated with POTWs, providing treatment of domestic waste to the entire town of Scotia including residential, commercial, and industrial users.

f. 40 CFR section 125.3(c)(2) requires the permit writer to apply the appropriate factors listed in 40 CFR section 125.3(d), including cost of application of technology, age of equipment, process employed, engineering aspects, process changes, and non-water quality environmental impacts. In promulgating secondary treatment standards for POTWs, USEPA applied these factors.

Our evaluation indicates the costs associated with providing conventional secondary treatment at this facility are offset by the existing control measures at the WWTF. Existing engineered control measures include primary and secondary clarifiers, a trickling filter, and treatment ponds. Although these facilities have been in place for decades, the WWTF is capable of treatment that routinely achieves concentrations of conventional pollutants in compliance with secondary treatment requirements. Failure to meet the 85 percent reduction criteria appears to be related to dilute influent, not problems with the WWTF. WWTF inspections have shown no indications that the facilities are not functioning in accordance with the engineered deign. Therefore, in the absence of information to the contrary, we have no reason to expect the need for process changes to achieve secondary treatment standards. There are no reports of excessive non-water quality impacts resulting from current WWTF treatment operations. Accordingly, Regional Board staff find it appropriate that the BPT for the Town of Scotia WWTF be consistent with POTW regulations for municipal wastewater treatment plants.

g. USEPA developed secondary treatment regulations, which are specified in section 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH, as follows:

   i. BOD and Suspended Solids

      a) The 30-day average shall not exceed 30 mg/l.
      b) The 7-day average shall not exceed 45 mg/l.
      c) The 30-day average percent removal shall not be less than 85 percent.

   ii. pH

      a) The pH shall be maintained within the limits of 6.0 to 9.0.

      The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan Table 3-1.

h. In addition, 40 CFR section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in permits, except, 1) for pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass, and (2) when applicable standards and limitations are expressed in terms of other units of measure.

i. Technology-based effluent limitations for coliform bacteria for secondary effluent discharges to the percolation ponds, which have been retained from the previous Order, reflect standards adopted by the Department of Health Services for secondary treated recycled water in title 22 of the California Code of Regulations.

j. High levels of settleable solids can have an adverse effect on aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of settleable solids. The Eel River and its tributaries are 303(d) listed for sediment and settleable solids is one aspect of the sediment impairing the Eel River. These limitations are a typical standard of performance for secondary treatment facilities and are included as a limitation based on the BPJ of Regional Water Board staff.

2. Applicable Technology Based Effluent Limitations – Power Plant

Pursuant to CWA Section 306 (b)(1)(B), USEPA has established standards of performance for the steam electric power point source category, for existing and new sources at 40 CFR Part 423. The provisions of 40 CFR Part 423 are applicable to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. Although the fuel at the Town of Scotia steam electric power plant (power plant) is primarily composed of wood waste materials from milling operations rather than petroleum based products, many of the waste streams associated with processes at the power plant are substantially similar, if not identical to waste streams associated with power plants fueled by petroleum products. In addition, the Scotia power plant currently sells excess power to PG&E. In addition, similar to plants that do sell power, the Scotia power plant provides electricity to the entire Town of Scotia including residential, commercial, and industrial uses. Based on the BPJ, regulations have been applied to the power plant only for waste streams consistent with activities designated under 40 CFR Part 423. Waste streams identified under 40 CFR Part 423 not consistent with activities occurring at the Town of Scotia facility have not been included in Order R1-2006-0020.

Following are applicable technology-based standards of performance (BPT and BAT) applicable to the power plant from the ELGs for existing sources at 40 CFR 423. The guidelines do not include standards of performance based on BCT.

a. Standards of Performance Based on BPT

i. The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 – 9.0 standard units [40 CFR 423.12 (b) (1)].

ii. Low volume wastes are defined as those non-cooling wastewater sources for which specific limitations are not established by the effluent limitation guidelines at 40 CFR 423. The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of the low volume waste sources times the concentration listed in the following table [40 CFR 423.12 (b) (3)]:

Pollutant	Daily Max (mg/L)	30 Day Avg (mg/L)
Total Suspended Solids	100	30
Oil and Grease	20	15

iii. At the permitting authority's discretion, the pollutant discharge limitation may be expressed as concentration-based limitations instead of the mass-based limitations [40 CFR 423.12 (b) (11)]. The Regional Water Board has elected to apply concentration-based limitations for low volume wastes.

b. Standards of Performance Based on BAT

i. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid [40 CFR 423.13 (a)].

ii. Blow-down is defined as the minimum discharge of re-circulated water for the purpose of discharging materials contained in the water, the further build-up of which would cause concentration in amounts exceeding limits established by best engineering practices. The quantity of pollutants discharged from in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blow-down from each discharge point times the concentration listed in the following table [40 CFR 423.13 (d) (1)]:

Pollutant	Maximum (mg/L)	Average (mg/L)
Free Available Chlorine	0.5	0.2

Pollutant	Daily Max (mg/L)	30 Day Avg (mg/L)
Chromium, Total	0.2	0.2
Zinc, Total	1.0	1.0

Pollutant	Daily Max (mg/L)	30 Day Avg (mg/L)
126[5] Priority Pollutants[6]	No Detectable Amount5	No Detectable Amount

iii. Once-through cooling water is defined as water, which is passed through the main cooling condensers in one or two passes for the purpose of removing waste heat. For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged from once through cooling water sources shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table [40 CFR 423.13 (b) (3)]:

Pollutant	Maximum Concentration (mg/L)
Total Residual Chlorine	0.20

iv. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control [40 CFR 423.13 (b) (2)].

v. At the permitting authority's discretion, the BAT pollutant discharge limitation may be expressed as concentration-based limitations instead of the mass-based limitations [40 CFR 423.13 (g)]. The Regional Water Board has elected to apply concentration-based limitations for cooling tower blowdown.

3. Applicable Technology Based Effluent Limitations – WWTF

The following table summarizes concentration-based final effluent limitations derived from 40 CFR 133.102, that are applicable to the Town of Scotia WWTF discharge to the storage pond:

Summary of Technology-based Effluent Limitations

Parameters	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen	mg/L	30	45	60

[5] Applies to those pollutants contained in chemicals added for cooling tower maintenance except Total Chromium and Total Zinc.
[6] Appendix A to 40 CFR Part 423.

Parameters	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Demand 5-day @ 20°C	lbs/day	64	96	129
Total Suspended Solids	mg/L	30	45	60
	lbs/day	64	96	129
Percent Removal	%	85% Removal	---	---
Settleable Solids	ml/L	0.1	---	0.2
Total Coliform	MPN	23	---	230

The concentration based effluent limitations for BOD and suspended solids in the proposed Permit are derived from federal requirements (40 CFR 133.102).

Secondary treatment requirements are defined by the USEPA as achievement of 30 mg/l BOD and suspended solids and 85 percent removal of these pollutants on a 30-day average. These limits were based on typical WWTF influent concentrations of 200 mg/l BOD and suspended solids.

c. Percent Removal. This is a standard secondary treatment technology-based effluent limitation derived from federal requirements (40 CFR 133.102; definition in 133.101).

Percent removal for BOD and total suspended solids shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses for the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. Beneficial Uses. Applicable beneficial uses excerpted from the Basin Plan are presented in the Findings of Order No. R1-2006-0020 and Section III.C.1.a. of this Fact Sheet.

b. Basin Plan Water Quality Objectives. In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Eel River.

c. State Implementation Policy (SIP), CTR and NTR.
Water quality criteria applicable to the discharge to the Eel River are included in the NTR and the CTR, which contain numeric criteria for most of the 126 priority pollutants, and indicates that such criteria will be developed for the remaining criteria at a future date.

Aquatic life freshwater and saltwater criteria are further identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or one-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation.

Human health criteria are further identified as “water and organisms” and “organisms only.” The criteria from the “water and organisms” column of CTR were used for the preliminary reasonable potential analysis because the Basin Plan identifies that the receiving water, the Eel River is a source of municipal and domestic drinking water supply. The human health criteria are used to calculate human health effluent limitations.

The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Results of the reasonable potential analysis, water quality criteria and effluent limitation are presented in the following sections. A summary of the Reasonable Potential Analysis for all 126 priority pollutants is presented in Attachment F-1.

5. Determining the Need for WQBELs

a. Non-Priority Pollutants

i. **Chlorine Residual**. Order No. R1-2006-0020 contains an Effluent Limitation at Discharge Point 003 for total chlorine residual prior to surface water discharge. The Order specifies that the discharge shall at no time show detectable chlorine residual. This effluent limitation is based on the Basin Plan narrative water quality objectives for toxicity and chemical constituents. This effluent limitation is included to ensure that a wastewater dechlorination step removes all detectable chlorine residual for the protection of aquatic beneficial uses of the receiving water. The Regional Water Board views any chlorinated discharge as having the potential to contribute to an exceedance of the Basin Plan's narrative toxicity objective – all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life. The USEPA recommends a 4-day average (chronic) chlorine concentration of 0.01 mg/L for protection of fresh water aquatic life and a 1-hour (acute) concentration of 0.02 mg/L. [Quality Criteria for Water 1986 (The Gold Book), EPA 440/5-86-001 (May 1, 1986)]. These concentrations are, in effect, non-detectable concentrations by the common amperometric analytical method used for the measurement of chlorine; and therefore, the Regional Water Board has established an ND (not detected) level of chlorine as an effluent limitation for this discharge.

Dechlorination is not required when discharging to the percolation ponds.

ii. **pH.** Table 3-1 of the Basin establishes pH limits for discharge to the Eel River as 6.5 to 8.5. These limits are more restrictive than the federal standards. Basin Plan requirements have been applied only during the discharge season. The federal standards will be used during periods of discharge to the percolation ponds.

b. Priority Pollutants

The SIP Section 1.3 requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis. Sufficient effluent and ambient data are available to conduct a complete RPA for the

Facility. The Discharger collected two sets of priority pollutant data in December 2001 and April 2002.

Some freshwater water quality criteria for metals are hardness dependent; i.e., as hardness decreases, the toxicity of certain metals increases, and the applicable water quality criteria become correspondingly more stringent. For the reasonable potential analysis, a receiving water hardness concentration of 73 mg/L $CaCO_3$ was selected based on receiving water data submitted by the Discharger. The use of the lowest receiving water hardness concentration provides the most protective approach for determining which parameters to require effluent limitations for, for the protection of aquatic life in the receiving stream.

To conduct the reasonable potential analysis, Regional Water Board staff identified the maximum observed effluent (MEC) and background (B) concentrations for each priority, toxic pollutant from receiving water and effluent data provided by the Discharger and compared this data to the most stringent applicable water quality criterion (C) for each pollutant from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303 (d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

The RPA was performed for the priority pollutants for which effluent data were available.

c. Reasonable Potential Determination

Reasonable Potential Analysis: Based on analysis of effluent samples collected from sample locations 003 on December 13, 2001 and April 15, 2002, the Regional Board, using methods presented in the SIP, finds that

neither discharge demonstrates reasonable potential to cause or contribute to in-stream excursions above any applicable water quality standards. Therefore, water quality based effluent limitation (WQBEL) are not established by this Order for priority pollutants.

6. Whole Effluent Toxicity (WET)

Effluent limits for whole effluent toxicity (WET), acute or chronic, protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. There are two types of WET tests - acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses in aquatic organisms. Detrimental response includes, but is not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. The existing Order contains acute toxicity limitations in accordance with the Basin Plan, which requires that average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

In addition to the Basin Plan requirements, Section 4 of the SIP states that chronic toxicity effluent limitations are required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Discharges from Discharge Point 003 may contribute to long-term toxic effects within the receiving water; however, no chronic toxicity data are available for this discharge. In accordance with the SIP, therefore, the Discharger will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary.

D. Final Effluent Limitations

1. Final Effluent Limitations – Discharge Point 003

The discharge of stored wastewater shall comply with the following effluent limitations at Discharge Point 003, with compliance measured at Monitoring Location 003 as described in the attached Monitoring and Reporting Program (Attachment E).

a. Wastewater discharged to the Eel River shall not contain detectable levels of total chlorine using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/l.

b. The discharge of stored wastewater shall not contain any measurable settleable solids.

c. There shall be no acute toxicity in the effluent when discharging to the Eel River as measured at Discharge Point 003. The Discharger will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following:
   i. Minimum for any one bioassay: 70 percent survival
   ii. Median for any three or more consecutive bioassays: at least 90 percent survival

   Compliance with this effluent limitation shall be determined in accordance with Section V.A. of the attached Monitoring and Reporting Program (Attachment E).

d. The pH of all discharges shall not be below 6.5 nor above 8.5.

2. Final Effluent Limitations – Discharge Point 012(A/B)

a. The disinfected effluent, sampled at Monitoring Location 012(A) as described in the attached Monitoring and Reporting Program (Attachment E) shall not contain concentrations of total coliform bacteria exceeding the following concentrations:

   i. The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, using the bacteriological results of the last 30 calendar days for which analyses have been completed.
   ii. The number of coliform bacteria shall not exceed an MPN of 230 per 100 milliliters.

b. A minimum chlorine residual of 1.5 mg/L shall be maintained at the end of the disinfection process.

c. The treated wastewater shall be adequately oxidized and disinfected as defined in Title 22, Division 4, Chapter 3, California Code of Regulations (CCR).

d. The discharge of secondary treated wastewater, as defined by the WWTF's treatment design and the numerical limitations below, shall comply with the following effluent limitations at Discharge Point 012**,** with compliance measured at Monitoring Location 012(B) as described in the attached Monitoring and Reporting Program (Attachment E).

Parameter	Units	Effluent Limitations 012(B)				
		Average Monthly[7]	Average Weekly[8]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	60	--	--
	lbs/day[9][10]	64	96	129	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day	64	96	129	--	--

[7] The arithmetic mean of all daily determinations made during a calendar month. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar month when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the monthly average.

[8] The arithmetic mean of all daily determinations made during a calendar week, Sunday to Saturday. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar week when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the weekly average.

[9] Mass based effluent limitations presented here are based on an average flow rate of 0.257 MGD. During wet weather periods, when the effluent flow rate exceeds 0.257 MGD, mass limitations shall be calculated using the actual daily average effluent flow rate [mass based limitation (lbs/day) = 8.34 x C x Q, where C = the concentration based limitation (mg/L) and Q = the actual effluent flow (MGD)]. In no circumstances shall mass based limitations for BOD_5 and TSS be based on an effluent flow greater than 0.72 MGD, which is the peak hydraulic capacity of the facility.

[10] The mass discharge (lbs/day) shall be determined using the following equation.

$$\frac{8.34}{N} \sum_{i}^{N} Q_i \, C_i$$

Where N is the number of samples analyzed in the monitoring period. Q_i and C_i are the flow rate (MGD) and the pollutant concentration (mg/L), respectively, which are associated with each of the N grab samples collected in that calendar day, week, or month. If a composite sample is taken, C_i is the concentration measured in the composite sample, and Q_i is the average flow rate during the period in which samples were composited.

Parameter	Units	Effluent Limitations 012(B)				
		Average Monthly[7]	Average Weekly[8]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Standard Units	--	--	--	6.5	8.5

a. Percent Removal[11]: The average monthly percent removal of BOD (5-day 20°C) and total suspended solids shall not be less than 85 percent as measured at Monitoring Location 012(B). Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period. (CFR 133.101(j)).

3. Final Effluent Limitations – Discharge Point 013

a. The discharge of low volume waste as defined by 40 CFR § 423.12 from back-flushing multimedia filters, shall maintain compliance with the following effluent limitations at Discharge Point Serial Number 013. Compliance shall be measured at Monitoring Location Discharge Serial Number 013 as described in the attached Monitoring and Reporting Program (Attachment E).

Parameter	Units	Effluent Limitations 013			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/L	30	100		
Oil and grease	mg/L	15	20		
Polychlorinated Biphenyls	ug/L	---	No Detectable Amount	---	---
pH	Standard Units	----	----	6.0	9.0

4. Final Effluent Limitations – Discharge Point 014 (A/B)

a. The discharge of recirculated cooling water blowdown as defined by 40 CFR § 423.13 shall comply with the following effluent limitations at

[11] During the interim period between June 16, 2006 and April 16, 2011, compliance with percent removal shall be measured at Discharge Serial Number 003.

Discharge Points Serial Number 014. Compliance shall be measured at Monitoring Location Discharge Serial Numbers 014 A and B as described in the attached Monitoring and Reporting Program (Attachment E).

Parameter	Units	Effluent Limitations 014(A/B)			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Free Available Chlorine	mg/l	0.2	0.5	---	---
126 Priority Pollutants	ug/L	---	No Detectable Amount[12]	---	---
Chromium, Total	mg/L	0.2	0.2	----	----
Zinc, Total	mg/L	1.0	1.0	----	----
Polychlorinated Biphenyls	ug/L	---	No Detectable Amount	---	---
pH	Standard Units	----	----	6.0	9.0

5. Final Effluent Limitations – Discharge Point 015

a. The discharge of boiler blowdown, low volume waste, as defined by 40 CFR § 423.12 shall maintain compliance with the following effluent limitations at Discharge Point Serial Number 015. Compliance shall be measured at Monitoring Location Discharge Serial Numbers 015 as described in the attached Monitoring and Reporting Program (Attachment E).

Parameter	Units	Effluent Limitations 015			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/l	30	100		
Oil and grease	mg/L	15	20		
Polychlorinated Biphenyls	ug/L	---	No Detectable Amount	---	---
pH	Standard Units	----	----	6.0	9.0

[12] Does not apply to total chromium or total zinc concentrations

6. Final Effluent Limitations – Discharge Point 016

a. The discharge of once-through condenser cooling water as defined by 40 CFR § 423.13 shall maintain compliance with the following effluent limitations at Discharge Point Serial Number 016. Compliance shall be measured at Monitoring Location Discharge Serial Numbers 016 as described in the attached Monitoring and Reporting Program (Attachment E).

Parameter	Units	Effluent Limitations 016			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine residual	mg/l	---	0.2	----	----
Polychlorinated biphenyls	ug/l	---	No detectable amount	---	---
pH	Standard Units	----	----	6.0	9.0

E. Interim Effluent Limitations

This section of the standardized permit form is not applicable.

F. Land Discharge Specifications

This section of the standardized template is not applicable to Town of Scotia.

G. Reclamation Specifications

This section of the standardized template is not applicable to Town of Scotia.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations contained in this permit are derived from Chapter 3 of the Basin Plan. Several of the receiving water limitations were modified to more accurately reflect Basin Plan objectives for inland surface waters, enclosed bays, and estuaries contained in Chapter 3 of the Basin Plan. Narrative receiving water limitations that were modified include V.A.4. (pH), and V.A.13 (pesticides) and receiving water limitation V.A.16 (chemical constituents) was added. Narrative receiving water limitations for other water quality objectives identified in Chapter 3 of the Basin Plan remain unchanged from the existing permit and are included in the draft Permit. The following paragraphs explain several significant receiving water limitations.***)***

B. Groundwater

Groundwater limitations included in the proposed draft Permit were derived from Water Quality Objectives for Groundwaters contained in Chapter 3 of the Basin Plan.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires all NPDES Orders to specify recording and reporting of monitoring results. CWC Sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

C. Influent Monitoring

NPDES regulations at 40 CFR 133 define secondary treatment to include 85 percent removal of BOD_5 and TSS during treatment. Monitoring of influent for these pollutant parameters, in addition to effluent, is required to monitor compliance with this standard of performance.
Influent flow monitoring is required to monitor the water balance during treatment, and thereby, monitor seepage/percolation to ground water. The amount of hauled septage received by the treatment facility must also be recorded and reported to understand impacts, which this waste stream may have on facility operation.

D. Effluent Monitoring

Monitoring for the following pollutants and pollutant parameters in Discharger's effluent is required to determine compliance with effluent limitations established by Order No. R1-2006-0020: flow, BOD_5, TSS, settleable solids, pH, chlorine, coliform bacteria, acute toxicity, oil and grease. Chronic toxicity monitoring is required to determine compliance with the Basin Plan's narrative water quality objective for toxicity; and priority pollutant monitoring is required during the Order term to determine compliance with technology based effluent limitations, water quality objectives for toxics established by the NTR, CTR, and the Basin Plan.

E. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period, and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order includes effluent limitations and monitoring requirements for acute toxicity, as well as monitoring requirements for chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity.

F. Receiving Water Monitoring

1. Surface Water

To assess compliance with water quality objectives for toxics from the NTR, CTR, and the Basin Plan, receiving water must be analyzed one time in the Order term, during a dry weather period, for the priority, toxic pollutants. Receiving water hardness and pH must be monitored during dry and wet weather periods so that water quality objectives, which are sensitive to hardness or pH, can be properly adjusted.

2. Groundwater

Routine ground water monitoring is not required by order no. R1-2006-0020; however a ground water and surface water study is required to assess the hydrologic connection of local ground water to the Eel River.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES Order, are provided in Attachment D to the Order. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, and 307 of the CWA and amendments thereto are applicable to the Discharger

B. Special Provisions

1. Reopener Provisions

Provision VI.C.1 contains a reopener provision. The Regional Water Board may reopen the Order to modify Order conditions and requirements. Causes for modifications include demonstration that the Discharger is causing or significantly contributing to adverse impacts to water quality and/or beneficial uses of receiving waters; new interpretation of water quality objectives of the Basin Plan; or if effluent monitoring or other new information demonstrates reasonable potential for any pollutant or pollutant parameter with applicable water criteria established by the NTR, CTR, or Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Treatment Capacity

The Town of Scotia WWTF was fist constructed sometime in the early to mid 1950s. Subsequent to original construction, additional features, such as the treatment ponds have been incorporated into the treatment train. Actual flows exiting the treatment train and the biological treatment capacity of the current WWTF configuration are unknown. The Discharger will conduct a study to determine the treatment capabilities of the WWTF. Results from this study will be used to calculate and report WWTF design flow.

b. Hydrogeologic Study

The Regional Water Board has issued permits allowing seasonal and year-round discharges to percolation and/or treatment ponds adjacent or within stream channels. These discharges are typically regulated as

discharges to land and are not held to the same standards as discharges directly to surface waters. These ponds are often sited in permeable gravels and are operated and maintained in order to facilitate wastewater percolation. Over the past few years, staff have identified evidence of pollutants reaching surface water from some of these percolation ponds. The Regional Water Board and USEPA now consider the conveyance or discharge of pollutants to surface water via subsurface pathways (e.g., groundwater or seepage through the soil column) as a discharge to waters of the U.S., subject to all Basin Plan requirements, NPDES permitting requirements pursuant to Section 301 of the CWA, as well as to all waste discharge requirements established by the Regional Water Board pursuant to Section 13263 of the CWC. In order to comply with applicable regulations, some facilities with ponds adjacent to surface waters may need to implement facility modifications. It is appropriate to provide a reasonable time schedule for the proper evaluation of potential discharges, possible alternatives, and implementation for any necessary modifications.

3. Best Management Practices and Pollution Prevention

The Regional Water Board includes standard provisions in all NPDES Orders requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation and Maintenance Specifications

40 CFR 122.41 (e) requires proper operation and maintenance of Permitted wastewater systems and related facilities to achieve compliance with Order conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.5.a.i. of the Order, is an integral part of a well-operated and maintained facility.

C. Compliance Schedules

This section of the standardized permit form is not applicable.

D. Special Provisions for Municipal Facilities

The Regional Water Board includes standard provisions in all NPDES Orders for municipal wastewater treatment facilities regarding wastewater collection systems, sanitary sewer overflows, source control, sludge handling and disposal, operator certification, and adequate capacity. These provisions

assure efficient and satisfactory operation of municipal wastewater collection and treatment systems.

1. Wastewater Collection System (ProvisionVI.C.6.a)

The USEPA has prepared a draft proposed rule intended to address the control of sanitary sewer overflow from municipal wastewater collection systems. The core requirement in the draft Rule is for proper system management under the framework of "CMOM." The proposed CMOM (for Capacity, Management, Operations and Maintenance) rule was to be published in the Federal Register by late 2002, after final review by the federal executive branch. The intent of the Rule is to eliminate "preventable" SSOs by requiring entities to implement appropriate capacity, management, operations, and maintenance practices. The Order conditions under the proposed draft rule will be derived from the Clean Water Act sections 304(i), 308, and 402(a).

A CMOM program is a structured program for managers of wastewater collection system to optimize system performance and maintain their facilities. CMOM is an iterative process of evaluating and improving procedures for managing collection systems and ensuring system performance. Under United States Environmental Protection Agency's (EPA's) draft proposed sanitary sewer overflow (SSO) Rule, collection system utilities must meet five performance standards:

- Properly manage, operate and maintain all parts of the collection system;
- Provide adequate conveyance capacity;
- Reduce the impact of any SSOs;
- Provide notification to parties who may be exposed to a SSO; and
- Document the CMOM program in a written plan.

The State Water Resources Control Board is moving forward with implementation of the proposed federal rule, but has of yet not promulgated statewide regulations. Nevertheless, proper management of the municipal wastewater collection system is an integral component of a properly operating publicly owned treatment works as required by 40 CFR 122.41 (e). The Order incorporates many of the goals of the EPA's proposed CMOM program.

2. Sanitary Sewer Overflows (Provision VI.C.6.b)

The Order contains provisions that require development and implementation of a management, operation, and maintenance program for its wastewater collection system and clearly identifies the reporting requirements for sanitary sewer overflows. The goal of these provisions is to ensure appropriate and

timely response by the Discharger to sanitary sewer overflows to protect public health and water quality. The Plan also includes provisions to ensure adequate notifications are made to the appropriate local, state, and federal authorities.

3. Pretreatment of Industrial Waste (Provision VI.C.6.c)

Based on a lack of data to confirm the treatment capabilities of the WWTF, it is unclear if the secondary treatment processes are able to cope with chemical, biological and/or hydraulic loading associated with industrial wastes and/or septage. This permit requires tracking of industrial and septage wastes entering the WWTF in order to better assess implications of these waste streams on the treatment system and effluent discharges.

4. **Sludge Requirements (Provision VI.C.6.d)**

The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, the State Water Board promulgated provisions of Title 27, Division 2, of the California Code of Regulations. The Discharger has indicated that that all screenings, sludges, and solids removed from the liquid waste stream are currently stored in a dewatering trench adjacent to the Eel River. Potential discharges from this trench area will either be studied in accordance with Order R1-2006-0020 Provision VI.C.2.b.i. or alternative handling practices identified in accordance with Provision VI.C.2.b.ii.

5. Operator Certification

This provision requires the WWTF to be operated by supervisors and operators who are certified as required by Title 23, CCR, Section 3680.

6. **Adequate Capacity**

The goal of this provision is to ensure appropriate and timely planning by the Discharger to ensure adequate capacity for the protection of public health and water quality. The biological and hydraulic capacity of the WWTF are undefined. Order R1-2006-0020 requires the discharger to conduct and engineering study in accordance with Provision VI.C.2.a.

7. Storm Water

This provision requires the Discharger to comply with the State's regulations relating to regulation of industrial storm water activities. Order R1-2006-0020

requires the discharger to conduct and engineering study in accordance with Provision VI.C.7.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Town of Scotia. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the publication in the Eureka Times Standard on March 17, 2006 and through posting on the Regional Water Board's Internet site at http://www.waterboards.ca.gov/northcoast/agenda/pending.html beginning on March 17, 2006. Upon receipt of comments one substantial change was made, removing interim effluent limitations for technology based effluent parameters. A second notification was published in the Eureka Times Standard and through posting on the Regional Water Board's Internet site on April 25, 2006.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address above on the cover page of this Order.

In order to receive a full evaluation and response from staff and to be considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on April 17, 2006. Comments received by April 17, 2006 resulted in a single substantial change. The public comment period reopened on April 25, 2006. In order to receive a full evaluation and response from staff and to be considered by the Regional Water Board, written comments on the substantial change must be received at the Regional Water Board offices by 5:00 p.m. on May 25, 2006

C. **Public Hearing**

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: June 20 or 21, 2006
Time: 09:00 am
Location: Regional Water Board Hearing Room
5550 Skylane Boulevard, Suite, A, Santa Rosa

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is **http://www.waterboards.ca.gov/northcoast/** where you can access the current agenda for changes in dates and locations.

D. **Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. **Information and Copying**

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling **(707) 576-2220.**

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Lisa Bernard at lbernard@waterboards.ca.gov or (707) 576-2677.