

NMAC 20.6.4.

Calculations Specifications:

Prepared By:

Excel

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STEP 1:

REFERENCE IMPLEMENTATION PROCEDURES

INPUT FACILITY AND RECEIVING STREAM DATA

LIST SOURCE OF DATA INPUT

IMPLEMENTATION PROCEDURES

The State of New Mexico Standards for Interstate and Intrastate Surface Waters are implemented in this spread sheet by using procedures established in the current "Procedures for Implementing NPDES Permits in New Mexico"

FACILITY

DATA INPUT

Permittee

NPDES Permit No.

Outfall No.(s)

Plant Effluent Flow (MGD)

Plant Effluent Flow (cfs)

El Paso Electric Company

NM0000108

6

0.108

0.1674

For industrial and federal facility, use the highest monthly average flow for the past 24 months. For POTWs, use the design flow.

RECEIVING STREAM

DATA INPUT

Receiving Stream Name

Basin Name

Waterbody Segment Code No.

Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)

Are acute aquatic life criteria considered (1= yes, 0= no) (MUST enter "1" for 2005 Standards)

Are chronic aquatic life criteria considered (1= yes, 0=no)

Are domestic water supply criteria considered (1= yes, 0=no)

Are irrigation water supply criteria considered (1= yes, 0=no)

Livestock watering and wildlife habitat criteria applied to all streams

Rio Grande

Rio Grande Basin

20.6.4.101

0

1

1

0

1

USGS

42RGrand002.7

36

346

0

0.35

19

7.6

0

0

For intermittent stream, enter effluent TSS

For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)

Enter "0" for intermittent stream and lake.

Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available

Enter 1, if stream morphology data is not available or for intermittent streams.

STEP 2: INPUT AMBIENT AND EFFLUENT DATA
CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

Input pollutant geometric mean concentration as micro-gram per liter (ug/l or ppb)
unless other unit is specified for the parameter.
Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, input "1/2 DL" for calculation.
Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, no data is inputted.
If a less than MQL vakue is reported, input either the reported value or "0" for calculation.

The following formular is used to calculate the Instream Waste Concentration (Cd)
See the current "Procedures for Implementing NPDES Permits in New Mexico"
 $Cd = [(F*Qa*Ca) + (Qe*2.13*Ce)] / (F*Qa + Qe)$
Where:
Cd = Instream Waste Concentration
F = Fraction of stream allowed for mixing (see "Procedures for Implementing NPDES Permits in New Mexico")
Ce = Reported concentration in effluent
Ca = Ambient stream concentration upstream of discharge
Qe = Plant effluent flow
Qa = Critical low flow of stream at discharge point expressed as the 4Q3 or harmonic mean flow for human health criteria

The following formular convert metals reported in total form to dissolved form if criteria are in dissolved form
See the current "Procedures for Implementing NPDES Permits in New Mexico"
 $Kp = Kpo * (TSS^{**a})$
 $C/Ct = 1 / (1 + Kp * TSS * 10^{-6})$
Total Metal Criteria (Ct) = Cr / (C/Ct)

Kp = Linear partition coefficient; Kpo and a can be found in table below
TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)
C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value

Total Metals	Total Value	Stream Linear Partition Coefficient					Lake Linear Partition Coefficient				
		Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Stream	Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Lake
Arsenic	0.0596	480000	-0.73	35086.52939	0.441868829	0.02633538	480000	-0.73	35086.52939	0.441868829	0.02633538
Chromium III	0.00621	3360000	-0.93	119943.8408	0.188041385	0.00116774	2170000	-0.27	824627.965	0.032587507	0.00020237
Copper	0.104	1040000	-0.74	73344.82703	0.274694049	0.02856818	2850000	-0.9	113285.0523	0.196917769	0.02047945
Lead	0.000377	2800000	-0.8	159263.4175	0.14851155	5.5989E-05	2040000	-0.53	305344.3174	0.083386176	3.1437E-05
Nickel	0.0188	490000	-0.57	63548.25866	0.304160553	0.00571822	2210000	-0.76	145078.2717	0.160698904	0.00302114
Silver	0.000118	2390000	-1.03	59621.97048	0.31782446	3.7503E-05	2390000	-1.03	59621.97048	0.31782446	3.7503E-05
Zinc	0.137	1250000	-0.7	101741.5296	0.214468239	0.02938215	3340000	-0.68	292052.3911	0.08685165	0.01189868

The following formular is used to calculate hardness dependent criteria (Please refer to State Water Quality Standards for details)				Dissolved WQC (ug/l)	
Aluminum (T)	Acute	$e(1.3695[\ln(\text{hardness})]+1.8308)$		18722.81106	If Stream pH < 6.5, enter 750 in cell O113
	Chronic	$e(1.3695[\ln(\text{hardness})]+0.9161)$		7501.047095	If Stream pH < 6.5, enter 87 in cell P113
Cadmium (D)	Acute	$e(0.8968[\ln(\text{hardness})]-3.5699)*CF1$		4.75394194	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	$e(0.7647[\ln(\text{hardness})]-4.2180)*CF2$		1.103552504	CF2 = 1.101672 - 0.041838*ln(hardness)

			Dissolved	
			WQC (ug/l)	
Chromium III (D)	Acute	0.316 e(0.819[ln(hardness)]+3.7256)	1574.700369	
	Chronic	0.860 e(0.819[ln(hardness)]+0.6848)	204.8361655	
Copper (D)	Acute	0.960 e(0.9422[ln(hardness)]-1.700)	43.2800859	
	Chronic	0.960 e(0.8545[ln(hardness)]-1.702)	25.86679083	
Lead (D)	Acute	e(1.273[ln(hardness)]-1.46)*CF3	241.8794392	CF3 = 1.46203 - 0.145712*ln(hardness)
	Chronic	e(1.273[ln(hardness)]-4.705)*CF4	9.425694492	CF4 = 1.46203 - 0.145712*ln(hardness)
Manganese (D)	Acute	e(0.3331[ln(hardness)]+6.4676)	4514.495658	
	Chronic	e(0.3331[ln(hardness)]+5.8743)	2494.263454	
Nickel (D)	Acute	0.998 e(0.846[ln(hardness)]+2.255)	1338.206015	
	Chronic	0.997 e(0.846[ln(hardness)]+0.0584)	148.6333737	
Silver (D)	Acute	0.85 e(1.72[ln(hardness)]-6.59)	27.20377536	
Zinc (D)	Acute	0.978 e(0.9094[ln(hardness)]+0.9095)	494.7268604	
	Chronic	0.986 e(0.90947[ln(hardness)]+0.6235)	374.8634208	

			Instream Waste Concentration							Livestock&	Acute	Chronic	Human	Need	
POLLUTANTS			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
	CAS No.	MQL	Conc.	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
			Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Radioactivity, Nutrients, and Chlorine															
Aluminum, total	7429-90-5	2.5		57.1	121.623	121.623	121.623	39.3500004	1E+100	5000	1E+100	18722.81106	7501.04709	1E+100	N/A
Barium, dissolved	7440-39-3	100		175	372.75	372.75	372.75	120.599826	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved	7440-42-8	100	830	1480	3152.4	3152.4	3152.4	1581.39111	1E+100	750	5000	1E+100	1E+100	1E+100	Need TMDL
Cobalt, dissolved	7440-48-4	50		0.881	1.87653	1.87653	1.87653	0.60713398	1E+100	50	1000	1E+100	1E+100	1E+100	N/A
Uranium, dissolved	7440-61-1	0.1	12	24.4	51.972	51.972	51.972	24.9325721	30	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Vanadium, dissolved	7440-62-2	50	17.8	18.5	39.405	39.405	39.405	24.7900986	1E+100	100	100	1E+100	1E+100	1E+100	N/A
Ra-226 and Ra-228 (pCi/l)				0.084		0	0	0.05682257	5	1E+100	30	1E+100	1E+100	1E+100	N/A
Strontium (pCi/l)					0	0	0	0	8	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Tritium (pCi/l)					0	0	0	0	20000	1E+100	20000	1E+100	1E+100	1E+100	N/A
Gross Alpha (pCi/l)			4.4		0	0	0	2.97642056	15	1E+100	15	1E+100	1E+100	1E+100	N/A
Asbestos (fibers/l)					0	0	0	0	7000000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Total Residual Chlorine	7782-50-5	33			0	0	0	0	1E+100	1E+100	11	19	11	1E+100	N/A
Nitrate as N (mg/l)				0.19	0	0	0	0.12852725	10	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Nitrite + Nitrate (mg/l)				7.79	16.5927	16.5927	16.5927	5.36841511	1E+100	1E+100	132	1E+100	1E+100	1E+100	N/A
METALS AND CYANIDE															
Antimony, dissolved (P)	7440-36-0	60		0.00513	0.0109269	0.0109269	0.0109269	0.0035353	6	1E+100	1E+100	1E+100	1E+100	640	N/A
Arsenic, dissolved (P)	7440-38-2	0.5		0.0563	0.119919	0.119919	0.119919	0.03879869	10	100	200	340	150	9	N/A
Beryllium, dissolved	7440-41-7	0.5		0.000148	0.00031524	0.00031524	0.00031524	0.00010199	4	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Cadmium, dissolved	7440-43-9	1		0.00085	0.0018105	0.0018105	0.0018105	0.00058577	5	10	50	4.75394194	1.1035525	1E+100	N/A
Chromium (III), dissolved	16065-83-1	10			0	0	0	0	1E+100	1E+100	1E+100	1574.700369	204.836166	1E+100	N/A
Chromium (VI), dissolved	18540-29-9	10			0	0	0	0	1E+100	1E+100	1E+100	16	11	1E+100	N/A
Chromium, dissolved	7440-47-3			0.00495	0.0105435	0.0105435	0.0105435	0.00341125	100	100	1000	1E+100	1E+100	1E+100	N/A
Copper, dissolved	7440-50-8	0.5		0.103	0.21939	0.21939	0.21939	0.07098161	1300	200	500	43.2800859	25.8667908	1E+100	N/A
Lead, dissolved	7439-92-1	0.5		0.000219	0.00046647	0.00046647	0.00046647	0.00015092	15	5000	100	241.8794392	9.42569449	1E+100	N/A
Manganese, dissolved	7439-96-5			0.06	0.1278	0.1278	0.1278	0.04134851	1E+100	1E+100	1E+100	4514.495658	2494.26345	1E+100	N/A

			Instream Waste Concentration					Livestock&	Acute	Chronic	Human	Need				
POLLUTANTS			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL	
			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria		
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77	1E+100	N/A	
Mercury, total	7439-97-6	0.005			0	0	0	0	2	1E+100	0.77	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum, dissolved	7439-98-7				0.165075	0.165075	0.165075	0.05340849	1E+100	1000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum, total recoverable	7439-98-7				0.164649	0.164649	0.164649	0.05327067	1E+100	1E+100	1E+100	7920	1895	1E+100	1E+100	N/A
Nickel, dissolved (P)	7440-02-0	0.5			0.043665	0.043665	0.043665	0.01412741	700	1E+100	1E+100	1E+100	1338.206015	148.633374	4600	N/A
Selenium, dissolved (P)	7782-49-2	5			0.027264	0.027264	0.027264	0.00882102	50	130	50	1E+100	1E+100	4200	N/A	
Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100	4200	N/A	
Selenium, total recoverable	7782-49-2	5			0.027477	0.027477	0.027477	0.00888993	1E+100	1E+100	5	20	5	1E+100	1E+100	N/A
Silver, dissolved	7440-22-4	0.5			0.00025134	0.00025134	0.00025134	8.1319E-05	1E+100	1E+100	1E+100	27.20377536	1E+100	1E+100	1E+100	N/A
Thallium, dissolved (P)	7440-28-0	0.5			0.00031098	0.00031098	0.00031098	0.00010061	2	1E+100	1E+100	1E+100	1E+100	1E+100	0.47	N/A
Zinc, dissolved	7440-66-6	20			0.25347	0.25347	0.25347	0.08200788	10500	2000	25000	494.7268604	374.863421	26000	N/A	
Cyanide, total recoverable	57-12-5	10			0.00426	0.00426	0.00426	0.00137828	200	1E+100	5.2	22	5.2	140	N/A	
Dioxin	1764-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100	1E+100	5.1E-08	N/A
VOLATILE COMPOUNDS																
Acrolein	107-02-8	50			0.023643	0.023643	0.023643	0.00764947	18	1E+100	1E+100	1E+100	1E+100	9	N/A	
Acrylonitrile	107-13-0	20			0.030459	0.030459	0.030459	0.00985473	0.65	1E+100	1E+100	1E+100	1E+100	1E+100	2.5	N/A
Benzene	71-43-2	10			0.00113529	0.00113529	0.00113529	0.00036731	5	1E+100	1E+100	1E+100	1E+100	1E+100	510	N/A
Bromoform	75-25-2	10			0	0	0	0	44	1E+100	1E+100	1E+100	1E+100	1E+100	1400	N/A
Carbon Tetrachloride	56-23-5	2			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	16	N/A
Chlorobenzene	108-90-7	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	1E+100	1600	N/A
Clorodibromomethane	124-48-1	10			0	0	0	0	4.2	1E+100	1E+100	1E+100	1E+100	1E+100	130	N/A
Chloroform	67-66-3	50			0	0	0	0	57	1E+100	1E+100	1E+100	1E+100	1E+100	4700	N/A
Dichlorobromomethane	75-27-4	10			0	0	0	0	5.6	1E+100	1E+100	1E+100	1E+100	1E+100	170	N/A
1,2-Dichloroethane	107-06-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	370	N/A
1,1-Dichloroethylene	75-35-4	10			0	0	0	0	7	1E+100	1E+100	1E+100	1E+100	1E+100	7100	N/A
1,2-Dichloropropane	78-87-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	150	N/A
1,3-Dichloropropylene	542-75-6	10			0	0	0	0	3.5	1E+100	1E+100	1E+100	1E+100	1E+100	210	N/A
Ethylbenzene	100-41-4	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	1E+100	2100	N/A
Methyl Bromide	74-83-9	50			0	0	0	0	49	1E+100	1E+100	1E+100	1E+100	1E+100	1500	N/A
Methylene Chloride	75-09-2	20			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	5900	N/A
1,1,2,2-Tetrachloroethane	79-34-5	10			0	0	0	0	1.8	1E+100	1E+100	1E+100	1E+100	1E+100	40	N/A
Tetrachloroethylene	127-18-4	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	33	N/A
Toluene	108-88-3	10			0	0	0	0	1000	1E+100	1E+100	1E+100	1E+100	1E+100	15000	N/A
1,2-trans-Dichloroethylene	156-60-5	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	1E+100	10000	N/A
1,1,1-Trichloroethane	71-55-6				0	0	0	0	200	1E+100	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
1,1,2-Trichloroethane	79-00-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	160	N/A
Trichloroethylene	79-01-6	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	1E+100	300	N/A
Vinyl Chloride	75-01-4	10			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	1E+100	24	N/A
ACID COMPOUNDS																
2-Chlorophenol	95-57-8	10			0	0	0	0	175	1E+100	1E+100	1E+100	1E+100	150	N/A	
2,4-Dichlorophenol	120-83-2	10			0	0	0	0	105	1E+100	1E+100	1E+100	1E+100	1E+100	290	N/A
2,4-Dimethylphenol	105-67-9	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	1E+100	850	N/A
4,6-Dinitro-o-Cresol	534-52-1	50			0	0	0	0	14	1E+100	1E+100	1E+100	1E+100	1E+100	280	N/A

			Instream Waste Concentration							Livestock&	Acute	Chronic	Human	Need		
POLLUTANTS			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health		
			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	TMDL	
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
2,4-Dinitrophenol	51-28-5	50			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	5300	N/A	
Pentachlorophenol	87-86-5	50			0	0	0	0	1	1E+100	1E+100	19	15	30	N/A	
Phenol	108-95-2	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A	
2,4,6-Trichlorophenol	88-06-2	10			0	0	0	0	32	1E+100	1E+100	1E+100	1E+100	24	N/A	
BASE/NEUTRAL																
Acenaphthene	83-32-9	10			0	0	0	0	2100	1E+100	1E+100	1E+100	1E+100	990	N/A	
Anthracene	120-12-7	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	40000	N/A	
Benzidine	92-87-5	50			0	0	0	0	0.0015	1E+100	1E+100	1E+100	1E+100	0.002	N/A	
Benzo(a)anthracene	56-55-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
Benzo(a)pyrene	50-32-8	5			0	0	0	0	0.2	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
3,4-Benzofluoranthene	205-99-2	10			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
Benzo(k)fluoranthene	207-08-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
Bis(2-chloroethyl)Ether	111-44-4	10			0	0	0	0	0.3	1E+100	1E+100	1E+100	1E+100	5.3	N/A	
Bis(2-chloroisopropyl)Ether	108-60-1	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	65000	N/A	
Bis(2-ethylhexyl)Phthalate	117-81-7	10			0	0	0	0	6	1E+100	1E+100	1E+100	1E+100	22	N/A	
Butyl Benzyl Phthalate	85-68-7	10			0	0	0	0	7000	1E+100	1E+100	1E+100	1E+100	1900	N/A	
2-Chloronapthalene	91-58-7	10			0	0	0	0	2800	1E+100	1E+100	1E+100	1E+100	1600	N/A	
Chrysene	218-01-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
Dibenzo(a,h)anthracene	53-70-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A	
1,2-Dichlorobenzene	95-50-1	10			0	0	0	0	600	1E+100	1E+100	1E+100	1E+100	1300	N/A	
1,3-Dichlorobenzene	541-73-1	10			0	0	0	0	469	1E+100	1E+100	1E+100	1E+100	960	N/A	
1,4-Dichlorobenzene	106-46-7	10			3.1	6.603	6.603	6.603	2.13633978	75	1E+100	1E+100	1E+100	1E+100	190	N/A
3,3'-Dichlorobenzidine	91-94-1	5			0	0	0	0	0.78	1E+100	1E+100	1E+100	1E+100	0.28	N/A	
Diethyl Phthalate	84-66-2	10			0	0	0	0	28000	1E+100	1E+100	1E+100	1E+100	44000	N/A	
Dimethyl Phthalate	131-11-3	10			0	0	0	0	350000	1E+100	1E+100	1E+100	1E+100	1100000	N/A	
Di-n-Butyl Phthalate	84-74-2	10			0	0	0	0	3500	1E+100	1E+100	1E+100	1E+100	4500	N/A	
2,4-Dinitrotoluene	121-14-2	10			0	0	0	0	1.1	1E+100	1E+100	1E+100	1E+100	34	N/A	
1,2-Diphenylhydrazine	122-66-7	20			0	0	0	0	0.44	1E+100	1E+100	1E+100	1E+100	2	N/A	
Fluoranthene	206-44-0	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	140	N/A	
Fluorene	86-73-7	10			0.38	0.8094	0.8094	0.8094	0.26187391	1400	1E+100	1E+100	1E+100	1E+100	5300	N/A
Hexachlorobenzene	118-74-1	5			0	0	0	0	1	1E+100	1E+100	1E+100	1E+100	1E+100	0.0029	N/A
Hexachlorobutadiene	87-68-3	10			0	0	0	0	4.5	1E+100	1E+100	1E+100	1E+100	1E+100	180	N/A
Hexachlorocyclopentadiene	77-47-4	10			0	0	0	0	50	1E+100	1E+100	1E+100	1E+100	1E+100	1100	N/A
Hexachloroethane	67-72-1	20			0	0	0	0	25	1E+100	1E+100	1E+100	1E+100	1E+100	33	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Isophorone	78-59-1	10			0	0	0	0	368	1E+100	1E+100	1E+100	1E+100	1E+100	9600	N/A
Nitrobenzene	98-95-3	10			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	1E+100	690	N/A
n-Nitrosodimethylamine	62-75-9	50			0	0	0	0	0.0069	1E+100	1E+100	1E+100	1E+100	1E+100	30	N/A
n-Nitrosodi-n-Propylamine	621-64-7	20			0	0	0	0	0.05	1E+100	1E+100	1E+100	1E+100	1E+100	5.1	N/A
n-Nitrosodiphenylamine	86-30-6	20			0	0	0	0	71	1E+100	1E+100	1E+100	1E+100	1E+100	60	N/A
Nonylphenol	84852-15-3				0	0	0	0	0	1E+100	1E+100	1E+100	28	6.6	1E+100	N/A
Pyrene	129-00-0	10			0	0	0	0	0	1050	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,2,4-Trichlorobenzene	120-82-1	10			0	0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	70	N/A

POLLUTANTS	CAS No.	MQL	Instream Waste Concentration								Livestock&	Acute	Chronic	Human	Need
			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
			Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
PESTICIDES AND PCBS															
Aldrin	309-00-2	0.01			0	0	0	0	0.021	1E+100	1E+100	3	1E+100	0.0005	N/A
Alpha-BHC	319-84-6	0.05			0	0	0	0	0.056	1E+100	1E+100	1E+100	1E+100	0.049	N/A
Beta-BHC	319-85-7	0.05			0	0	0	0	0.091	1E+100	1E+100	1E+100	1E+100	0.17	N/A
Gamma-BHC	58-89-9	0.05			0	0	0	0	0.2	1E+100	1E+100	0.95	1E+100	1.8	N/A
Chlordane	57-74-9	0.2			0	0	0	0	2	1E+100	1E+100	2.4	0.0043	0.0081	N/A
4,4'-DDT and derivatives	50-29-3	0.02			0	0	0	0	1	1E+100	0.001	1.1	0.001	0.0022	N/A
Dieldrin	60-57-1	0.02			0	0	0	0	0.022	1E+100	1E+100	0.24	0.056	0.00054	N/A
Diazinon	333-41-5				0	0	0	0	1E+100	1E+100	1E+100	0.17	0.17	1E+100	N/A
Alpha-Endosulfan	959-98-8	0.01			0	0	0	0	62	1E+100	1E+100	0.22	0.056	89	N/A
Beta-Endosulfan	33213-65-9	0.02			0	0	0	0	62	1E+100	1E+100	0.22	0.056	89	N/A
Endosulfan sulfate	1031-7-8	0.1			0	0	0	0	62	1E+100	1E+100	1E+100	1E+100	89	N/A
Endrin	72-20-8	0.02			0	0	0	0	2	1E+100	1E+100	0.086	0.036	0.06	N/A
Endrin Aldehyde	7421-93-4	0.1			0	0	0	0	10.5	1E+100	1E+100	1E+100	1E+100	0.3	N/A
Heptachlor	76-44-8	0.01			0	0	0	0	0.4	1E+100	1E+100	0.52	0.0038	0.00079	N/A
Heptachlor Epoixde	1024-57-3	0.01			0	0	0	0	0.2	1E+100	1E+100	0.52	0.0038	0.00039	N/A
PCBs	1336-36-3	0.2			0	0	0	0	0.5	1E+100	0.014	2	0.014	0.00064	N/A
Toxaphene	8001-35-2	0.3			0	0	0	0	3	1E+100	1E+100	0.73	0.0002	0.0028	N/A

STEP 3: SCAN POTENTIAL INSTREAM WASTE CONCENTRATIONS AGAINST WATER QUALITY CRITERIA
AND ESTABLISH EFFLUENT LIMITATIONS FOR ALL APPLICABLE PARAMETERS

No limits are established if the receiving stream is not designated for the particular uses.

No limits are established if the potential instream waste concentrations are less than the chronic water quality criteria.

The most applicable stringent criteria are used to establish effluent limitations for a given parameter.

Water quality criteria apply at the end-of-pipe for acute aquatic life criteria and discharges to public lakes.

If background concentration exceeds the water quality criteria, water quality criteria apply. And "Need TMDL" shown to the next column of Avg. Mass

Monthly avg concentration = daily max. / 1.5.

APPLICABLE WATER QUALITY-BASED LIMITS

	The following formular is used to calculate the allowable daily maximum effluent cincentration	See the current "Procedures for Implementing NPDES Permits in New Mexico"
	Daily Max. Conc. = $Cs + (Cs - Ca)(F*Qa/Qe)$	Monthly Avg. Conc. = Daily Max. Conc. / 1.5
Where:	Cs = Applicable water quality standard	
	Ca = Ambient stream concentration	
	F = Fraction of stream allowed for mixing (1.0 is assigned to domestic water supply and human health uses)	
	Qe = Plant effluent flow	
	Qa = Criteria Low flow (4Q3) or Harmonic Mean flow for Human Health Criteria	

