

1 For the No Action Alternative (Hanford Only and Lower Bound waste volumes), the largest air
 2 quality impacts would occur during two different periods of project operation. In 2007, the heavy use of
 3 construction equipment to construct LLW trenches and CWC buildings, the capping of existing MLLW
 4 trenches, and propane use at CWC would produce the maximum 24-hour and annual concentrations of
 5 PM₁₀. In 2034, ILAW vault and final LLW trench construction would be underway, and propane for
 6 CWC and pulse drier operations would be at their peak. These activities would produce the maximum
 7 concentrations of SO₂ over all averaging periods, the maximum annual concentrations of NO₂, and the
 8 maximum 1- and 8-hour concentrations of CO.

9
 10 Estimates of the maximum air quality impacts to the public from activities in the 200 Areas under the
 11 No Action Alternative are presented in Table 5.11. Estimates of the maximum air quality impacts to the
 12 public from Area C activities are the same for all Alternative Groups (see Table 5.6).

13
 14 **Table 5.11.** No Action Alternative: Maximum Air Quality Impacts to the Public from
 15 Activities in the 200 Areas
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Pollutant	Averaging Time	Ambient Air Quality Standard (µg/m ³)	Maximum Air Quality Impacts	
			Maximum Pollutant Concentration (µg/m ³)	Percent of Standard
PM ₁₀	24 hr	150	57	38
	Annual	50	0.37	0.74
SO ₂	1 hr	1000	86	8.6
	3 hr	1300	35	2.7
	24 hr	260	3.4	1.3
	Annual	50	0.019	0.038
CO	1 hr	40,000	1600	4.0
	8 hr	10,000	460	4.6
NO ₂	Annual	100	0.93	0.93

17
 18 All air quality impacts from the No Action Alternative would be within ambient air quality standards
 19 (see Table 4.5). The largest potential impacts to the public from Area C activities would result from SO₂
 20 and CO emissions. The largest potential air quality impact from emissions in the 200 Areas would
 21 involve the 24-hour PM₁₀ air concentration. Using the series of conservative assumptions employed in
 22 the dispersion modeling, this maximum air quality impact would be about 38 percent of the applicable air
 23 quality standard.

24
 25 **5.2.7 Comparison of Alternative Groups**

26
 27 Table 5.12 presents a summary comparison, across all Alternative Groups, of maximum ambient air
 28 quality impacts to the public from activities in the 200 Areas. The greatest air quality impacts are
 29 experienced under Alternative B – Upper Bound. Depending on the pollutant and averaging period, the
 30 lowest air quality impacts are experienced under Alternative A – Hanford Only and Lower Bound,
 31 Alternative C – Hanford Only and Lower Bound, Alternative C – Upper Bound, and the No Action
 32 Alternative.

1 The only air quality impacts to the public from activities in the 200 Areas that would exceed
2 10 percent of their applicable ambient air quality standards would be the maximum 24-hour concentration
3 of PM₁₀ and 1-hour concentration of SO₂. Only the maximum 24-hour concentration of PM₁₀ under
4 Alternative B – Upper Bound would exceed 50 percent of the applicable air quality standard. For
5 activities in Area C, the maximum 1- and 8-hour concentrations of CO, 1- and 3-hour concentrations of
6 SO₂, and 24-hour concentration of PM₁₀ would be greater than 10 percent of the applicable ambient air
7 quality standards (see Table 5.6). None of these impacts would exceed 50 percent of the applicable air
8 quality standard.

9
10 It should be re-emphasized that the air quality impacts presented above are all based on a series of
11 conservative assumptions. In particular, the incorporation of particulate deposition processes in the air
12 quality modeling or the consideration of more stringent vehicle pollutant emission standards that are
13 currently scheduled for future implementation would substantially reduce estimates of many maximum air
14 quality impacts.

15
16 It is important to note that the maximum short-term air quality impacts to the public from activities in
17 the 200 Areas and Area C should not be summed to come up with a combined air quality impact. For
18 averaging periods of 24 hours and less, the maximum air quality impacts to the public from emissions in
19 the 200 Areas and Area C would occur under markedly different flow regimes and would therefore occur
20 at different times and have different impact locations. As a result, the maximum short-term air quality
21 impacts to the public from emissions at one source location would not be appreciably impacted by
22 emissions from the other source location. For annual air quality impacts to the public, it is extremely
23 conservative to sum maximum annual impacts from different source locations to estimate the maximum
24 cumulative impact. For the Hanford Solid Waste Program, the combined maximum annual air quality
25 impacts from emissions in each source location would be very small (that is, less than 2 percent of any
26 annual air quality standard).

27

Table 5.12. Comparison Across all Alternative Groups of Maximum Air Quality Impacts to the Public from Activities in the 200 Areas

		Maximum Air Quality Impacts in Terms of Percent of the Associated Ambient Air Quality Standard										
		Alternative Group A		Alternative Group B		Alternative Group C		Alternative Group D		Alternative Group E		No Action
Pollutant	Averaging Time	Hanford & Lower	Upper	Hanford & Lower	Upper	Hanford & Lower	Upper	Hanford & Lower	Upper	Hanford & Lower	Upper	Hanford & Lower
PM ₁₀	24 hr	46	49	47	60	40	41	41	41	40	41	38
	Annual	1.2	1.2	1.2	1.3	1.1	1.1	1.1	1.1	1.1	1.1	0.74
SO ₂	1 hr	8.1	9.8	13	18	7.9	8.0	8.4	8.4	9.3	9.5	8.6
	3 hr	2.9	3.5	4.7	6.5	2.8	2.8	2.9	2.9	3.2	3.2	2.7
	24 hr	1.0	1.3	1.8	2.5	1.1	1.1	1.2	1.2	1.2	1.2	1.3
	Annual	0.034	0.038	0.042	0.042	0.036	0.036	0.038	0.038	0.038	0.040	0.038
CO	1 hr	3.8	4.6	6.3	8.5	3.8	3.8	4.0	4.0	4.3	4.3	4.0
	8 hr	4.8	5.9	8.0	11	4.6	4.7	5.0	5.0	5.3	5.3	4.6
NO ₂	Annual	0.84	0.80	1.0	1.1	0.79	0.78	0.91	0.98	0.84	0.97	0.93