STATE WATER RIGHTS BOARD

ENGINEERING STAFF ANALYSIS OF RECORD
OF
APPLICATIONS
9446, 9447, 10941, 11071, 11148, 11351,
13403, 13709, AND 15440

Substance of Applications

A summary of these applications, filed between November 1, 1938, and July 31, 1953, is set forth in Table 1 (Staff 1).

With the exception of Application 13709, all of the applications are for water to be used for irrigation purposes. Domestic and flood control are additional uses for the water in Applications 10941 and 11071. Stock-watering is an additional use in Applications 11148 and 11351. Application 13709 is for water to be used for recreational purposes (Staff 1).

The points of diversion are depicted on the map which is attached to this analysis.

Protests and Hearing

Protests by Hacienda Water District were filed against the approval of all the applications except Applications 10941 and 15440. Southern California Edison Company filed protests against the approval of Applications 9446, 9447, 11071 and 13709. Protests were received from the Pacific Gas and Electric Company against the approval of Applications 10941 and 13709. Although no protests were received against the approval of Application 15440 it was included in the hearing because of a question of the availability of unappropriated water (Staff 1).

SEP 1 0 '64 R.W.

Joint Exhibit 7

TABLE 1

DATA FROM APPLICATIONS FOR APPROPRIATION OF UNAPPROPRIATED WATER FROM KERN RIVER AND VARIOUS DISTRIBUTARIES (a)

Application Number	Applicant	Source	Amount		Season
			Direct Diversion (cfs)	Storage (afa)	
9446	Buena Vista Water Storage District, et al.	Kern River		800,000 (b)	1/1-12/31
9447	Buena Vista Associates Inc. and Miller and Lux Inc.	Kern River	400		1/1-12/31
10941	Tulare Lake Basin Water Storage District	Kern River	2,000	550,000	1/1-12/31
11071	Arvin-Edison Water Storage District	Kern River	1,500	300,000	1/1-12/31
11148	Estate of Harry R. Wiley, et al.	Buena Vista Flood Channel		10,000 (c)	1/1-7/1
11357	Estate of Harry R. Wiley, et al.	Main Drain, Goose Lake Canal, West Side Canal and Buena Vista Flood Channel	75		1/1-12/31
13403	Estate of Harry R. Wiley, et al.	Kern River and Kern River Flood Channel	50	4,800	1/1-12/31
13709	County of Kern	Kern River	200	550,000	(d)
15440	Tulare Lake Basin Water Storage District	Goose Slough and Big Canal	2,375	300,000	1/1-12/31

(a) Source: Staff 1
(b) At the maximum rate of 3,800 cfs
(c) At the maximum rate of 75 cfs
(d) Direct diversion season - Jan. 1-Dec. 31
Storage season Jan. 1-July 1

On February 5, 1964, after due notice to the applicants and protestants, a public hearing was held in Bakersfield before Board Members, Kent Silverthorne (Chairman), Ralph J. McGill, and W. A. Alexander, assisted by G. M. Craig and D. E. Kienlen of the Board's staff. The parties appeared and evidence was received.

Source and Water Supply

Kern River heads in small glacial lakes among the high peaks of the Kings-Kern and Great Western Divides. It flows southward about 85 miles to the mouth of South Fork Kern River.

South Fork Kern River heads on the western slope of the Sierra, 15 to 20 miles southeast of the headwaters of the main stem of the Kern River. It flows south and parallel to the main stem about 70 miles then turns and flows west about 18 miles to its mouth.

Isabella Dam has been constructed on the Kern River 1.5 miles below the mouth of South Fork Kern River. The total drainage area above the dam is 2075 square miles. The eastern portion of this area is drained by South Fork Kern River. This basin is characterized by comparatively low, flat, and irregular hills, separated by many intervening meadows. The western portion is drained by the main stem of the Kern River which flows the greater part of its length through a narrow canyon. This basin is characterized by high glaciated peaks and ridges and by deep canyons.

Below Isabella Dam, the Kern River continues its southerly course another 4 miles where it enters a canyon and flows southwest 27 miles to the floor of the San Joaquin Valley. On the Valley floor the River continues its southwesterly course another 12.5 miles to a point known as the "First Point of Measurement" which is located northeast of the City of Bakersfield. Below the

First Point of Measurement the Kern River continues its southwesterly course another 23 miles to a point known as the "Second Point of Measurement". Below this point the Kern River continues its southwesterly course another five miles where it enters an inlet canal and discharges into Buena Vista Lake located two miles to the south.

Water flowing in the Kern River may be diverted away from Buena Vista Lake into various canals which flow northward along the trough of the San Joaquin Valley to Tulare Lake (RT 29).

The annual runoff of the Kern River at the First Point of Measurement for the 70-year period 1894 through 1963 is presented in Table 2. The runoff for the years 1954 through 1963 have been adjusted to eliminate the effect of Isabella Reservoir. Therefore the values contained in Table 2 indicate the runoff which would have passed the First Point of Measurement in the absence of Isabella Reservoir. The average annual flow for this period is 680,600 acre-feet (North Kern 7).

Method of Operation

Water diverted between the First Point of Measurement and the Second Point of Measurement is used by the First Point diverters. The major entities within the First Point diverters are North Kern Water Storage District, Kern County Land Company, Kern County Canal and Water Company, Anderson Canal, Inc., Buena Vista Canal, Inc., Central Canal Company, The Farmers Canal Company, East Side Company, Kern-Roquillas Company, Jacos Canal, Inc., Joyce Canal, Inc., Kern Island Canal Company, Kern River Canal and Irrigating Company, Pioneer Canal, Inc., Plunket Canal, Inc., and Stine Canal, Inc. (RT 25-26). The service area of the First Point diverters is colored orange on the attached map.

TABLE 2

KERN RIVER RUNOFF AT
FIRST POINT OF MEASUREMENT

In Acre-feet

Year	Runoff	Year	Runoff
1894	533,200		
1895	1,082,800	1930	549,900
1896	619,600	1931	185,700
1897	893,100	1932	737,600
1898	251,700	1933	441,100
1899	998,800	1934	227,500
1900	332,400	1935	474,100
1901	679,800	1936	796,400
1902	552,200	1937	1,260,200
1903	546,300	1938	1,358,700
1904	492,800	1939	461,100
1905	531,600	1940	789,100
1906	1,899,900	1941	1,401,000
1907	1,008,400	1942	771,900
1908	493,100	1943	1,220,800
1909	1,858,000	1944	625,500
1910	658,800	1945	938,100
1911	1,013,000	1946	650,700
1912	387,400	1947	406,500
1913	367,700	1948	329,400
1914	1,113,200	1949	302,800
1915	646,200	1950	601,300
1916	1,991,600	1951	442,200
1917	823,000	1952	1,501,000
1918	538,400	1953	548,800
1919	469,100	1954	528,400
1920	600,600	1955	444,300
1921	509,600	1956	940,900
1922	861,400	1957	444,300
1923	500,300	1958	1,104,700
1924	187,600	1959	258,000
1925	465,700	1960	300,000
1926	366,700	1961	177,600
1927	792,600	1962	697,700
1928	312,900	1963	801,400
1929	823,100		

Source: North Kern 7

The Second Point diverters take water between the Second Point of Measurement and Wasco Road. The major entities within the Second Point diverters are Buena Vista Water Storage District, Miller and Lux, Inc., and Buena Vista Associates, Inc. (North Kern 7). The service area of the Second Point diverters is colored green on the attached map.

Those parties diverting north of the Wasco Road are referred to as the Lower River group. The major entities are Hacienda Water District and Tulare Lake Basin Water Storage District, which are shown on the attached map in blue and brown, respectively (North Kern 7).

Water is diverted directly from the Kern River for use on lands within the service areas (RT 42). Most of the ditches used for this purpose were in existence prior to 1954 (RT 34 and 41). Some of the water is also spread for percolation into the ground water basin. This water is later pumped from the ground water basin for use on lands within the service areas. The ground water basin is used to provide cyclic storage for extended periods of drought (RT 47 and 43).

When water enters Buena Vista Lake or Tulare Lake, it is stored in cells which have been created by constructing levees. Later water is rediverted from these cells for use on the irrigated area (RT 29 and 58).

Court Decisions and Agreements

The flow of the Kern River has been apportioned among the diverters by court decisions and agreements for many years. These decisions and agreements are summarized briefly in this section.

Lux v. Haggin Decision

The first and most important event in the long history of water rights

on the Kern River was the California Supreme Court Decision in the case of Lux v. Haggin in 1886. This decision concerned a controversy between First Point and Second Point diverters. In this decision, the Supreme Court recognized the riparian claims of the Second Point diverters and sent the matter back to the Superior Court for further proceedings. There were no further proceedings and the case was compromised by the agreement which is known as the Miller-Haggin Agreement.

Miller-Haggin Agreement

This agreement, which was dated July 28, 1888, granted the first 300 cfs to the Kern Island Irrigating Canal Company which is one of the First Point diverters. All flow over 300 cfs was divided 1/3 to the Second Point diverters and 2/3 to the First Point diverters except during the period September through February when all of the flow over 300 cfs was granted to the First Point diverters. The agreement further provided that any water to which the Second Point diverters are entitled was to reach the Second Point of Measurement undiminished by seepage or other losses. It further provided that any water of the First Point diverters reaching the Second Point of Measurement was available for use by Second Point diverters (North Kern 1).

Shaw Decree

Shortly after the Miller ~~and~~ Haggin Agreement the individual rights of the First Point diverters were adjudicated. This adjudication, referred to as the Shaw Decree, was made on August 6, 1900, by Judge Lucien Shaw of the Superior Court of Kern County (North Kern 2).

1936 Amendment to Miller-Haggin Agreement

On June 10, 1936, the Buena Vista Associates, holders of certain Second Point diversion rights, agreed to transfer these rights to Buena Vista Water Storage District. This transfer has been completed and Buena Vista Water Storage District is now a Second Point diverter (North Kern 3).

1965 Amendment to Miller-Haggin Agreement

On September 14, 1965, an agreement was entered into between certain First Point and Second Point diverters. This agreement provided for adjustments in the apportionment of water during the period March through August but the main change was granting 1/3 of the flow over 1500 cfs during the period September through February to Second Point diverters (North Kern 4).

Storage Agreement

On December 31, 1962, First Point diverters, Second Point diverters, and the Lower River group entered into an agreement which provided for the apportionment of waters from the Kern River and storage of water in Lake Isabella. This agreement apportioned rights to the Lower River group as set forth in Table 3. This division is based upon the water which would have passed the First Point of Measurement in the absence of Isabella Dam. This agreement also provided for the various parties to store water in Lake Isabella for later release and use (North Kern 5).

Agreement for Recreation Pool in Lake Isabella

On November 9, 1963, the First Point diverters, Second Point diverters, and the Lower River group entered into an agreement with the County of Kern to provide for the establishment and maintenance of a minimum recreation pool in Lake Isabella. By this agreement the County of Kern has agreed to purchase water

TABLE 3

PER CENT OF KERN RIVER
WATER TO LOWER RIVER (a)

Period	Discharge (b)		Per Cent
	From	To	
January - March	0	150,000	0
	All over	250,000	33
April - July	0	550,000	0
	550,000	600,000	33(c)
	600,000	650,000	33
	650,000	1,050,000	44
	All over	1,050,000	60.5

(a) Source - North Kern 5

(b) Discharge in acre-feet at First Point of measurement

(c) Only in a year immediately following a year in which the April-July discharge equals or exceeds 600,000 acre-feet

in exchange for the 25,000 acre-feet contained in the recreation pool. The evaporation and seepage losses from this pool will be offset by the diversions no longer being made to land within Isabella reservoir and adjacent project area. If this quantity proves to be insufficient, the remaining evaporation and seepage losses will be made up by the irrigators (North Kern 3).

Nonexistence of Unappropriated Water

The entire flow of the Kern River has been beneficially used since 1894. The quantities used in each service area are presented in Table 4. No adjustment has been made for evaporation losses or transpiration losses from vegetative growth along the river because these values would be small in relation to the quantity of water diverted (RT 33).

A comparison of Tables 2 and 4 clearly indicates that all of the water within the stream system has been applied to beneficial use. This is supported by the fact that no water has flowed out of Tulare Lake since 1878 (RT 32). In fact, there is a shortage of water within the service areas. This is supported by the fact that water levels within the service areas are constantly declining, and that various agencies, which supply water to the service areas, have entered into or are negotiating for contracts to purchase additional water through the Friant-Kern Canal or the State Water Facilities (RT 42-44).

Conclusion

The water of the Kern River is fully appropriated and apportioned under existing agreements and court decrees and no unappropriated water is available for use under the applications being considered. Therefore, we recommend that these applications be denied.

D. K. Hinton
Senior Engineer

Dated: May 28, 1968
Sacramento, California

TABLE 4

QUANTITIES OF WATER
POTENTIALLY USED (a)

In Acre-feet

Year	Service Area: First Point	Second Point	Lower River	Total
1894	479,300	53,600	0	532,900
1895	693,300	329,500	0	1,022,800
1896	478,200	141,400	0	619,600
1897	650,900	242,200	0	893,100
1898	237,000	14,700	0	251,700
1899	300,300	33,500	0	333,800
1900	302,800	29,600	0	332,400
1901	637,900	141,900	0	779,800
1902	423,000	129,200	0	552,200
1903	439,900	106,400	0	546,300
1904	436,700	56,100	0	492,800
1905	446,700	84,900	0	531,600
1906	(b)	(b)	(b)	1,899,900
1907	(b)	(b)	(b)	1,038,400
1908	(b)	(b)	0	493,100
1909	(b)	(b)	(b)	1,838,000
1910	(b)	(b)	(b)	658,800
1911	(b)	(b)	(b)	1,013,000
1912	361,200	26,200	0	387,400
1913	322,100	45,600	0	367,700
1914	(b)	(b)	(b)	1,113,200
1915	(b)	(b)	(b)	646,200
1916	(b)	(b)	(b)	1,994,600
1917	(b)	(b)	(b)	823,000
1918	403,800	134,600	0	538,400
1919	395,700	103,400	0	499,100
1920	457,700	142,900	0	600,600
1921	412,900	96,700	0	509,600
1922	566,000	295,400	0	861,400
1923	409,900	90,400	0	500,300
1924	127,300	10,300	0	137,600
1925	380,900	85,400	0	465,700
1926	311,800	54,900	0	366,700
1927	547,800	244,800	0	792,600
1928	277,800	35,100	0	312,900
1929	274,500	48,600	0	323,100

TABLE 4 (CONTD)

QUANTITIES OF WATER
BENEFICIALLY USED (a)

In Acre-feet

Year	Service Area: First Point	Second Point	Lower River	Total
1930	293,400	56,500	0	349,900
1931	178,200	9,500	0	185,700
1932	535,200	202,400	0	737,600
1933	365,900	75,200	0	441,100
1934	212,400	15,100	0	227,500
1935	371,600	102,500	0	474,100
1936	560,700	235,700	0	796,400
1937	602,900	405,100	252,200	1,260,200
1938	660,300	304,900	393,500	1,358,700
1939	373,000	88,100	0	461,100
1940	497,400	291,700	0	789,100
1941	625,300	333,000	441,600	1,401,000
1942	421,100	241,000	109,800	771,900
1943	521,800	244,700	454,300	1,220,800
1944	442,300	183,200	0	625,500
1945	583,000	355,100	0	938,100
1946	467,700	183,000	0	650,700
1947	341,000	65,500	0	406,500
1948	275,000	54,400	0	329,400
1949	259,600	43,200	0	302,800
1950	473,000	128,300	0	601,300
1951	376,300	65,900	0	442,200
1952	774,400	516,400	210,200	1,501,000
1953	446,700	102,100	0	548,800
1954	414,100	96,200	0	510,300
1955	320,100	47,700	0	367,800
1956	640,000	254,600	0	894,600
1957	372,600	74,500	0	447,100
1958	727,600	282,400	20,300	1,030,300
1959	301,700	51,800	0	353,500
1960	295,000	32,000	0	327,000
1961	177,800	0	0	177,800
1962	470,200	168,900	0	639,100
1963	583,300	130,800	0	714,100

(a) Sources: North Form 7
(b) No record or only partial record