CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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CEASE AND DESIST ORDER NO. R4-2018-0023-A01
AMENDMENT TO ORDER NO. R4-2018-0023
FOR
CITY OF SANTA PAULA
(SANTA PAULA WATER RECYCLING FACILITY)
(FILE NO. 06-189)

The purpose of this amendment to Cease and Desist Order (CDO) No. R4-2018-0023 is to revise interim milestones and timelines to reflect the development of the advanced wastewater treatment system with a reverse osmosis process to reduce chloride levels in the discharge from the Santa Paula Water Recycling Facility (SPWRF). The amendment to the CDO also reflects a change from mass-based effluent limitations to concentration-based limitations that will ensure direct attainment of water quality objectives. The proposed upgrade to the SPWRF to add an advanced treatment system replaces the previous compliance approach to recycle water for offsite use. ***Reducing the chloride concentration in the effluent prior to discharge to onsite percolation ponds provides greater benefit to groundwater quality than reducing onsite chloride discharge through offsite use of recycled water within the same groundwater basin as proposed in the original CDO.***

Cease and Desist Order No. R4-2018-0023 is hereby amended as follows:

(Language deleted is ~~struck through~~)

(Language added is **bold and underlined**)

Please note that the numbers of the paragraph, table, and figure are adjusted accordingly.

1. On page 1, paragraph No. 1, the operator of the Santa Paula Water Recycling Facility is revised as follows:

   The City of Santa Paula (City or Discharger) is the owner of the Santa Paula Water Recycling Facility (SPWRF), a Publicly-Owned Treatment Works (POTW), located at 920 Corporation Street in Santa Paula, California (Figure 1). The SPWRF operated by ~~American Water~~ **Ventura Regional Sanitation District** discharges tertiary-treated wastewater to groundwater via three percolation ponds adjacent to the facility.

2. Portions of paragraph No. 4 are revised as follows:

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Table 1. Annual Average Chloride Concentrations[1] (milligrams per liter, mg/L) in SPWRF Effluent

Period	Effluent of SPWRF
2010	156
2011	153
2012	149
2013	155
2014	145
2015	134
2016	137
2017 ~~(Jan – Jun)~~	~~141~~**131**
2018	**121**
2019	**120**
2020	**118.88**
2021	**112**
Range[2]	~~144.4~~**135.99** ± ~~8.2~~**15.61**

Table 1 notes:

[1] All data were collected from grab samples.

[2] Data range is based on one standard deviation.

D. The chloride interim effluent limit of 1,983 lbs/day was exceeded twice between 2018 and 2021: 2,040 lbs/day in February 2021, calculated from February 8, 2021 through March 7, 2021, and 2,030 lbs/day in March 2021, calculated from March 8, 2021 through April 7, 2021.

E. The chloride interim groundwater limitation was exceeded at downgradient wells AW01 in July 2018 and at AW03 in August 2020.

3. Portions of paragraph No. 6 are revised as follows:

C. On June 22, 2015, the City adopted Resolution No. 6918 approving a SRWS Buyback and Incentive Program. This program offers a financial incentive to residents to voluntarily remove SRWS. A Kick-Off SRWS Buyback event was held on September 19, 2015. The removal of SRWS under this program began in October 2015. ~~As of September 30, 2017, 255 of the~~ **Three hundred (300)** of the approximately 1,250 SRWS have been removed **from October 2015 through February 2022**. ~~Table 2 summarizes the progress of SRWS removal~~

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~~by comparing the monthly average chloride concentration in the effluent compared to the accumulated number of SRWS removed.~~ A reliable decreasing trend for chloride has not been observed in the effluent.

[Table 2 and footnotes are deleted.]

4. Paragraph No. 7 is updated as follows:

E. On May 1, 2018, the City submitted the *Self-Regenerating Water Softener Buyback Program Evaluation Report* to comply with CDO requirements. The report concluded that the Buyback Program is partially effective in reducing chloride loadings to the SPWRF, but the estimated reduction in the chloride concentration in the effluent has not been met.

F. On January 30, 2019, the City submitted the *Recycled Water Project Layout Report* to identify potential recycled water opportunities, conduct outreach to potential recycled water users, and draft conceptual recycled water projects and evaluate them. During the process, the City met with potential project partners and interested parties to discuss opportunities, project components, design criteria, and project feasibility. However, the City was unable to accomplish the recycled water project due to an incompatibility in schedules between the City and potential recycled water partners.

G. On September 20, 2019, the City submitted the *Alternative Effluent Chloride Mitigation Workplan* to request a Basin Plan amendment to adopt a site-specific groundwater quality objective for chloride after discussions on January 30, 2019 and June 27, 2019.

H. On February 28, 2020, the Regional Water Board provided comments on the *Alternative Effluent Chloride Mitigation Workplan*. The comments required the City to provide supporting information regarding a site-specific chloride groundwater quality objective that would be protective of beneficial uses for agricultural water supply for salt sensitive crops.

I. On April 15, 2020, the City notified the Regional Water Board of its modified approach to upgrade the SPWRF with reverse osmosis (RO), in lieu of the proposed recycled water project, to reduce chloride concentrations in the treated effluent to meet the permit requirements.

J. On July 13, 2020, the City requested development of a site-specific groundwater quality objective for chloride of 117 mg/L as a Basin Plan amendment to reduce the cost of the RO implementation.

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K. On December 1, 2021, the City and Regional Water Board staff discussed the progress of the RO plant development and the requested Basin Plan amendment. The City decided to implement the advanced wastewater treatment system with RO based on the existing groundwater quality objective for chloride of 110 mg/L.

5. Paragraph 11 on page 7 is revised as follows:

To achieve compliance with the chloride GQO and to conserve potable water, the City ~~plans to reduce the volume of effluent, and thus a reduction of the chloride mass discharged to the percolation pond by providing recycled water for various local uses~~ **will construct the advanced wastewater treatment system with RO as proposed in the April 15, 2020 letter**. The Regional Board has evaluated the ~~planned recycle projects~~ **proposed RO system** and ~~has~~ determined that ~~they~~ **it** will be consistent with the State Water Board's Recycled Water Policy and will ~~still~~ preserve available assimilative capacity within the Santa Paula Basin consistent with the SNMP. The mass-based effluent limitation for chloride **previously established** in the ~~City~~ WDRs ~~reflects the City's chosen compliance option~~ **will no longer be applicable, but the concentration-based effluent limitation for chloride is appropriate after implementing the RO system**. The groundwater limitations are based on the GQOs in the Basin Plan.

6. Paragraph No. 13 on pages 7 and 8 is revised as follows:

In the City's report, *Chloride Load Reduction Milestones,* submitted to the Regional Water Board on March 14, 2017, the City included the construction of reverse osmosis treatment at the SPWRF as an option (under Supplemental Strategies), if needed, in order to comply with the chloride groundwater quality objective of 110 mg/L. The City will continue its source control efforts to remove SRWSs and will first focus on recycling most of its effluent in order to bring the groundwater back into compliance with GQOs. Progress with these efforts will be assessed at Year 2022 and determination will be made as to whether advanced treatment will be required to meet the chloride GQO at Year 2027. If advanced treatment is required, effluent limits will be applied in a way to ensure protection of all beneficial uses, including salt-sensitive crops.

In March 2020, the City decided to upgrade the SPWRF with an advanced treatment system, including RO, to reduce the chloride concentrations in the effluent to meet the permit requirements. In December 2021, the City stated that the RO system would be able to produce effluent with a chloride concentration of 110 mg/L to meet the groundwater quality objective in the Basin Plan. The City has submitted a State Water Board Clean Water State Revolving Fund application with the State Water Board Division of Financial Assistance. The City plans to complete construction of the RO system within

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two years of receiving the Final Funding Agreement but no later than December 2024.

7. Portions of the paragraph 14 on page 8 are revised as follows:

Due to the following reasons, the City cannot immediately comply with the chloride effluent and groundwater limitations prescribed in this Order: (1) elevated chloride concentrations in the influent, (2) the wastewater treatment process not currently designed to remove chloride out of the waste stream, and (3) time needed to construct ~~recycled water pipelines to deliver recycled water to users~~ **the advanced wastewater treatment system with RO**. In addition, the current progress of the City's SRWS Buyback Program does not reliably ensure that the SPWRF will comply with the chloride effluent and groundwater limitations. Therefore, the Regional Board has determined that issuance of an accompanying CDO is appropriate and necessary to put the City on the path towards compliance with the effluent and groundwater limitations for chloride set forth in this Order. The CDO requires the City to comply with interim chloride effluent and groundwater limitations and implement actions pursuant to a prescribed time schedule. ~~The CDO provides an option for the City to consider an alternative approach including a request to the Regional Board to consider a Basin Plan amendment for revision of the GQO based on studies on chloride and salt-sensitive agriculture and after formation of a stakeholder working group.~~

~~By the end~~ **During the pendency** of the CDO schedule, there will be permitted degradation of groundwater with respect to chloride within a limited mixing zone radius downgradient and adjacent to the SPWRF percolation ponds, measured from the boundaries of the percolation ponds to 150 feet. This distance is the shortest distance where SPWRF effluent disposed to the percolation pond can mix with groundwater and result in receiving water chloride concentrations of 110 mg/L or less. Groundwater within the 150-foot mixing zone will exceed the chloride GQO of 110 mg/L for the duration of the CDO schedule. Based on the available data, there are no water supply wells within the 150-foot mixing zone. The City can arrange for alternative water supplies for any well owners in the mixing zone, if any are discovered. **At the end of the CDO schedule, the mixing zone is no longer allowed, and compliance with the chloride limitation of 110 mg/L at monitoring wells adjacent to and downgradient from the boundaries of the percolation ponds is required.**

8. Paragraph No. 18 on page 9 is revised as follows:

A CDO is appropriate in these circumstances to allow time for the City to implement ~~recycled water projects~~ **the advanced wastewater treatment system** ~~and continue its SRWS Buyback Program~~ to bring the SPWRF into compliance with the effluent and groundwater limitations. The temporary exceedances allowed by this CDO are

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in the public interest given the significant environmental benefits associated with reducing chloride loading to groundwater to promptly achieve compliance with the effluent and groundwater limitations, and to allow for **potential** recycled water use throughout the City of Santa Paula, especially in light of California's historic drought and predictions for future climatological effects from climate change.

9. Table 4 on page 10, Interim Chloride Limitations are revised as follows:

Table 4. Interim Chloride Limitations

Effluent Limitation (Monthly Average)[0]	Mass Reduction	Groundwater Limitation (Monthly Average)	Deadline
2,479 lbs/day[1]	0%	136 mg/L[2]	February 8, 2018
2,231 lbs/day[1]	10%	136 mg/L[2]	February 8, 2020
1,983 lbs/day[1]	20%	136 mg/L[2]	February 8, 2021
1,983 lbs/day[5][6] ~~1,240 lbs/day[1]~~	**20%** ~~50%~~	**136 mg/L[2]** ~~131 mg/L[1]~~	**July 1, 2022** ~~February 8, 2023~~
~~744 lbs/day[1]~~ **110 mg/L[3]**	~~70%~~ **Not applicable**	129 mg/L[~~4~~ 1]	**March 30, 2025** ~~February 8~~, 2025
~~124 lbs/day[1]~~ **110 mg/L[3]**	~~95%~~ **Not applicable**	114 mg/L[~~4~~ 1]	February 8, 2027

Table 4 notes:

[0] Monthly Average except as noted.

[1] Based on the City's *Chloride Load Reduction Milestones* dated August 8, 2017.

[2] Based on the 95th percentile of chloride effluent concentrations during the implementation of the SRWS Buyback Program from October 2015 to September 2017.

[3] The concentration-based effluent limitation is based on the groundwater quality objective in the Santa Paula Groundwater Basin-West of Peck Road Subbasin. The deadline considers the date of December 30, 2024 for completion of construction of the reverse osmosis unit and a 90-day optimization period.

[4] The change in the groundwater concentration is not expected to be immediate.

[5] Based on paragraph No. 4.D, the City cannot consistently comply with the effluent limitation on a monthly basis due to a lack of flow control measures that would have been in place with the recycled water project.

[6] Compliance with the effluent limitation is based on an annual monthly running average. For example, to meet the July 1, 2022 compliance date, the monthly average from July 2021 to June 2022 must be no greater than 1,983 lbs/day.

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10. Provision 3.E on page 11 is revised as follows:

~~By May 1, 2022~~ **Within three months of receiving the Final Funding Agreement from the Department of Financial Assistance, but no later than March 30, 2023**, the City shall complete ~~infrastructure construction and/or installation recycling pipelines for recycled water delivery and uses~~ **and release a Bid Package for the advanced wastewater treatment system with a reverse osmosis process**.

11. Provision 3.F on page 11 is revised as follows:

~~By August 1, 2022~~ **No later than June 30, 2023**, ~~if the City's recycled water efforts are not on track to meet the 50% mass reduction requirement in accordance with Table 4, above, the City shall develop an alternative approach, or combination of approaches, for effluent chloride reduction. A stakeholder working group should be assembled as alternatives are discussed and recommended. Stakeholders should include neighboring property owners, local water agencies, and agricultural growers of salt-sensitive crops. Alternatives that can be considered include, but are not limited to, treatment or partial treatment of chloride in the effluent, wellhead treatment, a proposed Basin Plan amendment for Regional Board consideration (e.g., averaging period and/or a site-specific chloride GQO) that would protect beneficial uses, and other combinations of approaches to remediate the local groundwater and protect beneficial uses~~ **the City shall complete contractor selection and award the contract for construction of the advanced wastewater treatment system with a reverse osmosis process**.

12. Provision 3.G on page 12 is revised as follows:

~~If the City has not achieved the required 50% mass reduction in accordance with Table 4, above, the City shall submit an Alternative Effluent Chloride Mitigation Workplan to the Regional Board by March 15, 2023 for Executive Officer review and approval. The Workplan shall identify the City's alternative approach, or combination of approaches, for effluent chloride reduction and shall include proposed interim milestones and deadlines. If the City's alternative approach includes a proposed Basin Plan amendment for Regional Board consideration that would protect beneficial uses, the City shall include supporting scientific and technical information and analysis demonstrating that beneficial uses would be protected, as well as documentation that such a proposal was discussed in detail by the stakeholder working group. The City shall present the alternative approach(es) identified in its Alternative Effluent Chloride Mitigation Workplan to the Regional Board as an information item at a regularly scheduled Board meeting by May 15, 2023. The City shall implement its Alternative Effluent Chloride Mitigation Workplan within 60 days of the Executive Officer's approval~~ **Within twenty-four months of receiving the Final Funding Agreement from the Department of Financial Assistance, but no later than December 30, 2024, the City shall complete construction and start-up of the advanced wastewater treatment system with a reverse osmosis process**.

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13. Provision 3.I on page 13 is revised as follows:

    After each date listed in subsection A. through ~~F~~ **G**. above, the City shall provide a verbal report at the next regularly scheduled Board meeting pertaining to the compliance, or lack thereof, with the requirement.

14. Final Certification of Order on page 15 is revised as follows:

    I, ~~Samuel Unger~~ **Renee Purdy**, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on ~~February 8, 2018~~ **May 12, 2022**.

    Renee Purdy
    Executive Officer

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