

**California Regional Water Quality Control Board
Santa Ana Region**

December 6, 2013

Item: 11

Subject: Issuance of Order No. R8-2013-0060, Amending Time Schedule Order No.R8-2009-0069 for Dischargers Enrolled in Order No. R8-2007-0041, NPDES No.CAG918002, General Discharge Permit for Discharges to Surface Waters of Groundwater Resulting from Groundwater Dewatering Operations and/or Groundwater Cleanup Activities at Sites within the San Diego Creek/Newport Bay Watershed Polluted by Petroleum Hydrocarbons, Solvents, Metals and/or Salts.

Summary

Order No. R8-2007-0041 specifies selenium (and other) effluent limitations for groundwater-related discharges in the Newport Bay watershed, and requires compliance with these selenium limitations as soon as possible but no later than December 20, 2009. Time Schedule Order No. 2009-0069 (TSO), issued on December 10, 2009, extended that compliance schedule for a maximum of five years, or no later than December 10, 2014. The TSO remains in effect for a maximum of five years or until such time as Order No. R8-2007-0041 is re-issued to incorporate revised selenium effluent limitations and other requirements necessary to implement Regional Board approved selenium Total Maximum Daily Loads (TMDLs).

The Regional Board incorporated a selenium compliance schedule in Order No. R8-2007-0041 and issued the TSO in recognition of the extraordinary challenge of selenium control in the Newport Bay watershed, the lack of a practicable, conventional selenium treatment technology that could achieve the effluent limitations, significant commitments by watershed stakeholders to identify and implement a selenium management program, and the anticipated re-issuance of Order No. R8-2007-0041 based on TMDLs that were expected to be considered by the Regional Board in 2010 and subsequently approved and effective for regulatory purposes in or about 2012.

While significant progress continues to be made to address selenium in the Newport Bay watershed, it is appropriate to extend the TSO for a maximum of five years, or no later than December 10, 2019. This would extend the date for compliance with the selenium effluent limitations in Order No. R8-2007-0041 to no later than December 10, 2019. This compliance schedule extension is appropriate and justified since there remains no practicable selenium treatment technology that can assure compliance with the effluent limitations, the anticipated selenium TMDLs have not been completed or submitted for requisite approvals, and because there are ongoing and significant efforts to achieve selenium reductions necessary to comply with the TMDLs in advance of their approval.

Background

Selenium issues in the Newport Bay watershed have a lengthy and complex history, which is summarized in the December 10, 2009 staff report describing the basis for the recommended issuance of TSO No. R8-2009-0069. A copy of that report is attached. Briefly, the salient points include the following:

- In 2002, the U.S. Environmental Protection Agency, Region IX (USEPA) promulgated TMDLs for selenium for the San Diego Creek subwatershed and both Upper and Lower Newport Bay, based primarily on evidence of beneficial use impairment due to exceedances of the applicable California Toxics Rule (CTR) selenium criteria for freshwater and the proximity of Newport Bay to San Diego Creek. The USEPA TMDLs relied heavily on selenium TMDLs then under preparation by Regional Board staff.
- In the Newport Bay watershed, approximately 85% of the selenium load in surface waters originates from groundwater, and much of this load (about 78%) results from diffuse rising groundwater that enters surface waters via springs and seeps in the unlined portions of the channels, and cracks and weepholes in storm drains and the concrete-lined portions of the channels. Discrete, groundwater-related discharges (e.g., groundwater dewatering and cleanup and other regulated discharges (e.g., urban runoff)) account for a relatively small part of the total selenium load to surface waters.
- Controlling sources of selenium in the Newport Bay watershed poses extraordinary challenges given the large scale of the selenium problem, its diffuse origin (largely rising groundwater), the lack of a readily available, conventional treatment technology that can be implemented in a reasonably practicable manner for point source discharges, and, because of extensive urbanization, the limited land available for the placement of potential treatment facilities/BMPs.
- In December 2004, the Regional Board adopted Order No. R8- 2004-0021, NPDES No. CAG998002, General Waste Discharge Requirements for Short-Term Groundwater-Related Discharges and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed. Order No. R8-2004-0021 established selenium effluent limitations for these discharges for the first time. The limitations were based on the CTR selenium criteria.
- Because there was no conventional treatment technology available to point source dischargers and immediate compliance with the selenium effluent limitations in Order No. R8-2004-0021 was thus infeasible for many dischargers, Order No. R8-2004-0021 specified a compliance schedule for the selenium effluent limitations. That schedule required compliance as soon as possible but no later than December 20, 2009.
- Numerous watershed stakeholders remained concerned about the ability to comply with the selenium effluent limitations, even with the five-year compliance schedule, given the lack of practicable selenium treatment technology. The stakeholders also expressed concern about the validity and effectiveness of the CTR criteria for the protection of biological resources in the watershed. These considerations prompted

the formation of a voluntary program known as the Nitrogen and Selenium Management Program (NSMP), sponsored by the NSMP Working Group. The Working Group includes many stakeholders in the watershed. The Working Group proposed to develop and implement upon Regional Board approval a five-year Work Plan designed to: evaluate and recommend refinements to the USEPA selenium TMDLs; to evaluate potential selenium treatment technologies; recommend a comprehensive TMDL implementation plan for the management of selenium; and, support development of recommendations for selenium site-specific objectives for the watershed that would supplant the CTR criteria.

- Order No. R8-2004-0021 included requirements based on the NSMP Work Plan approach. The five-year Work Plan was approved and, with significant commitments of NSMP Working Group resources, has been implemented. The tasks completed include the evaluation of potential selenium treatment technologies, including pilot, demonstration-scale testing of selected technologies, the development of recommendations for site-specific objectives for selenium for the Newport Bay watershed, and recommendations for a selenium management strategy that could be incorporated in the revised TMDL implementation plan.
- As part of a permit streamlining effort, the Regional Board adopted Order No. R8-2007-0041 on November 20, 2007. Order No. R8-2007-0041 replaced Order No. R8-2004-0021, and Order No. R8-2004-0021 has been rescinded. Order No. R8-2007-0041 expired on November 1, 2012 but was administratively extended.
- Like Order No. R8-2004-0021, Order No. R8-2007-0041 regulates groundwater-related discharges and also includes requirements for discharges from groundwater cleanup operations in the Newport Bay watershed. Order No. R8-2007-0041 includes the same requirements for selenium as specified in Order No. R8-2004-0021 and continues to require compliance with selenium limitations as soon as possible but no later than December 20, 2009.
- On December 10, 2009, the Regional Board approved Time Schedule Order (TSO) No. R8-2009-0069 for dischargers enrolled in Order No. R8-2007-0041. TSO No. R8-2009-0069 extended the schedule for compliance with selenium effluent limitations specified in Order No. R8-2007-0041 from December 20, 2009 to no later than December 10, 2014. As issued on December 10, 2009, the TSO remains in effect for a maximum of five years (i.e., December 10, 2014) or until such time as Order No. R8-2007-0041 is re-issued to incorporate revised selenium effluent limitations and other requirements necessary to implement Regional Board approved selenium Total Maximum Daily Loads (TMDLs).
- The TSO required dischargers regulated under Order No. R8-2007-0041 to participate in the NSMP and to participate in the completion of specific selenium-related tasks identified by the NSMP Working Group. These tasks included the submittal of a proposed Method of Compliance Workplan/Schedule, or "BMP Strategic Plan", and a proposed regional monitoring program (RMP). The TSO required that the BMP Strategic Plan and RMP be implemented within 90 days of Regional Board approval. Both the BMP Strategic Plan and RMP were approved on December 5, 2013 and are being implemented.

- The approved BMP Strategic Plan includes selenium reduction projects (Cienega Demonstration Project, the Peters Canyon Wash Pipeline Project, the Santa Ana-Delhi Channel Diversion Project), continued evaluation of potential selenium treatment technologies, and adaptive management of selenium control implementation based on the results of monitoring of BMP efficacy and the effects of selenium control implementation on the receiving waters.

Discussion

The Regional Board found issuance of TSO No. R8-2009-0069 appropriate and necessary in light of the extraordinary complexity of the selenium problem in the Newport Bay watershed, the lack of a readily available, conventional selenium treatment technology that could be implemented in a reasonably practicable manner so as to achieve compliance with selenium effluent limitations, and the significant commitments by the members of the NSMP Working Group to assess and achieve selenium standards and effluent limitations.

In issuing the TSO, the Regional Board also recognized that implementation of the tasks specified in the TSO would support ongoing Regional Board staff efforts to develop revised selenium TMDLs and site-specific objectives (SSOs) for the Newport Bay watershed, and that those TMDLs/SSOs would, when approved, serve as the basis for appropriate revisions to the selenium limitations and schedule for compliance with those limitations that are specified in Order No. R8-2007-0041. The Regional Board anticipated that the revised TMDLs/SSOs would be recommended for approval in 2010 and that final approval by all requisite agencies would occur in a subsequent one to two year period. The Regional Board found that issuance of the TSO would provide appropriate compliance schedule relief until such time as the TMDLs/SSOs could be fully approved and appropriate permit revisions could be made, and further, that such an approach would be a prudent use of the Regional Board's permit issuance resources.

While significant effort and progress to address selenium in the Newport Bay watershed has been and continues to be made, the TMDL/SSO adoption process has been delayed. In fact, in light of anticipated difficulty in the approval of selenium SSOs, and in the interest of establishing TMDLs that can serve as the basis of permit revisions in a more timely manner, Regional Board staff, in collaboration with the NSMP Working Group and other stakeholders, is now pursuing selenium SSOs on a parallel but separate path from the TMDLs. It is now anticipated that selenium TMDLs will be recommended for Regional Board approval by the end of 2014. It is expected that the selenium SSO recommendations will follow shortly thereafter. It should be noted that the recommended TMDLs will take the likely SSO recommendations into account.

Meanwhile, the NSMP Working Group and other stakeholders in the Newport watershed continue to conduct technical investigations to support TMDL and SSO development, to evaluate potential selenium treatment technologies, and to identify and implement

measures to control selenium inputs to surface waters in the Newport watershed. As stated above, these actions are part of the approved BMP Strategic Plan required by the TSO. In particular, certain stakeholders have implemented or are in the process of implementing significant selenium (and nitrogen) reduction projects. These include ongoing operation of the Cienega Demonstration Project (a selenium and nitrogen treatment project), the Peters Canyon Wash Diversion Project, and the Santa Ana-Delhi Channel Diversion Project. Upon implementation of these diversion projects, dry weather flows containing significant selenium (and nitrogen) loads will be diverted from these channels to the Orange County Sanitation District sewer system.

In light of the unanticipated delay in the development and approval of selenium TMDLs for the Newport Bay watershed, the continuing lack of practicable selenium treatment technology (despite intensive efforts to identify and evaluate such technology) and the ongoing and very significant commitments by NSMP Working Group members to implement selenium reduction projects that will result in substantial selenium (and nitrogen) reductions in advance of TMDL approval, Regional Board staff recommends that TSO No. R8-2009-0069 be amended to further extend the date for compliance with the selenium effluent limitations. Specifically, Regional Board staff recommends that the TSO be amended to remain effective for a maximum of five years beyond the current expiration date, or December 10, 2019, or until Order No. 2007-0041 is re-issued to incorporate revised selenium effluent limitations and other requirements that are consistent with approved selenium TMDLs. As stated above, it is anticipated that selenium TMDLs that would replace those promulgated by USEPA in 2002 will be recommended for Regional Board adoption by the end of 2014. Regional Board staff intends to work closely with State Water Board, USEPA and other agency staff to assure that the recommended TMDLs will be approvable. The requisite approval process subsequent to Regional Board action is expected to take one to two years.

Once the TMDLs have been approved, appropriate revisions to the requirements in Order No. R8-2007-0041, including a compliance schedule based on that identified in the approved TMDL, will be recommended for Regional Board consideration. Extending the TSO would obviate the need for more immediate action on Order No. R8-2007-0041 and thus conserve the Board's limited permit issuance resources until they would be most effectively utilized.

California Water Code (CWC) Section 13385(j)(3)(C)(ii)(II) provides that following a public hearing, and upon a showing that the discharger is making diligent progress towards bringing the waste discharge into compliance with the effluent limitation, the regional board may extend the time schedule specified in a time schedule order issued to that discharger for an additional period not exceeding five years, if the discharger demonstrates that the additional time is necessary to comply with the effluent limitation.

As described above, the dischargers enrolled in Order No. R8-2007-0041 are making diligent progress toward bringing waste discharges into compliance with selenium effluent limitations and have demonstrated that additional time is necessary to achieve

that compliance. Therefore, per CWC section 13385(j)(3)(C)(ii)(II), it is appropriate to extend the TSO by no more than five years. No other changes to the TSO are necessary.

RECOMMENDATION

Adopt Order No. R8-2013-0060, amending Time Schedule Order No. R8-2009-0069 as presented.

Attachment: Staff report for TSO No. 2009-0069 (December 10, 2009)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2013-0060
AMENDING TIME SCHEDULE ORDER NO. R8-2009-0069

For

DISCHARGERS ENROLLED IN ORDER NO. R8 -2007-0041, NPDES NO. CAG918002, GENERAL DISCHARGE PERMIT FOR DISCHARGES TO SURFACE WATERS OF GROUNDWATER RESULTING FROM GROUNDWATER DEWATERING OPERATIONS AND/OR GROUNDWATER CLEANUP ACTIVITIES AT SITES WITHIN THE SAN DIEGO CREEK/NEWPORT BAY WATERSHED POLLUTED BY PETROLEUM HYDROCARBONS, SOLVENTS, METALS AND/OR SALTS.

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board) finds that:

1. On December 10, 2009, the Board adopted Time Schedule Order (TSO) No. R8-2009-0069 for dischargers enrolled in Order No. R8-2007-0041, NPDES No. CAG918002, General Discharge Permit for Discharges to Surface Waters of Groundwater Resulting from Groundwater Dewatering Operations and/or Groundwater Cleanup Activities at Sites within the San Diego Creek/Newport Bay Watershed Polluted by Petroleum Hydrocarbons, Solvents, Metals and/or Salts. Order No. R8-2007-0041 expired on November 1, 2012 but was administratively extended.
2. TSO No. R8-2009-0069 (the TSO) extended the schedule for final compliance with the effluent limitations for selenium specified in Order No. R8-2007-0041 for a maximum of five years from the date of adoption of the TSO, or no later than December 10, 2014. The compliance date for these limitations specified in Order No. 2007-0041 was no later than December 20, 2009.
3. Issuance of the TSO was appropriate and necessary given the extraordinary challenge of controlling sources of selenium in the Newport Bay watershed and the lack of a readily available conventional treatment technology that could be implemented in a reasonably practicable manner so as to achieve immediate compliance with selenium effluent limitations.
4. The TSO established interim requirements, including the requirement that the dischargers enrolled in Order No. R8-2007-0041 ("Dischargers") shall elect to participate in the Nitrogen and Selenium Management Program (NSMP) and thereby fulfill a schedule of specific tasks submitted by the NSMP Working Group. This schedule of tasks is identified in the TSO.

5. Dischargers enrolled in the TSO have complied with the TSO by participation in the NSMP and the completion of the tasks identified by the NSMP Working Group and specified in the TSO. The tasks included the submittal of a proposed Method of Compliance Workplan/Schedule, or "BMP Strategic Plan"¹, and a proposed regional monitoring program (RMP) for selenium. TSO No. R8-2009-0069 requires that both the BMP Strategic Plan and the Regional Monitoring Program be implemented by the NSMP Working Group within 90 days of their approval by the Regional Board.
6. A draft BMP Strategic Plan was submitted on January 1, 2011. A draft Regional Monitoring Program was submitted on January 3, 2011. These proposed plans were subsequently revised based on comments from Regional Board staff and re-submitted. The revised BMP Strategic Plan, dated September 27, 2013, includes a revised Regional Monitoring Program. The revised Plan, including the RMP, was submitted on October 10, 2013. The revised Plan, including the RMP, was further revised and re-submitted on December 4, 2013. Both plans were approved by the Regional Board's Executive Officer on December 5, 2013.
7. The approved BMP Strategic Plan identifies a three-phase approach to achieve compliance with selenium effluent limitations specified for the groundwater-related discharges regulated under Order No. R8-2007-0041 (and for groundwater dewatering discharges by the City of Irvine that are regulated under Order No. R8-2005-0079). The Strategic Plan includes selenium reduction projects, including the Cienega Field Demonstration Project, the Peters Canyon Wash Pipeline Project and the Santa Ana-Delhi Channel Diversion Project. The Cienega Field Demonstration Project is already in operation, while significant progress to implement the other selenium reduction projects within the next five years is being made by members of the NSMP Working Group and other dischargers. The approved BMP Strategic Plan also includes continued evaluation of potential selenium treatment technologies and adaptive management of selenium control implementation based on the results of monitoring of BMP efficacy and the effects of selenium control implementation on the receiving waters. The Strategic Plan also includes commitments to participate with the Regional Board in the development of selenium site-specific objectives and

¹ The NSMP was formed in response to the adoption of Order No. R8-2004-0021, NPDES No. CAG998002, General Waste Discharge Requirements for Short-Term Groundwater-Related Discharge and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed. Order No. R8-2004-0021 specified selenium limitations for these discharges for the first time. Because no conventional treatment technology was available to achieve immediate compliance with these limitations, Order No. R8-2004-0021 specified a schedule of compliance for these limitations. Responsible parties formed the NSMP Working Group to develop and implement a 5-year workplan designed, in part, to evaluate, develop and make recommendations for the implementation of selenium treatment technologies and other control measures that would enable compliance and achieve applicable water quality standards. As part of the implementation of this 5-year workplan, the NSMP Working Group developed and proposed a BMP Strategic Plan. This proposed Plan is distinct from the BMP Strategic Plan required under the TSO, although it formed the substantive basis for and includes many of the same elements as the Plan required and later submitted under the TSO.

revised selenium TMDLs for the Newport Bay watershed that would supplant the selenium TMDLs promulgated by the U.S. Environmental Protection Agency in 2002.

8. In addition to the development of the draft BMP Strategic Plans and RMPs and significant, costly and complicated multi-agency efforts to implement the Peters Canyon Wash Pipeline Project and other selenium reduction projects, the NSMP Working Group has been actively engaged in selenium-related technical and scientific investigations in the Newport Bay watershed. The intent of these investigations is to support Regional Board staff work to develop revised selenium TMDLs for the Newport Bay watershed. In addition, the investigations are intended to support recommendations for site-specific objectives for selenium for this watershed.
9. The selenium reduction projects that are included in the approved BMP Strategic Plan are expected to remove certain point source selenium discharges to surface waters, including discharges by the City of Irvine (certain groundwater dewatering discharges) and Caltrans (Groundwater Dewatering Facility). In addition, the projects will intercept and divert to the Orange County Sanitation District sewer system diffuse rising/seeping groundwater that contains selenium and that otherwise enters the surface water system. These diffuse groundwater discharges are not presently regulated. Selenium reductions as the result of the diversion projects are expected to be significantly greater than the sum of all remaining selenium loads from other point source dewatering and groundwater cleanup discharges during dry weather.
10. As such, the projects are expected to contribute significantly to the selenium reductions anticipated to be required by the revised selenium TMDLs, and the reductions may or will likely be achieved before the revised selenium TMDLs are approved and become effective for regulatory purposes. The diversion projects are also expected to result in significant reductions in nitrogen discharges to surface waters and thereby contribute to compliance with the Nutrient TMDL established for the San Diego Creek/Newport Bay watershed in 1998.
11. When the TSO was adopted on December 10, 2009, the Board anticipated that revised selenium TMDLs would be considered by the Regional Board in early 2010 and that subsequent, requisite approval of the TMDLs by the State Water Board, Office of Administrative Law and USEPA would follow thereafter in a timely manner. The approval process by these other agencies was anticipated to require at least one and more likely two years. It was recognized that upon final approval, the new TMDLs would be used as the basis for modifications to Order No. R8-2007-0041, including revised selenium effluent limitations and schedules for compliance with these limitations. Order No. R8-2007-0041 was administratively extended, rather than revised and re-issued upon its expiration, given these circumstances and to conserve Regional Board staff resources.

12. Pursuant to the terms of the TSO, the TSO remains in effect for a maximum of five years from its effective date, or December 10, 2014, or until such time as Order No. R8-2007-0041 is re-issued or amended to incorporate revised selenium effluent limitations and/or receiving water limitations that are consistent with the assumptions and requirements of the wasteload allocations contained in Board-approved TMDLs.
13. While, as described in the preceding findings, significant efforts have been and continue to be made by the Dischargers and other members of the NSMP Working Group to develop revised TMDLs and to identify and implement selenium reductions to achieve compliance with selenium effluent limitations, it is recognized that substantive additional work is necessary to achieve these goals. It is anticipated that revised TMDLs will be recommended for adoption by the Regional Board by the end of 2014. A one to two year period thereafter is expected to be necessary to obtain all requisite agency approvals, whereupon the TMDLs would become effective and serve as the basis for revisions to Order No. R8-2007-0041.
14. Concurrent with work to develop and pursue approval of the revised TMDLs, the Dischargers, with other members of the NSMP Working Group, are required to implement the approved BMP Strategic Plan (dated December 4, 2013). This is expected to result in significant reductions in selenium discharges in the Newport Bay watershed, even though specific wasteload and load allocations applicable to these discharges will not become effective for regulatory purposes until the TMDLs receive all requisite approvals.
15. California Water Code (CWC) Section 13385(j)(3)(C)(ii)(II) provides that following a public hearing, and upon a showing that the discharger is making diligent progress towards bringing the waste discharge into compliance with the effluent limitation, the regional board may extend the time schedule specified in a time schedule order issued to that discharger for an additional period not exceeding five years, if the discharger demonstrates that the additional time is necessary to comply with the effluent limitation.
16. As described in the preceding findings, the Dischargers are making diligent progress toward bringing waste discharges into compliance with selenium effluent limitations and have demonstrated that additional time is necessary to achieve that compliance. Per CWC section 13385(j)(3)(C)(ii)(II), it is appropriate to extend the TSO by no more than two years, i.e., to no later than December 10, 2016. The extension will allow the completion of work necessary to complete revised selenium TMDLs and to re-issue Order No. R8-2007-0041 to incorporate revised effluent limitations and other requirements necessary to implement the new TMDLs. No other changes to the TSO are necessary.
17. Issuance of this amendment to the TSO is exempt from the provision of the California Environmental Quality Act (Public Resources Code, Section 21000, *et*

seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

18. Any person adversely affected by this action of the Regional Water Board may petition the State Water Board to review the action. The petition must be received by the State Water Board Office of the Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which the action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request. Information regarding the petition process may also be found at the State Water Board website:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml.

IT IS HEREBY ORDERED THAT:

1. Time Schedule Order No. R8-2009-0069 shall be extended for up to an additional two years, as set forth in Attachment 1, which includes the following amendment:

"7. This Order, as amended by Order No. R8-2013-0060 on December 6, 2013, shall remain in effect for a maximum of two years from its current expiration date, or until December 10, 2016, or until such time as Order No. R8-2007-0041 is re-issued to incorporate revised selenium effluent limitations and other requirements necessary to implement Board approved selenium TMDLs."
2. All other terms and conditions of Time Schedule Order No. R8-2009-0069, as amended, remain in full force and effect.

This Order is effective upon the date of signature.


Kurt V. Berchtold, Executive Officer

December 6, 2013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

TIME SCHEDULE ORDER NO. R8-2009-0069

For

DISCHARGERS ENROLLED UNDER ORDER NO. R8-2007-0041, NPDES NO. CAG918002,
GENERAL DISCHARGE PERMIT FOR DISCHARGES TO SURFACE WATERS OF
GROUNDWATER RESULTING FROM GROUNDWATER DEWATERING OPERATIONS
AND/OR GROUNDWATER CLEANUP ACTIVITIES AT SITES WITHIN THE SAN DIEGO
CREEK/NEWPORT BAY WATERSHED POLLUTED BY PETROLEUM HYDROCARBONS,
SOLVENTS, METALS AND/OR SALTS

As amended by Order No. R8-2013-0060 on December 6, 2013

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board), finds that:

1. In May 2000, the United States Environmental Protection Agency (USEPA) promulgated what is known as the California Toxics Rule (CTR), which consists of numeric water quality criteria for priority toxic pollutants and other water quality standards provisions to be applied to waters in the State of California (State). (See 40 C.F.R. 131.38.) USEPA promulgated the CTR based on a determination that the numeric criteria are necessary to protect human health and the environment. The CTR contains a numeric chronic aquatic life criterion for selenium in freshwater of 5 micrograms per liter (5 µg/L), as total recoverable selenium, and in saltwater of 71 µg/L, as total dissolved selenium. (40 C.F.R. 131.38(b)(1).)
2. The CTR provides the State with discretion in how to implement the relevant criteria. Accordingly, in March 2000, the State Water Resources Control Board ("State Water Board") adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The State Water Board amended the SIP in February 2005 with Resolution No. 2005-0019. USEPA has approved the SIP for use as the State's implementation plan for CTR constituents.
3. On June 14, 2002, USEPA promulgated Total Maximum Daily Loads (TMDLs) for Toxic Pollutants in San Diego Creek and Newport Bay. TMDLs were established for organochlorine compounds, organophosphate pesticides, metals (chromium, cadmium, mercury, copper, lead and zinc) and selenium.
4. The USEPA TMDLs established waste load allocations (WLAs) for discharges of groundwater to surface water for selenium based on the CTR chronic criteria for selenium in freshwater and saltwater. However, USEPA's TMDLs are not self-executing, contain no implementation plan, and have not been incorporated into the Basin Plan for the Santa Ana Region. Neither the State nor Regional Water Board has developed an implementation plan for the USEPA TMDLs.

5. On December 20, 2004, the Regional Water Board adopted General Waste Discharge Requirements for Short-Term Groundwater-Related Discharges and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed, Order No. R8-2004-0021, NPDES No. CAG998002. Pursuant to the SIP, the Regional Water Board incorporated numeric selenium effluent limits based on the CTR chronic freshwater and saltwater aquatic life criteria into Order No. R8-2004-0021, with a compliance schedule requiring compliance with the final effluent limits to be achieved no later than December 20, 2009. As interim compliance measures, Order No. R8-2004-0021 allowed for compliance with the selenium effluent limitations through either an approved offset program or participation in the Nitrogen and Selenium Management Program [NSMP] prior to the December 20, 2009 date.
6. On October 13, 2006, the Regional Water Board adopted Order No. R8-2006-0065, which amended the type and nature of discharges authorized under Order No. R8-2004-0021.
7. On November 30, 2007, the Regional Water Board adopted Order No. R8-2007-0041, NPDES No. CAG918002. Order No. R8-2007-0041 is a general permit that regulates discharges of treated wastewater from groundwater dewatering and/or groundwater remediation activities at sites polluted by petroleum hydrocarbons, solvents, metals and/or salts within the San Diego Creek/Newport Bay watershed. Consistent with Order No. R8-2004-0021, Order No. R8-2007-0041 required compliance with final effluent limits based on the CTR chronic criteria for selenium by no later than December 20, 2009. Order No. R8-2007-0041 has replaced Order No. R8-2004-0021, and Order No. R8-2004-0021 has been rescinded.
8. Order No. R8-2007-0041 was later amended by Order No. R8-2009-0045, which was adopted by the Regional Water Board on July 20, 2009. Order No. R8-2009-0045 amended Order No. R8-2007-0041 by expanding and clarifying the nature of the discharges allowed under Order No. R8-2007-0041.
9. As of the date of this Order, the following entities are enrollees under Order No. R8-2007-0041 ("Existing Dischargers"):

<u>Enrollees</u>	<u>Facility</u>	<u>Effective Date</u>
Ca Dept of Transportation District 12	Dewatering-Irvine-Variou-Newport	6/14/2005
Irvine Company	Dewatering, General	12/20/2004
Newport Beach City	Dewatering, General	9/24/1998
FOOTHILL ENG & DEWATERING, INC	Dewatering, Various, Newport Bay	11/8/2002
Irvine Ranch Water District	Dewatering, Irvine	4/20/2005
Golden State Water Company - Anaheim	Dewatering, Various	4/7/2005
Orange Cnty Flood Control Dist	Dewatering, Irvine-Newport Bay	2/24/2005
Costa Mesa City	Dewatering, C.M.-Newport Bay	3/28/2005

Tustin City	Dewatering, Newport Bay	3/28/2005
Laguna Hills City	Dewatering, Laguna Hills, Newport	3/28/2005
Lake Forest City	Dewatering, Lake Forest, Newport	3/28/2005
Santa Ana City PWD	Dewatering, Santa Ana City	2/24/2006
Mariners Mile Gateway LLC	Potable Water System GW Cleanup-Newport Beach, Orange	10/26/2006
Integral Communities I Inc	GW Cleanup, Sandpoint, Santa Ana	2/27/2008
Irvine City	Lane Channel -Irvine	1/11/2008
G & M Oil Company Inc	GW Cleanup-C.M., Bristol #21 Newport Marina/Bridgeport Project	2/5/2008
ETCO Investment		9/11/2008

Entities that enroll under Order No. R8-2007-0041 after the effective date of this Order are referred to as "Future Dischargers." Any entity that enrolls under Order No. R8-2007-0041 is a "Discharger." Although listed above as an Existing Discharger, the City of Irvine, and potentially others, is not presently discharging under Order No. R8-2007-0041 and the City of Irvine has no present intention of discharging thereunder for the foreseeable future.

10. Section V.A.1.a of Order No. R8-2007-0041 contains final effluent limitations based on CTR criteria for total recoverable selenium for discharges to San Diego Creek and its tributaries at the following levels: (1) the maximum daily concentration limit ($\mu\text{g/L}$) is 8.2; and (2) the average monthly concentration limit ($\mu\text{g/L}$) is 4.1.
11. Section V.A.1.a of Order No. R8-2007-0041 contains final effluent limitations based on CTR criteria for total recoverable selenium for discharges to Upper and Lower Newport Bay at the following levels: (1) the maximum daily concentration limit ($\mu\text{g/L}$) is 116; and (2) the average monthly concentration limit ($\mu\text{g/L}$) is 58.
12. Section V.A.1.b of Order No. R8-2007-0041 provides that compliance with the selenium effluent limitations specified in Section V.A.1.a shall be achieved as soon as possible but no later than December 20, 2009.
13. In response to Order No. R8-2004-0021, many of the San Diego Creek/Newport Bay watershed stakeholders/dischargers established a Nitrogen and Selenium Management Program (NSMP) Working Group. The NSMP Working Group includes representatives from local governments and agencies, developers and other private entities, water districts, State agencies including the Regional Water Board, and environmental groups.
14. Order No. R8-2004-0021 required the NSMP Working Group to develop a work plan to assist in identifying a comprehensive management plan for selenium and nitrogen and, in particular, to identify an approach to address rising groundwater, the largest source of selenium in the watershed. The NSMP Work Plan and

Compliance Strategy (Work Plan) was approved by the Executive Officer of the Regional Water Board in July 2005. The Working Group has been implementing the approved Work Plan since July 2005.

15. The NSMP Work Plan included a number of selenium-related tasks, including the development of a conceptual model for selenium, an evaluation of selenium sources and loads, an assessment of the bioavailability and impacts of selenium on beneficial uses in the watershed, an evaluation of selenium speciation analytical methods, an evaluation and selection of potentially viable Best Management Practices (BMPs) and treatment technologies for selenium, pilot testing of the most promising BMPs/treatment technologies, and, if necessary and/or appropriate, the development of site-specific objectives (SSOs) for selenium.
16. Controlling sources of selenium in the Newport Bay watershed poses extraordinary challenges given the watershed-wide scale of the selenium problem, its diffuse origin (largely rising groundwater) and the limited land available for placement of treatment facilities and BMPs because of the high degree of urbanization in the watershed. In addition, there is currently no readily available, conventional treatment technology that can be implemented in a reasonably practicable manner for point source discharges. In the Newport Bay watershed, approximately 85% of the existing selenium loads in surface waters originates from groundwater, and much of this load (about 78%) results from diffuse rising groundwater, which enters surface waters via springs and seeps in the unlined portions of the channels, and cracks and weepholes in storm drains and the concrete-lined portions of the channels. Discrete, groundwater-related discharges (e.g., groundwater dewatering and cleanup) and other regulated discharges (e.g., urban runoff) account for a relatively small part of the selenium load to surface waters. Therefore, selenium reductions needed to protect beneficial uses are best achieved on a regional, watershed-wide scale, addressing both non-point and point sources.
17. At this time, Regional Water Board staff, in collaboration with the NSMP Working Group, is developing TMDLs and SSOs for selenium in the Newport Bay watershed¹ to be presented for consideration by the Regional Water Board in early 2010 (the "Board TMDLs/SSOs"). Once approved, the SSOs will replace the CTR criteria for the relevant water bodies. As currently designed, implementation of the

¹ The Newport Bay watershed encompasses both upper and lower Newport Bay and its tributaries, San Diego Creek, Santa Ana Delhi, and Big Canyon subwatersheds, and the Costa Mesa and Santa Isabel channels. To date, NPDES permits, TMDLs and amendments to the Basin Plan for the Santa Ana Region have referred to the watershed as the "San Diego Creek/Newport Bay" watershed. However, the County of Orange recently performed a comprehensive evaluation of all the watersheds located within their boundaries with the intent of verifying watershed divisions and nomenclature. The County decided that the San Diego Creek/Newport Bay watershed would simply be referred to as the Newport Bay watershed. All of the County programs, including the NPDES program, and all County documents now refer to the Newport Bay watershed. For consistency with the new nomenclature, these TMDLs/SSOs will also refer to the watershed as the Newport Bay watershed. Similarly, future NPDES permits will employ this nomenclature.

Board TMDLs/SSOs will involve a collaborative watershed-based approach coordinated by and through the NSMP Working Group.

18. Through development of the Board TMDLs/SSOs and the NSMP, considerable new information has been, and continues to be, developed, including scientific and technical information related to the sources of selenium and its potential adverse impacts on beneficial uses in the Newport Bay watershed. This information was not available at the time Order No. R8-2004-0021 was issued, and much of it has been developed since Order No. R8-2007-0041 was issued. This new information indicates that the final CTR-based effluent limitations may not adequately protect beneficial uses within the Newport Bay watershed. Upon final approval of the Board TMDLs/SSOs, Order No. R8-2007-0041 will be revised to incorporate revised selenium effluent limitations and/or receiving water limitations consistent with the assumptions and requirements of the WLAs contained in the Board TMDLs/SSOs, and this Order will be rescinded. These revised limitations will be (and the interim limitations in this Order are) consistent with anti-backsliding requirements of the Clean Water Act.
19. Given the complexity of the selenium problem and the limited practicable treatment technologies, a collaborative watershed-based approach to reducing selenium provides the best opportunity to achieve water quality objectives for selenium and to assure the protection of beneficial uses. Accordingly, to the extent they seek coverage, this Order requires participation in the NSMP by Dischargers to ensure that waste discharges containing selenium are brought into compliance with the CTR-based selenium effluent limitations in as short of a time period as possible. The NSMP has been structured to allow participation by all dischargers (short- and long-term, current and future) enrolled under Order No. R8-2007-0041.
20. Dischargers who do not seek coverage under this Order shall comply with the final CTR-based effluent limitations for selenium no later than December 20, 2009, as provided in Order No. 2007-0041.
21. The following is a schedule of tasks submitted by the NSMP Working Group that will be completed within the next five years.

Task No.	Description of Activity	Compliance Date
1.	Discharger to elect to participate in the Nitrogen and Selenium Management Program (NSMP). (The Discharger's participation in the NSMP will be deemed to fulfill the general requirements outlined below that are not particular discharger tasks, so long as the discharger remains in material compliance with the terms of an executed NSMP Cooperative Watershed Program Funding Agreement.)	By the later of December 20, 2009 or the commencement of any discharge under Order No. R8-2007-0041.
2.	<p>NSMP Working Group to develop and submit a Funding Agreement, including funding for offset, mitigation or trading provisions, to provide a consistent source of funding to address point source and nonpoint source discharges of selenium and nitrogen within the watershed.</p> <p>a. Submit Funding Agreement and then current list of Dischargers participating therein to Regional Water Board</p> <p>b. Execute Funding Agreement</p>	<p>a. July 1, 2010</p> <p>b. Participating dischargers seeking coverage under this TSO to execute Funding Agreement within 180 days of the participating Discharger's approval of the terms of the submitted Funding Agreement</p>
3.	All dischargers are required to submit documentation with their notice of intent (NOI) to discharge that the feasibility of eliminating or reducing the volume of the discharge has been evaluated. The feasibility evaluation options will consist of (1) discharge to land; (2) discharge to sewer; and (3) offsite transport and disposal. Specifications and limitations of the three methods were listed in the NSMP report <i>Volume Reducing Best Management Practices for Short-Term Groundwater Related Discharges within Orange County – August 2005</i>	Ongoing
4.	NSMP Working Group to develop Method of Compliance Workplan/Schedule (BMP Strategic Plan)	

Task No.	Description of Activity	Compliance Date
	<p>a. A proposed BMP Strategic Plan and BMP Effectiveness Monitoring Plan will be developed by the NSMP Working Group for submittal to the Regional Water Board.</p> <p>The BMP Strategic Plan is to include the following elements:</p> <ol style="list-style-type: none"> 1. A description of an approach to implement pollution prevention, source control and treatment control BMPs to meet TMDL targets for selenium; 2. Identification of BMP implementation priority areas that consider the level of biological significance and selenium concerns; 3. Identification of candidate source and/or treatment controls believed important to meet operative TMDL targets, including: <ol style="list-style-type: none"> a. type and approximate locations of controls; b. timing for implementation; c. treatment capacity; d. cost of implementation; and e. anticipated removal rates and/or load reductions 4. Early Action Tasks anticipated to be completed within 5 years from the date of this Order may include: <ol style="list-style-type: none"> a. type and approximate locations of controls; b. timing for implementation; c. treatment capacity; d. anticipated removal rates and/or load reductions; and e. study goals and relevance to future projects 5. A BMP Effectiveness Monitoring Program; 6. Milestones for Plan review, progress assessment and final selection of source and/or technology controls; 7. Final Control Technology Implementation Outline (Phase II) 	<p>a. January 1, 2011</p>
	<p>b. NSMP Working Group to commence implementation of BMP Strategic Plan</p>	<p>b. Within 90 days of Regional Water Board approval.</p>
	<p>c. NSMP Working Group to submit Annual BMP Strategic Plan implementation progress reports with corresponding decision tree schedule dependent on implementation success and subsequent development of selenium reduction technologies with the goal of implementing BMPs which are reasonably feasible to implement and which have been proven to be effective.</p>	<p>c. Annually after Regional Water Board Approval of BMP Strategic Plan</p>
<p>5.</p>	<p>Irrigation Reduction and Control Program Municipal dischargers seeking coverage under this TSO shall adopt an updated Model Water Efficient Landscape Ordinance (A.B. 1881) or one that is "at least as effective as" that Ordinance.</p>	<p>By the later of January 1, 2010 or as required by A.B 1881.</p>
<p>6.</p>	<p>NSMP Working Group to submit and implement Regional Monitoring Program as follows:</p>	

Task No.	Description of Activity	Compliance Date
	a. Regional monitoring program (RMP) for selenium to be submitted to Regional Water Board for approval	a. January 1, 2011
	b. Commence implementation of monitoring program	b. Within 90 days of Regional Water Board approval of RMP
	c. Submit annual monitoring reports	c. Annually after Regional Water Board Approval of RMP

The NSMP Working Group will submit to the Regional Water Board on or before each compliance 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 will be stated, and will include an estimate of the date when the NSMP will be in compliance. The NSMP will notify the Regional Water Board by letter when it returns to compliance with the time schedule.

22. Enrollment and participation in the NSMP Working Group has been established for Existing Dischargers pursuant to their execution of the NSMP Memorandum of Procedure, or pursuant to their execution and Working Group approval of the First Amendment to Memorandum of Procedure. Future Dischargers wishing to enroll and participate in the NSMP Working Group shall establish their enrollment and participation by execution of a duly approved future amendment to the Memorandum of Procedure as amended by the First Amendment of Procedure.
23. This Order provides interim selenium effluent limitations in lieu of the effluent limitations set forth in Order No. R8-2007-0041. Without these interim limitations, Dischargers' waste discharges after December 20, 2009 threaten to exceed the effluent limitations set forth in Findings 10 and 11 of this Order and, thus, threaten to violate Order No. R8-2007-0041.
24. California Water Code (CWC) section 13300 states: "Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to

correct or prevent a violation of requirements.”

25. This Order is issued in accordance with CWC section 13300 and establishes a time schedule for compliance.
26. In accordance with CWC section 13385(j)(3), the Regional Water Board finds that each Discharger may not be able to consistently comply with the final effluent limitations for selenium set forth in Order No. R8-2007-0041. These limitations are new requirements that became applicable to Order No. R8-2007-0041 after the effective date of adoption of the waste discharge requirements, and after July 1, 2000, for which new or modified control measures are necessary in order to comply with the limitations, and the new or modified control measures cannot be designed, tested, installed, and put into operation within 30 calendar days.
27. This Order also applies to Future Dischargers (to the extent they seek coverage hereunder) because in many, if not all cases, they contemplated their discharges at a time when the final effluent limitations for selenium as set forth in Order No. R8-2007-0041 were not yet effective.
28. CWC section 13385(h) and (i) require the Regional Water Board to impose mandatory minimum penalties upon dischargers that violate certain effluent limitations. However, CWC section 13385(j) exempts certain violations from the mandatory minimum penalties. CWC section 13385(j)(3) exempts a discharge from mandatory minimum penalties “where the waste discharge is in compliance with either a cease and desist order issued pursuant to CWC section 13301 or a time schedule order issued pursuant to CWC section 13300, if all the [specified] requirements are met.”
29. Compliance with this Order exempts the Dischargers from mandatory penalties for violations of the effluent limitation for Total Recoverable Selenium, as set forth in section V.A.1.a of Order No. R8-2007-0041 in accordance with CWC section 13385(j)(3).
30. CWC section 13385(j)(3)(A) requires this Order to specify the actions that the Discharger is required to take in order to correct the potential violations that would otherwise be subject to mandatory minimum penalties. This Order requires the Dischargers to develop and implement new or modified control measures designed to achieve compliance with the effluent limitations as set forth in Findings 10 and 11 of this Order.
31. CWC section 13385(j)(3)(D) requires the preparation and implementation of a pollution prevention plan pursuant to CWC section 13263.3. In order to obtain authorization under Order No. 2007-0041, Dischargers are required to demonstrate that they have documented and made all practicable attempts to avoid, reduce or eliminate the discharge of selenium. The reduction/elimination of

selenium discharges may be accomplished through volume reduction, including sewerage. Potential volume reduction measures were evaluated by the NSMP Working Group and three volume reduction BMPs, including sewerage, were deemed feasible. Selenium occurs in the groundwater-related discharges regulated under Order No. 2007-0041 as the result of additions from natural processes not subject to the control of the Dischargers. Therefore, with respect to the selenium discharges addressed by Order No. 2007-0041, the evaluation and implementation of reasonably feasible discharge volume reduction measures, and the evaluation of and adherence to project design features or other practices that result in discharge avoidance fulfill the requirements of a Pollution Prevention Plan.

32. The interim effluent limitations established by this Order for Existing Dischargers shall be performance-based and set at lowest reasonably feasible historical discharge levels, taking into account precipitation-driven and other sources of variation in selenium concentrations; the interim effluent limitations for Future Dischargers shall also be performance-based and set at the lowest reasonably feasible levels based on consideration of requisite pre-discharge selenium quality characterization and historical selenium discharge levels for similar discharges, taking into account precipitation-driven and other sources of variation in selenium concentrations.
32. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, *et seq.*), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.
33. Any person adversely affected by this action of the Regional Water Board may petition the State Water Board to review the action. The petition must be received by the State Water Board Office of the Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which the action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

IT IS HEREBY ORDERED THAT pursuant to CWC Section 13300 and 13385, the Existing Dischargers listed in this Order and Future Dischargers under Order No. R8-2007-0041 shall comply with the following time schedule to ensure compliance with the final effluent limitations for selenium contained in Order No. R8-2007-0041, and as set forth in Findings 10 and 11 herein.

1. Dischargers seeking coverage under this Order shall elect to participate in the Nitrogen and Selenium Management Program (NSMP) and shall provide to the Executive Officer of the Regional Water Board a copy of the Memorandum of Procedure, as amended, showing Discharger's membership in the Working Group.
2. Dischargers seeking coverage under this Order shall re-certify, as required by their Notice of Intent, that they have documented and made all practicable attempts to avoid, reduce or eliminate the discharge of selenium as required by Section II.A.3

of Order No. R8-2007-0041, within 60 days from the date of this Order, or prior to any discharge under Order No. R8-2007-0041, whichever date is later.

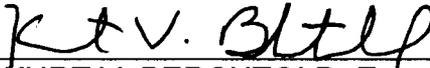
3. Dischargers seeking coverage under this Order shall comply with the following interim effluent limitations for Total Recoverable Selenium during the pendency of this Order; provided the NSMP Working Group is complying with the tasks and process described in Finding 21 during the period of discharge (as established by the Discharger to the satisfaction of the Executive Officer), such Dischargers shall be deemed in compliance with this Order:
 - a. Existing Dischargers shall submit to the Executive Officer for approval, no later than 60 days following the adoption of this Order, a performance-based selenium effluent limitation that is based on historical selenium discharge levels (e.g., the lowest reasonably feasible concentration based on their historical selenium discharges). Upon approval by the Executive Officer, such Discharger must not exceed this interim effluent limitation during the pendency of this Order.
 - b. Future Dischargers shall submit to the Executive Officer for approval, prior to any discharge authorized under Order No. R8-2007-0041, a performance-based effluent limitation for selenium that is based on the requisite pre-discharge characterization of selenium quality and consideration of historical selenium discharge concentrations for similar discharges (e.g., the lowest reasonably feasible concentration based on prior selenium discharges and historical practices, if any, and those of other similarly-situated dischargers). Upon approval by the Executive Officer, such Discharger must not exceed this interim effluent limitation during the pendency of this Order.
4. Dischargers who enroll under Order No. R8-2007-0041 but who do not seek coverage under this Order shall comply with final effluent limitations for selenium by no later than December 20, 2009, as set forth in Order No. R8-2007-0041.
5. If, in the opinion of the Regional Water Board Executive Officer, any Discharger seeking coverage under this Order fails to comply with the provisions of this Order, the Executive Officer may apply to the State Attorney General for judicial enforcement or issue a complaint for Administrative Civil Liability. If compliance with this Order is not achieved, the Discharger would not be exempt from the mandatory minimum penalties for violation of certain effluent limitations, and may be subject to issuance of a Cease and Desist Order in accordance with CWC section 13301.

6. Any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

7. This Order, as amended by Order No. R8-2013-0060 on December 6, 2013, shall remain in effect for a maximum of two years from its current expiration date, or until December 10, 2016, or until such time as Order No. R8-2007-0041 is re-issued to incorporate revised selenium effluent limitations and other requirements necessary to implement Board approved selenium TMDLs.

This Order is effective upon the date of signature.



KURT V. BERCHTOLD, Executive Officer

Originally issued on December 10, 2009
Amended on December 6, 2013 (Order No. R8-2013-0060)

**California Regional Water Quality Control Board
Santa Ana Region**

December 10, 2009

Item: 9

Subject: Issuance of Time Schedule Order No. R8-2009-0069 for Dischargers Enrolled in Order No. R8-2007-0041, NPDES No. CAG918002, General Discharge Permit for Discharges to Surface Waters of Groundwater Resulting from Groundwater Dewatering Operations and/or Groundwater Cleanup Activities at sites within the San Diego Creek/Newport Bay Watershed Polluted by Petroleum Hydrocarbons, Solvent, Metals and/or Salts.

Summary:

The issuance of Time Schedule Order (TSO) No. R8-2009-0069 is appropriate and necessary to provide additional time for dischargers in the Newport Bay watershed to come into compliance with numeric effluent limitations for selenium that are specified in Order No. R8-2007-0041, which requires compliance with those limitations no later than December 20, 2009. The numeric selenium limitations are based on the current selenium water quality objectives established by the California Toxics Rule (CTR).

Total Maximum Daily Loads (TMDLs) and site-specific objectives (SSOs) for selenium are being developed by Regional Board staff in collaboration with the Nitrogen and Selenium Management Program (NSMP) Working Group. The TMDLs include numeric targets and allocations based on (i) the recommended selenium SSOs for the Newport Bay watershed, and, in the event the SSOs are not adopted, (ii) current CTR selenium objectives. These TMDLs and SSOs are expected to be presented to the Regional Board for consideration in the spring of 2010.

When approved, the selenium SSOs will replace the existing CTR-based water quality objectives for the Newport Bay watershed. The selenium effluent limitations in Order No. R8-2007-0041 will be revised as necessary in response to the approved TMDLs/SSOs.

The proposed TMDLs include an implementation plan and a schedule for compliance that will serve as the basis for a revised schedule for compliance with the selenium effluent limitations in Order No. R8-2007-0041. However, the compliance schedule authorization provided by the TMDLs will not become effective for the purposes of revising Order No. R8-2007-0041 until the TMDLs are approved by the USEPA. The TMDL approval process is expected to take more than one year. The TSO will extend the schedule for compliance with the numeric selenium effluent limitations in Order No. R8-2007-0041 for a maximum

of five years from the date of adoption of the TSO. This compliance schedule extension will allow the TMDL/SSO approval and permit amendment processes to be completed such that an appropriate compliance schedule, effluent limitations, and other requirements can be incorporated in the waste discharge requirements. This compliance schedule extension is appropriate because of the very significant commitment of resources by the NSMP Working Group to assist in the development of the selenium TMDLs/SSOs and a cutting-edge regional selenium management program (including development of selenium treatment technologies) for the Newport Bay watershed that will result in the achievement of water quality standards for a very difficult-to-address bioaccumulative pollutant.

Discussion:

In 2002, as part of a number of TMDLs for toxic pollutants, USEPA promulgated TMDLs for selenium for the San Diego Creek subwatershed and both Upper and Lower Newport Bay, based primarily on exceedance of the currently applicable CTR selenium criteria for freshwater, as well as trends in selenium concentrations in freshwater fish tissue and the proximity of Newport Bay to the San Diego Creek subwatershed. Rising groundwater in the San Diego Creek subwatershed is the primary source of selenium to the Bay.

In December 2004, the Regional Board adopted Order No. R8- 2004-0021, NPDES No. CAG998002, General Waste Discharge Requirements for Short-Term Groundwater-Related Discharges and De Minimus Wastewater Discharges to Surface Waters within the San Diego Creek/Newport Bay Watershed. Prior to the issuance of Order No. R8-2004-0021, most dewatering and other types of groundwater discharges in the watershed were considered insignificant, or "de minimus", contributors of pollutants and had been regulated under the Regional Board's general de minimus NPDES permit. The issuance of Order No. R8-2004-0021 was necessitated by the recognition that groundwater-related discharges in the Newport Bay watershed had the potential to contribute selenium to the surface waters in the watershed and that such discharges could no longer be considered insignificant in light of the findings of selenium impairment leading to the USEPA TMDLs. Order No. R8-2004-0021 included final numeric water quality based effluent limitations for selenium discharges based on the applicable CTR selenium criteria.

In adopting Order No. R8-2004-0021, the Regional Board also recognized that there were no conventional selenium treatment technologies that could be applied to achieve the selenium limitations and that, therefore, immediate compliance with the selenium limitations in the Order would likely be infeasible for many dischargers. Accordingly, Order No. R8-2004-0021 includes a schedule for compliance with the final numeric selenium limitations. Pursuant to the compliance schedule provisions of the State Board's policy for

implementation of the CTR criteria (the "SIP"¹), Order No. R8-2004-0021 included a maximum five-year schedule for compliance with the selenium limitations, i.e, compliance with the selenium limitations was to be achieved as soon as possible but no later than December 20, 2009.

Numerous stakeholders within the Newport Bay watershed expressed ongoing concern that ultimate compliance with the selenium limitations, even with the five-year compliance schedule, would be highly problematic, given the lack of available, practicable treatment technology that could achieve the requisite selenium reductions. This concern, coupled with concerns about the validity and effectiveness of the CTR criteria for protecting biological resources in the watershed, prompted the formation of a voluntary program known as the Nitrogen and Selenium Management Program (NSMP), sponsored by the NSMP Working Group. The Working Group is comprised of many stakeholders in the Newport Bay watershed, including the County of Orange, municipalities within the watershed, other dischargers, and several environmental organizations. The Regional Board is a non-funding member of the Working Group. The Working Group proposed to develop and implement a five-year Work Plan designed to evaluate and recommend refinements to the USEPA selenium TMDLs, to develop treatment technologies and an appropriate implementation plan for the refined TMDLs, and to consider recommendations for a site-specific selenium objective for the Newport Bay watershed that would supplant the CTR selenium criteria².

Order No. R8-2004-0021 included requirements that reflected the proposed NSMP Working Group approach and required the development, Regional Board approval, and thence implementation of a Work Plan to accomplish those specific tasks. Order No. R8-2004-0021 provided that participation by dischargers in the NSMP Working Group and effective and timely implementation of the approved Work Plan would constitute interim, performance-based limitations. The Order also allowed dischargers who did not wish to participate in the NSMP Working Group to implement a program approved by the Executive Officer to offset selenium discharges in excess of the final numeric effluent limitations. Steps to implement that offset program were considered interim, performance-based limitations. The intent of the offset program was to assure that there would be no net loading of selenium to surface waters in the Newport Bay watershed as the result of the discharges prior to full compliance with the final numeric effluent limitations.

In 2007, the Regional Board adopted Order No. R8-2007-0041 as part of a permit streamlining effort. Like Order No. R8-2004-0021, Order No. R8-2007-

¹ "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California"

² The Working Group also committed to perform work to support the review of the Nutrient TMDL established for the Newport Bay watershed in 1998 and to formulate a nutrient management plan.

0041 regulates groundwater-related discharges but also includes requirements for discharges from groundwater cleanup operations within the Newport Bay watershed. This combined approach obviates the need for dischargers who may need authorization for both types of discharges to obtain coverage under both permits, for which payment of both permit fees would be required. Order No. R8-2007-0041 includes the same NSMP/offset interim performance-based limitations as Order No. R8-2004-0021. Consistent with the SIP, Order No. R8-2007-0041 maintains the same compliance schedule for achieving compliance with final numeric water quality based effluent limitations for selenium as Order No. R8-2004-0021, i.e., compliance with the final numeric effluent limitations must be achieved no later than December 20, 2009.³ Discharge authorization for enrollees under Order No. R8-2004-0021 has been transferred to Order No. R8-2007-0041 and Order No. R8-2004-0021 now has been rescinded.

The approved NSMP Work Plan has now been essentially completed and has resulted in recommended, revised TMDLs, including an implementation plan. The TMDLs, including the implementation plan, are continuing to be refined further and are expected to be presented as a Basin Plan amendment for the Regional Board's consideration in the spring of 2010. Further, the NSMP Working Group effort has resulted in specific recommendations for site-specific objectives (SSOs) for selenium for the Newport Bay watershed. When fully approved, these SSOs will replace the CTR-based objectives for selenium in the Newport Bay watershed. These SSOs are reflected in the TMDLs to be recommended to the Regional Board and will be included in the Basin Plan amendment package to be considered by the Regional Board in the spring of 2010. In the event the SSOs are not adopted, the TMDLs also include alternative CTR-based numeric targets and allocations.

The proposed TMDLs currently include a recommended compliance schedule of a maximum of 15 years from the date the TMDLs become effective. The TMDLs become effective for NPDES and other Clean Water Act purposes once they are approved by USEPA. Once the TMDLs are fully approved, including by USEPA, the compliance schedule authorization provided in the TMDLs can be used as the basis for including compliance schedules for selenium limitations in NPDES permits. Once the TMDLs are finally approved, Regional Board staff will recommend specific revisions to Order No. R8-2007-0041 (and/or the issuance of a new permit, as appropriate) to incorporate requirements consistent with the TMDLs, including revised schedules for compliance and selenium effluent limitations (including, potentially, narrative or performance-based limitations). However, until the TMDL approval process is completed, the effective compliance date for those limits are those established in the existing Order. The TSO will provide for compliance with the existing Order.

³ The first time that the selenium-related discharges were subject to CTR-based effluent limitations was in Order No. R8-2004-0021, and discharges were required to meet CTR-based effluent limits no later than December 20, 2009.

While significant progress has been made to identify potential selenium treatment technologies (including regional treatment), compliance with the final numeric selenium limitations in Order No. R8-2007-0041 on December 20, 2009 remains infeasible for many dischargers. A significant amount of work remains to be done to further evaluate potential treatment technologies to assure their efficacy before costly, full-scale implementation is considered. The Working Group has prepared a draft BMP Strategic Plan that outlines the steps proposed to further address selenium BMP evaluation and implementation over the fifteen year period currently proposed by the draft TMDLs. Implementation of the BMP Strategic Plan is expected to result in compliance with the draft TMDLs and, thereby, water quality standards (as they may or may not be amended by the SSOs). The development and implementation of such a BMP plan is a requirement of the draft TMDLs for dischargers who elect to comply with applicable allocations through the NSMP process.

Absent additional compliance schedule relief, after December 20, 2009, groundwater-related discharges by the dischargers enrolled in Order No. R8-2007-0041 may result in violations of the final selenium effluent limitation in that Order. Such violations would likely result in the imposition of mandatory minimum penalties pursuant to section 13385 of the California Water Code.

Controlling sources of selenium inputs to surface waters in the Newport Bay watershed poses extraordinary challenges. As stated above, there is currently no readily available, conventional treatment technology that can be implemented in a reasonably practicable manner for point source or non-point sources of selenium. Further, in the Newport Bay watershed, approximately 85% of the existing selenium loads in surface waters originates from groundwater, and much of this load (about 78%) results from diffuse rising groundwater, which enters surface waters via springs and seeps in the unlined portions of the channels, and cracks and weepholes in storm drains and the concrete-lined portions of the channels. Discrete, groundwater-related discharges (e.g., groundwater dewatering and cleanup) and other regulated discharges (e.g., urban runoff) account for a relatively small part of the selenium load to surface waters. It is evident that selenium reductions needed to protect beneficial uses would be best achieved on a regional, watershed-wide scale.

The NSMP Working Group has made, and continues to make significant commitments of resources to develop a proposed watershed-wide selenium management strategy that will address rising groundwater, as well as dewatering and other types of discharges. The TMDLs that will be recommended to the Regional Board in early spring 2010 rely to a significant degree on that management strategy and its implementation. In light of those significant commitments by the Working Group, that a management strategy has been identified that is believed will achieve water quality standards but requires additional time to be approved and implemented, and in view of the recognized need to provide more time to evaluate and implement effective selenium

treatment BMPs, it is appropriate to provide additional schedule relief for compliance with the numeric selenium limitations in Order No. R8-2007-0041. Additional compliance schedule relief will allow for full approval of the TMDLs/SSOs and revision of the Order to incorporate revised compliance schedules and effluent limitations consistent with the TMDLs. The issuance of the TSO will not delay ultimate compliance with the TMDLs. Rather, the TSO will merely provide additional time for approval of the TMDLs/SSOs while protecting the dischargers who have committed and will commit significant resources to their development and implementation from enforcement for violations of Order No. R8-2007-0041.

California Water Code section 13300 states: "Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements." A detailed time schedule of actions proposed to address final selenium effluent limitation compliance has been submitted and is reflected in Tentative TSO No. R8-2009-0069. Dischargers seeking coverage under the TSO are required to implement these tasks in accordance with the schedule identified.

Once the TMDLs are approved and Order No. R8-2007-0041 is revised accordingly, including a revised schedule for compliance and selenium effluent limitations, the TSO will be rescinded.

Recommendation: Adopt Time Schedule Order No. R8-2009-0069 as presented.