

Decision No. 9486..

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA.

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ORIGINAL

In the Matter of the Application of
SOUTHERN CALIFORNIA EDISON COMPANY,
for a certificate that present and
future public convenience and nec-
essity require the construction of
a hydroelectric power house on the
San Joaquin River, Fresno County,
with appurtenant penstocks, water
conduits and transmission line, all
of which will constitute an extension
to the hydroelectric generating system
of applicant.
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Application No. 7071.

Roy V. Reppy for Applicant.
F. H. Fowler for Federal Power Commission.
Charles E. Roe for Division of Water Rights
Department of Public Works, State of
California.

BENEDICT, Commissioner:

O P I N I O N.

Southern California Edison Company hereinafter referred
to as Edison Company or applicant alleges that the demand
for electric energy in the territory which it serves is in
excess of the present capacity of its electric generating
plants; that this demand is growing; that the increased
capacity to be provided by the construction of a certain pro-
posed hydroelectric development known as the Big Creek #3
power house, will not be greater than the increased demand by
the time that development is ready for operation, and prays
that the Railroad Commission make its order declaring that

public convenience and necessity require the construction of the proposed power development.

A complete examination of Applicant's properties, finances and business was made by the Commission in connection with Application #5294 of Edison Company for permission to increase its electric rates and a description of the system will be found in Decision #8215, March 31, 1921, (Volume 19, Page 995, Opinions and Orders of the Railroad Commission.) The summary of an extensive study of the future demands likely to be made upon it and its proposed construction program to meet these demands was presented by Edison Company in connection with the above mentioned application and additional information has been presented from time to time in connection with applications for permission to issue stocks and bonds and to construct other parts of the development. It is proposed to construct on the upper San Joaquin River and tributaries a system of reservoirs, tunnels and power houses that will completely utilize the available water resources and the present application refers to a portion of the ultimate development, known as Big Creek No. 3 Power House.

This immediate proposal is for the construction of a dam across the San Joaquin River just below the confluence of Big Creek, creating a forebay reservoir which will have sufficient storage capacity to be useful in daily regulation but which will not be important for seasonal storage. Water will be conducted from this forebay thru a tunnel about five and three quarters miles long to a point above the proposed Power House site, and dropped thru penstocks to the wheels which will operate under an average static head of approximately 825 feet. A short transmission line will connect with the existing transmission lines from the present developments on Big Creek.

When fully completed this plant will have a capacity of approximately 150,000 K.W. and assuming an average supply of water and the completion of the proposed reservoirs the possible output will be approximately 950,000,000 K.W.-H. per year. It is proposed to install the first two units of 25,000 K.W. capacity each in 1925, and the remaining units as called for by load conditions and made economical by the development of additional storage.

The ultimate cost of the complete development is estimated at approximately \$17,500,000 of which about \$11,500,000 will be required for the construction of the dam and tunnel and installation of the first two units. The cost of the power is estimated at less than five mills per kilowatt hour for the initial development and as the addition of further units will increase the output without a corresponding increase in investment and operating expenses, power from the ultimate development is expected to cost but slightly in excess of two mills per kilowatt hour. Adding a proportion of the cost of reservoirs and other works which will benefit the Big Creek No. 3 development but which are not a part of it and are useful in connection with other developments, will increase these costs but the cost of power from the ultimate developments including these items is expected to be in the neighborhood of three mills per kilowatt hour. These figures all compare very favorably with the cost to Edison Company of generating this power from steam which at the current price of \$1.50 per barrel for fuel oil would be about six mills per kilowatt hour for fuel alone and in the neighborhood of one cent per kilowatt hour when other plant expenses are included. The market price of fuel oil is subject to considerable variation but with the continued depletion of the local supply there is no reason to

expect any permanent and material reduction in price.

The right to the use of stored water for irrigation after it leaves the power houses is now the subject of litigation that may interfere with the development of the additional storage that is part of the complete scheme of development of the upper San Joaquin and Big Creek water resources. The evidence shows, however, that the Big Creek No. 3 development may be carried out to about half of its ultimate capacity without more storage than is now definitely assured. Under such conditions the anticipated low cost of power from the ultimate development could not be realized but the cost should not exceed 5.5 mills per kilowatt hour. Such a figure is low by comparison with the cost of steam power or of water power produced in any but very favorable locations. Even were there no possibility of the carrying out of the entire Big Creek and San Joaquin project the proposed Big Creek No. 3 development in connection with the assured storage above it would be a desirable one.

The output of power from the system now operated by Edison Company has increased from about 600,000,000 kilowatt hours in 1913 to over 1,000,000⁰⁰⁰ K.W.H. estimated for the year 1921 and is expected to exceed 1,300,000,000 kilowatt hours in 1923, when the first units of the proposed development are available. The existing and proposed hydroelectric plants, exclusive of Big Creek No. 3, will have an output in 1923, with average stream flow, but slightly in excess of 1,000,000,000 kilowatthours as compared with the expected demand for 1,300,000,000 kilowatt hours. The anticipated maximum demand for 1923, is 275,000 kilowatts and in a year of minimum water supply all the steam and hydroelectric plants, exclusive of Big Creek

No. 3, will have a capacity but slightly in excess of 255,000 kilowatts. It is therefore apparent that the development of additional water power is not only desirable to minimize the more expensive operation of steam plants which will otherwise be necessary but it is essential that additional capacity be provided to meet the demands for power that must be expected within the next two years.

I recommend the following form of order.

O R D E R.

Southern California Edison Company having applied to the Railroad Commission for a certificate that public convenience and necessity require the construction by it of a certain proposed hydroelectric power house with appurtenant water conduits, transmission lines, etc., a hearing having been held and the matter submitted.

The Railroad Commission of the State of California does hereby certify and declare that public convenience and necessity require the construction by Southern California Edison Company of the hydroelectric power house, penstocks, water conduits and transmission lines; all known as its Big Creek No. 3 development and more fully described in the application for this order.

The foregoing opinion and order are hereby approved and ordered filed as the opinion and order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 8th day of September, 1921.

W. B. Lindsey
H. D. Leland
James Martin
W. J. Benedict
Commissioners.