

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0063

NPDES NO. CA0034841

WASTE DISCHARGE REQUIREMENTS

FOR

SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
SACRAMENTO INTERNATIONAL AIRPORT  
SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. The Sacramento County Department of Airports (hereafter Discharger) submitted a Report of Waste Discharge, dated 16 August 2000, and applied for a permit authorization to discharge waste from the Sacramento International Airport under the National Pollutant Discharge Elimination System (NPDES). Supplemental information to complete filing of the application was submitted on 19 March 2001. A revised Report of Waste Discharge was submitted on 1 October 2001.
2. The Sacramento International Airport discharges non-contact cooling water into their onsite stormwater collection system. The discharge then empties into a drainage that runs south along Lindbergh Drive (hereafter Lindbergh ditch). Eventually, the discharge flows into an unnamed drainage adjacent to Meister Way (hereafter Meister canal) where it seasonally mixes with agricultural irrigation water before flowing off of airport property. Once leaving the property, the discharge flows approximately one-half mile to a Reclamation District-1000 pump station that seasonally pumps it, along with runoff from adjacent agricultural land and/or irrigation water, into the Sacramento River, a water of the United States, at the point latitude 38° 39' 57" and longitude 121° 36' 46", as shown in Attachment A, a part of this Order.
3. Air-cooling for the Terminal B airport complex is provided by chiller units located in a central plant area in the basement of the Central Processing Service Building. The system was upgraded in 1988 and currently consists of two heat-exchanging chillers that utilize well water to carry away unwanted heat. The chillers are connected in series, and contain automatically controlled valves that allow for the possibility of recycling part of the cooling water based on temperature. However, a single-pass is the normal operating mode.
4. All potable water supplied to airport facilities, including the central plant, is provided by four onsite wells. Disinfection of the groundwater is provided by the injection of chlorine gas, while polyphosphates are added for iron and manganese sequestration. No additional treatment is provided.

5. The Report of Waste Discharge describes the discharge as follows:

|                            |                                   |
|----------------------------|-----------------------------------|
| Maximum Daily Flow:        | 1.5 million gallons per day (mgd) |
| Maximum Daily Temperature: | 23.0 °C (73.4 °F), Summer         |
| pH:                        | 8.0 std. units                    |

| <u>Constituent</u> | <u>Concentration</u> |
|--------------------|----------------------|
| BOD (5-day, 20°C)  | <1.0 mg/l            |
| TSS                | 8.6 mg/l             |
| Ammonia, as N      | 0.32 mg/l            |

6. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.
7. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.
8. The Basin Plan at page II-2.00 states: “Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan does not specifically identify beneficial uses for the Lindbergh ditch, Meister canal, or downstream drainages, but the Basin Plan does identify present and potential uses for the Sacramento River, to which these drainages are tributary. The Basin Plan identifies the following beneficial uses for the Sacramento River near the point of discharge: municipal and domestic supply (MUN), agricultural irrigation (AGR), body contact water recreation, canoeing and rafting (REC-1), other non-body contact water recreation (REC-2), warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), warm and cold fish migration habitat (MGR), warm and cold spawning habitat (SPWN), wildlife habitat (WILD), and navigation (NAV). The Basin Plan states on page II-1.00: “Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...” and with respect to disposal of wastewaters states that “... disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.”

In reviewing whether the existing and/or potential uses of the Sacramento River apply to the Lindbergh ditch, Meister canal, and downstream drainages, the Regional Board has considered the following facts:

a. *Domestic Supply and Agricultural Supply*

The Regional Board is required to apply the beneficial use of MUN to the Lindbergh ditch, Meister canal, and other downstream drainages based on State Board Resolution 88-63, which was incorporated into the Basin Plan pursuant to Regional Board Resolution 89-056.

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. As the Lindbergh ditch and Meister canal may at times be dry, it is reasonable to assume that the stream water is lost by evaporation, flow downstream, and percolation to groundwater providing a source of municipal and irrigation water supply.

The State Water Resources Control Board (State Board) has issued water rights to existing water users along the Sacramento River downstream of the discharge for domestic and irrigational uses. Also, riparian rights to water in the downstream drainages likely exist. During periods of hydraulic continuity (seasonal pumping), the discharge adds to the water quantity and may impact the quality of water flowing downstream in the Sacramento River. In addition to existing water uses, growth in the area downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water downstream of the discharge.

b. *Water Contact and Noncontact Recreation and Esthetic Enjoyment*

The Regional Board finds that the discharge flows through residential and agricultural areas, and that there is ready public access to the Meister canal, downstream drainages, and the Sacramento River. Prior to its discharge into the Sacramento River, the Meister canal and downstream drainages flow through areas of general public access and active agricultural fields. As such, exclusion of the public is unrealistic. The Sacramento River also offers many recreational opportunities.

c. *Preservation and Enhancement of Fish, Wildlife and Other Aquatic Resources*

The Lindbergh ditch, Meister canal, and downstream drainages flow to the Sacramento River. The California Department of Fish and Game (DFG) has verified that the fish species present in the Sacramento River are consistent with both cold and warm water fisheries and that there is a potential for anadromous fish migration necessitating a cold water designation. The Basin Plan (Table II-1) designates the Sacramento River as being both a cold and warm freshwater habitat. Clean Water Act (CWA) Section 101(a) establishes an interim goal of protecting fish and wildlife and recreation uses, i.e., the “fishable/swimmable” goal. The State is required to protect fish and wildlife and recreation uses unless it specifically removes those uses in compliance with the federal regulations at 10 CFR 131.10.

Upon review of the flow conditions, habitat values, and beneficial uses of the Lindbergh ditch, Meister canal, and downstream drainages, and the facts described above, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River are applicable to the Lindbergh ditch, Meister canal, and downstream drainages.

The Regional Board also finds that based on the available information and on the Discharger's application, that the Lindbergh ditch and Meister canal, absent the discharge, are ephemeral streams. The ephemeral nature of the Lindbergh ditch and Meister canal means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the Lindbergh ditch and Meister canal help support the aquatic life. Both conditions may exist within a short time span, where the Lindbergh ditch and Meister canal would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the Sacramento River. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

The State Board recently adopted Order WQ 2002-0015 (Vacaville Order), which provided guidance on implementing Basin Plan beneficial use designations and resulting limitations to protect these uses. Some of the issues addressed by the State Board Order may be relevant to the Sacramento International Airport's situation. Specifically, to the extent that there is information in the administrative record that indicates specific receiving water designated uses do not exist and are likely not to be attained in the future, Regional Board staff has included compliance schedules and interim limits to provide time for these uses to be fully evaluated and changed if appropriate. The State Board Order clarifies that the Discharger bears the responsibility for providing the information to support this evaluation. Consequently, the Regional Board encourages the County to expeditiously begin the process of developing this information for any of the beneficial uses listed above that you believe fit this situation. To the extent that beneficial use designation/designation issues are relevant in this case, Sacramento County should begin evaluating available alternatives (increased treatment, relocating the outfall, studies to support dedesignating uses, etc.) for the discharge to determine the most cost efficient course of action.

9. The beneficial uses of the underlying groundwater are municipal and domestic, industrial service, industrial process, and agricultural supply.
10. The Sacramento River, in the vicinity of the discharge, has been listed as an impaired waterbody pursuant to Section 303(d) of the Clean Water Act because of: (1) diazinon, (2) mercury, and (3) unknown toxicity.
11. USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan (SIP)), which contains guidance on implementation of the *National Toxics Rule* and the *California Toxics Rule*.

12. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. This Order contains a provision that:
  - a. Requires the Discharger to conduct a study to provide information as to whether the levels of NTR, CTR, or other pollutants in the discharge have the reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives and NTR and CTR pollutants;
  - b. If the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, requires the Discharger to submit information to calculate effluent limitations for those constituents; and
  - c. Allows the Regional Board to reopen this Order and include effluent limitations for those constituents.

On 5 November 2001 the Executive Officer issued a letter, in conformance with California Water Code (CWC) Section 13267, requiring the Discharger to prepare a technical report assessing effluent and receiving water quality. A copy of that letter, including its Attachments I through IV, is incorporated into this Order as Attachment B.

A provision contained in this Order is intended to be consistent with the requirements of Attachment B in requiring sampling for NTR, CTR, and additional constituents to determine if the discharge has a reasonable potential to cause or contribute to water quality impacts. The requirements contained in Attachment B list specific constituents, detection levels, acceptable time frames, and report requirements. The provision contained in this Order is intended to be consistent with the requirements of the technical report.

13. The Regional Board finds that there is a reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for chlorine, specifically the “narrative toxicity objective” in the Basin Plan. Chlorine gas is injected into the potable water supply that serves all airport facilities, including the central plant, and is applied at a rate to maintain a residual of 1.0 mg/l in the distribution system. Chlorine is known to cause toxicity to aquatic organisms when discharged to surface waters.

USEPA recommends, in its Ambient Water Quality Criteria for the Protection of Fresh Water Aquatic Life, that chlorine concentrations not exceed 0.019 mg/l as a 1-hour average and 0.011 mg/l as a 4-day average. The use of chlorine presents a reasonable potential that it could be discharged in toxic concentrations. The federal regulations at 40 CFR Section 122.44(d)(1)(vi)(B), allows the state to establish the effluent limitation using USEPA’s water quality criteria. This Order sets effluent limitations for total residual chlorine based on the USEPA criteria, rounded to one significant figure: 0.02 mg/l as a daily maximum and 0.01 mg/l as a monthly average.

14. The Regional Board finds that there is a reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for manganese, specifically the “narrative chemical constituents objective” in the Basin Plan. Polyphosphates are injected into the groundwater supply for iron and manganese sequestration. In order to protect drinking water supplies, both the State of California and the Federal Government have adopted a secondary Maximum Contaminant Level (MCL) for manganese at 50 µg/l. A water sample collected on 13 June 2001 resulted in an effluent concentration of 130 µg/l, well above the MCL. This Order includes an effluent limitation for manganese to ensure that downstream beneficial uses are protected. The Discharger is currently unable to meet this limitation.
15. The Regional Board finds that there is a reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for total dissolved solids (TDS) and electrical conductivity (EC), specifically the “narrative chemical constituents objective” in the Basin Plan. In general, cooling water discharges have the potential to contain high concentrations of TDS and EC, both of which are measures of salt concentrations in a liquid. The Discharger adds chemicals to the water supply, such as chlorine and polyphosphates, which add to the salt load in the discharge.

Both the State of California and the USEPA have adopted secondary MCLs for TDS to protect drinking water supplies, which include a recommended value of 500 mg/l, an upper limit of 1,000 mg/l, and a short-term concentration limit of 1,500 mg/l. The agricultural water quality goal for TDS is 450 mg/l as a long-term average. Results of monitoring conducted on 26 September 2000, 7 March 2001, and 13 June 2001 indicate effluent TDS concentrations of 650 mg/l, 487 mg/l, and 615 mg/l, respectively. The State of California has adopted secondary MCLs for EC to protect drinking water supplies, which includes a recommended level of 900 µmhos/cm, an upper limit of 1,600 µmhos/cm, and a short-term maximum of 2,200 µmhos/cm. Available literature indicates that irrigated agriculture is protected from salt crop damage if the EC of irrigation water remains below 700 µmhos/cm. Results of monitoring conducted on 26 September 2000 and 7 March 2001 indicate effluent EC concentrations of 988 µmhos/cm and 825 µmhos/cm, respectively.

The federal regulations at 40 CFR Section 122.44(d)(i)(vi)(B) allows the State to establish effluent limitations using the USEPA secondary MCLs and the agricultural water quality goals to implement the narrative chemical constituents objective. This Order includes effluent limitations for TDS and EC to ensure that downstream beneficial uses are protected. The Discharger is currently unable to meet these limitations.

16. The Regional Board finds that there is a reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for arsenic, specifically the “narrative chemical constituent objective” in the Basin Plan. At a minimum, water designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the MCL. Arsenic is an inorganic priority pollutant that produces harmful human health effects and is considered a carcinogen. USEPA, on 31 October 2001, adopted a new primary MCL for arsenic of 10 µg/l, effective 22 February 2002. An effluent sample collected on 13 June 2001

indicates an arsenic concentration of 29 µg/l, well above the MCL. The federal regulations at 40 CFR Section 122.44(d)(i)(vi)(B) allows the State to establish effluent limitations using the USEPA MCL to implement the narrative chemical constituents objective. The Discharger is currently unable to meet this limitation.

The compliance date for water purveyors to meet the new MCL is 23 January 2006. This Order provides a time schedule for full compliance with the arsenic limitation, by 1 April 2008, because it implements a new water quality standard adopted after 25 September 1995. The Discharger is required to regularly monitor effluent arsenic concentrations in order to evaluate progress towards full compliance with the new Primary MCL.

17. To provide adequate cooling of the Terminal B airport complex, the central plant utilizes two packaged chiller units. Each unit contains a refrigerant, R-11, to assist in the heat transfer process. Refrigerant R-11, also known as CFC-11, consists entirely of trichlorofluoromethane. Monitoring of the effluent for trichlorofluoromethane has not been conducted in the past. To ensure that this refrigerant is not leaking into the discharge, this Order requires effluent monitoring for trichlorofluoromethane to be conducted on a quarterly basis. Should this contaminant be detected in the discharge at levels that cause, have the reasonable potential to cause, or contribute to an in-stream excursion above a water quality standard, the Regional Board may reopen the permit and include effluent limitations.
18. Monitoring of the effluent for phosphorous has not been conducted in the past. Therefore, there is inadequate information available to determine whether the discharge will cause or contribute to an exceedance of water quality standards in the receiving water. A provision contained in this Order requires phosphorous monitoring of the cooling water effluent. Results of this monitoring will be used in making this determination. If information from this study indicates that phosphorous is discharged at levels that cause, have the reasonable potential to cause, or contributes to an in-stream excursion above a water quality standard, the Regional Board may reopen the permit and include effluent limitations.
19. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
20. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
21. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.

22. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is a part of this Order.
23. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
24. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
25. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

**IT IS HEREBY ORDERED** that the Sacramento County Department of Airports, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

**A. Discharge Prohibitions:**

1. Discharge of wastes, other than closed-system cooling water, at a location or in a manner different from that described in Finding No. 2 is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"].
3. The discharge shall not create a nuisance as defined in Section 13050 of the California Water Code.

**B. Effluent Limitations:**

1. Effluent shall not exceed the following limits:



| <u>Constituents</u>        | <u>Units</u> | <u>Daily<br/>Maximum</u> | <u>Monthly<br/>Average</u> | <u>Annual<br/>Average</u> |
|----------------------------|--------------|--------------------------|----------------------------|---------------------------|
| Arsenic <sup>1</sup>       | µg/l         |                          | 10                         |                           |
| Total Residual<br>Chlorine | mg/l         | 0.02                     | 0.01                       |                           |
| Electrical<br>Conductivity | µmhos/cm     | 1,600                    | 900                        | 700                       |
| Total Dissolved<br>Solids  | mg/l         | 1,000                    | 500                        | 450                       |
| Manganese                  | µg/l         |                          | 50                         |                           |

<sup>1</sup> Effective 1 April 2008.

2. The discharge shall not have a pH less than 6.5 nor greater than 8.5.
3. The 30-day average discharge flow shall not exceed 1.5 mgd.
4. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%  
 Median for any three or more consecutive bioassays - - - - 90%

**C. Sludge Disposal:**

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

**D. Receiving Water Limitations:**

With respect to the cooling water discharge, the Lindbergh ditch marks the onset of the receiving waters. Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. The Regional Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

The discharge shall not cause the following in the downstream receiving waters:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/l. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation, and the 95<sup>th</sup> percentile concentration shall not fall below 75 percent of saturation.

2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
3. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
4. Esthetically undesirable discoloration.
5. Fungi, slimes, or other objectionable growths.
6. Deposition of material that causes nuisance or adversely affects beneficial uses.
7. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
8. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
9. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
10. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted thereunder.
11. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.

**E. Provisions:**

1. The discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of NTR or CTR water quality objectives, or supplemental constituents that could exceed Basin Plan numeric or narrative water quality objectives. The constituents are specifically listed in a letter for submission of a technical report issued by the Executive Officer on 5 November 2001. A copy of that letter, including its Attachments I through IV, is incorporated into this Order as Attachment B. Based on this requirement, the Discharger must comply with the following time schedule in conducting a study of these constituents potential effect in surface waters:

| <u>Task</u>                     | <u>Compliance Date</u> |
|---------------------------------|------------------------|
| Submit Study Report for Dioxins | <b>1 November 2004</b> |

This Provision is intended to be consistent with the requirements of the 5 November 2001 technical report request. The Discharger shall submit to the Regional Board on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board by letter when it returns to compliance with the time schedule.

If after review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order will be reopened and effluent limitations added for the subject constituents.

2. Effluent Limitation B.1 requires that the Discharger not discharge effluent with total arsenic in excess of 10 µg/l as a monthly average. The Discharger is currently unable to comply with this limitation. The Discharger shall comply with the following time schedule in order to study, design, and implement measures ensuring compliance with effluent arsenic limitations:

| <u>Task</u>                 | <u>Compliance Date</u>     |
|-----------------------------|----------------------------|
| Submit Workplan             | <b>1 July 2003</b>         |
| Submit Annual Update Report | <b>1 July of each year</b> |
| Achieve Full Compliance     | <b>1 April 2008</b>        |

The Discharger shall submit to the Regional Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board by letter when it returns to compliance with the time schedule.

3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2003-0063, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports to the USEPA. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

4. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
5. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if the State Board adopts a chronic toxicity water quality objective, this Order may be reopened and a limitation based on that objective included.
6. This Order expires on **1 April 2008** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
7. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Board (Division of Water Rights).
8. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

WASTE DISCHARGE REQUIREMENTS, ORDER NO. R5-2003-0063  
SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
SACRAMENTO INTERNATIONAL AIRPORT  
SACRAMENTO COUNTY

-13-

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 25 April 2003.

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THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0063

NPDES NO. CA0034841

FOR

SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
SACRAMENTO INTERNATIONAL AIRPORT  
SACRAMENTO COUNTY

The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under direction of the Board's staff, and a description of the stations shall be attached to this Order.

INFLUENT MONITORING  
(When discharging to surface waters)

Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. Influent monitoring shall include at least the following:

| <u>Constituents</u>            | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|--------------------------------|--------------|-----------------------|---------------------------|
| Chlorine Residual              | mg/l         | Grab                  | Weekly                    |
| Electrical Conductivity @ 25°C | µmhos/cm     | Grab                  | Monthly                   |
| TDS                            | mg/l         | Grab                  | Monthly                   |

EFFLUENT MONITORING  
(When discharging to surface waters)

Effluent samples shall be collected downstream from the last connection through which wastes can be admitted into the outfall. Effluent samples should be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

| <u>Constituents</u>            | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|--------------------------------|--------------|-----------------------|---------------------------|
| Chlorine Residual              | mg/l         | Grab                  | Weekly                    |
| Electrical Conductivity @ 25°C | µmhos/cm     | Grab                  | Monthly                   |

MONITORING AND REPORTING PROGRAM NO. R5-2003-0063  
 SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
 SACRAMENTO INTERNATIONAL AIRPORT  
 SACRAMENTO COUNTY

| <u>Constituents</u>         | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|-----------------------------|--------------|-----------------------|---------------------------|
| TDS                         | mg/l         | Grab                  | Monthly                   |
| pH                          | Number       | Grab                  | Monthly                   |
| Flow                        | mgd          | Meter                 | Daily                     |
| Temperature                 | °F           | Grab                  | Weekly                    |
| Dissolved Oxygen            | mg/l         | Grab                  | Monthly                   |
| Arsenic                     | µg/l         | Grab                  | Monthly                   |
| Manganese                   | µg/l         | Grab                  | Monthly                   |
| Trichlorofluoromethane      | µg/l         | Grab                  | Quarterly                 |
| Acute Bioassay <sup>1</sup> | % Survival   | Grab                  | Quarterly                 |

<sup>1</sup> Acute bioassay samples shall be analyzed using EPA/821-R-02-012, Fifth Edition, or later amendment with Regional Board staff approval. Temperature and pH shall be recorded at the time of bioassay sample collection. Test species shall be fathead minnow (pimephales promelas), with no pH adjustment unless approved by the Executive Officer.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

RECEIVING WATER MONITORING  
 (When discharging to surface waters)

All receiving water samples shall be grab samples. Receiving water monitoring shall include at least the following:

| <u>Station:</u> | <u>Description:</u>                                                                |
|-----------------|------------------------------------------------------------------------------------|
| R-1             | Meister canal, on airport property just prior to confluence with offsite drainages |

| <u>Constituents</u> | <u>Units</u> | <u>Station</u> | <u>Sampling Frequency</u> |
|---------------------|--------------|----------------|---------------------------|
| Dissolved Oxygen    | mg/l         | R-1            | Monthly                   |
| pH                  | std. units   | R-1            | Monthly                   |
| Temperature         | °F (°C)      | R-1            | Monthly                   |

| <u>Constituents</u>            | <u>Units</u> | <u>Station</u> | <u>Sampling Frequency</u> |
|--------------------------------|--------------|----------------|---------------------------|
| Electrical Conductivity @ 25°C | µmhos/cm     | R-1            | Monthly                   |
| TDS                            | mg/l         | R-1            | Monthly                   |

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions. Attention shall be given to the presence or absence of:

- |                                 |                                            |
|---------------------------------|--------------------------------------------|
| a. Floating or suspended matter | e. Visible films, sheens, or coatings      |
| b. Discoloration                | f. Fungi, slimes, or objectionable growths |
| c. Bottom deposits              | g. Potential nuisance conditions           |
| d. Aquatic life                 |                                            |

Notes on receiving water conditions shall be summarized in the monitoring report.

**THREE SPECIES CHRONIC TOXICITY MONITORING**  
 (When discharging to surface waters)

Chronic toxicity monitoring shall be conducted to determine whether the discharge is contributing toxicity to the downstream receiving waters. The testing shall be conducted as specified in USEPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/21-R-02-013. Chronic toxicity samples shall be collected of the effluent at the point of discharge. Grab samples shall be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. The effluent tests must be conducted with concurrent reference toxicant tests. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas*, *Ceriodaphnia dubia*, and *Selenastrum capricornutum*

The Discharger shall conduct chronic toxicity testing on a quarterly basis using 100% effluent and a control. The control sample is to consist of 100% lab water. If toxicity is found in any of the effluent tests, the Discharger must immediately re-test using the full sampling protocol of 5 dilutions listed below:

| Dilution Series: | <u>Dilutions (%)</u> |           |           |             |             |
|------------------|----------------------|-----------|-----------|-------------|-------------|
|                  | <u>100</u>           | <u>50</u> | <u>25</u> | <u>12.5</u> | <u>6.25</u> |
| % Effluent       | 100                  | 50        | 25        | 12.5        | 6.25        |
| % Lab Water      | 0                    | 50        | 75        | 87.5        | 93.75       |



If no toxicity is present during the initial 4 analyses, the Discharger may reduce chronic toxicity monitoring to once per year. If toxicity is found to be present during the reduced monitoring frequency, the Discharger shall immediately initiate quarterly chronic toxicity monitoring for the duration of the permit.

#### REPORTING

Monitoring results shall be submitted to the Regional Board by the **first day of the second month following sample collection**. Quarterly monitoring results shall be submitted by the **first day of the second month following each calendar quarter**.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing a statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6).

The Discharger may also be requested to submit an annual report to the Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following the effective date of this Order.

Ordered By: \_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

\_\_\_\_\_  
25 April 2003

(Date)

## INFORMATION SHEET

ORDER NO. R5-2003-0063  
SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
SACRAMENTO INTERNATIONAL AIRPORT  
SACRAMENTO COUNTY

An inspection of the Sacramento International Airport conducted by Regional Board staff in May 2000 revealed that the airport was discharging non-contact cooling water without a NPDES permit. The facility is currently covered, and must maintain coverage, under General Order No. 97-03-DWQ, a general permit for stormwater discharges associated with industrial activity. However, this permit does not cover non-stormwater discharges such as cooling water.

After being notified of the need to obtain a permit, the Sacramento County Department of Airports (SCDA) submitted an application for a NPDES permit on 18 August 2000. Additional information to complete the permit application was submitted on 1 October 2001.

### BACKGROUND

Air-cooling for the Terminal B complex is provided by chiller units located in a central plant area in the basement of the Central Processing Service Building. The system was upgraded in 1988, and currently consists of two heat-exchanging chillers that utilize well water to carry away unwanted heat. The chillers are connected in series, and contain automatically controlled valves that allow for the possibility of recycling a part of the cooling water based on temperature.

All potable water supplied to airport facilities, including the central plant, is provided by four onsite wells. Disinfection of the groundwater is provided by the addition of chlorine gas, while polyphosphates are added for iron and manganese sequestration. No additional treatment is provided.

After passing through the heat exchangers, the non-contact cooling water is discharged directly into the onsite stormwater collection system. From this point, the discharge is piped south for about 1,600 feet before emptying into an open ditch that runs south along Lindbergh Drive. Eventually, the discharge flows into an unnamed drainage adjacent to Meister Way where it seasonally mixes with agricultural irrigation water before flowing off of airport property, for a total ditch length of approximately 8,000 feet. After leaving the property, the discharge flows about one-half mile to a Reclamation District-1000 pump station that seasonally pumps it into the Sacramento River.

The County is currently preparing a Master Plan that is likely to result in the demolition of Terminal B and the elimination of this discharge within a five-year period. The chiller system would be replaced with a cooling tower system that would completely eliminate the discharge. The County is also evaluating the feasibility of converting, before the construction of the new terminal, to a cooling tower system that could have the potential to provide for even earlier abandonment of the existing cooling water system.

## BENEFICIAL USES

The Basin Plan at page II-2.00 states: “Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan does not specifically identify beneficial uses for the Lindbergh ditch, Meister canal, or downstream drainages, but the Basin Plan does identify present and potential uses for the Sacramento River, to which these drainages are tributary. The Basin Plan identifies the following beneficial uses for the Sacramento River near the point of discharge: municipal and domestic supply, agricultural irrigation, body contact water recreation, canoeing and rafting, other non-body contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, cold spawning habitat, wildlife habitat, and navigation. The Basin Plan states on page II-1.00: “Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...” and with respect to disposal of wastewaters states that “... disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.”

In reviewing whether the existing and/or potential uses of the Sacramento River apply to the Lindbergh ditch, Meister canal, and downstream drainages, the Regional Board has considered the following facts:

a. *Domestic Supply and Agricultural Supply*

The Regional Board is required to apply the beneficial use of MUN to the Lindbergh ditch, Meister canal, and downstream drainages based on State Board Resolution 88-63, which was incorporated into the Basin Plan pursuant to Regional Board Resolution 89-056. In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. As the Lindbergh ditch and Meister canal may at times be dry, it is reasonable to assume that the stream water is lost by evaporation, flow downstream, and percolation to groundwater providing a source of municipal and irrigation water supply.

The State Water Resources Control Board (State Board) has issued water rights to existing water users along the Sacramento River downstream of the discharge for domestic and irrigational uses. Also, riparian rights to water in the downstream drainages likely exist. During periods of hydraulic continuity (seasonal pumping), the discharge adds to the water quantity and may impact the quality of water flowing downstream in the Sacramento River. In addition to existing water uses, growth in the area downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water downstream of the discharge.

b. *Water Contact and Noncontact Recreation and Esthetic Enjoyment*

The Regional Board finds that the discharge flows through residential and agricultural areas, and that there is ready public access to the Meister canal, downstream drainages, and the Sacramento River. Prior to its discharge into the Sacramento River, the Meister canal and downstream drainages flow through areas of general public access and active agricultural fields. As such,

exclusion of the public is unrealistic. The Sacramento River also offers many recreational opportunities.

c. *Preservation and Enhancement of Fish, Wildlife and Other Aquatic Resources*

The Lindbergh ditch, Meister canal, and downstream drainages flow to the Sacramento River. The California Department of Fish and Game (DFG) has verified that the fish species present in the Sacramento River are consistent with both cold and warm water fisheries and that there is a potential for anadromous fish migration necessitating a cold water designation. The Basin Plan (Table II-1) designates the Sacramento River as being both a cold and warm freshwater habitat. Clean Water Act (CWA) Section 101(a) establishes an interim goal of protecting fish and wildlife and recreation uses, i.e., the “fishable/swimmable” goal. The State is required to protect fish and wildlife and recreation uses unless it specifically removes those uses in compliance with the federal regulations at 10 CFR 131.10.

Upon review of the flow conditions, habitat values, and beneficial uses of the Lindbergh ditch, Meister canal, and downstream drainages, and the facts described above, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River are applicable to the Lindbergh ditch, Meister canal, and downstream drainages.

The Regional Board also finds that based on the available information and on the Discharger’s application, that the Lindbergh ditch and Meister canal, absent the discharge, are ephemeral streams. The ephemeral nature of the Lindbergh ditch and Meister canal means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the Lindbergh ditch and Meister canal help support the aquatic life. Both conditions may exist within a short time span, where the Lindbergh ditch and Meister canal would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the Sacramento River. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

The State Water Resources Control Board (State Board) recently adopted Order WQ 2002-0015 (Vacaville Order), which provided guidance on implementing Basin Plan beneficial use designations and resulting limitations to protect these uses. Some of the issues addressed by the State Board Order may be relevant to the Sacramento International Airport’s situation. Specifically, to the extent that there is information in the administrative record that indicates specific receiving water designated uses do not exist and are likely not to be attained in the future, Regional Board staff has included compliance schedules and interim limits to provide time for these uses to be fully evaluated and changed if appropriate. The State Board Order clarifies that the Discharger bears the responsibility for providing the information to support this evaluation. Consequently, the Regional Board encourages the County to expeditiously begin the process of developing this information for any of the beneficial uses listed above

that you believe fit this situation. To the extent that beneficial use designation/designation issues are relevant in this case, Sacramento County should begin evaluating available alternatives (increased treatment, relocating the outfall, studies to support redesignating uses, etc.) for the discharge to determine the most cost efficient course of action.

## WATER QUALITY CONCERNS

Federal regulations at 40 CFR Section 122.44(d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard.

### *Chlorine*

Chlorine gas is injected into the groundwater supply for disinfection purposes, and is applied at a rate to maintain a residual of approximately one part per million (ppm) in the distribution system. The Basin Plan contains a narrative toxicity objective that states: "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." This Order prohibits the discharge of toxic constituents in toxic amounts. Chlorine is known to cause toxicity to fish and other aquatic life at detectable concentrations. As chlorine is present in the supply water, there is reasonable potential that the discharge will cause or contribute to an exceedance above the narrative toxicity objective.

USEPA developed Ambient Water Quality Criteria for the Protection of Aquatic Life as recommended limitations to protect against aquatic toxicity. The federal regulations, at 40 CFR Section 122.44(d)(1)(vi)(B), allows the State to establish effluent limitations using USEPA's water quality criteria. Effluent limitations, based on USEPA's Ambient Water Quality Criteria for the Protection of Aquatic Life, are included in this Order to prohibit the discharge of chlorine in toxic concentrations. The total chlorine residual limitation shall be established at the point of discharge.

### *Manganese*

Polyphosphates are injected into the groundwater supply for iron and manganese sequestration. The chemical is certified for use as a direct additive to potable water under National Sanitation Foundation (NSF) Standard 61, and is applied at a rate to maintain a dose of 1-3 mg/l in the distribution system. The State of California and the Federal Government both adopted secondary MCLs for manganese at 50 µg/l to protect drinking water supplies. An effluent sample collected on 13 June 2001 indicates a concentration of 130 µg/l, well above the MCL. As the airport discharges cooling water into ephemeral streams that provide groundwater recharge during portions of the year, and is pumped into the Sacramento River at other times throughout the year, effluent limitations were included in this Order to ensure that downstream beneficial uses are protected. The Discharger is currently unable to meet this limitation.

### *Refrigerant*

Refrigerant R-11, which consists entirely of trichlorofluoromethane, is utilized in the heat exchangers. The Clean Air Act halted production of R-11 on January 1, 1996. Today, the remaining supplies are product that has been recovered and reclaimed back to a chemically pure state in accordance with ARI-700 standards. To date, no monitoring for R-11 in the cooling water discharge has been conducted. To ensure that this refrigerant is not leaking into the discharge, this Order requires monitoring for trichlorofluoromethane to be conducted of the effluent on a quarterly basis. Should this contaminant be detected in the discharge at levels that cause, have a reasonable potential to cause, or contribute to an in-stream excursion above a water quality objective, the Board may reopen the permit and include effluent limitations.

#### *Total Dissolved Solids And Electrical Conductivity*

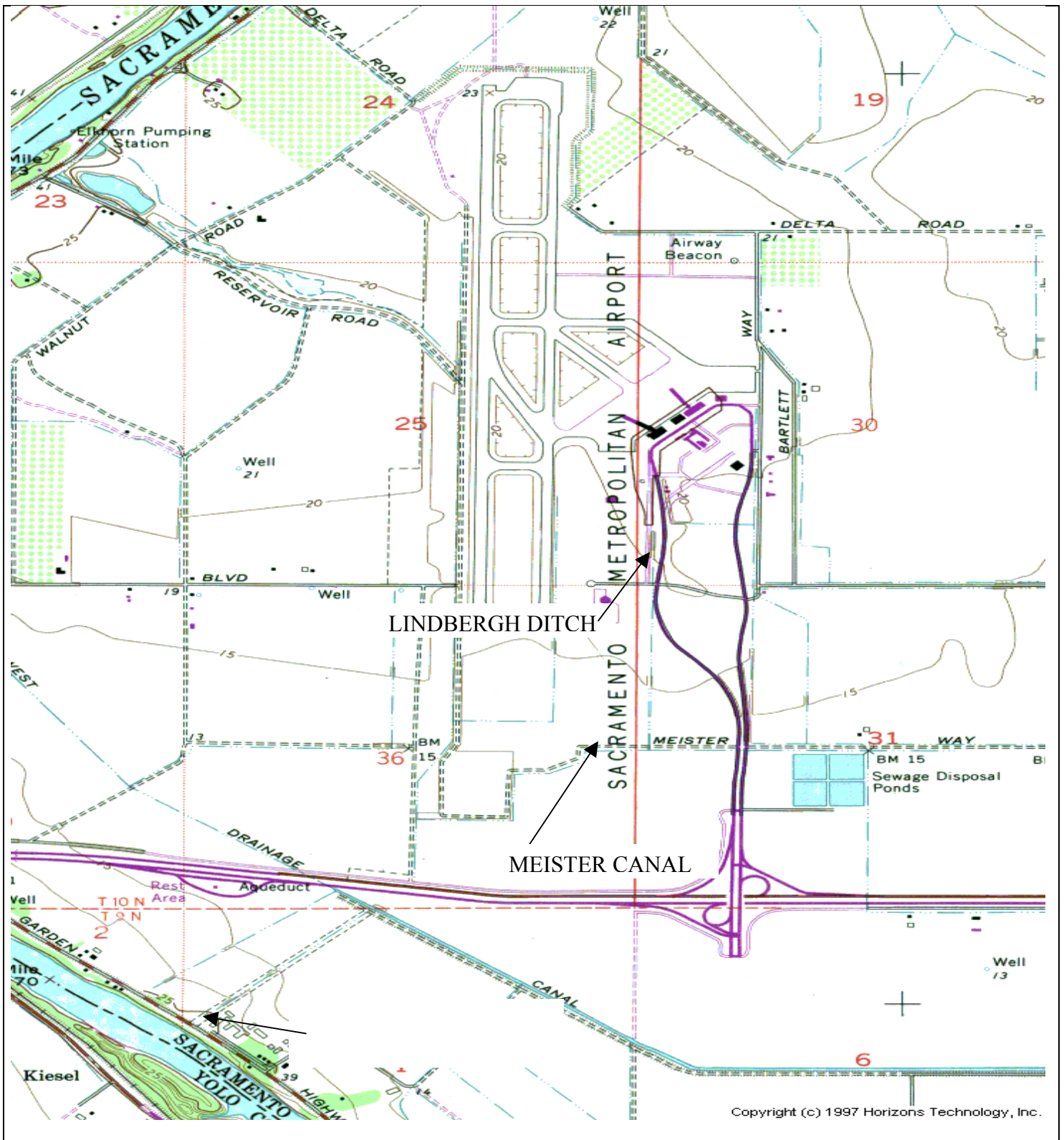
Total dissolved solids (TDS) and electrical conductivity (EC) are indicative of dissolved inorganic salts. Cooling water discharges, in general, have the potential to contain high concentrations of TDS and EC. There are no USEPA water quality criteria for TDS or EC, however, their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. The USEPA and State of California secondary maximum contaminant levels (MCLs) for TDS are 500 mg/l as a recommended level, 1,000 mg/l as an upper level, and 1,500 mg/l as a short-term maximum. The agricultural water quality goal for TDS is 450 mg/l as a long-term average. Three samples analyzed for TDS in the effluent since September 2000 indicate concentrations ranging from 487 mg/l to 650 mg/l. The State of California secondary MCLs for EC are 900  $\mu$ mhos/cm as a recommended level, 1,600  $\mu$ mhos/cm as an upper level, and 2,200  $\mu$ mhos/cm as a short-term maximum contaminant level. The agricultural water quality goal for EC is 700  $\mu$ mhos/cm. Two samples collected since September 2000 indicate effluent EC concentrations of 825  $\mu$ mhos/cm and 988  $\mu$ mhos/cm.

According to the available data, there is a reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for both total dissolved solids (TDS) and electrical conductivity (EC), specifically the "narrative chemical constituents objective" in the Basin Plan. The federal regulations at 40 CFR Section 122.44(d)(i)(vi)(B) allows the State to establish the effluent limitations using the USEPA secondary MCLs and the agricultural water quality goals to implement the narrative chemical constituents objective. Effluent limitations are included in the permit to protect the agricultural and domestic water supply beneficial uses of the receiving waters. The Discharger is currently unable to meet these limitations.

#### *Arsenic*

Arsenic is an inorganic priority pollutant that produces harmful human health effects and is considered a carcinogen. The source of arsenic is unknown, but is presumed to be originating from the groundwater supply. At a minimum, waters designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs). The Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.

USEPA, on 31 October 2001, adopted a new primary MCL for arsenic of 10 µg/l, effective 22 February 2002. The compliance date for water purveyors to meet the new MCL is 23 January 2006. A sample collected on 13 June 2001 indicates an effluent arsenic concentration of 29 µg/l, well above the MCL. Upon review of monitoring results conducted of the cooling water effluent, there is reasonable potential for the discharge to cause or contribute to an excursion above a water quality standard for arsenic, specifically the “narrative chemical constituent objective” in the Basin Plan. As such, to protect the municipal designation of downstream receiving waters, an effluent limitation for arsenic is included in this permit. This Order provides a time schedule for full compliance with the arsenic limitation, by 1 April 2008, because it implements a new water quality standard adopted after 25 September 1995.



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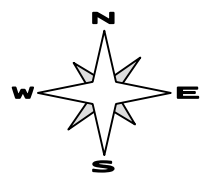
Drawing Reference:

U.S.G.S. 7.5 Minute Quad  
 Sacramento West  
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**SITE PLAN**

SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS  
 SACRAMENTO INTERNATIONAL AIRPORT  
 6900 AIRPORT BOULEVARD  
 SACRAMENTO COUNTY

Not to Scale





**ATTACHMENT B**

5 November 2001

**REQUIREMENT TO SUBMIT MONITORING DATA**

The Regional Water Quality Control Board (Board) is required to protect and enhance the beneficial uses of surface and ground waters in the Region. As part of that effort, National Pollutant Discharge Elimination System (NPDES) Permits are adopted which prescribe effluent limits for the types and concentrations of chemical and physical constituents which can be safely discharged. In order to prepare appropriate NPDES Permits, it is necessary to have adequate characterization of the discharged effluent and the receiving water.

The following is a requirement that you collect effluent and receiving water samples and have them analyzed for a variety of potential waste constituents. In most cases this monitoring will be in addition to monitoring required in your NPDES Permit. To the extent that there is overlap between this request and monitoring already being done under your Permit, the monitoring need not be duplicated. This requirement is brought on by a number of factors:

- I. On 2 March 2000, the State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, also known as the State Implementation Policy (SIP). The SIP established methods of evaluating receiving water criteria and developing effluent limitation in NPDES Permits for the priority pollutants contained in the US Environmental Protection Agency's (USEPA) *California Toxics Rule* and portions of USEPA's *National Toxics Rule*. Section 1.2 of the SIP directs the Board to issue Water Code Section 13267 letters to all NPDES dischargers requiring submittal of data sufficient to (1) determine if priority pollutants require effluent limitations (Reasonable Potential Analysis) and (2) calculate water quality-based effluent limitations. Further, Section 2.4 of the SIP requires that each discharger submit to the Regional Boards reports necessary to determine compliance with effluent limitations for priority pollutants in permits. Sections 2.4.1 through 2.4.4 of the SIP provide minimum standards for analyses and reporting. (Copies of the SIP may be obtained from the State Water Resources Control Board, or downloaded from <http://www.swrcb.ca.gov/iswp/final.pdf>.) To implement the SIP, effluent and receiving water data are needed for all priority pollutants. Effluent and receiving water pH and hardness are required to evaluate the toxicity of certain priority pollutants (such a heavy metals) where the toxicity of the constituents varies with pH and/or hardness. Section 3 of the SIP prescribes mandatory monitoring of dioxin congeners.
- II. In addition to the specific requirements of the SIP, the Board is requiring the following monitoring needed for permit development:
  - A. Organophosphorous pesticides, principally diazinon and chlorpyrifos, are commonly-used insecticides found in many domestic wastewater discharges at concentrations which can cause toxicity both in effluent and in receiving water. These pesticides are not "priority pollutants" and so are not part of the analytical methods routinely performed for NPDES discharges. **This monitoring is required of domestic wastewater dischargers only.**

- B. Drinking water constituents. Constituents for which drinking water Maximum Contaminant Levels (MCLs) have been prescribed in the California Code of Regulation are included in the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan defines virtually all surface waters within the Central Valley Region as having existing or potential beneficial uses for municipal and domestic supply. The Basin Plan further requires that, at a minimum, water designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the MCLs contained in the California Code of Regulations.
- C. Effluent and receiving water temperature. This is both a concern for application of certain temperature sensitive constituents, such as fluoride, and for compliance with the Basin Plan's thermal discharge requirements.
- D. Effluent and receiving water hardness and pH. These are necessary because several of the CTR constituents are hardness or pH dependent.
- E. Receiving water flow is needed to determine possible dilution available in the receiving water. The receiving water flows, in combination with the receiving water pollutant concentrations, will be used to determine if there is assimilative capacity in the receiving water for each pollutant, and whether dilution credits can be granted. Dilution credits can increase the concentrations of pollutants allowed in your effluent discharge if assimilative capacity is available in the receiving water.

***Pursuant to Section 13267 of the California Water Code, you are required*** to submit monitoring data for your effluent and receiving water as described in Attachments I through IV.

Attachment I – Sampling frequency and number of samples.

Attachment II – Constituents to be monitored. This list identifies the constituents to be monitored. It is organized into groupings (Volatile Organics, Semi-Volatile Organics, Inorganics, Pesticides/Polychlorinated Biphenyls (PCBs), Other Constituents, and Discharge & Receiving Water Flows), which correspond to groupings in Attachment I. Also listed are the Controlling Water Quality Criteria and their concentrations. The criteria concentrations are compiled in the Central Valley Regional Water Board's staff report, *A Compilation of Water Quality Goals*.<sup>1</sup> Minimum quantitation levels for the analysis of the listed constituents will be equal to or less than the Minimum Levels (ML) listed in Appendix 4 of the SIP or the Detection Limits for Reporting Purposes (DLRs) published by the Department of Health Services which are below the controlling water quality criteria concentrations listed in Attachment II of this letter. In cases where the controlling water quality criteria concentrations are below the detection limits of all approved analytical methods, the best available procedure will be utilized that meets the lowest of the MLs and DLR. Also listed are suggested analytical procedures. You are not required to use these specific procedures as long as the procedure you select achieves the desired minimum detection level. All analyses must be performed by a California certified environmental analytical laboratory.

Attachment III – Dioxin and furan sampling. Section 3 of the SIP has specific requirements for the collection of samples for analysis of dioxin and furan congeners, which are detailed in Attachment III. Briefly, dischargers classified as major must collect and analyze two samples per year (one collected in the wet season and one collected in the dry season) for congeners in each of the next three years. For dischargers classified as minor, one wet season and one dry season sample must be collected and analyzed at some time during the next three years.

Attachment IV – Reporting Requirements. This attachment provides laboratory and reporting requirements including a recommended data reporting format.

With the exception of dioxin and furan congener sampling which is due by **1 November 2004** (see Attachment III), all samples shall be collected, analyses completed, and monitoring data shall be submitted to the Regional Board by **1 March 2003**. Any NPDES permit application submitted after **1 March 2002** shall include with the application at least one set of data for the constituents listed in Attachment II.

In the interest of generating and submitting data by the required dates, a schedule for compliance with this data request shall be prepared and submitted to the Executive Officer by **16 November 2001**. This schedule shall include the requirements of Attachment I and Attachment III. The schedule will also include the data submission requirements for applications submitted after **1 March 2002**.

Failure or refusal to submit technical or monitoring data as required by Section 13267, California Water Code, or falsifying any information provided is guilty of a misdemeanor and is subject to an administrative civil liability of up to \$1,000 per day of violation, in accordance with Section 13268, California Water Code.

If you have any questions, please contact your Regional Board staff representative.

Attachments (4)

GARY M. CARLTON  
Executive Officer

## Attachment B-2 -Dioxin and Furan Sampling

Section 3 of the State Implementation Plan requires that each NPDES discharger conduct sampling and analysis of dioxin and dibenzofuran congeners. The required number and frequency of sampling are as follows:

- o Major NPDES Dischargers – once during dry weather and once during wet weather for each of three years, for a total of six samples.
- o Minor NPDES Dischargers – once during dry weather and once during wet weather for one year during the three-year period, for a total of two samples.

Each sample shall be analyzed for the seventeen congeners listed in the table below. High Resolution GCMS Method 8290, or another method capable of individually quantifying the congeners to an equivalent detection level, shall be used for the analyses.

Sampling shall start during winter 2001/2002 and all analyses shall be completed and submitted by 1 November 2004. Sample results shall be submitted along with routine monitoring reports as soon as the laboratory results are available.

For each sample the discharger shall report:

- o The measured or estimated concentration of each of the seventeen congeners
- o The quantifiable limit of the test (as determined by procedures in Section 2.4.3, No. 5 of the SIP)
- o The Method Detection Level (MDL) for the test
- o The TCDD equivalent concentration for each analysis calculated by multiplying the concentration of each congener by the Toxicity Equivalency Factor (TEF) in the following table, and summing the resultant products to determine the equivalent toxicity of the sample expressed as 2,3,7,8-TCDD.

| Congener               | TEF    |
|------------------------|--------|
| 2,3,7,8-TetraCDD       | 1      |
| 1,2,3,7,8-PentaCDD     | 1.0    |
| 1,2,3,4,7,8-HexaCDD    | 0.1    |
| 1,2,3,6,7,8-HexaCDD    | 0.1    |
| 1,2,3,7,8,9-HexaCDD    | 0.1    |
| 1,2,3,4,6,7,8-HeptaCDD | 0.01   |
| OctaCDD                | 0.0001 |
| 2,3,7,8-TetraCDF       | 0.1    |
| 1,2,3,7,8-PentaCDF     | 0.05   |
| 2,3,4,7,8-PentaCDF     | 0.5    |
| 1,2,3,4,7,8-HexaCDF    | 0.1    |
| 1,2,3,6,7,8-HexaCDF    | 0.1    |
| 1,2,3,7,8,9-HexaCDF    | 0.1    |
| 2,3,4,6,7,8-HexaCDF    | 0.1    |
| 1,2,3,4,6,7,8-HeptaCDF | 0.01   |
| 1,2,3,4,7,8,9-HeptaCDF | 0.01   |
| OctaCDF                | 0.0001 |

## Attachment B-3 – Reporting Requirements

1. **Laboratory Requirements.** The laboratory analyzing the monitoring samples shall be certified by the Department of Health Services in accordance with the provisions of Water Code Section 13176 and must include quality assurance/quality control data with their reports.
2. **Criterion Quantitation Limit (CQL).** The criterion quantitation limits will be equal to or lower than the minimum levels (MLs) in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Copies of the SIP may be obtained from the State Water Resources Control Board, or downloaded from <http://www.swrcb.ca.gov/iswp/final.pdf>) or the detection limits for purposes of reporting (DLRs) published by the Department of Health Services (<http://www.dhs.ca.gov/ps/ddwem/chemicals/DLR/dlrindex.htm>) which is below the controlling water quality criterion concentrations summarized in attachment II of this letter.
3. **Method Detection Limit (MDL).** The method detection limit for the laboratory shall be determined by the procedure found in 40 Code of Federal Regulations (CFR) Part 136, Appendix B (revised as of May 14, 1999).
4. **Reporting Limit (RL).** The reporting limit for the laboratory. This is the lowest quantifiable concentration that the laboratory can determine. Ideally, the RL should be equal to or lower than the CQL to meet the purposes of this monitoring.
5. **Reporting Protocols.** The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:
  - a. Sample results greater than or equal to the reported RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
  - b. Sample results less than the report RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
  - c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory, if such information is available, may include numerical estimates of the data quantity for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
  - d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.
6. **Data Format.** The monitoring report shall contain the following information for each pollutant:
  - a. The name of the constituent.
  - b. Sampling location.
  - c. The date the sample was collected.
  - d. The time the sample was collected.
  - e. The date the sample was analyzed. For organic analyses, the extraction date will also be indicated to assure that hold times are not exceeded for prepared samples.
  - f. The analytical method utilized.
  - g. The measured or estimated concentration.
  - h. The required Criterion Quantitation Limit (CQL).

- i. The laboratory's current Method Detection Limit (MDL), as determined by the procedure found in 40 CFR Part 136, Appendix B (revised as of May 14, 1999).
- j. The laboratory's lowest reporting limit (RL).
- k. Any additional comments.

