

## APPENDIX D

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### SFPUC Supply Reliability Information





## SAN FRANCISCO PUBLIC UTILITIES COMMISSION

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March 31, 2011

Nicole Sandkulla  
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Dear Nicole,

Attached please find additional information through 2035 on the Regional Water System's supply reliability for use in the Wholesale Customer's 2010 Urban Water Management Plan updates. The SFPUC has assessed the water supply reliability under the following planning scenarios:

- Projected Single dry-year supply for 2010
- Projected Multiple dry-year supply beginning 2010; and
- Projected supply reliability for years 2010-2035.

Table 1 summarizes deliveries to the Wholesale Customers for projected single dry-year supply for 2010 and projected multiple dry-year supply beginning 2010.

With regards to future demands, the SFPUC proposes to expand their water supply portfolio by increasing the types of water supply resources. Table 2 summarizes the water supply resources assumed to be available by 2035.

Concerning allocation of supply during dry years, the Water Shortage Allocation Plan ("Plan") was utilized to allocate shortages between the SFPUC and the Wholesale Customers collectively. The Plan implements a method for allocating water among the individual Wholesale Customers which has been adopted by the Wholesale Customers. The Plan was adopted pursuant to Section 7.03(a) of the 1984 Settlement Agreement and Master Water Sales Contract and has been updated to correspond to the terminology used in the June 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County.

Finally, the SFPUC estimated the frequency and severity of anticipated shortages for the period 2010 through 2035. For this analysis, we assumed that the historical hydrologic period is indicative of future events and evaluated the supply reliability assuming a repeat of the actual historic hydrologic period 1920 through 2002. The results of this analysis are summarized in Table 3.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact me at (415) 554-0792.

Sincerely,

A handwritten signature in blue ink that reads "Paula Kehoe". The signature is written in a cursive style with a long horizontal flourish at the end.

Paula Kehoe  
Director of Water Resources



**Table 1  
Projected Deliveries for Three  
Multiple Dry Years**

	2010	One Critical Dry Year	Deliveries during Multiple Dry Years in mgd		
			Year 1	Year 2	Year 3
System-Wide Shortage in Percent	0%	10%	10%	20%	20%
Wholesale Allocation (mgd)	184.0	152.6	152.6	132.5	132.5

**Table 2  
UWMP Studies: Water Supply  
Reliability  
Water Supply Options for Years 2010  
through 2030**

	2010	2015	2020	2025	2030	2035
Crystal Springs Reservoir (20.28bg)		x	x	x	x	x
Westside Basin Groundwater afa		8,100	8,100	8,100	8,100	8,100
Calaveras Reservoir Recovery (31.5 bg)		x	x	x	x	x
Districts' Transfer afa		2240	2240	2240	2240	2240

**Table 3: Projected System Supply Reliability Based on Historical Hydrologic Period**

Allocation by Year	Wholesale Demand in mgd					
	184.0	184.0	184.0	184.0	184.0	184.0
Projected Wholesale Allocation in mgd						
Delivery for Fiscal Year	2010	2015	2020	2025	2030	2035
1920	184.0	184.0	184.0	184.0	184.0	184.0
1921	184.0	184.0	184.0	184.0	184.0	184.0
1922	184.0	184.0	184.0	184.0	184.0	184.0
1923	184.0	184.0	184.0	184.0	184.0	184.0
1924	184.0	184.0	184.0	184.0	184.0	184.0
1925	154.6	184.0	184.0	184.0	184.0	184.0
1926	184.0	184.0	184.0	184.0	184.0	184.0
1927	184.0	184.0	184.0	184.0	184.0	184.0
1928	184.0	184.0	184.0	184.0	184.0	184.0
1929	184.0	184.0	184.0	184.0	184.0	184.0
1930	184.0	184.0	184.0	184.0	184.0	184.0
1931	184.0	184.0	184.0	184.0	184.0	184.0
1932	132.5	152.6	152.6	152.6	152.6	152.6
1933	184.0	184.0	184.0	184.0	184.0	184.0
1934	184.0	184.0	184.0	184.0	184.0	184.0
1935	154.6	184.0	184.0	184.0	184.0	184.0
1936	184.0	184.0	184.0	184.0	184.0	184.0
1937	184.0	184.0	184.0	184.0	184.0	184.0
1938	184.0	184.0	184.0	184.0	184.0	184.0
1939	184.0	184.0	184.0	184.0	184.0	184.0
1940	184.0	184.0	184.0	184.0	184.0	184.0
1941	184.0	184.0	184.0	184.0	184.0	184.0
1942	184.0	184.0	184.0	184.0	184.0	184.0
1943	184.0	184.0	184.0	184.0	184.0	184.0
1944	184.0	184.0	184.0	184.0	184.0	184.0
1945	184.0	184.0	184.0	184.0	184.0	184.0
1946	184.0	184.0	184.0	184.0	184.0	184.0
1947	184.0	184.0	184.0	184.0	184.0	184.0
1948	184.0	184.0	184.0	184.0	184.0	184.0
1949	184.0	184.0	184.0	184.0	184.0	184.0
1950	184.0	184.0	184.0	184.0	184.0	184.0
1951	184.0	184.0	184.0	184.0	184.0	184.0
1952	184.0	184.0	184.0	184.0	184.0	184.0
1953	184.0	184.0	184.0	184.0	184.0	184.0
1954	184.0	184.0	184.0	184.0	184.0	184.0
1955	184.0	184.0	184.0	184.0	184.0	184.0
1956	184.0	184.0	184.0	184.0	184.0	184.0
1957	184.0	184.0	184.0	184.0	184.0	184.0
1958	184.0	184.0	184.0	184.0	184.0	184.0
1959	184.0	184.0	184.0	184.0	184.0	184.0

Delivery for Fiscal Year	2010	2015	2020	2025	2030	2035
1960	184.0	184.0	184.0	184.0	184.0	184.0
1961	152.6	184.0	184.0	184.0	184.0	184.0
1962	132.5	152.6	152.6	152.6	152.6	152.6
1963	184.0	184.0	184.0	184.0	184.0	184.0
1964	184.0	184.0	184.0	184.0	184.0	184.0
1965	184.0	184.0	184.0	184.0	184.0	184.0
1966	184.0	184.0	184.0	184.0	184.0	184.0
1967	184.0	184.0	184.0	184.0	184.0	184.0
1968	184.0	184.0	184.0	184.0	184.0	184.0
1969	184.0	184.0	184.0	184.0	184.0	184.0
1970	184.0	184.0	184.0	184.0	184.0	184.0
1971	184.0	184.0	184.0	184.0	184.0	184.0
1972	184.0	184.0	184.0	184.0	184.0	184.0
1973	184.0	184.0	184.0	184.0	184.0	184.0
1974	184.0	184.0	184.0	184.0	184.0	184.0
1975	184.0	184.0	184.0	184.0	184.0	184.0
1976	184.0	184.0	184.0	184.0	184.0	184.0
1977	152.6	184.0	184.0	184.0	184.0	184.0
1978	136.2	152.6	152.6	152.6	152.6	152.6
1979	184.0	184.0	184.0	184.0	184.0	184.0
1980	184.0	184.0	184.0	184.0	184.0	184.0
1981	184.0	184.0	184.0	184.0	184.0	184.0
1982	184.0	184.0	184.0	184.0	184.0	184.0
1983	184.0	184.0	184.0	184.0	184.0	184.0
1984	184.0	184.0	184.0	184.0	184.0	184.0
1985	184.0	184.0	184.0	184.0	184.0	184.0
1986	184.0	184.0	184.0	184.0	184.0	184.0
1987	184.0	184.0	184.0	184.0	184.0	184.0
1988	152.6	184.0	184.0	184.0	184.0	184.0
1989	132.5	152.6	152.6	152.6	152.6	152.6
1990	132.5	152.6	152.6	152.6	152.6	152.6
1991	132.5	132.5	132.5	132.5	132.5	132.5
1992	132.5	152.6	152.6	152.6	152.6	152.6
1993	136.2	132.5	132.5	132.5	132.5	132.5
1994	184.0	184.0	184.0	184.0	184.0	184.0
1995	154.6	184.0	184.0	184.0	184.0	184.0
1996	184.0	184.0	184.0	184.0	184.0	184.0
1997	184.0	184.0	184.0	184.0	184.0	184.0
1998	184.0	184.0	184.0	184.0	184.0	184.0
1999	184.0	184.0	184.0	184.0	184.0	184.0
2000	184.0	184.0	184.0	184.0	184.0	184.0
2001	184.0	184.0	184.0	184.0	184.0	184.0
2002	184.0	184.0	184.0	184.0	184.0	184.0



## **Directions to BAWSCA Agencies for Using SFPUC's Table 3 to Calculate Available Supplies Under DRIP**

The February 22, 2010 letter from Paula Kehoe, SFPUC, to Nicole Sandkulla, BAWSCA, and the other BAWSCA member agencies provides reliability information for the Regional Water System to be used by the BAWSCA member agencies as part of their UWMP 2011 updates. Included in this letter are three tables:

- Table 1: Projected Single dry-year supply for 2010
- Table 2: Projected Multiple dry-year supply beginning 2010; and
- Table 3: Projected supply reliability for years 2010-2030

The numbers in these tables are based on the Tier 1 Plan for allocating water shortages between SF Retail and the BAWSCA member agencies as included in the adopted WSA. These tables also assume that SFPUC Regional Water System is delivering 265 mgd with the BAWSCA agencies purchasing 184 mgd. In the event that Regional Water System deliveries are less than assumed **and** that a 20% system-wide shortage is necessary, the available supply to SF Retail and the BAWSCA member agencies will be less than presented in Tables 1 and 3.

In order for your agency to develop a planning estimate for what supply will be available to your agency under both the Tier 1 and the Tier 2 Plans for allocating available SFPUC supplies, it is recommended that you apply your agency's Final Allocation Factor resulting from the DRIP to the Projected Wholesale Allocation in mgd as presented in both Table 1 and Table 3. Each agency's Allocation Factor is the percentage value shown in column 30 on Table 3 – Calculation of Final Purchase Cutback and Allocation Factor for the Tier 2 Drought Implementation Plan. It is appropriate to reference the Tier 2 Plan and supporting materials as adopted by your governing body as documentation for this value.