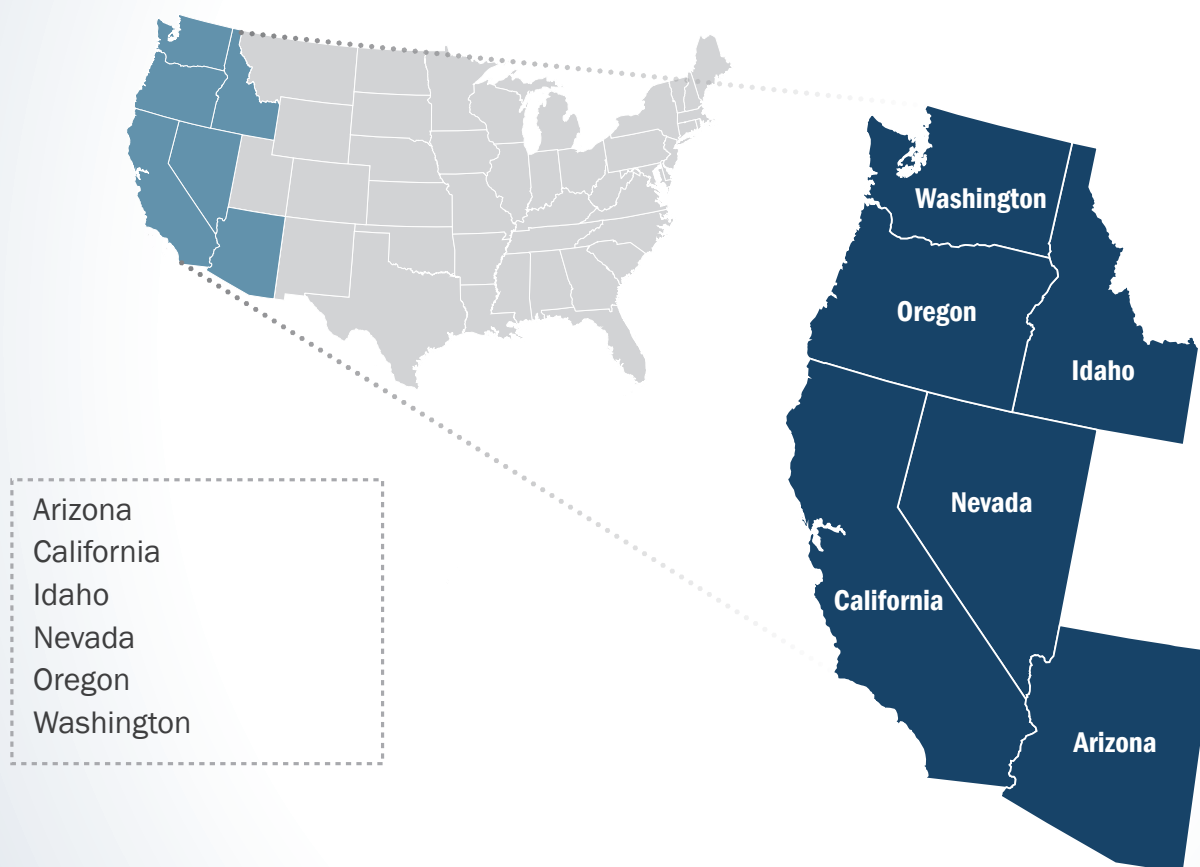




Nationwide Public Safety Broadband Network
**Draft Programmatic Environmental Impact Statement
for the Western United States**

APPENDIX E - AIR QUALITY



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First Responder Network Authority



Nationwide Public Safety Broadband Network **Draft Programmatic Environmental Impact Statement for the Western United States**

APPENDIX E – AIR QUALITY

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Cooperating Agencies

Federal Communications Commission
General Services Administration
U.S. Department of Agriculture—Rural Utilities Service
U.S. Department of Agriculture—U.S. Forest Service
U.S. Department of Agriculture—Natural Resource Conservation Service
U.S. Department of Defense—Department of the Air Force
U.S. Department of Energy
U.S. Department of Homeland Security

September 2016

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APPENDIX E – AIR QUALITY

Table E-1: National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Time	Primary Standard ^a		Secondary Standard		Notes
		µg/m ³	ppm	µg/m ³	ppm	
CO	8-hour	10,000	9	-	-	Standard is not to be exceeded more than once per year
	1-hour	40,000	35	-	-	
Lead	3-month	0.15 ^b	-	Same as Primary		Rolling average. Not to be exceeded
NO ₂	1-hour	188	0.100	-	-	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Annual	100	0.053	Same as Primary		Annual Mean
PM ₁₀	24-hour	150	-	-	-	Not to be exceeded more than once per year on average over 3 years
PM _{2.5}	Annual	12	-	15	-	Annual mean, averaged over 3 years
	24-hour	35	-	Same as Primary		98th percentile, averaged over 3 years
O ₃	8-hour	147	0.075 ^c	Same as Primary		Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
SO ₂	1-hour	196	0.075 ^d	-	-	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3-hour	-	-	1,300	0.5	Not to be exceeded more than once per year

Source: (USEPA, 2014)

^a The standard may be expressed both sets of units. A blank cell, containing a dash, indicates that there is no primary or secondary standard for the specific pollutant and averaging time.

^b “Final Rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

^c Final Rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, USEPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

^d Final Rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.”

Table E-2: Federally Regulated Hazardous Air Pollutants (HAPs)

POLLUTANT ^a	CAS#	POLLUTANT ^a	CAS#
Acetaldehyde	75070	Chloroform	67663
Acetamide	60355	Chloromethyl methyl ether	107302
Acetonitrile	75058	Chloroprene	126998
Acetophenone	98862	Cresols/Cresylic acid (isomers and mixture)	1319773
2-Acetylaminofluorene	53963	o-Cresol	95487
Acrolein	107028	m-Cresol	108394
Acrylamide	79061	p-Cresol	106445
Acrylic acid	79107	Cumene	98828
Acrylonitrile	107131	2,4-D, salts and esters	94757
Allyl chloride	107051	DDE	3547044
4-Aminobiphenyl	92671	Diazomethane	334883
Aniline	62533	Dibenzofurans	132649
o-Anisidine	90040	1,2-Dibromo-3-chloropropane	96128
Asbestos	1332214	Dibutylphthalate	84742
Benzene (including benzene from gasoline)	71432	1,4-Dichlorobenzene(p)	106467
Benzidine	92875	3,3-Dichlorobenzidine	91941
Benzotrichloride	98077	Dichloroethyl ether (Bis(2-chloroethyl)ether)	111444
Benzyl chloride	100447	1,3-Dichloropropene	542756
Biphenyl	92524	Dichlorvos	62737
Bis(2-ethylhexyl)phthalate (DEHP)	117817	Diethanolamine	111422
Bis(chloromethyl)ether	542881	N,N-Diethyl aniline (N,N-Dimethylaniline)	121697
Bromoform	75252	Diethyl sulfate	64675
1,3-Butadiene	106990	3,3-Dimethoxybenzidine	119904
Calcium cyanamide	156627	Dimethyl aminoazobenzene	60117
Caprolactam	105602	3,3'-Dimethyl benzidine	119937
Captan	133062	Dimethyl carbamoyl chloride	79447
Carbaryl	63252	Dimethyl formamide	68122
Carbon disulfide	75150	1,1-Dimethyl hydrazine	57147
Carbon tetrachloride	56235	Dimethyl phthalate	131113
Carbonyl sulfide	463581	Dimethyl sulfate	77781
Catechol	120809	4,6-Dinitro-o-cresol, and salts	534521
Chloramben	133904	2,4-Dinitrophenol	51285
Chlordane	57749	2,4-Dinitrotoluene	121142
Chlorine	7782505	1,4-Dioxane (1,4-Diethyleneoxide)	123911
Chloroacetic acid	79118	1,2-Diphenylhydrazine	122667
2-Chloroacetophenone	532274	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106898
Chlorobenzene	108907	1,2-Epoxybutane	106887
Chlorobenzilate	510156		

POLLUTANT ^a	CAS#	POLLUTANT ^a	CAS#
Ethyl acrylate	140885	Methyl tert butyl ether	1634044
Ethyl benzene	100414	4,4-Methylene bis(2-chloroaniline)	101144
Ethyl carbamate (Urethane)	51796	Methylene chloride (Dichloromethane)	75092
Ethyl chloride (Chloroethane)	75003	Methylene diphenyl diisocyanate (MDI)	101688
Ethylene dibromide (Dibromoethane)	106934	4,4'-Methylenedianiline	101779
Ethylene dichloride (1,2-Dichloroethane)	107062	Naphthalene	91203
Ethylene glycol	107211	Nitrobenzene	98953
Ethylene imine (Aziridine)	151564	4-Nitrobiphenyl	92933
Ethylene oxide	75218	4-Nitrophenol	100027
Ethylene thiourea	96457	2-Nitropropane	79469
Ethylidene dichloride (1,1-Dichloroethane)	75343	N-Nitroso-N-methylurea	684935
Formaldehyde	50000	N-Nitrosodimethylamine	62759
Heptachlor	76448	N-Nitrosomorpholine	59892
Hexachlorobenzene	118741	Parathion	56382
Hexachlorobutadiene	87683	Pentachloronitrobenzene (Quintobenzene)	82688
Hexachlorocyclopentadiene	77474	Pentachlorophenol	87865
Hexachloroethane	67721	Phenol	108952
Hexamethylene-1,6-diisocyanate	822060	p-Phenylenediamine	106503
Hexamethylphosphoramide	680319	Phosgene	75445
Hexane	110543	Phosphine	7803512
Hydrazine	302012	Phosphorus	7723140
Hydrochloric acid	7647010	Phthalic anhydride	85449
Hydrogen fluoride (Hydrofluoric acid)	7664393	Polychlorinated biphenyls (Aroclors)	1336363
Hydrogen sulfide	7783064	1,3-Propane sultone	1120714
Hydroquinone	123319	beta-Propiolactone	57578
Isophorone	78591	Propionaldehyde	123386
Lindane (all isomers)	58899	Propoxur (Baygon)	114261
Maleic anhydride	108316	Propylene dichloride (1,2-Dichloropropane)	78875
Methanol	67561	Propylene oxide	75569
Methoxychlor	72435	1,2-Propylenimine (2-Methyl aziridine)	75558
Methyl bromide (Bromomethane)	74839	Quinoline	91225
Methyl chloride (Chloromethane)	74873	Quinone	106514
Methyl chloroform (1,1,1-Trichloroethane)	71556	Styrene	100425
Methyl ethyl ketone (2-Butanone)	78933	Styrene oxide	96093
Methyl hydrazine	60344	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016
Methyl iodide (Iodomethane)	74884	1,1,2,2-Tetrachloroethane	79345
Methyl isobutyl ketone (Hexone)	108101	Tetrachloroethylene (Perchloroethylene)	127184
Methyl isocyanate	624839	Titanium tetrachloride	7550450
Methyl methacrylate	80626	Toluene	108883

POLLUTANT ^a	CAS#	POLLUTANT ^a	CAS#
2,4-Toluene diamine	95807	p-Xylenes	106423
2,4-Toluene diisocyanate	584849	Antimony Compounds	-
o-Toluidine	95534	Arsenic Compounds (inorganic including arsine)	-
Toxaphene (chlorinated camphene)	8001352	Beryllium Compounds	-
1,2,4-Trichlorobenzene	120821	Cadmium Compounds	-
1,1,2-Trichloroethane	79005	Chromium Compounds	-
Trichloroethylene	79016	Cobalt Compounds	-
2,4,5-Trichlorophenol	95954	Coke Oven Emissions	-
2,4,6-Trichlorophenol	88062	Cyanide Compounds ^b	-
Triethylamine	121448	Glycol ethers ^c	-
Trifluralin	1582098	Lead Compounds	-
2,2,4-Trimethylpentane	540841	Manganese Compounds	-
Vinyl acetate	108054	Mercury Compounds	-
Vinyl bromide	593602	Fine mineral fibers ^d	-
Vinyl chloride	75014	Nickel Compounds	-
Vinylidene chloride (1,1-Dichloroethylene)	75354	Polycyclic Organic Matter ^e	-
Xylenes (isomers and mixture)	1330207	Radionuclides (including radon) ^f	-
o-Xylenes	95476	Selenium Compounds	-
m-Xylenes	108383		

Source: (USEPA, 2013)

^a For all listings above which contain the word “compounds” and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

^b X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂

^c Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR' where:

n = 1, 2, or 3;

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R' = H or alkyl C7 or less; or

OR' consists of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

^d Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

^e Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 ° C.

^f A type of atom which spontaneously undergoes radioactive decay.

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- USEPA. (2013, August 8). The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants. Retrieved April 20, 2015, from <http://www.epa.gov/ttn/atw/orig189.html>
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