

Appendix B

Air Quality General Conformity Analysis Memorandum



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William Patterson
Environmental Supervisor
Coachella Valley Water District
75-515 Hovley Lane East
Palm Desert, California 92211

**Subject: 2020-2021 Non-Potable Water Connections Project
General Conformity Applicability Analysis**

Dear Mr. Patterson:

This letter has been prepared for the State Water Resources Control Board (SWRCB) on behalf of the Coachella Valley Water District (CVWD) and serves as the General Conformity Applicability Analysis for the 2020-2021 Non-Potable Water (NPW) Connections Project (herein referred to as "Proposed Action" or "project").

This analysis was prepared because CVWD may pursue federal funding opportunities for the Proposed Action, including from the Clean Water State Revolving Fund (CWSRF). In California, administration of the CWSRF program has been delegated by the United States Environmental Protection Agency (USEPA) to the SWRCB. In turn, the SWRCB requires that all projects being considered under the CWSRF program must comply with certain federal environmental protection laws, including the federal Clean Air Act (FCAA). The FCAA requires that any federal agency taking an action, including funding an action, must make a determination that its action would not conflict with a State Implementation Plan (SIP).

As part of the implementation of the FCAA, the USEPA has developed rules for transportation projects and non-transportation projects. The rule applicable to the project is referred to as the "General Conformity Rule." The project is in an area designated non-attainment for ozone and particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM₁₀). Therefore, the purpose of this analysis is to evaluate the Proposed Action's conformity to the applicable SIP under the General Conformity Rule.

Description of the Proposed Action

The Proposed Action involves the construction and operation of approximately 12 miles of NPW pipeline segments and connections to provide recycled water to new end users, which include seven local golf courses, one community church, and one sports and entertainment venue. The Proposed Action would include the following:

- Installation of NPW pipeline within public rights-of-way and private lands in the project area
- Construction of a lined surface water storage reservoir with a capacity of approximately one million gallons



- Installation of nine new motor-actuated valves and nine new CVWD meters

The proposed NPW pipelines would extend adjacent to Rancho Portola, a planned future development in Palm Desert, and the Eagle, a planned future development in Rancho Mirage. The Proposed Action NPW pipelines would supply NPW to existing and future customers through CVWD's Low- and High-Pressure Systems.

Construction of the Proposed Action is anticipated to last approximately two years. Implementation of each of the proposed NPW pipeline segments would entail the following:

- Removal of existing ground cover (landscaping, asphalt, or concrete)
- Open trenching along the NPW pipeline alignment
- Placement of bedding within the trench
- Placement of NPW pipeline
- Backfilling of trenches and soil compaction
- Installation of meters and motor actuated valves

The new NPW pipeline segments would be constructed via open trench measuring approximately five feet in width and up to approximately eight feet in depth.

Regulatory Framework

The 1990 Amendment to FCAA, Section 176, requires USEPA to promulgate rules to ensure that federal actions conform to the appropriate SIP. These rules, known as the General Conformity Rule (40 C.F.R. Parts 51.850–51.860 and 93.150–93.160), require any federal agency, responsible for an action in a federal nonattainment/maintenance area, to demonstrate conformity to the applicable SIP, by either determining that the action is exempt from the General Conformity Rule requirements, or subject to a formal conformity determination.

Title 40 CFR Part 51 Subpart W and 40 CFR Part 93 Subpart B: General Conformity

The FCAA requires federal agencies to ensure that actions taken by those agencies conform to the applicable SIP. The General Conformity Rule applies only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to National Ambient Air Quality Standards (NAAQS). These regulations require an applicability analysis to determine whether the federal action must be supported by a formal conformity determination. Under the General Conformity Rule, the FCAA applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

- a. An area that is in nonattainment (i.e., has recorded violations of the NAAQS) for each criteria pollutant (such as ozone, carbon monoxide, and particulate matter) for which the area is designated nonattainment
- b. An area designated as nonattainment that was later re-designated by the Administrator of the USEPA as an attainment area and that is therefore required to develop a maintenance plan under



section 7505a of 42 U.S.C. with respect to the specific pollutant(s) for which the area was previously designated nonattainment

This applicability analysis involves calculation of the total emissions of criteria or precursor pollutants under the control of the federal agency during the years of construction and operation of the federal action. A conformity determination must be made if the annual emissions exceed the rates specified in 40 CFR Part 93.153(b), referred to as *de minimis* rates. If the applicable emissions exceed the *de minimis* rates outlined in the General Conformity Rule, then the federal agency would prepare a formal General Conformity Determination for public comment.

Salton Sea Air Basin

The General Conformity Rule ensures that actions taken by federal agencies in nonattainment and maintenance areas do not interfere with the State’s plans to meet the NAAQS. 40 CFR Part 93.153 defines *de minimis* rates for various criteria pollutants in nonattainment areas based on the severity of non-attainment. If the Proposed Action’s annual emissions are below the applicable *de minimis* rates, the project conforms to the SIP and is not subject to a formal general conformity determination.

The project site is located within the Salton Sea Air Basin (SSAB), which includes Imperial County and most of the low desert areas of central Riverside County. The Riverside County portion of the SSAB, in which the Proposed Action is located, is under the regulatory jurisdiction of the SCAQMD. The local air quality management agency is required to monitor air pollutant levels to ensure that National Ambient Air Quality Standards (NAAQS) are met.

Based on the federal attainment status for the SSAB, Table 1 lists the *de minimis* rates that apply to the project site. These levels apply to annual emissions generated during construction and operation of the Proposed Action under federal agency control.

Table 1 General Conformity De Minimis Emission Rates for the Riverside County Portion of the Salton Sea Air Basin

Pollutant	SCAB Attainment Status Designation ¹	De Minimis Emission Rate (tons/year) ²
Ozone (VOC or NO _x)	Nonattainment (Severe-15)	25
CO	Unclassified/Attainment	NA
PM ₁₀	Nonattainment (Serious)	70
PM _{2.5}	Unclassified/Attainment	NA
SO ₂	Unclassified/Attainment	NA
NO ₂	Unclassified/Attainment	NA
Lead	Unclassified/Attainment	NA

NA: Not applicable; VOC: volatile organic compounds; CO: carbon monoxide; PM₁₀: particulate matter less than 10 microns in diameter; PM_{2.5}: particulate matter less than 2.5 microns in diameter; SO₂: sulfur dioxide; NO₂: nitrogen dioxide

¹ USEPA. 2020. “Nonattainment Areas for Criteria Pollutants (Green Book).” Last modified: March 31, 2020. Available: <https://www.epa.gov/green-book>. Accessed June 2020.

² USEPA. 2017. “De Minimis Tables.” Last modified: August 4, 2017. Available: <https://www.epa.gov/general-conformity/de-minimis-tables>. Accessed June 2020.



Methodology

The sources of construction emissions include exhaust from the combustion of diesel fuel in on-road vehicles and off-road equipment and fugitive dust from earthwork activities. Emissions associated with construction of the Proposed Action were quantified for volatile organic compounds (VOC)¹, nitrogen oxide (NO_x), carbon dioxide (CO), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and sulfur dioxide (SO₂). For the purposes of this evaluation, emissions of nitrogen dioxide (NO₂) were assumed to equal emissions of NO_x, and emissions of SO₂ were assumed to constitute the functional majority of sulfur oxide (SO_x) emissions. The Proposed Action does not include a source of lead emissions.

Construction emissions associated with the NPW pipelines were estimated using the Roadway Construction Emission Model (RCEM), version 9.0. RCEM was developed by the Sacramento Metropolitan Air Quality Management District to calculate emissions from linear projects such as roadways, levees, or pipelines. For the purposes of modeling, the analysis relied upon the following conservative assumptions:

- Construction would commence in September 2022 and last two years
- **NPW Pipelines**
 - Approximately 12 miles of NPW pipelines would be installed, and pipeline would be constructed via open trench measuring five feet in width and up to eight feet in depth
 - A construction workspace width of 12 feet would be required around the NPW pipeline trenches
 - NPW pipeline export and import material quantities are identified in Chapter 2, *Project Description*, of the Initial Study-Mitigated Negative Declaration (IS-MND)
 - For the purposes of modeling, material import is assumed to be 50 percent asphalt and 50 percent soil
 - For the purposes of modeling, it was conservatively assumed all pipeline would be installed in paved roadways. In reality, some portions of the new NPW pipelines would be installed in unpaved areas, specifically when connecting to golf course end users
 - Construction activities would install approximately 200 LF of pipeline per day before moving to the next segment of pipeline
 - Upon completion of construction activities, disturbed roadways would be re-paved
 - Operation and maintenance of the pipelines would require semiannual inspections of pipeline and exercising valves
- **Storage Reservoir**
 - It is assumed the storage reservoir would be approximately 900 square feet in area
 - Approximately 5,000 cubic yards of material (assumed to be soil) would be exported

¹ The modeling results are reported as reactive organic gases (ROG). The ARB defines VOC and ROG similarly as, “any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the terms ROG and VOC may be used interchangeably in this report. Source: California Air Resources Board (CARB). 2004. “Definitions of VOC and ROG.” November 2004. https://ww3.arb.ca.gov/ei/speciate/voc_rog_dfn_11_04.pdf (accessed July 2020)



- **Valves and Meters**
 - No heavy-duty equipment would be required for valves and meter upgrades
- **Total Project Assumptions**
 - Total disturbed area is assumed to be approximately 17.6 acres
 - Maximum area disturbed per day is conservatively assumed to be 13,300 square feet (0.3 acre)
 - For the purposes of the air quality modeling, it is assumed the reservoir and NPW pipelines would be constructed simultaneously
 - Maximum daily export and import material quantities are calculated based on length of construction phase and summarized below:
 - Export approximately 81 cubic yards of soil
 - Export approximately 26 cubic yards of asphalt
 - Import approximately 36 cubic yards of soil
 - Import approximately 84 cubic yards of asphalt
 - Soil and asphalt hauling would be approximately 28 miles (Coachella Valley Transfer Station and Mecca II Landfill are both located approximately 14 miles from the project area)
 - Operation and maintenance activities would require two vehicle trips per month. It is assumed each trip would be approximately nine miles round-trip (distance between the WRP10 facility and storage reservoir)

Criteria air pollutant emissions associated with operation and maintenance vehicle trips under the Proposed Action were estimated using vehicle emissions factors (EFs) for the Riverside County region for year 2020 as reported by CARB's EMFAC2017 Web Database v1.0.2 tool for EMFAC2011 vehicle categories (CARB 2020). It was assumed that all net new vehicle trips would be gasoline-fueled light-duty trucks (gross vehicle weight rating of less than 6,000 pounds and equivalent test weight less than or equal to 3,750 pounds; LDT1). Additional model inputs include aggregated model years and aggregated speeds. This analysis uses EFs for year 2023.

General Conformity Assessment

The Proposed Action may be funded by a loan from the CWSRF, a USEPA loan program administered at the state level by the SWRCB. Therefore, the USEPA is the federal agency involved and emissions generated during construction and operation of the Proposed Action are subject to the General Conformity Rule.

Table 2 lists the total annual emissions that may be generated during construction and operation of the Proposed Action. Table 2 also compares the maximum total annual emissions to the applicable *de minimis* rates for the Riverside County portion of the SSAB.



Table 2 Proposed Action Total Annual Emissions

	Estimated Annual Emissions (tons/year)		
	VOC	NO _x	PM ₁₀
Maximum Annual Construction Emissions	0.2	1.9	0.2
De Minimis Rates	25	25	70
Threshold Exceeded?	No	No	No

VOC: volatile organic compounds; NO_x: nitrogen oxides; PM₁₀: particulate matter less than 10 microns in diameter
 See Attachment 1 for RCEM results and other calculations.

As shown in Table 2, criteria pollutant emissions from the project would be below the applicable *de minimis* rates for the western Riverside County portion of the SSAB. Therefore, the Proposed Action conforms to the SIP, and a General Conformity determination is not necessary.

Sincerely,
Rincon Consultants, Inc.

Amanda Antonelli, MESM
 Associate Environmental Planner

William (Bill) Maddux
 Technical Services Program Manager

Attachment

Attachment 1 Air Quality Modeling

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> 2020-2021 NPW Connections Project														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.77	12.08	17.15	1.81	0.81	1.00	0.95	0.74	0.21	0.03	2,739.20	0.60	0.05	2,769.45
Grading/Excavation	2.23	15.42	22.24	1.96	0.96	1.00	1.05	0.84	0.21	0.05	4,729.93	1.15	0.19	4,813.85
Drainage/Utilities/Sub-Grade	0.69	8.02	5.69	1.27	0.27	1.00	0.44	0.23	0.21	0.02	1,565.50	0.29	0.07	1,593.74
Paving	1.10	10.67	10.27	0.47	0.47	0.00	0.40	0.40	0.00	0.03	3,115.10	0.72	0.13	3,172.56
Maximum (pounds/day)	2.23	15.42	22.24	1.96	0.96	1.00	1.05	0.84	0.21	0.05	4,729.93	1.15	0.19	4,813.85
Total (tons/construction project)	0.39	3.11	3.73	0.39	0.17	0.22	0.19	0.15	0.05	0.01	839.81	0.19	0.03	854.35

Notes: Project Start Year -> 2022
 Project Length (months) -> 24
 Total Project Area (acres) -> 8
 Maximum Area Disturbed/Day (acres) -> 0
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	280	40
Grading/Excavation	81	26	140	56	320	40
Drainage/Utilities/Sub-Grade	36	0	56	0	200	40
Paving	0	84	0	140	280	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> 2020-2021 NPW Connections Project														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.05	0.32	0.45	0.05	0.02	0.03	0.03	0.02	0.01	0.00	72.31	0.02	0.00	66.33
Grading/Excavation	0.24	1.63	2.35	0.21	0.10	0.11	0.11	0.09	0.02	0.01	499.48	0.12	0.02	461.17
Drainage/Utilities/Sub-Grade	0.06	0.74	0.53	0.12	0.02	0.09	0.04	0.02	0.02	0.00	144.65	0.03	0.01	133.59
Paving	0.04	0.42	0.41	0.02	0.02	0.00	0.02	0.02	0.00	0.00	123.36	0.03	0.01	113.97
Maximum (tons/phase)	0.24	1.63	2.35	0.21	0.10	0.11	0.11	0.09	0.02	0.01	499.48	0.12	0.02	461.17
Total (tons/construction project)	0.39	3.11	3.73	0.39	0.17	0.22	0.19	0.15	0.05	0.01	839.81	0.19	0.03	775.06

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.
 The CO2e emissions are reported as metric tons per phase.