

4.3.18 Air Quality and Greenhouse Gases

Impact AQ-1: Generation of Criteria Pollutants in Excess of the SMAQMD Regional Thresholds during Construction of the Proposed Water Conveyance Facility

NEPA Effects: Construction emissions generated by Alternative 4A in the Sacramento Metropolitan Air Quality Management District (SMAQMD) would be identical to those generated by Alternative 4. As shown in Table 22-99 in Appendix A of this RDEIR/SDEIS, nitrogen oxide (NO_x) emissions would exceed SMAQMD's daily threshold for all years between 2018 and 2029, even with implementation of environmental commitments (see Appendix 3B, *Environmental Commitments*, in Appendix A of this RDEIR/SDEIS). Since NO_x is a precursor to ozone and particulate matter (PM), violations of SMAQMD's daily NO_x threshold could affect both regional ozone and PM formation, which could worsen regional air quality and air basin attainment of the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS). Mitigation Measures AQ-1a and AQ-1b would be available to reduce NO_x emissions, and would thus address regional effects related to secondary ozone and PM formation.

CEQA Conclusion: NO_x emissions generated during construction of Alternative 4A would exceed SMAQMD regional threshold of significance. Since NO_x is a precursor to ozone and PM, violations of SMAQMD's daily NO_x threshold could affect both regional ozone and PM formation. The impact of generating NO_x emissions in excess of local air district thresholds would violate applicable air quality standards in the study area and could contribute to or worsen an existing air quality conditions. This would be a significant impact. Mitigation Measures AQ-1a and AQ-1b would be available to reduce NO_x emissions to a less-than-significant level by offsetting emissions to quantities below SMAQMD CEQA thresholds.

Mitigation Measure AQ-1a: Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for Other Pollutants²

Please refer to Mitigation Measure AQ-1a under Impact AQ-1 in the discussion of Alternative 4 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

Mitigation Measure AQ-1b: Develop an Alternative or Complementary Offsite Mitigation Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for Other Pollutants

Please refer to Mitigation Measure AQ-1b under Impact AQ-1 in the discussion of Alternative 4 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

² In the title of this mitigation measure, the phrase "for other pollutants" is intended to apply to other alternatives, where associated impacts on other pollutants may exceed thresholds other than NO_x.

1 **Impact AQ-2: Generation of Criteria Pollutants in Excess of the YSAQMD Regional Thresholds**
2 **during Construction of the Proposed Water Conveyance Facility**

3 **NEPA Effects:** Construction emissions generated by Alternative 4A in the Yolo-Solano Air Quality
4 Management District (YSAQMD) would be identical to those generated by Alternative 4. As shown in
5 Table 22-99 in Appendix A of this RDEIR/SDEIS, criteria pollutant emissions would not exceed
6 YSAQMD regional thresholds. Accordingly, construction of Alternative 4A would not contribute to or
7 worsen existing air quality conditions. There would be no adverse effect.

8 **CEQA Conclusion:** Construction emission would not exceed YSAQMD's regional thresholds of
9 significance. Accordingly, Alternative 4A would not contribute to or worsen existing air quality
10 conditions. This impact would be less than significant. No mitigation is required.

11 **Impact AQ-3: Generation of Criteria Pollutants in Excess of the BAAQMD Regional Thresholds**
12 **during Construction of the Proposed Water Conveyance Facility**

13 **NEPA Effects:** Construction emissions generated by Alternative 4A in the Bay Area Air Quality
14 Management District (BAAQMD) would be identical to those generated by Alternative 4. As shown in
15 Table 22-99 in Appendix A of this RDEIR/SDEIS, construction emissions would exceed BAAQMD's
16 daily thresholds for the following pollutants and years, even with implementation of environmental
17 commitments (see Appendix 3B, *Environmental Commitments*, in Appendix A of this RDEIR/SDEIS).

- 18 • Reactive organic gases (ROG): 2020–2028
- 19 • NO_x: 2018–2029

20 Since ROG and NO_x are precursors to ozone and NO_x is a precursor to PM, violations of BAAQMD's
21 ROG and NO_x thresholds could affect both regional ozone and PM formation, which could worsen
22 regional air quality and air basin attainment of the NAAQS and CAAQS. Mitigation Measures AQ-3a
23 and AQ-3b are available to reduce ROG and NO_x emissions, and would thus address regional effects
24 related to secondary ozone and PM formation.

25 **CEQA Conclusion:** Emissions of ROG and NO_x generated during construction would exceed BAAQMD
26 regional thresholds of significance. Since ROG and NO_x are precursors to ozone and NO_x is a
27 precursor to PM, violations of BAAQMD's ROG and NO_x thresholds could affect both regional ozone
28 and PM formation. The impact of generating ROG and NO_x emissions in excess of BAAQMD's regional
29 thresholds would therefore violate applicable air quality standards in the Study area and could
30 contribute to or worsen an existing air quality conditions. This would be a significant impact.
31 Mitigation Measures AQ-3a and AQ-3b would be available to reduce ROG and NO_x emissions to a
32 less-than-significant level by offsetting emissions to quantities below BAAQMD CEQA thresholds.

33 **Mitigation Measure AQ-3a: Mitigate and Offset Construction-Generated Criteria Pollutant**
34 **Emissions within BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General**
35 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
36 **Applicable BAAQMD CEQA Thresholds for Other Pollutants³**

37 Please refer to Mitigation Measure AQ-3a under Impact AQ-3 in the discussion of Alternative 4
38 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

³ In the title of this mitigation measure, the phrase “for other pollutants” is intended to apply to other alternatives, where associated impacts on other pollutants may exceed thresholds other than NO_x.

1 **Mitigation Measure AQ-3b: Develop an Alternative or Complementary Offsite Mitigation**
2 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
3 **within the BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General**
4 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
5 **Applicable BAAQMD CEQA Thresholds for Other Pollutants**

6 Please refer to Mitigation Measure AQ-3b under Impact AQ-3 in the discussion of Alternative 4
7 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

8 **Impact AQ-4: Generation of Criteria Pollutants in Excess of the SJVAPCD Regional Thresholds**
9 **during Construction of the Proposed Water Conveyance Facility**

10 **NEPA Effects:** Construction emissions generated by Alternative 4A in the San Joaquin Valley Air
11 Pollution Control District (SJVAPCD) would be identical to those generated by Alternative 4. As
12 shown in Table 22-99 in Appendix A of this RDEIR/SDEIS, construction emissions would exceed
13 SJVAPCD's regional thresholds for the following pollutants and years, even with implementation of
14 environmental commitments (see Appendix 3B, *Environmental Commitments*, in Appendix A of this
15 RDEIR/SDEIS).

- 16 • ROG: 2020-2025
- 17 • NO_x: 2018–2028
- 18 • PM less than 10 microns in diameter (PM10): 2019–2025

19 Since ROG and NO_x are precursors to ozone and NO_x is a precursor to PM, violations of SJVAPCD's
20 ROG and NO_x thresholds could affect both regional ozone and PM formation, which could worsen
21 regional air quality and air basin attainment of the NAAQS and CAAQS. Similarly, exceedances of
22 SJVAPCD's PM10 threshold could impede attainment of the NAAQS and CAAQS for PM10. Mitigation
23 Measures AQ-4a and AQ-4b are available to reduce ROG, NO_x, and PM10 emissions, and would thus
24 address regional effects related to secondary ozone and PM formation.

25 **CEQA Conclusion:** Emissions of ROG, NO_x, and PM10 generated during construction would exceed
26 SJVAPCD's regional thresholds of significance. Since ROG and NO_x are precursors to ozone and NO_x
27 is a precursor to PM, violations of SJVAPCD's ROG and NO_x thresholds could affect both regional
28 ozone and PM formation, which could worsen regional air quality and air basin attainment of the
29 NAAQS and CAAQS. Similarly, exceedances of SJVAPCD's PM10 threshold could impede attainment
30 of the NAAQS and CAAQS for PM10. The impact of generating ROG, NO_x, and PM10 emissions in
31 excess of SJVAPCD's regional thresholds would therefore violate applicable air quality standards in
32 the study area and could contribute to or worsen an existing air quality condition. This would be a
33 significant impact. Mitigation Measures AQ-4a and AQ-4b would be available to reduce ROG, NO_x,
34 and PM10 emissions to a less-than-significant level by offsetting emissions to quantities below
35 SJVAPCD CEQA thresholds.

1 **Mitigation Measure AQ-4a: Mitigate and Offset Construction-Generated Criteria Pollutant**
2 **Emissions within SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General**
3 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
4 **Applicable SJVAPCD CEQA Thresholds for Other Pollutants⁴**

5 Please refer to Mitigation Measure AQ-4a under Impact AQ-4 in the discussion of Alternative 4
6 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

7 **Mitigation Measure AQ-4b: Develop an Alternative or Complementary Offsite Mitigation**
8 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
9 **within the SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General Conformity**
10 ***De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable SJVAPCD**
11 **CEQA Thresholds for Other Pollutants**

12 Please refer to Mitigation Measure AQ-4b under Impact AQ-4 in the discussion of Alternative 4
13 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

14 **Impact AQ-5: Generation of Criteria Pollutants in Excess of the SMAQMD Regional Thresholds**
15 **from Operation and Maintenance of the Proposed Water Conveyance Facility**

16 ***NEPA Effects:*** The number of equipment and personnel required for routine and annual inspections
17 is influenced by the physical water conveyance footprint (i.e., number and location of intakes). Since
18 the water conveyance footprint under Alternative 4A would be identical to Alternative 4,
19 operational activities required for Alternative 4A in the SMAQMD would be the same as those
20 required for Alternative 4. Accordingly, operational emissions generated by Alternative 4A under
21 the ELT and LLT conditions would be the same as those analyzed for Alternative 4 under the ELT
22 and LLT conditions. As shown in Table 22-100 in Appendix A of this RDEIR/SDEIS, emissions under
23 both conditions would not exceed SMAQMD's regional thresholds of significance. Accordingly,
24 project operations would not contribute to or worsen existing air quality violations. There would be
25 no adverse effect.

26 ***CEQA Conclusion:*** Emissions generated during operation and maintenance activities would not
27 exceed SMAQMD regional thresholds of significance. Accordingly, Alternative 4A would not
28 contribute to or worsen existing air quality conditions. This impact would be less than significant.
29 No mitigation is required.

30 **Impact AQ-6: Generation of Criteria Pollutants in Excess of the YSAQMD Regional Thresholds**
31 **from Operation and Maintenance of the Proposed Water Conveyance Facility**

32 ***NEPA Effects:*** No permanent features would be constructed in the YSAQMD that would require
33 routine operations and maintenance. Accordingly, no operational emissions would be generated in
34 the YSAQMD under either Alternative 4 or 4A. Alternative 4A would therefore neither exceed the
35 YSAQMD regional thresholds of significance nor result in an adverse effect on air quality.

36 ***CEQA Conclusion:*** No operational emissions would be generated in the YSAQMD. Consequently,
37 operation of Alternative 4A would not exceed the YSAQMD regional thresholds of significance. This
38 impact would be less than significant. No mitigation is required.

⁴ In the title of this mitigation measure, the phrase "for other pollutants" is intended to apply to other alternatives, where associated impacts on other pollutants may exceed thresholds other than NO_x.

1 **Impact AQ-7: Generation of Criteria Pollutants in Excess of the BAAQMD Regional Thresholds**
2 **from Operation and Maintenance of the Proposed Water Conveyance Facility**

3 **NEPA Effects:** The number of equipment and personnel required for routine and annual inspections
4 is influenced by the physical water conveyance footprint (i.e., size and location of the Clifton court
5 forebay). Since the water conveyance footprint under Alternative 4A would be identical to
6 Alternative 4, operational activities required for Alternative 4A in the BAAQMD would be the same
7 as those required for Alternative 4. Accordingly, operational emissions generated by Alternative 4A
8 under the ELT and LLT conditions would be the same as those analyzed for Alternative 4. As shown
9 in Table 22-100 in Appendix A of this RDEIR/SDEIS, operational emissions under the ELT condition
10 would not exceed BAAQMD's regional thresholds of significance. Accordingly, project operations
11 would not contribute to or worsen existing air quality violations. There would be no adverse effect.

12 **CEQA Conclusion:** Emissions generated during operation and maintenance activities would not
13 exceed BAAQMD regional thresholds of significance. Accordingly, Alternative 4A would not
14 contribute to or worsen existing air quality conditions. This impact would be less than significant.
15 No mitigation is required.

16 **Impact AQ-8: Generation of Criteria Pollutants in Excess of the SJVAPCD Regional Thresholds**
17 **from Operation and Maintenance of the Proposed Water Conveyance Facility**

18 **NEPA Effects:** The number of equipment and personnel required for routine and annual inspections
19 is influenced by the physical water conveyance footprint (i.e., size and location of the tunnel
20 segments). Since the water conveyance footprint in SJVAPCD under Alternative 4A would be
21 identical to Alternative 4, operational activities required for Alternative 4A in the SJVAPCD would be
22 the same as those required for Alternative 4. Accordingly, operational emissions generated by
23 Alternative 4A in SJVAPCD under the ELT and LLT conditions would be the same as those analyzed
24 for Alternative 4. As shown in Table 22-100 in Appendix A of this RDEIR/SDEIS, operational
25 emissions under the ELT condition would not exceed SJVAPCD's regional thresholds of significance.
26 Accordingly, project operations would not contribute to or worsen existing air quality violations.
27 There would be no adverse effect.

28 **CEQA Conclusion:** Emissions generated during operation and maintenance activities would not
29 exceed SJVAPCD regional thresholds of significance. Accordingly, Alternative 4A would not
30 contribute to or worsen existing air quality conditions. This impact would be less than significant.
31 No mitigation is required.

32 **Impact AQ-9: Exposure of Sensitive Receptors to Health Threats from Localized Particulate**
33 **Matter in Excess of SMAQMD's Health-Based Concentration Thresholds**

34 **NEPA Effects:** Construction activity required for Alternative 4A within the SMAQMD would be equal
35 to activity required for Alternative 4. Emissions and associated health risks from localized PM
36 exposure for Alternative 4 would therefore be representative of emissions and health risks
37 generated by Alternative 4A. As shown in Table 22-101 in Appendix A of this RDEIR/SDEIS,
38 construction of Alternative 4 would exceed SMAQMD's 24-hour PM10 threshold at 10 receptor
39 locations. The exceedances would be temporary and occur intermittently due to soil disturbance
40 (primarily entrained road dust). Mitigation Measure AQ-9 is available to reduce this effect

41 **CEQA Conclusion:** As shown in Table 22-102 in Appendix A of this RDEIR/SDEIS, construction of
42 Alternative 4 would exceed SMAQMD's 24-hour PM10 threshold at 10 receptor locations. The

1 exceedances would be temporary and occur intermittently due to soil disturbance (primarily
2 entrained road dust). Mitigation Measure AQ-9 is available to reduce impacts to less than significant
3 (see Table 22-102 in Appendix A of this RDEIR/SDEIS).

4 **Mitigation Measure AQ-9: Implement Measures to Reduce Re-Entrained Road Dust and**
5 **Receptor Exposure to PM2.5 and PM10**

6 Please refer to Mitigation Measure AQ-9 under Impact AQ-9 in the discussion of Alternative 4 in
7 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

8 **Impact AQ-10: Exposure of Sensitive Receptors to Health Threats from Localized Particulate**
9 **Matter in Excess of YSAQMD's Health-Based Concentration Thresholds**

10 **NEPA Effects:** Construction activity required for Alternative 4A within the YSAQMD would be equal
11 to activity required for Alternative 4. Emissions and associated health risks from localized PM
12 exposure for Alternative 4 would therefore be representative of emissions and health risks
13 generated by Alternative 4A. As shown in Table 22-103 in Appendix A of this RDEIR/SDEIS,
14 predicted PM2.5 and PM10 concentrations under Alternative 4 are less than YSAQMD's adopted
15 thresholds. The project would also implement all air district recommended onsite fugitive dust
16 controls, such as regular watering. Accordingly, Alternative 4A would not expose of sensitive
17 receptors to adverse localized particulate matter concentrations.

18 **CEQA Conclusion:** As shown in Table 22-103 in Appendix A of this RDEIR/SDEIS, predicted PM2.5
19 and PM10 concentrations under Alternative 4 are less than YSAQMD's adopted thresholds. The
20 project would also implement all air district recommended onsite fugitive dust controls, such as
21 regular watering. Accordingly, Alternative 4A would not expose of sensitive receptors to significant
22 localized particulate matter concentrations. This impact would be less than significant. No
23 mitigation is required.

24 **Impact AQ-11: Exposure of Sensitive Receptors to Health Threats from Localized Particulate**
25 **Matter in Excess of BAAQMD's Health-Based Concentration Thresholds**

26 **NEPA Effects:** Construction activity required for Alternative 4A within the BAAQMD would be equal
27 to activity required for Alternative 4. Emissions and associated health risks from localized PM
28 exposure for Alternative 4 would therefore be representative of emissions and health risks
29 generated by Alternative 4A. As shown in Table 22-104 in Appendix A of this RDEIR/SDEIS,
30 predicted PM2.5 concentrations under Alternative 4 are less than BAAQMD's adopted thresholds.
31 The project would also implement all air district recommended onsite fugitive dust controls, such as
32 regular watering. Accordingly, Alternative 4A would not expose of sensitive receptors to adverse
33 localized particulate matter concentrations.

34 **CEQA Conclusion:** As shown in Table 22-104 in Appendix A of this RDEIR/SDEIS, predicted PM2.5
35 concentrations under Alternative 4 are less than BAAQMD's adopted thresholds. The project would
36 also implement all air district recommended onsite fugitive dust controls, such as regular watering.
37 Accordingly, Alternative 4A would not expose of sensitive receptors to significant localized
38 particulate matter concentrations. This impact would be less than significant. No mitigation is
39 required.

1 **Impact AQ-12: Exposure of Sensitive Receptors to Health Threats from Localized Particulate**
2 **Matter in Excess of SJVAPCD's Health-Based Concentration Thresholds**

3 **NEPA Effects:** Construction activity required for Alternative 4A within the SJVAPCD would be equal
4 to activity required for Alternative 4. Emissions and associated health risks from localized PM
5 exposure for Alternative 4 would therefore be representative of emissions and health risks
6 generated by Alternative 4A. As shown in Table 22-105 in Appendix A of this RDEIR/SDEIS,
7 predicted PM2.5 and PM10 concentrations under Alternative 4 are less than SJVAPCD's adopted
8 thresholds. The project would also implement all air district recommended onsite fugitive dust
9 controls, such as regular watering. Accordingly, Alternative 4A would not expose of sensitive
10 receptors to adverse localized particulate matter concentrations.

11 **CEQA Conclusion:** As shown in Table 22-105 in Appendix A of this RDEIR/SDEIS, predicted PM2.5
12 and PM10 concentrations under Alternative 4 are less than SJVAPCD's adopted thresholds. The
13 project would also implement all air district recommended onsite fugitive dust controls, such as
14 regular watering. Accordingly, Alternative 4A would not expose of sensitive receptors to significant
15 localized particulate matter concentrations. This impact would be less than significant. No
16 mitigation is required.

17 **Impact AQ-13: Exposure of Sensitive Receptors to Health Threats from Localized Carbon**
18 **Monoxide**

19 **NEPA Effects:** Construction activity required for Alternative 4A would be equal to activity required
20 for Alternative 4. Emissions and associated health risks from localized carbon monoxide (CO)
21 exposure for Alternative 4 would therefore be representative of emissions and health risks
22 generated by Alternative 4A. As described under Alternative 4, given that 1) construction activities
23 typically do not result in CO hot-spots, 2) onsite concentrations must comply with the Occupational
24 Safety and Health Administration (OSHA) standards, and 3) CO levels dissipate as a function of
25 distance, equipment-generated CO emissions (see Table 22-99 in Appendix A of this RDEIR/SDEIS)
26 are not anticipated to result in adverse health threats to sensitive receptors.

27 With respect to CO hot-spot formation along construction haul routes, as shown in Table 19-25 in
28 Appendix A of this RDEIR/SDEIS, the highest peak hour traffic volumes under BPBGPP—8,088
29 vehicles per hour—would occur on westbound Interstate 80 between Suisun Valley Road and SR 12.
30 This is about half of the congested traffic volume modeled by BAAQMD (24,000 vehicles per hour)
31 that would be needed to contribute to a localized CO hot-spot, and less than half of the traffic volume
32 modeled by SMAQMD (31,600 vehicles per hour). Accordingly, construction traffic is not anticipated
33 to result in adverse health threats to sensitive receptors.

34 **CEQA Conclusion:** Continuous engine exhaust may elevate localized CO concentrations. Receptors
35 exposed to these CO "hot-spots" may have a greater likelihood of developing adverse health effects.
36 Construction sites are less likely to result in localized CO hot-spots due to the nature of construction
37 activities (Sacramento Metropolitan Air Quality Management District 2014), which normally utilize
38 diesel-powered equipment for intermittent or short durations. Moreover, construction sites must
39 comply with the OSHA CO exposure standards for onsite workers. Accordingly, given that
40 construction activities typically do not result in CO hot-spots, onsite concentrations must comply
41 with OSHA standards, and CO levels dissipate as a function of distance, equipment-generated CO
42 emissions are not anticipated to result in significant health threats to sensitive receptors. Similarly,
43 peak-hour construction traffic on local roadways would not exceed BAAQMD's or SMAQMD's

1 conservative screening criteria for the formation potential CO hot-spots. This impact would be less
2 than significant. No mitigation is required.

3 **Impact AQ-14: Exposure of Sensitive Receptors to Health Threats from Diesel Particulate**
4 **Matter in Excess of SMAQMD's Chronic Non-Cancer and Cancer Risk Assessment Thresholds**

5 *NEPA Effects:* Construction activity required for Alternative 4A within the SMAQMD would be equal
6 to activity required for Alternative 4. Emissions and associated health risks from localized diesel
7 particulate matter (DPM) exposure for Alternative 4 would therefore be representative of emissions
8 and health risks generated by Alternative 4A. As shown in Table 22-106 in Appendix A of this
9 RDEIR/SDEIS, Alternative 4 would not exceed the SMAQMD's chronic non-cancer or cancer
10 thresholds and, thus, would not expose sensitive receptors to substantial DPM concentrations.
11 Therefore, the effect of exposure of sensitive receptors to DPM health threats during construction
12 would not be adverse.

13 *CEQA Conclusion:* DPM generated during construction poses inhalation-related chronic non-cancer
14 hazard and cancer risk if adjacent receptors are exposed to significant concentrations for prolonged
15 durations. The DPM generated during Alternative 4A construction would not exceed the SMAQMD's
16 chronic non-cancer or cancer thresholds, and thus would not expose sensitive receptors to
17 substantial pollutant concentrations. Therefore, this impact for DPM emissions would be less than
18 significant. No mitigation is required.

19 **Impact AQ-15: Exposure of Sensitive Receptors to Health Threats from Diesel Particulate**
20 **Matter in Excess of YSAQMD's Chronic Non-Cancer and Cancer Risk Thresholds**

21 *NEPA Effects:* Construction activity required for Alternative 4A within the YSAQMD would be equal
22 to activity required for Alternative 4. Emissions and associated health risks from localized DPM
23 exposure for Alternative 4 would therefore be representative of emissions and health risks
24 generated by Alternative 4A. As shown in Table 22-107 in Appendix A of this RDEIR/SDEIS,
25 Alternative 4 would not exceed the YSAQMD's chronic non-cancer or cancer thresholds and, thus,
26 would not expose sensitive receptors to substantial DPM concentrations. Therefore, the effect of
27 exposure of sensitive receptors to DPM health threats during construction would not be adverse.

28 *CEQA Conclusion:* DPM generated during construction poses inhalation-related chronic non-cancer
29 hazard and cancer risk if adjacent receptors are exposed to significant concentrations for prolonged
30 durations. The DPM generated during Alternative 4A construction would not exceed the YSAQMD's
31 chronic non-cancer or cancer thresholds, and thus would not expose sensitive receptors to
32 substantial pollutant concentrations. Therefore, this impact for DPM emissions would be less than
33 significant. No mitigation is required.

34 **Impact AQ-16: Exposure of Sensitive Receptors to Health Threats from Diesel Particulate**
35 **Matter in Excess of BAAQMD's Chronic Non-Cancer and Cancer Risk Thresholds**

36 *NEPA Effects:* Construction activity required for Alternative 4A within the BAAQMD would be equal
37 to activity required for Alternative 4. Emissions and associated health risks from localized DPM
38 exposure for Alternative 4 would therefore be representative of emissions and health risks
39 generated by Alternative 4A. As shown in Table 22-108 in Appendix A of this RDEIR/SDEIS,
40 Alternative 4 would not exceed the BAAQMD's chronic non-cancer or cancer thresholds and, thus,
41 would not expose sensitive receptors to substantial DPM concentrations. Therefore, the effect of
42 exposure of sensitive receptors to DPM health threats during construction would not be adverse.

1 **CEQA Conclusion:** DPM generated during construction poses inhalation-related chronic non-cancer
2 hazard and cancer risk if adjacent receptors are exposed to significant concentrations for prolonged
3 durations. The DPM generated during Alternative 4A construction would not exceed the BAAQMD's
4 chronic non-cancer or cancer thresholds, and thus would not expose sensitive receptors to
5 substantial pollutant concentrations. Therefore, this impact for DPM emissions would be less than
6 significant. No mitigation is required.

7 **Impact AQ-17: Exposure of Sensitive Receptors to Health Threats from Diesel Particulate**
8 **Matter in Excess of SJVAPCD's Chronic Non-Cancer and Cancer Risk Thresholds**

9 **NEPA Effects:** Construction activity required for Alternative 4A within the SJVAPCD would be equal
10 to activity required for Alternative 4. Emissions and associated health risks from localized DPM
11 exposure for Alternative 4 would therefore be representative of emissions and health risks
12 generated by Alternative 4A. As shown in Table 22-109 in Appendix A of this RDEIR/SDEIS,
13 Alternative 4 would not exceed the SJVAPCD's chronic non-cancer or cancer thresholds and, thus,
14 would not expose sensitive receptors to substantial DPM concentrations. Therefore, the effect of
15 exposure of sensitive receptors to DPM health threats during construction would not be adverse.

16 **CEQA Conclusion:** DPM generated during construction poses inhalation-related chronic non-cancer
17 hazard and cancer risk if adjacent receptors are exposed to significant concentrations for prolonged
18 durations. The DPM generated during Alternative 4A construction would not exceed the SJVAPCD's
19 chronic non-cancer or cancer thresholds, and thus would not expose sensitive receptors to
20 substantial pollutant concentrations. Therefore, this impact for DPM emissions would be less than
21 significant. No mitigation is required.

22 **Impact AQ-18: Exposure of Sensitive Receptors to *Coccidioides immitis* (Valley Fever)**

23 **NEPA Effects:** The potential for Alternative 4A to expose receptors adjacent to the construction site
24 to spores known to cause Valley Fever would be identical to Alternative 4. As discussed under
25 Alternative 4, earthmoving activities during construction could release *C. immitis* spores if filaments
26 are present and other soil chemistry and climatic conditions are conducive to spore development.
27 Receptors adjacent to the construction area may therefore be exposed to increase risk of inhaling *C.*
28 *immitis* spores and subsequent development of Valley Fever. Implementation of advanced air-
29 district recommended fugitive dust controls outlined in Appendix 3B, *Environmental Commitments*,
30 in Appendix A of this RDEIR/SDEIS, would avoid dusty conditions and reduce the risk of contracting
31 Valley Fever through routine watering and other controls. Therefore, the effect of exposure of
32 sensitive receptors to increased Valley Fever risk during construction would not be adverse.

33 **CEQA Conclusion:** Construction of the water conveyance facility would involve earthmoving
34 activities that could release *C. immitis* spores if filaments are present and other soil chemistry and
35 climatic conditions are conducive to spore development. Receptors adjacent to the construction area
36 may therefore be exposed to increase risk of inhaling *C. immitis* spores and subsequent development
37 of Valley Fever. Implementation of air-district recommended fugitive dust controls outlined in
38 Appendix 3B, *Environmental Commitments*, in Appendix A of this RDEIR/SDEIS, would avoid dusty
39 conditions and reduce the risk of contracting Valley Fever through routine watering and other
40 controls. Therefore, this impact would be less than significant. No mitigation is required.

1 **Impact AQ-19: Creation of Potential Odors Affecting a Substantial Number of People during**
2 **Construction or Operation of the Proposed Water Conveyance Facility**

3 **NEPA Effects:** Odors from construction would primarily originate from diesel equipment and
4 excavated organic material. Since construction equipment activity and the quantity of excavated
5 material under Alternative 4A would be identical to Alternative 4, the potential for Alternative 4A to
6 expose receptors to nuisance odors during construction of the water conveyance facilities would be
7 the same as Alternative 4. As discussed under Alternative 4, odors from construction activities
8 would be localized and generally confined to the immediate area surrounding the construction site.
9 Moreover, odors would be temporary and localized, and they would cease once construction
10 activities have been completed. Thus, it is not anticipated that construction of water conveyance
11 facilities would create objectionable odors from construction equipment or asphalt paving.
12 Similarly, drying and stockpiling of removed muck and sediment will occur under aerobic
13 conditions, which will limit any potential decomposition and associated malodorous products.
14 Accordingly, tunnel and sediment excavation would not create objectionable odors.

15 With respect to odors during long-term operation, Alternative 4A would not result in the addition of
16 odors facilities (e.g., wastewater treatment plants). Accordingly, similar to Alternative 4, long-term
17 operation of the water conveyance facility would not result in objectionable odors. There would be
18 no adverse effect.

19 **CEQA Conclusion:** Alternative 4A would not result in the addition of major odor producing facilities.
20 Diesel emissions during construction could generate temporary odors, but these would quickly
21 dissipate and cease once construction is completed. Likewise, potential odors generated during
22 asphalt paving would be addressed through mandatory compliance with air district rules and
23 regulations. While tunnel excavation would unearth approximately 27 million cubic yards of muck,
24 geotechnical tests indicate that soils in the Plan Area have relatively low organic constituents.
25 Moreover, drying and stockpiling of the removed muck will occur under aerobic conditions, which
26 will further limit any potential decomposition and associated malodorous products. Accordingly, the
27 impact of exposure of sensitive receptors to potential odors would be less than significant. No
28 mitigation is required.

29 **Impact AQ-20: Generation of Criteria Pollutants in the Excess of Federal *De Minimis***
30 **Thresholds from Construction and Operation and Maintenance of the Proposed Water**
31 **Conveyance Facility**

32 **NEPA Effects:** The potential for Alternative 4A to exceed the federal *de minimis* thresholds during
33 construction of the water conveyance facilities would be identical to Alternative 4. As shown in
34 Table 22-110 in Appendix A of this RDEIR/SDEIS, implementation of Alternative 4 would exceed the
35 following federal *de minimis* thresholds during construction:

36 Sacramento Federal Nonattainment Area (SFNA)

- 37 ● NO_x: 2019–2027

38 San Joaquin Valley Air Basin (SJVAB)

- 39 ● ROG: 2020–2025

- 40 ● NO_x: 2018–2028

41 San Francisco Bay Area Air Basin (SFBAAB)

1 • NO_x: 2024–2025

2 ROG and NO_x are precursors to ozone, for which the SFNA, SJVAB, and SFBAAB are in nonattainment
3 for the NAAQS. Since project emissions exceed the federal *de minimis* thresholds for ROG (SJVAB
4 only) and NO_x, a general conformity determination must be made to demonstrate that total direct
5 and indirect emissions of ROG (SJVAB only) and NO_x would conform to the appropriate SFNA, SJVAB,
6 and SFBAAB state implementation plans (SIPs) for each year of construction in which the *de minimis*
7 thresholds are exceeded.

8 NO_x is also a precursor to PM and can contribute to PM formation. Sacramento County and the
9 SJVAB are currently designated maintenance for the PM₁₀ NAAQS, whereas the SJVAB, SFBAAB, and
10 portions of the SFBA are designated nonattainment for the PM_{2.5} NAAQS. NO_x emissions in excess of
11 100 tons per year in Sacramento County and SJVAB trigger a secondary PM₁₀ precursor threshold,
12 whereas NO_x emissions in excess of 100 tons per year in the SFNA, SJVAB, or SFBAAB trigger a
13 secondary PM_{2.5} precursor threshold. Since NO_x emissions can contribute to PM formation, NO_x
14 emissions in excess of these secondary precursor thresholds could conflict with the applicable PM₁₀
15 and PM_{2.5} SIPs.

16 As shown in Table 22-110 in Appendix A of this RDEIR/SDEIS, NO_x emissions generated by
17 construction activities in SFNA would exceed 100 tons in 2025. However, only 96 of these tons
18 would be generated in Sacramento County. Accordingly, the project does not trigger the secondary
19 PM₁₀ precursor threshold in Sacramento County, but would trigger the secondary PM_{2.5} precursor
20 threshold in 2025. The PM_{2.5} precursor threshold would also be exceeded in the SFBAAB in 2024
21 and 2025. The PM₁₀ and PM_{2.5} precursor thresholds would be exceeded in the SJVAB in 2021 and
22 2022. Accordingly, secondary PM_{2.5} and PM₁₀ (SJVAB only) effects must be considered in the
23 general conformity determination.

24 A general conformity determination has been prepared for Alternative 4/4A and is included in
25 Appendix 22E, *General Conformity Determination*, of the Draft EIR/EIS. As shown in Appendix 22E of
26 the Draft EIR/EIS, the federal lead agencies (Reclamation, USFWS, and NMFS) demonstrate that
27 project emissions would not result in a net increase in regional ROG (SJVAB only) or NO_x emissions,
28 as construction-related ROG (SJVAB only) and NO_x would be fully offset to zero through
29 implementation of Mitigation Measures AQ-1a through AQ-4b which require additional onsite
30 mitigation and/or offsets. Mitigation Measures AQ-1a through AQ-4b will ensure the requirements
31 of the mitigation and offset program are implemented and conformity requirements for ROG (SJVAB
32 only) and NO_x are met.

33 With respect to long-term operational emissions, the number of equipment and personnel required
34 for routine and annual inspections is influenced by the physical water conveyance footprint (i.e.,
35 number and location of intakes). Since the water conveyance footprint under Alternative 4A would
36 be identical to Alternative 4, operational activities required for Alternative 4A would be the same as
37 those required for Alternative 4. Accordingly, operational emissions generated by Alternative 4A
38 under the ELT and LLT conditions would be the same as those analyzed for Alternative 4. As, shown
39 in Table 22-110 in Appendix A of this RDEIR/SDEIS, operational emissions under both conditions
40 would not exceed the federal *de minimis* thresholds. No further analysis is required.

1 **Mitigation Measure AQ-1a: Mitigate and Offset Construction-Generated Criteria Pollutant**
2 **Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity**
3 ***De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable CEQA**
4 **Thresholds for Other Pollutants**

5 Please see Mitigation Measure AQ-1a under Impact AQ-1 in the discussion of Alternative 4 in
6 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

7 **Mitigation Measure AQ-1b: Develop an Alternative or Complementary Offsite Mitigation**
8 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
9 **within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity *De Minimis***
10 **Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for**
11 **Other Pollutants**

12 Please see Mitigation Measure AQ-1b under Impact AQ-1 in the discussion of Alternative 4 in
13 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

14 **Mitigation Measure AQ-3a: Mitigate and Offset Construction-Generated Criteria Pollutant**
15 **Emissions within BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General**
16 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
17 **Applicable BAAQMD CEQA Thresholds for Other Pollutants⁵**

18 Please refer to Mitigation Measure AQ-3a under Impact AQ-3 in the discussion of Alternative 4
19 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

20 **Mitigation Measure AQ-3b: Develop an Alternative or Complementary Offsite Mitigation**
21 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
22 **within the BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General**
23 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
24 **Applicable BAAQMD CEQA Thresholds for Other Pollutants**

25 Please refer to Mitigation Measure AQ-3b under Impact AQ-3 in the discussion of Alternative 4
26 in Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

27 **Mitigation Measure AQ-4a: Mitigate and Offset Construction-Generated Criteria Pollutant**
28 **Emissions within SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General**
29 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
30 **Applicable SJVAPCD CEQA Thresholds for Other Pollutants**

31 Please see Mitigation Measure AQ-4a under Impact AQ-4 in the discussion of Alternative 4 in
32 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

⁵ In the title of this mitigation measure, the phrase “for other pollutants” is intended to apply to other alternatives, where associated impacts on other pollutants may exceed thresholds other than NO_x.

1 **Mitigation Measure AQ-4b: Develop an Alternative or Complementary Offsite Mitigation**
2 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
3 **within the SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General Conformity**
4 ***De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable SJVAPCD**
5 **CEQA Thresholds for Other Pollutants**

6 Please see Mitigation Measure AQ-4b under Impact AQ-4 in the discussion of Alternative 4 in
7 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

8 **CEQA Conclusion:** SFNA, SJVAB, and SFBAAB are classified as nonattainment areas with regard to
9 the ozone NAAQS and the impact of increases in criteria pollutant emissions above the air basin *de*
10 *minimis* thresholds could conflict with or obstruct implementation of the applicable air quality plans.
11 Since construction emissions in the SFNA, SJVAB, and SFBAAB would exceed the *de minimis*
12 thresholds for ROG (SJVAB only) and NO_x, this impact would be significant. Mitigation Measures AQ-
13 1a, AQ-1b, AQ-3a, AQ-3b, AQ-4a, and AQ-4b would ensure project emissions would not result in an
14 increase in regional ROG (SJVAB only) or NO_x emissions. These measures would therefore ensure
15 total direct and indirect ROG (SJVAB only) and NO_x emissions generated by the project would
16 conform to the appropriate air basin SIPs by offsetting the action's emissions in the same or nearby
17 area to net zero. This impact would be less than significant.

18 **Impact AQ-21: Generation of Cumulative Greenhouse Gas Emissions during Construction of**
19 **the Proposed Water Conveyance Facility**

20 **NEPA Effects:** Effects from GHG emissions generated by construction of the watery conveyance
21 facilities under Alternative 4A would be identical to those described under Alternative 4. As shown
22 in Table 22-111 in Appendix A of this RDEIR/SDEIS, construction of Alternative 4 would generate
23 3.0 million metric tons of carbon dioxide equivalent (CO₂e) after implementation of environmental
24 commitments and state mandates. This is equivalent to adding 633,000 typical passenger vehicles to
25 the road during construction (U.S. Environmental Protection Agency 2014). As discussed in Chapter
26 22, *Air Quality and Greenhouse Gases*, Section 22.3.2 of the Draft EIR/EIS, any increase in emissions
27 above net zero associated with construction of the project water conveyance features would be
28 adverse. Mitigation Measure AQ-21, which would develop a GHG Mitigation Program to reduce
29 construction-related GHG emissions to net zero, is available address this effect.

30 **CEQA Conclusion:** Construction of Alternative 4A would generate a total of 3.0 million metric tons of
31 GHG emissions. As discussed in Chapter 22, *Air Quality and Greenhouse Gases*, Section 22.3.2 of the
32 Draft EIR/EIS, any increase in emissions above net zero associated with construction of the project
33 water conveyance features would be significant. Mitigation Measure AQ-21 would develop a GHG
34 Mitigation Program to reduce construction-related GHG emissions to net zero. Accordingly, this
35 impact would be less-than-significant with implementation of Mitigation Measure AQ-21.

36 **Mitigation Measure AQ-21: Develop and Implement a GHG Mitigation Program to Reduce**
37 **Construction Related GHG Emissions to Net Zero (0)**

38 Please see Mitigation Measure AQ-21 under Impact AQ-21 in the discussion of Alternative 4 in
39 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

Impact AQ-22: Generation of Cumulative Greenhouse Gas Emissions from Operation and Maintenance of the Proposed Water Conveyance Facility and Increased Pumping

NEPA Effects: Alternative 4A water conveyance operations would be similar to the range of possible operations for the spring and fall Delta outflow requirements that would occur under Alternative 4 Operational Scenario H3 and Alternative 4 Operational Scenario H4. Table 4.3.18-1 summarizes long-term operational GHG emissions associated with operations, maintenance, and increased SWP pumping under Alternative 4A at the ELT and LLT timeframes. Emissions are compared to both the No Action Alternative (NEPA point of comparison) and Existing Conditions (CEQA baseline). The equipment emissions presented in Table 4.3.18-1 are representative of project impacts for both the NEPA and CEQA analysis and are identical to emissions that would be generated under Alternative 4.

Table 4.3.18-1. GHG Emissions from Operation, Maintenance, and Increased SWP Pumping, Alternative 4A (Operational Scenarios H3 through H4) (metric tons/year)

Condition	Equipment CO ₂	NEPA Point of Comparison (Electricity)		CEQA Baseline (Electricity)		NEPA Point of Comparison (Total)		CEQA Baseline (Total)	
		H3	H4	H3	H4	H3	H4	H3	H4
ELT	815	137,538	12,812	51,457	-46,611	138,353	13,627	52,272	-45,796
LLT	791	19,086	2,795	-2,489	-22,533	19,878	3,586	-1,698	-21,742

Note: The *NEPA point of comparison* compares total CO₂e emissions after implementation of Alternative 4 to the No Action Alternative (ELT), whereas the *CEQA baseline* compares total CO₂e emissions to Existing Conditions.

As shown in Table 4.3.18-1, operations, maintenance, and increased SWP pumping under Alternative 4A would generate 3,586 to 138,353 metric tons CO₂e per year, relative to the No Action Alternative. Emissions relative to existing conditions would range from a net reduction of 45,796 metric tons CO₂e per year to a net increase of 52,272 metric tons CO₂e per year. This increase relative to existing conditions is lower than emissions and potential effects analyzed under the Operational Scenario H1 for Alternative 4 (113,555 metric tons CO₂e).

As discussed in Impact AQ-22 in Chapter 22, *Air Quality and Greenhouse Gases*, of this RDEIR/SDEIS, analysis was undertaken to confirm additional energy demand and associated GHG emissions under Alternative 4 would not impede DWR’s ability to achieve their Climate Action Plan (CAP) goals with implementation of BMPs and modification to DWR’s Renewable Energy Procurement Program (REEP). The analysis presented in the chapter meets the consistency requirements detailed in the DWR CAP, therefore enabling the project to tier from the environmental document prepared for the CAP pursuant to CEQA Guidelines Section 15183.5. Since emissions under Alternative 4A would be lower than those analyzed for Alternative 4 (Operational Scenario H1) and because DWR demonstrated that implementation of Alternative 4 (Operational Scenario H1) would not adversely affect DWR’s ability to achieve the GHG emissions reduction goals set forth in the CAP, Alternative 4A would be consistent with the analysis performed in the CAP and would not conflict with any of DWR’s specific action GHG emissions reduction measures. There would be no adverse effect.

CEQA Conclusion: As discussed in Impact AQ-22 in Chapter 22, *Air Quality and Greenhouse Gases*, of this RDEIR/SDEIS, analysis was undertaken to confirm additional energy demand and associated GHG emissions under Alternative 4 would not impede DWR’s ability to achieve their CAP goals with

1 implementation of BMPs and modification to DWR's REEP. The analysis presented in the chapter
2 meets the consistency requirements detailed in the DWR CAP, therefore enabling the project to tier
3 from the environmental document prepared for the CAP pursuant to CEQA Guidelines Section
4 15183.5. As shown in Table 22-115, the assessment considers the amount of additional renewable
5 energy that would need to be added to the REPP annually following construction in order for DWR
6 to meet their long-term GHG reduction goals. Since emissions under Alternative 4A ELT would be
7 lower than those analyzed for Alternative 4 ELT, and because DWR demonstrated that
8 implementation of Alternative 4 (Operational Scenario H1) would not adversely affect DWR's ability
9 to achieve the GHG emissions reduction goals set forth in the CAP, Alternative 4A would be
10 consistent with the analysis performed in the CAP and would not conflict with any of DWR's specific
11 action GHG emissions reduction measures. Prior adoption of the CAP by DWR already provides a
12 commitment on the part of DWR to make all necessary modifications to DWR's REEP or any other
13 GHG emission reduction measure in the CAP necessary to achieve DWR's GHG emissions reduction
14 goals. Therefore no amendment to the approved CAP is necessary to ensure the occurrence of the
15 additional GHG emissions reduction activities needed to account for project-related operational
16 emissions. The effect of Alternative 4A with respect to GHG emissions is less than cumulatively
17 considerable and therefore less than significant. No mitigation is required.

18 **Impact AQ-23: Generation of Cumulative Greenhouse Gas Emissions from Increased CVP** 19 **Pumping as a Result of Implementation of Water Conveyance Facility**

20 **NEPA Effects:** Alternative 4A water conveyance operations would be similar to the range of possible
21 operations for the spring and fall Delta outflow requirements that would occur under Alternative 4
22 Operational Scenario H3 and Alternative 4 Operational Scenario H4. Under Alternative 4A, operation
23 of the CVP yields the generation of clean, GHG emissions-free, hydroelectric energy. This electricity
24 is sold into the California electricity market or directly to energy users. Implementation of
25 Alternative 4A could result in an increase of up to 89 GWh in the demand for CVP generated
26 electricity at the ELT timeframe, which would result in a reduction of up to 89 GWh or electricity
27 available for sale from the CVP to electricity users. This reduction in the supply of GHG emissions-
28 free electricity to the California electricity users could result in a potential indirect effect of the
29 project, as these electricity users would have to acquire substitute electricity supplies that may
30 result in GHG emissions (although additional conservation is also a possible outcome).

31 It is unknown what type of power source (e.g., renewable, natural gas) would be substituted for CVP
32 electricity or if some of the lost power would be made up with higher efficiency. Given State
33 mandates for renewable energy and incentives for energy efficiency, it is possible that a
34 considerable amount of this power would be replaced by renewable resources or would cease to be
35 needed as a result of higher efficiency. However, to ensure a conservative analysis, indirect
36 emissions were quantified for the entire quantity of electricity (up to 89 GWh) using the current and
37 future statewide energy mix [adjusted to reflect California's Renewables Portfolio Standard (RPS)].

38 Substitution of up to 89 GWh of electricity with a mix of sources similar to the current statewide mix
39 would result in emissions of up to 24,738 metric tons of CO₂e; however, under expected future
40 conditions (after full implementation of the RPS), emissions would be up to 19,223 metric tons of
41 CO₂e. While this effect is less than expected under Alternative 4, the emissions could contribute to a
42 cumulatively considerable effect and are therefore adverse. The emissions would be caused by
43 dozens of independent electricity users, who had previously bought CVP power, making decisions
44 about different ways to substitute for the lost power. These decisions are beyond the control of
45 Reclamation or any of the other project Lead Agencies. Further, monitoring to determine the actual

1 indirect change in emissions as a result of project actions would not be feasible. In light of the
2 impossibility of predicting where any additional emissions would occur, as well as Reclamation's
3 lack of regulatory authority over the purchasers of power in the open market, no workable
4 mitigation is available or feasible.

5 **CEQA Conclusion:** Operation of the CVP is a federal activity beyond the control of any State agency
6 such as DWR, and the power purchases by private entities or public utilities in the private
7 marketplace necessitated by a reduction in available CVP-generated hydroelectric power are beyond
8 the control of the State, just as they are beyond the control of Reclamation. For these reasons, there
9 are no feasible mitigation measures that could reduce this potentially significant indirect impact,
10 which is solely attributable to operations of the CVP and not the SWP, to a less-than-significant level.
11 This impact is therefore determined to be significant and unavoidable.

12 **Impact AQ-24: Generation of Regional Criteria Pollutants from Implementation of**
13 **Environmental Commitments 3, 4, 6-11**

14 **NEPA Effects:** Effects of Alternative 4A related to the generation of regional criteria pollutants
15 during implementation of Environmental Commitments 3, 4, and 6-11 would be similar to those
16 described for Alternative 4. Habitat restoration and enhancement activities that require physical
17 changes or heavy-duty equipment would generate construction emissions through earthmoving
18 activities and heavy-duty diesel-powered equipment. Criteria pollutants from restoration and
19 enhancement actions could exceed applicable general conformity *de minimis* levels and applicable
20 local thresholds. The effect would vary according to the equipment used in construction of a specific
21 environmental commitment, the location, the timing of the actions called for in the environmental
22 commitment, and the air quality conditions at the time of implementation.

23 As described under Section 4.1, *Introduction*, of this RDEIR/SDEIS, the Yolo Bypass Fisheries
24 Enhancement (CM2) would not be completed under Alternative 4A. Similarly, Alternative 4A would
25 only restore up to 15,548 acres of habitat under Environmental Commitments 3, 4, and 6-11, as
26 compared with 152,639 acres under Alternative 4. Therefore, the magnitude of emissions and
27 regional air quality effects under Alternative 4A would likely be smaller than those associated with
28 Alternative 4. Nevertheless, the effect of increases in emissions during implementation of
29 Environmental Commitments 3, 4, and 6-11 in excess of applicable general conformity *de minimis*
30 levels and air district regional thresholds could violate air basin SIPs and worsen existing air quality
31 conditions. Mitigation Measure AQ-24 would be available to reduce this effect, but emissions would
32 still be adverse.

33 **CEQA Conclusion:** Construction and operational emissions associated with the restoration and
34 enhancement actions would result in a significant impact if the incremental difference, or increase,
35 relative to Existing Conditions exceeds the applicable local air district thresholds. Mitigation
36 Measure AQ-24 would be available to reduce this effect, but may not be sufficient to reduce
37 emissions below applicable air quality management district thresholds. Consequently, this impact
38 would be significant and unavoidable.

39 **Mitigation Measure AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to Ensure Air**
40 **District Regulations and Recommended Mitigation are Incorporated into Future**
41 **Conservation Measures and Associated Project Activities**

42 Please see Mitigation Measure AQ-24 under Impact AQ-24 in the discussion of Alternative 4 in
43 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

1 **Impact AQ-25: Exposure of Sensitive Receptors to Health Threats from Localized Particulate**
2 **Matter, Carbon Monoxide, and Diesel Particulate Matter from Implementation of**
3 **Environmental Commitments 3, 4, 6–11**

4 **NEPA Effects:** Construction activities and criteria pollutant emissions generated during
5 implementation of Environmental Commitments 3, 4, and 6–11 would be similar to those described
6 for Alternative 4. However, because Alternative 4A would only restore up to 15,548 acres of habitat
7 under Environmental Commitments 3, 4, and 6–11 as compared with 152,639 acres under CM4–
8 CM11 under Alternative 4, the magnitude of emissions under Alternative 4A would likely be smaller
9 than those associated with Alternative 4. Accordingly, health threats from receptor exposure to
10 localized PM, CO, and DPM would likewise be smaller under Alternative 4A. Potential health effects
11 from localized pollutant increases would vary according to the equipment used, the location and
12 timing of the actions called for in the environmental commitment, the meteorological and air quality
13 conditions at the time of implementation, and the location of receptors relative to the emission
14 source. Increases in PM, CO, or DPM (cancer and non-cancer-risk) in excess of applicable air district
15 thresholds at receptor locations would be adverse. Mitigation Measures AQ-24 and AQ-25 would be
16 available to reduce this effect.

17 **CEQA Conclusion:** Construction and operational emissions associated with the restoration and
18 enhancement actions under Alternative 4A would result in a significant impact if PM, CO, or DPM
19 (cancer and non-cancer-risk) concentrations at receptor locations exceed the applicable local air
20 district thresholds. Mitigation Measures AQ-24 and AQ-25 would ensure localized concentrations at
21 receptor locations would be below applicable air quality management district thresholds (see Table
22 22-8 in Appendix A of this RDEIR/SDEIS). Consequently, this impact would be less than significant.

23 **Mitigation Measure AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to Ensure Air**
24 **District Regulations and Recommended Mitigation are Incorporated into Future**
25 **Conservation Measures and Associated Project Activities**

26 Please see Mitigation Measure AQ-24 under Impact AQ-24 in the discussion of Alternative 4 in
27 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

28 **Mitigation Measure AQ-25: Prepare a Project-Level Health Risk Assessment to Reduce**
29 **Potential Health Risks from Exposure to Localized DPM and PM Concentrations**

30 Please see Mitigation Measure AQ-25 under Impact AQ-25 in the discussion of Alternative 4 in
31 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

32 **Impact AQ-26: Creation of Potential Odors Affecting a Substantial Number of People from**
33 **Implementation of Environmental Commitments 3, 4, 6–11**

34 **NEPA Effects:** The potential for Alternative 4A to expose sensitive receptors to increased odors from
35 implementation of Environmental Commitments 3, 4, and 6–11 would be similar to Alternative 4. As
36 described under Alternative 4, diesel emissions from earthmoving equipment could generate
37 temporary odors, but these would quickly dissipate and cease once construction is completed. The
38 magnitude of diesel emissions and odors would likely be smaller than those associated with
39 Alternative 4 due to the reduced restoration acreage under Alternative 4A. Similarly, potential odors
40 generated by restored estuarine wetland, upland habitats, or tidal mudflats would likely be less
41 under Alternative 4A. While restored land uses have the potential to generate odors from natural
42 processes, the odors would be similar in origin and magnitude to the existing land use types in the

1 restored area (e.g., managed wetlands). Accordingly, implementation of Environmental
2 Commitments 3, 4, and 6–11 are not anticipated to result in additional odor complaints or public
3 nuisance, relative to the No Action Alternative. Odor-related effects associated with Environmental
4 Commitments 3, 4, and 6–11 would not be adverse.

5 **CEQA Conclusion:** Alternative 4A would not result in the addition of major odor producing facilities.
6 Diesel emissions during construction could generate temporary odors, but these would quickly
7 dissipate and cease once construction is completed. Increases in wetland, tidal, and upland habitats
8 may increase the potential for odors from natural processes. However, the origin and magnitude of
9 odors would be similar to the existing land use types in the restored area (e.g., managed wetlands).
10 Accordingly, implementation of Environmental Commitments 3, 4, and 6–11 are not anticipated to
11 result in additional odor complaints or public nuisance, relative to existing conditions. Odor impact
12 of exposure of sensitive receptors to potential odors would be less than significant. No mitigation is
13 required.

14 **Impact AQ-27: Generation of Cumulative Greenhouse Gas Emissions from Implementation of** 15 **Environmental Commitments 3, 4, 6–11**

16 **NEPA Effects:** Effects of Alternative 4A related to the generation of GHG emissions during
17 implementation of Environmental Commitments 3, 4, and 6–11 would be similar to those described
18 for Alternative 4 for the identified commitments. As described under Alternative 4, construction
19 equipment required for earthmoving could generate short-term GHG emissions. The magnitude of
20 emissions would likely be smaller than those associated with Alternative 4 due to the reduced
21 restoration acreage under Alternative 4A.

22 Implementing Environmental Commitments 3, 4, and 6–11 would affect long-term sequestration
23 rates through land use changes, such as conversion of agricultural land to wetlands, inundation of
24 peat soils, drainage of peat soils, and removal or planting of carbon-sequestering plants. Without
25 additional information on site-specific characteristics associated with each of the restoration
26 components, a complete assessment of GHG flux from Environmental Commitments 3, 4, and 6–11
27 and a comparison of potential effects relative to Alternative 4 are currently not possible. The effect
28 of carbon sequestration and methane generation would vary by land use type, season, and chemical
29 and biological characteristics. Mitigation Measures AQ-24 and AQ-27 would be available to reduce
30 this effect. However, due to the potential for increases in GHG emissions from construction and land
31 use change, this effect would be adverse.

32 **CEQA Conclusion:** The restoration and enhancement actions under Alternative 4A could result in a
33 significant impact if activities are inconsistent with applicable GHG reduction plans, do not
34 contribute to a lower carbon future, or generate excessive emissions, relative to other projects
35 throughout the state. Mitigation Measures AQ-24 and AQ-27 would be available to reduce this
36 impact, but may not be sufficient to reduce to a less-than-significant level. Consequently, this impact
37 is would be significant and unavoidable.

38 **Mitigation Measure AQ-24: Develop an Air Quality Mitigation Plan (AQMP) to Ensure Air** 39 **District Regulations and Recommended Mitigation are Incorporated into Future** 40 **Conservation Measures and Associated Project Activities**

41 Please see Mitigation Measure AQ-24 under Impact AQ-24 in the discussion of Alternative 4 in
42 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.

1 **Mitigation Measure AQ-27: Prepare a Land Use Sequestration Analysis to Quantify and**
2 **Mitigate (as Needed) GHG Flux Associated with Conservation Measures and Associated**
3 **Project Activities**

4 Please see Mitigation Measure AQ-27 under Impact AQ-27 in the discussion of Alternative 4 in
5 Chapter 22, *Air Quality and Greenhouse Gases*, of the Draft EIR/EIS.