

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 00-056

Adopted June 21, 2000

**AMENDMENT OF NPDES PERMIT NO. CA0004961, WASTE DISCHARGE REQUIREMENTS
ORDER NO. 00-011; AND
REVISION OF CEASE AND DESIST ORDER NO. 95-151 AS AMENDED for:**

**TOSCO CORPORATION
AVON REFINERY
MARTINEZ, CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. On November 15, 1995, the Board adopted Cease and Desist Order No. 95-151, ordering Tosco Corporation, Avon Refinery (hereinafter called the discharger) to cease and desist from discharging waste in violation of requirements contained in Waste Discharge Requirements, NPDES Permit Order No. 93-068, as amended by Order No. 95-138. The specific nature of the action was concerning violations of the effluent limitation for dioxins and furans in the discharger's process wastewater treatment plant effluent discharge Waste 001.
2. On June 16, 1999, the Board adopted Order No. 99-046 amending Cease and Desist Order No. 95-151. The amendment extended the compliance deadline by one year, until July 1, 2000.
3. On February 16, 2000, the Board adopted Order No. 00-011, reissuing the NPDES Permit for the discharger. Order No. 00-011 rescinded the requirements of the previous NPDES permit (Order Nos. 93-068 and 95-138), but retained the effluent limitation for dioxins and furans without changes as an interim limit, and established in Findings that the final limitation will be based on a TMDL or no net loading (see later Findings for further discussion). Order No. 00-011 also provided for reopening of the limitation to make the limit consistent with statewide standards and policy from the U.S. EPA and State Water Resources Control Board (State Board).

Purpose of Amendment

4. As provided in E.11 of Order No. 00-011, this order addresses the limitation for dioxins and furans in consideration of recently finalized standards and policy and other relevant information. This Order:
 - a. amends the effluent limitation for dioxins and furans in light of new information, most importantly
 - i. U.S. EPA's listing of San Francisco Bay as impaired by a list of dioxin-like¹ compounds
 - ii. new interpretation of regulations, and

¹ Dioxin-like compounds include other chemicals that exhibit toxicity similar to dioxin due primarily to similarities in chemical structure to dioxin. Dioxin is the common name for 2,3,7,8-tetrachlorodibenzo-p-dioxin or abbreviated as 2,3,7,8-TCDD. The U.S. EPA's listing specifically named co-planar polychlorinated biphenyls (or dioxin-like PCBs), furans and other dioxin congeners. This Order addresses only the family of 17 dioxin and furan congeners of 2,3,7,8-TCDD.

- iii. data identifying ubiquitous ambient air deposition to be a major source of dioxins and furans to the discharge;
- b. establishes a 12 year compliance schedule for the new limitation;
- c. establishes an interim effluent limitation based on performance for dioxin and furan compounds that is consistent with the recently approved State Implementation Plan;
- d. updates the toxicity equivalent factors for dioxins and furans; and
- e. rescinds Cease and Desist Order No. 95-151 because the limitation that was the subject of the Cease and Desist Order will be amended by this Order.

Current Dioxins and Furans Permit Limitations

5. The current Permit, Order No. 00-011, retains as an interim limitation, the limit for dioxins and furans of 0.14 picogram per liter (pg/l) TCDD equivalent or TEQ from the 1995 permit. TEQ is calculated from a weighted sum of seventeen congeners of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD) and dibenzofuran (TCDF) using the 1989 U.S. EPA convention and toxicity equivalence factors, or "I-TEFs/89" (see Attachment 1). The basis for the limit was the objective specified in the State Board's 1992 Enclosed Bays and Estuaries Plan. After this Plan was invalidated in 1994, the Board amended Order No. 93-068 with Order No. 95-138 that established a technical basis for the effluent limit for dioxins and furans using best professional judgement.
6. Order No. 00-011 also established in Findings 55 and 57 the final limitation to be based on a TMDL, or if a TMDL is not established in 10 years, the limitation will be based on no net loading. These terms are discuss in detail in later findings.

303(d) Listing

7. On May 12, 1999, the U.S. EPA approved the State's list of impaired water bodies and added dioxins, furans, and dioxin-like polychlorinated biphenyls (PCBs) to the State's list of pollutants impairing San Francisco Bay (herein after referred to as the 303(d) list). Prior to this, the Board listed the entire class of PCBs (that includes dioxin-like PCBs) on the 303(d) list. Because of significant differences in the sources between PCBs and dioxins/furans, the Board staff believes it is appropriate to address these two classes of compounds separately. Therefore, this Order addresses only dioxins and furans compounds, not dioxin-like PCBs.
8. With the U.S. EPA listing of San Francisco Bay as impaired due to dioxins and furans, the Clean Water Act Section 303(d) requires the establishment of a Total Maximum Daily Load (TMDL), and waste load and load allocations. The TMDL is a value representing the quantity of pollutant discharge that the water body can receive and still meet all water quality objectives and beneficial uses. This TMDL quantity is then divided among all the sources to the Bay through waste load allocations and load allocations.
9. The U.S. EPA listed these pollutants as a high priority but did not specify a schedule for establishment of the TMDL. However, the Regional Administrator indicated a timeframe of up to 13 years in the May 1999 letter approving the 303(d) list.
10. Because of the multi-media nature of dioxins and furans sources and their fate and transport, the Board referred the dioxins and furans problem to Cal/EPA and the U.S. EPA. The U.S. EPA has begun the process to establish the TMDL for dioxins and furans. One outcome will be a waste load allocation to the discharger and other sources to San Francisco Bay.

Applicable Standards and Implementation Policy

11. On May 18, 2000, the U.S. EPA published in the Federal Register the California Toxics Rule (CTR) establishing water quality standards for toxic pollutants for California waters (FR 31681). The CTR was effective on the date of publication. The following are pertinent to dioxins and furans:
 - a. The CTR establishes a standard for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 0.014 picograms per liter (pg/l) for the protection of human health from consumption of aquatic organisms.
 - b. Although the CTR establishes a numeric standard for just one of the dioxin-like compounds, the preamble of the CTR states that California should use toxicity equivalents or TEQs in NPDES Permits where there is a reasonable potential for dioxin-like compounds to cause or contribute to a violation of a narrative criterion. The preamble further states U.S. EPA's intent to use the 1998 World Health Organization Toxicity Equivalence Factor² scheme in the future and encourages California to use this scheme in State programs. These 1998 WHO TEFs for dioxins and furans compounds are shown in Attachment 1. Finally, the preamble states U.S. EPA's intent to adopt revised water quality criteria guidance subsequent to their health reassessment for dioxin-like compounds.
12. On April 28, 2000, the Office of Administrative Law approved the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (hereinafter State Implementation Plan), that was adopted by the State Board on March 2, 2000. This plan became fully effective on May 18, 2000, because it was conditioned on promulgation of the CTR. The State Implementation Plan establishes the implementation policy for all toxic pollutants including dioxins and furans. The State Implementation Plan requires a limit for 2,3,7,8-TCDD if a limit is necessary, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other sixteen dioxins and furans compounds.
13. The Water Quality Control Plan for the San Francisco Bay Region (Basin Plan), specifies a narrative objective for bioaccumulative substances:

"Many pollutants can accumulate on particles, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This objective is applicable to dioxins and furans compounds. There is consensus in the scientific community that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

Process for Establishing Effluent Limitations

14. The State Implementation Plan establishes the policy for determining effluent limitations for toxic pollutants. In summary, the steps involve
 - a. identifying applicable criteria and objectives,

² The 1998 WHO scheme includes TEFs for dioxin-like PCBs. But since this Order addresses only dioxins and furans, these dioxin-like PCB TEFs are not addressed in this Order.

- b. determining whether there is a reasonable potential for the pollutant for cause of contribute to impairment of a water quality criterion or objective; and
- c. calculating a value for the effluent limit taking into consideration the applicable criteria or objective, and discharge variability; or
- d. if a TMDL is in effect, assigning a portion of the loading capacity to the discharge.

Need for a Limitation on Dioxins and Furans

15. The U.S. EPA's 303(d) listing determined that the narrative objective for bioaccumulative pollutants was not met because of the levels dioxins and furans in the fish tissue. The State dissents on this determination. Discharge data shows that there are a number of dioxins and furans present in the discharge. Sediment data from the discharge canal show that the other dioxins and furans are present and therefore there is a potential for these to be discharged also. Since dioxins and furans do not readily breakdown, there is a reasonable potential for the discharger to contribute to the impairment (determined by the U.S. EPA) of the narrative objective.

Basis for Final Dioxins and Furans Limitation

16. A new limitation for dioxins and furans is needed because the current value of 0.14 pg/l TEQ is not appropriate for the discharger for the following reasons:
 - a. The discharger has reduced the dioxins and furans in its discharge by 85 percent since CDO adoption. Despite this the discharger cannot comply with the limit. The root cause of the violations are not within the discharger's control, and the next step of treatment will be overly burdensome and not cost effective relative to the benefits. The discharger provided data in 1997 that support their contention that the violations are caused by ambient air deposition of dioxins and furans compounds. Much of this is beyond the discharger's control. Air pollutants deposit onto land and are mobilized by storm water into the discharger's discharge canal. Ambient air deposition may also affect coke pond water that discharges into the canal. The profiles and concentrations at this facility match those from storm water samples collected throughout the Bay Area in a survey coordinated by Board staff in 1996. They also match those reported in the literature from other urban areas. The discharger has estimated that \$10 Million may be necessary to implement the next step of reduction. The discharger's mass contribution is minor compared to other storm water inputs to the Bay. This cost for further reduction seems overly burdensome and not cost effective at this time.
 - b. The U.S. EPA's 303(d) listing highlights the need for a region wide cross media assessment of the problem. This integrated assessment should result in a more balanced, and more effective limitation for the discharger.
17. This Amendment establishes that the final effluent limitation for the discharger will be based on the waste load allocated to the discharger based an established TMDL.

Basis for Compliance Timeframe

18. Since it is unknown what the final limitation should or will be until the U.S. EPA completes the TMDL, a compliance schedule for the final limit is appropriate. Both the CTR and the State Implementation Plan authorize compliance schedules. The State Implementation Plan provides for up to 15 years from the effective date of the Plan. Although the U.S. EPA did not establish a schedule for the TMDL, the Regional Administrator indicated a timeframe of up to 13 years in the

1999 letter approving the 303(d) list. Considering these factors, this Order specifies a 12-year compliance time schedule until the year 2012.

19. In the event that the U.S. EPA does not establish a TMDL by 2012, and does not grant an extension of the schedule, the Board will impose an alternative final limit of no net loading as described in Finding 57 of Order No. 00-011.

Basis for Interim Limitation

20. The interim limitation specified in this Order is a modified TEQ approach in consideration of the State Implementation Plan requirements, analytical quantification limits, and facility performance.
21. Both the CTR and the State Implementation Plan require a numeric interim limit when the compliance schedule exceeds 1 year. The State Implementation Plan allows for the interim limit to be based on facility performance or existing permit limitations, whichever is more stringent. The Plan allows for deviation from this policy if antibracksliding provisions are met. The Plan also suggests that mass limits should be established for bioaccumulative pollutants.
22. The interim limit in this Order is based on facility performance because the existing permit limitation, although more stringent, is not appropriate for this discharger (see earlier finding). Since the new final effluent limitation will be exempt from or will not trigger antibracksliding (see later finding), this case meets antibracksliding provisions. Thus, an interim limit based on facility performance is allowed.
23. Although dioxins and furans are bioaccumulative, the interim limit in this Order is based on concentration instead of mass. This is because storm water is a significant percentage of the dioxins and furans in the discharge, and the discharge flow rate is highly influenced by runoff (as much as 200 percent). A limit based on mass at this time may put an inordinate burden on the discharger to control the amount of rainfall. A mass limit may be appropriate in the future when there is a large enough data base (greater than the available 4 years) that better characterizes year to year climatic variability at the facility and its affect on mass discharge of dioxins and furans.
24. Of the available discharge data, current facility performance is best represented by data from August 1996 through to the present (latest data available are from January 2000). Prior to August 1996, the discharger engaged in suspended solids reduction measures that reduced dioxins and furans concentrations in the discharge. Starting in August 1996, the discharge concentrations appear to stabilize to current levels.
25. A TEQ approach is used for the interim limit based on U.S. EPA's suggestion in the preamble to the CTR. Of the 17 dioxins and furans compounds, only 5 have been measured in the discharge. Specifically, these five are 1,2,3,4,6,7,8-hepta CDD, octa-CDD, 1,2,3,4,6,7,8-hepta CDF, 1,2,3,4,7,8,9-hepta CDF, and octa-CDF. The other 12 compounds are below detection in every sample for this time period. Meaningful performance-based limits cannot be calculated when all values are below detection. Therefore, the interim limit is based on just the five compounds measured and the 1998 WHO TEFs for those compounds (see Attachment 1). This approach of limiting a subset of parameters to control the whole set is based on the concept of indicator parameters. U.S. EPA relies heavily on this approach in establishing technology based effluent limitations which are based on performance.

26. Although there is no specific performance limit for the other 12 compounds, the likelihood that the discharger will increase its discharge of those compounds is not great. Firstly, the available data show a very consistent profile in the discharge. If the discharger increases discharge of the other 12 compounds, the discharge will very likely increase discharge of the 5 that are limited, and so trigger a violation if the increase is not within past performance. Secondly, the available data support the discharger's contention that ambient air deposition is the cause of the dioxins and furans in its discharge. Unless, the quantity of those 12 compounds increase in ambient air change, the discharge should not change. However, a provision in the Self-Monitoring Program to require accelerated monitoring and investigation is included in this amendment to assure that any declines in performance for the other 12 compounds is addressed (see later finding).
27. The interim limit value of 0.65 pg/l is calculated using the mean plus 3 standard deviations³. This value represents the 99.87th percentile of all the data assuming that the available data accurately characterizes the full range of discharge variability. This value is a reasonable balance between risk of violation by the discharger and the risk of allowing a decline in performance.
28. The interim limit is set as a monthly average as was the previous permit limit. For this reason, the effective date will begin next month on July 1, 2000.
29. The analytical detection limits for the samples need to be improved. The interim limit was calculated using quite a large number of detection limit values and reported concentrations that were below the lowest calibration standard. Although the confidence of these concentrations are higher for the dioxins and furans analytical method because it uses isotope dilution, use of these data is contrary to the State Implementation Plan. The Plan specifies that data used for compliance shall not be based on values below the lowest calibration standard. This Order specifies a requirement for the discharger to investigate the feasibility of lowering the detection limits.

Basis for Monitoring Requirements

30. This Order requires accelerated compliance monitoring if future samples show quantifiable levels of dioxins and furans compounds other than the five upon which the interim limit is based. This will serve to verify the presence of the compound(s), and will establish a database upon which staff can determine whether the new measurements represent a decline in performance not otherwise indicated by violation of the interim limit, or whether they represent an improvement in analytical sensitivity. If the first case is true, this Order requires the discharger to investigate the cause of the decline in performance, and the Board may consider taking appropriate enforcement action.

Compliance with Antibalancing and Antidegradation

31. The limitations in this Order is in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent water quality-based effluent limitations for the following reasons:
 - a. The revised final limitation will be in accordance with the TMDL and waste load allocation once they are established; hence, this amendment is exempt in accordance with Clean Water Act Section 303(d)(4)(A).
 - b. The alternative final limitation of no net loading is more stringent than the limitation specified in the previous permit so it would be in compliance with antibalancing.

³ The data set is best characterized by a lognormal distribution, so the actual values were adjusted accordingly.

- c. Antibacksliding does not apply to the interim limitations established under the time to come into compliance provision.
 - d. Even if the antibacksliding and antidegradation policies apply to interim limitations under 402(o)(2)(c), a less stringent limitation is necessary because of events over which the discharger has no control and for which there is no reasonable available remedy.
32. The amendment is in compliance with antidegradation because the interim limit holds the discharger to current facility performance, because the interim limit meets compliance limits in the State Implementation Plan, and because the final limit is in compliance with anti-degradation requirements.

Compliance with CEQA and California Water Code

33. This amendment of waste discharge requirements is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15263 of the Resources Agency Guidelines.
34. The Board has notified the discharger and interested agencies and persons of its intent to adopt this order, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
35. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Cease and Desist Order No. 95-151 and Order No. 99-046 are rescinded. It is further ordered that Order No. 00-011 is amended as described in the following items. To distinguish the original language contained in Order No. 00-011, from this Order, all the amendments are highlighted by dashed underline for additions and ~~strike through~~ for deletions. Any discrepancies between the original language in Order No. 00-011, and the language not amended below are not intentional and should be disregarded.

1. Revise Finding number 42 to read:

“Based on the 303(d) list of pollutants impairing Suisun Bay, the Board plans to adopt Total Maximum Daily Loads (TMDLs) for these pollutants no later than 2010, with the exception of dioxin and furan compounds. ~~The Board defers development of the TMDL for dioxins and furans to the U.S. EPA.~~ However, future review of the 303(d) list for Suisun Bay may result in revision of the schedules and/or provide schedules for other pollutants.”

2. Revise Finding number 55 to read:

“When a discharge causes, has the reasonable potential to cause, or contribute to an receiving water excursion above a narrative or numeric criteria within a State water quality standard, federal law and regulations require the establishment of WQBELs that will protect water quality. Pollutants exhibiting RP in the discharge authorized by this Order are identified in the above Findings. The Board plans to adopt TMDLs that will include WLAs for the 303(d)-listed pollutants, except dioxins and furans. When each TMDL is complete, the Board will adopt a WQBEL consistent with the corresponding WLA. If authorized, a time schedule may be included in the revised permit to require compliance with the final WQBELs.

3. Revise Finding number 56 to read:

“In the interim, until final WQBELs are adopted, state and federal antidegradation and antidegradation policies require that the Board retains effluent concentration limits from the Previous Order to ensure that the waterbody will not be further degraded. In addition to interim concentration limits, interim performance-based mass limits are required to limit the discharge of 303(d)-listed pollutants to their current levels. These interim mass limits are based on recent discharge data. The existing mass limit for selenium must also be maintained as an interim limit according to state and federal antidegradation policies. Where pollutants have existing high detection limits (such as for PCBs total, Chlordane, DDT, Dieldrin, certain congeners of Dioxins and Furans, etc.), interim mass limits are not required because meaningful performance-based limits cannot be calculated for those pollutants with non-detectable concentrations. However, the dischargers, through participation in the RMP, are required to investigate alternative analytical procedures that result in lower detection limits. This may occur either through participation in new RMP special studies or through equivalent studies conducted jointly with other dischargers. One exception to this is dioxins and furans. The discharger will also be required to conduct a study to investigate the feasibility and reliability of increasing sample size to reduce the detection limits for these compounds.”

4. Revise Finding number 57 to read:

“In the event that a TMDL is not adopted by the Board by 2010, or a TMDL is not established by the U.S. EPA for dioxins and furans by 2012, the Board will impose one of the following alternative final limits:

- a. For a 303(d)-listed bioaccumulative pollutant, the final alternative limit will be no net loading (No net loading means that the actual loading from the discharge must be offset by at least equivalent loading of the same pollutant achieved through mass offset). For dioxins and furans, this no net loading will apply to all 17 compounds using the latest Toxicity Equivalents approach that is approved by the U.S. EPA at that time. In the absence of a TMDL, any loading to the impaired waterbody has the reasonable potential to cause or contribute to an excursion of the narrative toxicity criterion. Additionally, the existing numeric objective may not be adequate to ensure safe levels of the pollutant in sediment and/or fish. This is because in the case of fish tissue, the bioconcentration factor (BCF), on which the criterion was based, was measured in the laboratory and, therefore, reflects uptake from the water only. Bioaccumulative factors (BAFs) on the other hand, are measured in the field where the uptake in fish is through both food and water. Thus, the bioaccumulation rate in the system may be greater than the bioconcentration rate used to calculate the national water quality criteria, which is based on a laboratory-derived BCF. Another reason that the existing water quality objectives may not be adequate is that the criteria they are based on do not always account for routes of exposure, for site-specific circumstances that may render the pollutant more bioavailable, for accumulation in sediment, or for concentrating effects resulting from evaporation.
- b. For a 303(d)-listed non-bioaccumulative pollutant, the alternative final mass limit will be based on water quality objectives applied at the end of the discharge pipe.”

5. Revise Effluent Limitation Provision B.8 to read in part as follows:

“The discharge of Waste 001 containing constituents in excess of the following interim limitations is prohibited:

<u>Constituent</u>	<u>Unit</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
...			
TCDD Equivalents ¹¹	pg/l	0.650-14	--

...
¹¹ This limit is effective July 1, 2000. Compliance shall be determined as the sum of the concentrations of 1,2,3,4,6,7,8-hepta CDD, octa-CDD, 1,2,3,4,6,7,8-hepta CDF, 1,2,3,4,7,8,9-hepta CDF, and octa-CDF, and their respective TEFs as identified in Attachment D. For the calculation, the discharger shall use the laboratory reported concentrations and method detection limits as reported (that are determined by the procedure found in 40 CFR 136). See the Self-Monitoring Program Part B, Section III.C for additional specifications. See Attachment D for definitions.
 ...”

6. Add the following Provision to Section E:

“27. Dioxins and Furans Lower Detection Limit study
 The discharger shall submit a study plan and schedule acceptable to the Executive Officer, no later than August 21, 2000, to investigate the feasibility and reliability of concentrating samples by extraction to improve the analytical detection and quantification limits by 10 fold, 100 fold, and 1000 fold. The discharger shall conduct the study and submit a report of the findings to the Executive Officer no later than February 1, 2002. The discharger may at his/her option, conduct this study in coordination with other parties.”

7. Revise Attachment D to read in part as follows:

“TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalency factors (TEFs), as shown in the table below. (Note: These TEFs may be revised if new or updated information is available, and revision is considered appropriate.) For the purpose of the interim limit, TCDD Equivalents are defined in Provision B.8.

<u>Isomer Group</u>	<u>Toxicity Equivalence Factor</u>
2,3,7,8-tetra CDD	1
2,3,7,8-penta CDD	1.05
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.0001 0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.0001 0.001”

8. Revise Self-Monitoring Program Part B, Section III.C to read:

"C. Dioxin and Furan Data

The Discharger shall report their Dioxin and Furan data using both the ITEF89 and the WHO98 methodologies.

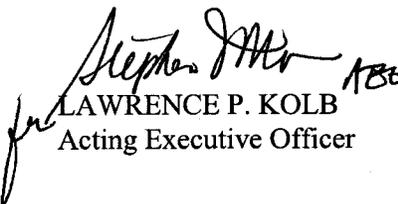
The discharger shall determine compliance with the interim limitation of 0.65 pg/l TEQ specified in Provision B.8 for the five congeners using the laboratory reported concentration and method detection limits (as determined by the procedure found in 40 CFR 136). The reported concentration may be based on analytical data below the lowest calibration standard. This is a temporary exemption from the State Implementation Plan policy against using such data for compliance purposes. This Permit requires the discharger to investigate the feasibility of lowering the quantification limits to alleviate this conflict. The Part A provisions for accelerated sampling and special reporting apply to violation of this interim limit.

With each sampling event, the discharger shall also determine and report the results of the other congeners of 2,3,7,8-TCDD, or the method detection limits as determined by the procedure found in 40 CFR 136.

If any of these other congeners are positively detected, the discharger shall note this in the transmittal letter in the monitoring report and immediately accelerate monitoring to twice each month until either 1) at least 3 consecutive samples show levels below detection, or 2) the Executive Officer modifies the frequency.

Additionally, 45 days after the third accelerated sampling event, discharger shall provide a special report that addresses whether the positive detection(s) may indicate a decline in the quality of the effluent, and describes measures to investigate the cause if that is the case. The determination of decline in performance shall consider the concentration(s) or the other congener(s) detected relative to the concentrations of the 5 limited congeners, and compare these proportions to past data using detection levels for non-detects. If the analysis suggests that proportions have significantly changed, this means that the congener profile of the discharge has changed and that there may have been a decline in performance. The discharger shall investigate if this profile change is caused by factors and sources within the discharger's control. If the proportions have not changed, and the discharger is within the interim limit for the 5 congeners, the positive detection(s) may be due to normal sample variability and may be viewed as not representing a decline performance."

I, Lawrence P. Kolb, Acting 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, San Francisco Bay Region on June 21, 2000.


LAWRENCE P. KOLB
Acting Executive Officer

Attachment:

Attachment 1 – Dioxins and Furans Compounds, Toxicity Equivalent Factors

ATTACHMENT 1
Dioxins and Furans - Toxicity Equivalency Factors, Standards and Limits

Congener	I-TEFs/89 Toxicity Equivalence Factors used in previous permit	1998 WHO TEFs ¹ The World Health Organization revised TEFs	CTR Standard Water Quality standard established by U.S. EPA in California Toxics Rule	Interim limit in previous Permit (Order No. 00-011)	Interim limit in Cease and Desist Order No. 95-151	Interim Limit in this Order	Final Limit in this Order
Dioxins							
2,3,7,8-TCDD	1.0	1.0	0.014 pg/l	*	0.14 pg/l	-	***
1,2,3,7,8-PeCDD	0.5	1.0	-	*	-	-	***
1,2,3,4,7,8-HxCDD	0.1	0.1	-	*	-	-	***
1,2,3,6,7,8-HxCDD	0.1	0.1	-	*	-	-	***
1,2,3,7,8,9-HxCDD	0.1	0.1	-	*	-	-	***
1,2,3,4,6,7,8-HpCDD	0.01	0.01	-	*	-	-	***
Octa-CDD	0.001	0.0001	-	*	-	**	***
Furans							
2,3,7,8-TCDF	0.1	0.1	-	*	-	**	***
1,2,3,7,8-PeCDF	0.05	0.05	-	*	-	-	***
2,3,4,7,8-PeCDF	0.5	0.5	-	*	-	-	***
1,2,3,4,7,8-HxCDF	0.1	0.1	-	*	-	-	***
1,2,3,6,7,8-HxCDF	0.1	0.1	-	*	-	-	***
2,3,4,6,7,8-HxCDF	0.1	0.1	-	*	-	-	***
1,2,3,7,8,9-HxCDF	0.1	0.1	-	*	-	-	***
1,2,3,4,6,7,8-HpCDF	0.01	0.01	-	*	-	-	***
1,2,3,6,7,8,9-HpCDF	0.01	0.01	-	*	-	**	***
Octa-CDF	0.001	0.0001	-	*	-	**	***

¹ The TEFs for dioxin-like PCBs are not included because this Order addresses only dioxins and furans.
- No standard or Limit

* Limited as a weighted sum of all the compounds, $\Sigma(I\text{-TEFs}/89)_i(\text{Concentration})_i = 0.14 \text{ pg/l}$

** Limited as a weighted sum of all the compounds, $\Sigma(1998 \text{ WHO TEF})_i(\text{Concentration})_i = 0.65 \text{ pg/l}$

*** Limit based on TMDL and Waste Load Allocation, or no net loading.