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September 17, 2018

Via Electronic Mail
James "Tripp" Mizell
California Department of Water Resources
Office of the Chief Counsel
1416 9th Street, Room 1104
Sacramento, CA 95814
James.Mizell@water.ca.gov

Re: Request for Information Regarding EC/Chloride Conversion

Dear Mr. Mizell:

Pursuant to the Hearing Officers' September 10, 2018 ruling, the City of Stockton (Stockton) hereby provides the information requested during the Department of Water Resources' August 24, 2018 cross examination of Stockton's witness Dr. Susan Paulsen.

Sincerely,

Kelley M. Taber

Kelley M. Taber

Enclosure

cc: CWFhearing@waterboards.ca.gov
CWF Service List

KMT:mb

Station RSAN035: EC = 127.69 + (Cl*4.0565)

			EBC2		NAA		B2		H4		(CWF) H3+		H3		B1		Alt4A	
WY	Year_Type	Total Days	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold	Eq. Days Over Threshold	Eq. Days Under Threshold
1976	Critical	366	25	341	0	366	87	279	29	337	30	336	30	336	11	355	25	341
1977	Critical	365	9	356	76	289	71	294	70	295	88	277	73	292	56	309	57	308
1978	Normal	365	45	320	82	283	24	341	74	291	110	255	78	287	105	260	72	293
1979	Normal	365	12	353	29	336	31	334	19	346	18	347	18	347	33	332	18	347
1980	Normal	366	50	316	23	343	1	365	4	362	12	354	12	354	34	332	6	360
1981	Dry	365	12	353	14	351	82	283	47	318	58	307	46	319	5	360	38	327
1982	Wet	365	20	345	23	342	4	361	2	363	30	335	2	363	30	335	4	361
1983	Wet	365	0	365	0	365	0	365	0	365	0	365	0	365	0	365	0	365
1984	Wet	366	0	366	0	366	0	366	0	366	0	366	0	366	0	366	0	366
1985	Dry	365	7	358	1	364	76	289	42	323	42	323	42	323	7	358	42	323
1986	Wet	365	26	339	20	345	15	350	7	358	7	358	7	358	4	361	7	358
1987	Dry	365	11	354	6	359	81	284	47	318	63	302	47	318	63	302	44	321
1988	Critical	366	15	351	10	356	88	278	33	333	49	317	29	337	18	348	22	344
1989	Dry	365	93	272	125	240	71	294	107	258	145	220	105	260	109	256	107	258
1990	Critical	365	54	311	24	341	57	308	12	353	22	343	10	355	11	354	37	328
1991	Critical	365	75	290	139	227	72	293	126	239	175	190	135	230	143	222	129	236
			455	5389	572	5272	759	5085	619	5225	848	4996	634	5210	627	5217	606	5238

The conversion equation(s) for station number 16 (RSAN035) (see DWR-316 p.9) were used to convert EC to chloride at Stockton's intake location.

DWR-316 p. 5, explains why there are two conversion equations for a given location:

> A separate regression was run between each pair of salinity variables for each station reported in Table I and for each water year type (ALL, DRY, NORMAL, and WET). In addition, a difference was observed in regression results when the independent and dependent salinity variables were switched (the direction of the conversion). This is attributed to the corresponding error of estimation for each of the two regression models. Therefore, a set of equations was developed for each of the following conversions: Table of Equations

y	x	Eqn	Source
0	1141	**EC = 127.69 + (Cl*4.0565)**	DWR-316 p.16 (Guivetchi), Station
-31.48	250	110 mg/L Cl = 573.9	RSAN035
0	1179	**Cl = -28.9 + (0.23647*EC)**	DWR-316 p.13 (Guivetchi), Station
-28.9	250	110 mg/L Cl = 587.4	RSAN035
0	1052	Cl = -50 + (0.285*EC)	Used in DWR's analyses for the
-50	250	110 mg/L Cl = 561.4	entire Delta*

*Results in most days of exceedance of the 110 mg/L threshold for a given scenario