

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

December 10, 2009

Item: 10

Subject: Issuance of Time Schedule Order No. R8-2009-0070 for the City of Irvine Groundwater Dewatering Facilities, Order No. R8-2005-0079, NPDES No. CA8000406

Summary:

The issuance of Time Schedule Order (TSO) No. R8-2009-0070 is appropriate and necessary to provide additional time for the City of Irvine to come into compliance with numeric effluent limitations for selenium that are specified in Order No. Order No. R8-2005-0079, which requires compliance with those limitations no later than December 21, 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 Working Group, which includes the City of Irvine. 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 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. R8-2005-0079 will be revised as necessary in response to the approved TMDLs/SSOs.

The proposed TMDLs include an implementation plan and a schedule of compliance that will serve as the basis for a revised schedule for compliance with the selenium effluent limitations in Order No. 2005-0079. However, the compliance schedule authorization provided by the TMDLs will not become effective for the purposes of revising the Order 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. R8-2005-0079 for a maximum of five years from the date of adoption of the TSO or until such time as Order No. R8-

2005-0079 is re-issued¹. 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 waste discharge requirements for the City's discharges. This compliance schedule extension is appropriate because of the very significant commitment of resources by the City of Irvine, toward the Cienega Field Demonstration Project, and as a member of the NSMP Working Group, to assist in the development of the selenium TMDLs/SSOs and the development, early implementation and continued operation of a cutting-edge regional selenium management program (including development of selenium treatment technologies, like the Cienega Project, that are identified in the draft BMP Strategic Plan) 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 in 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

¹ Order No. R8-2005-0079 expires on November 1, 2010. When the Order is re-issued, appropriate changes to the TSO to reflect the new Order will be considered.

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"²), 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, the City of Irvine and other 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 criteria³.

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

² "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California"

³ 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.

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. R8-2007-0041 regulates groundwater-related discharges but also includes requirements for discharges from groundwater cleanup operations within the Newport Bay watershed.. 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, 2009.⁴ 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.

In November 2005, the Regional Board adopted Order No. R8-2005-0079, NPDES No. CA8000406 for the City of Irvine dewatering facilities. Order No. R8-2005-0079 authorizes the City to pump/extract and discharge groundwater to surface waters as necessary to lower the groundwater level at two roadway/railroad undercrossings and at a roadway crossing. Order No. R8-2005-0079 includes substantially similar selenium-related requirements as those provided in Order R8-2004-0021 (and in Order No. R8-2007-0041). Order No. R8-2005-0079 specifies numeric water quality based effluent limitations based on the CTR criteria and requires compliance with those limitations no later than December 21, 2009. Order No. R8-2005-0079 makes application of this compliance schedule contingent on the implementation of one of two alternatives: the City's participation as a member of the NSMP Working Group and implementation of an approved Work Plan by the NSMP Working Group; or, alternatively, implementation by the City of an approved offset program, which program was to be completed no later than December 21, 2009.

As noted above, the City is a member of the NSMP Working Group and has funded and participated in the development and implementation of the Work Plan. In addition, the City has committed significant resources to implement, in conjunction with the Irvine Ranch Water District (IRWD), an approved offset program, namely, the Cienega Field Demonstration Project. The Cienega Field Demonstration Project entails subsurface treatment to remove selenium from surface water flows diverted to the facility. The Cienega Project is included in the draft BMP Strategic Plan developed by the NSMP Working Group and will be considered for full-scale implementation if its selenium removal efficacy and cost-effectiveness are demonstrated. Implementation of an approved BMP Strategic

⁴The 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.

Plan is central to the implementation plan for the proposed Regional Board TMDLs. The City has indicated its interest in continuing to support the Cienega Project, both as a means to provide ongoing selenium offsets and as part of the comprehensive strategy, developed by the Regional Water Board in collaboration with the NSMP Working Group, to accomplish selenium reductions needed to meet the TMDLs and, thereby, water quality standards.

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. R8-2005-0079 (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 dates for those limits are those established in the existing Order. The TSO will provide for compliance with the existing Order. .

While significant progress has been made to identify potential selenium treatment technologies (including regional treatment), compliance with the final numeric selenium limitations in Order 2005-0079 on December 21, 2009 remains infeasible for the City. 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. As previously noted, the draft BMP Strategic Plan includes the Cienega Field Demonstration Project, which may implemented on a

full-scale basis if its efficacy and cost-effectiveness are demonstrated. 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 21, 2009, dewatering discharges by the City of Irvine pursuant to Order No. R8-2005-0079 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 source discharges 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, addressing both non-point and point sources.

The City of Irvine, individually and as a member of the NSMP Working Group, has made, and continues to make significant commitments of resources to develop and implement a proposed watershed-wide selenium management strategy and the Cienega Project, a regional BMP identified in the draft BMP Strategic Plan, to 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 R8-2005-0079. 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 TSOs will merely provide additional time for approval of the TMDLs/SSOs while protecting the City, which has committed and will commit significant resources to their development and implementation from enforcement for violations of Order No. R8-2005-0079.

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." Tentative TSO R8-2009-0070 requires the discharger to continue to participate in the operation of the Cienega Field Demonstration Project and to demonstrate that the operation of that facility provides selenium removal necessary to offset ongoing selenium discharges by the City that exceed the final selenium effluent limitations specified in Order No. R8-2005-0079., or, alternatively, to continue participation in the NSMP Working Group. If the latter alternative is selected, the City is required to provide to the Executive Officer a copy of the Memorandum of Procedure, as amended, or Cooperative Watershed Program Funding Agreement, as applicable, showing the Discharger's membership in the Working Group. A detailed time schedule of actions proposed to address final selenium limitation compliance by participants in the NSMP Working Group has been submitted and is reflected in Tentative TSO No. R8-2009-0070. The City is required to demonstrate, to the satisfaction of the Executive Officer, that the NSMP Working Group is implementing these tasks in accordance with the schedule identified in the TSO, in the event that the City elects to comply through participation in the NSMP Working Group.

Once the TMDLs/SSOs are approved and Order R8-2005-0079 is revised accordingly, including a revised schedule for compliance and selenium effluent limitations, this TSO will be rescinded.

Recommendation: Adopt Time Schedule Order No. R8-2009-0070, as presented.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

TIME SCHEDULE ORDER NO. R8-2009-0070

For

CITY OF IRVINE, GROUNDWATER DEWATERING FACILITIES, ORDER NO. R8-2005-0079, NPDES NO. CA8000406, IRVINE, ORANGE COUNTY

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 November 18, 2005, the Regional Water Board adopted Order No. R8-2005-0079, NPDES No. CA8000406 for groundwater dewatering discharges by the City of Irvine ("City" or "Discharger"). 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. R8-2005-0079, with a compliance schedule requiring compliance with the final effluent limits to be achieved no later than December 21, 2009. As interim compliance measures, Order No. R8-2005-0079 allowed for compliance with the selenium effluent limitations through either an approved offset program, which offset was to be completed no later than December 21, 2009, or by participation in the Nitrogen and Selenium Management Program [NSMP] prior to the December 21, 2009 date.

6. Section IV.A.1.a of Order No. R8-2005-0079 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 8.4; and (2) the average monthly concentration limit ($\mu\text{g/L}$) is 4.0.
7. Section IV.A.1.b of Order No. R8-2005-0079 provides that compliance with the selenium effluent limitations specified in Section IV.A.1.a shall be achieved as soon as possible but no later than December 21, 2009.
8. On December 20, 2004, the Regional Water 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 specified selenium effluent limitations and other requirements substantially similar to those specified in Order No. R8-2005-0079. In response to the issuance of Order No. R8-2004-0021, many of the San Diego Creek/Newport Bay watershed stakeholders/dischargers established a voluntary 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. The City of Irvine is a member of the NSMP Working Group.
9. Order No. R8-2004-0021 permitted, among other things, the dischargers thereunder to achieve interim compliance with the selenium limits set forth in such Order by the efforts of the NSMP Working Group in developing and implementing 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, including the City of Irvine, has been implementing the approved Work Plan since July 2005.
10. 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 now been rescinded. 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.

11. The NSMP Work Plan included a number of selenium-related tasks for the Newport Bay watershed that were designed to inform review and refinement of the USEPA selenium TMDLs and adoption of selenium TMDLs, including an implementation plan, by the Regional Water Board. These tasks included 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. The results of these efforts provide the basis for a comprehensive selenium management strategy for the Newport Bay watershed that is identified in the implementation plan for the Regional Water Board's proposed selenium TMDLs. The Working Group efforts include the development of a draft BMP Strategic Plan that is a central part of the recommended TMDL implementation plan.
12. 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.

13. At this time, Regional Water Board staff, in collaboration with the NSMP Working Group, including the City of Irvine, is developing TMDLs and SSOs for selenium in the Newport Bay watershed¹ to be presented for consideration by the Regional Water Board in the spring of 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 Board TMDLs/SSOs will involve, in large part, a collaborative watershed-based approach coordinated by and through the NSMP Working Group, as well as individual compliance plans to allow individual dischargers the ability to meet their assigned waste load allocations through separate compliance plans.
14. 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. R8-2005-0079 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. R8-2005-0079 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.
15. As noted in Findings 8 and 9, the City is a member of the NSMP Working Group and has been working with other members to implement the approved Work Plan. In addition, the City has implemented, in conjunction with the Irvine Ranch Water District (IRWD), an approved offset program, namely, the Cienega Field Demonstration Project. The Cienega Field Demonstration Project entails subsurface treatment to remove selenium from surface water flows diverted to the facility. The Cienega Project is included in the NSMP Working Group draft Strategic Plan and will be considered for full-scale implementation if its selenium removal efficacy and cost-effectiveness are demonstrated. The City has indicated

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.

its interest in continuing to support the Cienega Project, both as a means to provide ongoing selenium offsets and as part of the comprehensive strategy, developed by the Regional Water Board in collaboration with the NSMP Working Group, to accomplish selenium reductions needed to meet water quality standards.

16. 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, this Order provides the option for the City to continue to participate in the NSMP Working Group to ensure that waste discharges containing selenium are brought into compliance with the CTR-based selenium effluent limitations in Order No. R8-2005-0079 in as short of a time period as possible. Alternatively, this Order provides the option for the City to continue to rely on selenium reductions provided by the City's (and IRWD's) operation of the Cienega Field Demonstration Project to offset selenium discharges during the pendency of this Order. As stated in Finding 14, once the Regional Water Board TMDLs/SSOs are approved, including the implementation plan, Order No. R8-2005-0079 will be revised to include limitations and other requirements necessary to implement the TMDLs/SSOs. This will include requirements consistent with the collaborative, watershed-wide approach that is anticipated in the proposed TMDL implementation plan.

17. The following is a schedule of tasks submitted by the NSMP Working Group, which will be completed within the next five years under Time Schedule Order No. R8-2009-0069 for Order No. R8-2007-0041. (For the purposes of this table, references to "Discharger" are to dischargers authorized under Order No. R8-2007-0041 and who elect to continue to participate in the NSMP Working Group through the execution of a Cooperative Watershed Program Funding Agreement).

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.	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.	
	a. Submit Funding Agreement and then current list of Dischargers participating therein to Regional Water Board	a. July 1, 2010

Task No.	Description of Activity	Compliance Date
	b. Execute Funding Agreement	b. Participating dischargers seeking coverage under TSO R8-2009-0069 to execute Funding Agreement within 180 days of the Discharger's approval of the terms of the submitted Funding Agreement
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, which may continue to include the City of Irvine, 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.

18. This Order provides interim selenium effluent limitations in lieu of the effluent limitations set forth in Order No. R8-2005-0079. Without these interim limitations, the Discharger's waste discharges after December 21, 2009 threaten to exceed the effluent limitations set forth in Finding 6 of this Order and, thus, threaten to violate Order No. R8-2005-0079.
19. 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."
20. This Order is issued in accordance with CWC section 13300 and establishes a time schedule for compliance.
21. In accordance with CWC section 13385(j)(3), the Regional Water Board further finds that the Discharger may not be able to consistently comply with the final effluent limitations for selenium set forth in Order No. R8-2005-0079. These

limitations are new requirements that became applicable to Order No. R8-2005-0079 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.

22. 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."
23. Compliance with this Order exempts the Discharger from mandatory penalties for violations of the effluent limitation for Total Recoverable Selenium, as set forth in section IV.A.1.a of Order No. R8-2005-0079 in accordance with CWC section 13385(j)(3).
24. CWC section 13385(j)(3)(A) requires this Order to specify the actions that the Discharger is required to take in order to address the potential violations that may otherwise be subject to mandatory minimum penalties. This Order requires the Discharger to develop and implement new or modified control measures designed to achieve compliance with the effluent limitations as set forth in Finding 6 of this Order.
25. CWC section 13385(j)(3)(D) requires the preparation and implementation of a pollution prevention plan pursuant to CWC section 13263.3. The Discharger was required to demonstrate and has demonstrated 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. 2005-0079 as the result of additions from natural processes not subject to the control of the Discharger. Therefore, with respect to the selenium discharges addressed by Order No. 2005-0079, 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.
26. The interim effluent limitations established by this Order for the Discharger shall be performance-based and set at the lowest reasonably feasible historical discharge

levels, taking into account precipitation-driven and other sources of variation in selenium concentrations.

27. 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.
28. 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.
29. The Regional Board recognizes that the City disagrees with the rationale behind and need for this Order. The City maintains that it is and will continue to be in compliance with the final effluent limitations set forth in Section IV.A.1.a of Order No. R8-2005-0079 after December 21, 2009 through the continued operation of an approved offset (the Cienega Field Demonstration Project) pursuant to section IV.A.1.c of Order No. R8-2005-0079. Accordingly, the City accepts this Order without conceding this argument.

IT IS HEREBY ORDERED THAT pursuant to CWC Section 13300 and 13385, the Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for selenium contained in Order No. R8-2005-0079, and as set forth in Finding 6 herein.

1. Throughout the term of this Order, the Discharger shall either (a) continue to implement the Cienega Field Demonstration Project, as approved by the Executive Officer on April 26, 2007, and in accordance with the conditions of approval set forth by the Executive Officer therein, or (b) continue to participate in the Nitrogen and Selenium Management Program (NSMP). The Discharger shall notify the Executive Officer of its election in this regard within thirty (30) days of the effective date of this Order, and within thirty (30) days of any decision of the Discharger to change its election hereunder. If the Discharger, at any time, elects compliance with this Order through participation with the NSMP, then the Discharger shall provide to the Executive Officer of the Regional Water Board a copy of the Memorandum of Procedure, as amended, or Cooperative Watershed Program Funding Agreement, as applicable, showing the Discharger's membership in the Working Group.
2. The Discharger shall re-certify that they have documented and made all practicable attempts to avoid, reduce or eliminate the discharge of selenium within 60 days from the date of this Order, or prior to any discharge under Order No. R8-2005-0079, whichever date is later.

3. If the Discharger elects compliance with this Order through its continued participation with the NSMP, then the Discharger shall comply with the following interim effluent limitation for Total Recoverable Selenium during the pendency of this Order and if so, the Discharger shall be deemed to be in compliance with this Order, provided the Discharger, as a member of the NSMP Working Group, is complying with the tasks and process described in Finding 17 during the period of discharge (as established by the Discharger to the satisfaction of the Executive Officer):
 - a. The Discharger shall submit to the Executive Officer for approval, no later than 60 days following the adoption of this Order, a performance-based effluent limitation for selenium that is based on historical selenium discharge concentrations (e.g., the lowest reasonably feasible concentration based on their historical selenium discharges). Upon approval by the Executive Officer, the Discharger must not exceed this interim effluent limitation during the pendency of this Order.
4. If the Discharger elects compliance with this Order by providing selenium offsets through its continued operation of the Cienega Field Demonstration Project, then the Discharger shall continue to comply with the offset monitoring and reporting requirements included in Order No. R8-2005-0079 to demonstrate that requisite selenium offsets have been achieved.
5. If, in the opinion of the Regional Water Board Executive Officer, the Discharger 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 the 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 shall remain in effect for a maximum of five years from the effective date or until such time as Order No. R8-2005-0079 is re-issued, or amended to incorporate the revised selenium effluent limitations and/or receiving water limitations that are consistent with the assumptions and requirements of the WLAs contained in the approved Board TMDLs/SSOs.

This Order is effective upon the date of signature.



GERARD J. THIBEAULT, Executive Officer

December 10, 2009