

ORIGINALDecision No. 61261

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Joint Application)
 of SOUTHERN CALIFORNIA GAS COMPANY and)
 SOUTHERN COUNTIES GAS COMPANY OF) Application No. 40588
 CALIFORNIA for a Certificate of Public) (Amended)
 Convenience and Necessity under Sec-)
 tion 1001 of the Public Utilities Code.)

(Appearances and Witnesses
 are listed in Appendix A)

O P I N I O NPrincipal Issues

The above-entitled application is concerned with a large natural gas pipeline project in California and the purchase of natural gas from the El Paso Natural Gas Company at the state border, near Las Vegas, Nevada. El Paso Natural Gas Company and Colorado Interstate Gas Company propose to build a pipeline from near Rock Springs, Wyoming to make additional out-of-state gas available to Southern California. The desirability of the proposed project is extensively questioned by certain protestants. The principal issues here are:

1. Is the project needed?
2. Is the project economically feasible?
3. Does the project connect California to new areas and new sources of gas not now available to it?

For a comprehensive understanding of the project an extended analysis is essential.

Applicants' Request

Southern California Gas Company and Southern Counties Gas Company of California^{1/} filed the above-entitled application on November 7, 1958 and filed an amendment to application on November 18, 1959 requesting that the Commission make its decision and order, as provided for by the provisions of Section 1001 of the Public Utilities Code:

1. Granting and conferring all necessary permission and authority to construct, maintain and operate a 34-inch pipeline and related facilities between the California-Nevada border near Ivanpah Valley and Newberry, California and a 36-inch pipeline between Newberry and Placentia, California, in order to deliver additional out-of-state gas to be received from El Paso Natural Gas Company at the state border, and from their affiliate, Pacific Lighting Gas Supply Company at Newberry;
2. Declaring that public convenience and necessity now require the construction, maintenance, and operation of the said 34- and 36-inch lines and related facilities and the use by applicants of all permits, easements, and franchises which may be used or useful in connection with the construction, maintenance and operation of said 34- and 36-inch pipelines and related facilities;
3. Issuing to applicants a certificate declaring that the present and future public convenience and necessity require and will require that such construction, maintenance, and operation of the 34- and 36-inch pipelines and related facilities be undertaken by applicants; and
4. Granting applicants such other authority herein as may be required.

^{1/} Applicants are primarily retail natural gas distribution companies which purchase, distribute and sell gas in the central and southern parts of the State of California. Together they serve directly in excess of 2,250,000 customers and, in addition, Southern Counties Gas Company of California sells gas at wholesale to the San Diego Gas & Electric Company, and Southern California Gas Company sells gas at wholesale to the City of Long Beach. Pacific Lighting Gas Supply Company, an affiliate, supplies applicants with a portion of their requirement of natural gas.

Public Hearing

After due notice, 25 days of public hearing were held upon this application and the amendment to application during the period January 13, 1959 to July 29, 1960, inclusive, before Commissioner Peter E. Mitchell and/or Examiner Manley W. Edwards. Most days of hearing were held in Los Angeles and the remainder in San Francisco. The record in this matter is extensive, involving 3,403 pages of transcript and 39 exhibits presented by 41 witnesses. The Commission's staff cross-examined many of the witnesses and presented direct testimony for the purpose of developing a full record to aid the Commission in deciding this matter. Opening, reply and closing briefs have been filed (the last one being received September 26, 1960) and the matter now is ready for decision.

Interim Orders

During the pendency of this matter the Commission has issued two interim orders herein. The first interim order, Decision No. 53095, dated March 10, 1959, denied the motion of the Western Oil and Gas Association to dismiss the application. Western Oil and Gas Association originally appeared as a protestant, but later withdrew its appearance. The second interim order, Decision No. 59455, dated January 5, 1960, granted applicants a certificate that public convenience and necessity require the construction, operation and maintenance of a 36-inch pipeline between Newberry and Placentia in place of a 34-inch line on the representation that the 36-inch line is the least costly way of moving the Transwestern gas to market after considering all of the advantages and disadvantages. Transwestern gas is received by applicants

from Pacific Lighting Gas Supply Company which latter receives it from Transwestern Pipeline Company.

Proposed Construction

Applicants' original proposal was to construct 207.4 miles of 34-inch O.D. pipeline between Ivanpah Valley (at the California-Nevada state line near Las Vegas, Nevada) and Placentia. The route of the line would pass near Newberry where it would cross the existing Needles to Quigley pipeline and where the new Pacific Lighting Gas Supply Company pipeline^{2/} bringing Transwestern gas from Topock (near the California-Arizona state line) could be connected. The amended proposal was to increase the size of the line from 34 inches to 36 inches between Newberry and Placentia, and to install it promptly so as to transport the Transwestern gas to the marketing area without awaiting the final decision herein.

Applicants estimated that the initial cost of the 36-inch portion of the pipeline will be \$19,089,000 installed, which is \$1,253,000 more than the estimated cost for a 34-inch line as originally proposed. This leaves for consideration the desirability and need for the remainder of the proposed pipeline between Ivanpah Valley and Newberry, a distance of 92.9 miles, at an estimated construction cost of \$11,476,000 for a 34-inch pipeline.

^{2/} Pacific Lighting Gas Supply Company was granted authority to install a 34-inch Topock to Newberry pipeline by Decision No. 57419, dated September 30, 1958, and to transport gas from the California border purchased from Transwestern Pipeline Company at an average quantity of 300 million cubic feet per day (345 million cubic feet on a maximum day).

Applicants' proposal also includes compressor stations at Newberry and Valley Wells which add \$13,178,000 to the cost of the project. Thus the total remaining construction cost in California is estimated at \$24,654,000.

Out-of-State Gas

The supply of gas for this project will be obtained from out-of-state sources by the El Paso Natural Gas Company (El Paso) and delivered at the California-Nevada border pursuant to a basic agreement dated July 30, 1958 (Exhibit No. 1, Tab A) between the applicants and El Paso. The basic agreement provides for an initial delivery of 200 million cubic feet per day (14.9 psia)^{3/} commencing not later than January 1, 1960.^{4/} This volumetric rate is to be increased to 300 million cubic feet per day by January 1, 1961, and to 400 million cubic feet per day by January 1, 1962, with the addition of a further increment of 150 million cubic feet per day by January 1, 1964, but no certificate is being requested for this further amount now. Deliveries of each of these increments are to be made for a period of 20 years, and El Paso is to use its best efforts to continue deliveries of each increment for an added period. An additional supply of up to 70 million cubic

^{3/} The pressure base of 14.9 psia (pounds per square inch absolute) can be converted to 14.73 psia by using a conversion factor of 101.154. For example, 470,000 Mcf at 14.9 psia is equivalent to 475,400 Mcf at 14.73 psia.

^{4/} Due to delays which have been encountered it is obvious that this and certain following dates cannot be met.

feet per day will be available for applicants to take on a "best efforts" basis. Out of the foregoing total of 620 million cubic feet per day, El Paso proposes to obtain 235 million from Colorado Interstate Gas Company (Colorado), 235 million from Pacific Northwest Pipe Line Corporation (Pacific Northwest), ^{5/} and a later increment of 150 million from Canadian sources. The first two of these quantities, i.e., 470 million, (475 at 14.73 psia) represents the specific increments to be delivered over the facilities covered by the instant application.

It is proposed that a new pipeline be constructed between the present western terminus of Colorado's pipeline system at Green River, Wyoming and the Ivanpah Valley point of interconnection with the applicants' proposed line in California. This out-of-state line will be constructed in part by Colorado and in part by El Paso. Colorado will construct 155 miles of 34-inch pipeline from Rock Springs (near Green River, Wyoming) to Provo, Utah. El Paso will construct 394.6 miles of 34-inch pipeline between Provo and Ivanpah Valley. The project is commonly known as the Rock Springs Project.

Colorado had a contract to purchase 100 million cubic feet per day from Pacific Northwest. Upon the completion of this project this contract will be cancelled and instead Colorado will be obligated to provide 235 million cubic feet per day at Rock Springs from its system. Colorado proposes to reorient its integrated pipeline system by: (1) reversing the flow of its existing pipeline between Denver and Green River so that gas will hereafter flow

^{5/} Pacific Northwest Pipe Line Corporation has merged with El Paso since the filing date of the original application, but for identification purposes we will continue to use Pacific Northwest.

north and west from Denver to Green River; (2) retiring its existing Bivins to Denver pipeline, which was constructed and placed in operation in 1928; and (3) constructing in lieu thereof a new segment of pipeline extending from its Bivins and Fourway Compressor Stations in the Panhandle Field of Texas to Denver. Colorado estimates the cost of rebuilding its system at \$92,829,566.

The pipeline and facilities to be constructed by El Paso from Provo to Ivanpah Valley are estimated to cost \$58,685,000 including financing costs and working capital. It should be pointed out that the above figures, and that of \$92,829,566 for Colorado, are set forth in the Federal Power Commission Examiner's proposed decision issued July 15, 1960 under Docket Nos. G-16235, G-16237, G-16904, G-18280, G-19216 and G-19225, of which we take official notice. Such decision proposed to grant El Paso and Colorado certificates of public convenience and necessity to construct the facilities as enumerated, but conditioned such certificates upon authorization by the California Public Utilities Commission of applicants' request. A final decision by the Federal Power Commission on this matter has not been issued as yet.

Cost of Gas

By supplemental agreement dated January 2, 1959 (Exhibit No. 4), the initial price for the gas was fixed at 40 cents per Mcf (14.9 psia) at an 85 percent load factor, to remain unchanged until January 1, 1962, when the 400 million cubic feet per day delivery rate is scheduled to commence. By a further amendatory agreement dated June 22, 1959 (Exhibit No. 54), the obligation to take or pay

for gas not taken for the period January 1961-December 31, 1963 was eliminated. Thus, during this 3-year load-building period, applicants have available to them on what might be termed a "requirement" basis substantial additional quantities of gas at a fixed price of not more than 40 cents per Mcf (14.9 psia; 39.5 cents per Mcf at 14.73 psia).

As a condition to this amendatory agreement applicants agreed to reduce the load factor take of their present supplies from El Paso at Topock and Blythe from 91% minimum to no more than 85% until 400 million cubic feet per day is taken from Rock Springs. Applicants further agreed not to take from any other out-of-state supplier above present contracted amounts (including its affiliate, Pacific Lighting Gas Supply Company) until its requirements exceeded present contracted amounts, and 400 million cubic feet per day from Rock Springs.

The cost of gas at the state border to applicants (per contract - Exhibit No. 1, Tab A) after the load-building period is based on an estimated cost price of 27 cents per Mcf at Green River for Colorado's 200 million cubic feet per day, 31.5 cents per Mcf for Pacific Northwest's 200 million cubic feet per day. A price of 27.91 cents per Mcf (on cost of service formula) for 150 million cubic feet per day for "Kingsgate Canadian Gas" at U. S.-Canadian border plus cost of transmission was used for pricing the later Canadian supply. Based on El Paso's Exhibit No. 36, an estimated price of approximately 38 cents per Mcf of gas delivered at the Nevada-California border appears reasonable to use pending the final rate determination by the Federal Power Commission when deliveries reach 475 million cubic feet per day.

ISSUE NO. 1 - NEED FOR PROJECT

Applicants' Representation as to Need

Applicants represent that there is a need for the Rock Springs gas supply in southern California and that the project has many advantages from the standpoint of the public welfare in that area. Applicants' studies (Exhibit No. 65) indicate a growth in abnormal peak day^{6/} firm load requirements averaging about 170 million cubic feet per day each year, and that based on existing supplies of gas (including the new Transwestern 300 million cubic feet per day),^{7/} a firm deficiency could occur in the year 1964, as shown by the top half of Table No. I, should an abnormal peak occur that year. It should be pointed out that on the abnormal peak day the interruptible customers would all be shut down to make the total gas supply available to the firm customer. In the bottom half of Table No. I applicants' statement of cold year^{8/} requirements, including interruptible requirements, are shown on an annual basis (sum of 365 days' requirements). During the warmer periods of the year the requirements of the firm customers drop to one-fourth

^{6/} The abnormal peak day is defined as the coldest day in 29 years. The actual coldest day occurred in 1937.

^{7/} In their showing applicants did not include the 50 million cubic feet per day of Transwestern gas due to come in November 1, 1963, nor the 150 million of Rock Springs gas due in 1964, because, while these are contracted-for amounts, no certificate application has been made for either supply.

^{8/} A cold year is defined by applicants as one having 2,342 degree days using a 65-degree "F" base.

TABLE NO. I

GAS SUPPLY AND REQUIREMENTS FOR SOUTHERN CALIFORNIA
IN MILLION CUBIC FEET (FROM APPLICANTS' EXHIBIT NO. 65)

<u>Period</u>	<u>Existing Supply</u>	<u>Firm Requirements</u>	<u>Interruptible Requirements</u>	<u>Total Requirements</u>	<u>Margin</u>
<u>I - Abnormal Peak Day Estimates</u>					
1959-60	2,817	2,535	-	2,535	282
1960-61	3,142	2,698	-	2,698	444
1961-62	3,105	2,839	-	2,839	266
1962-63	3,089	2,995	-	2,995	94
1963-64	3,094	3,154	-	3,154	(60)
1964-65	3,121	3,320	-	3,320	(199)
1965-66	3,108	3,491	-	3,491	(383)
1966-67	3,091	3,667	-	3,667	(576)
1967-68	3,076	3,848	-	3,848	(772)
1968-69	3,076	4,034	-	4,034	(958)
1969-70	3,059	4,195	-	4,195	(1,136)
1970-71	3,053	4,360	-	4,360	(1,307)
1971-72	3,023	4,530	-	4,530	(1,507)
1972-73	3,019	4,700	-	4,700	(1,681)
1973-74	3,014	4,880	-	4,880	(1,866)
1974-75	3,011	5,050	-	5,050	(2,039)
1975-76	3,007	5,220	-	5,220	(2,213)
1976-77	3,004	5,400	-	5,400	(2,396)
1977-78	3,000	5,570	-	5,570	(2,570)
1978-79	2,997	5,740	-	5,740	(2,743)

II - Cold Year Estimates

1960	667,249	383,814	412,579	796,393	(129,144)
1961	703,410	402,419	431,861	834,280	(130,870)
1962	695,426	420,101	452,502	872,603	(177,177)
1963	690,723	438,641	481,367	920,008	(229,285)
1964	688,213	458,275	509,681	967,956	(279,743)
1965	682,178	478,446	537,179	1,015,625	(333,447)
1966	678,446	499,412	568,546	1,067,958	(389,512)
1967	675,038	520,829	601,291	1,122,120	(447,082)
1968	673,420	543,220	634,911	1,178,131	(504,711)
1969	669,541	562,736	664,162	1,226,898	(557,357)
1970	667,079	583,218	695,711	1,278,929	(611,850)
1971	664,828	604,060	727,490	1,331,550	(666,722)
1972	664,239	626,542	761,430	1,387,972	(723,733)
1973	660,434	645,394	791,441	1,436,835	(776,401)
1974	658,548	666,387	823,334	1,489,721	(831,173)
1975	656,875	687,439	855,878	1,543,317	(886,442)
1976	656,794	709,815	890,222	1,600,037	(943,243)
1977	653,560	728,565	920,640	1,649,205	(995,645)
1978	651,734	749,491	953,192	1,702,683	(1,050,949)
1979	650,272	770,445	985,494	1,755,939	(1,105,667)

(Requirements exceed supplies)

or less of those on the abnormal peak day, so the applicants then have sizable quantities of gas to sell to the interruptible customers or to inject into seasonal storage for the next cold season.

Considering only the firm requirements on an annual cold-year basis, the lower part of Table No. I shows that the present supply exceeds firm requirements out through 1973. When the full interruptible potential requirements are added to the firm requirements, the applicants' showing is that the present supplies are inadequate and sizable quantities of the proposed Rock Springs gas could be utilized starting the first year such gas would be available. When considering the availability of the present gas supply to meet the firm load on an annual basis, it is apparent that beyond 1963 peak shaving equipment of some kind would be necessary to help serve the peak day load, should an abnormally cold day be experienced.

Peak Shaving

Applicants now have several underground storage projects^{9/} which provide a total maximum withdrawal rate estimated at 1,215 million cubic feet per day for a peak day. Applicants do not have available facilities for production of propane-air gas or for the manufacture of gas from oil. However, the San Diego Gas & Electric Company, a purchaser from one of applicants, does have available 1,026,000-gallon storage capacity of propane for the production of propane-air gas. This propane-air mix is equivalent to 16.5 million cubic feet per day available on a peak day. Applicants also are able to purchase gas on peak days under "emergency gas contracts" from California oil companies.

^{9/} Natural underground storage facilities available to applicants are located at Santa Barbara (Goleta Field), Los Angeles (Playa Del Rey), East Whittier, and Montebello storage fields.

Growing Customer Requirements

Applicants state that the present population served both directly and through wholesale (resale) service amounts to approximately 9,400,000 people; that 99 percent of all homes in southern California use gas for space heating; that 98 percent use gas for water heating; that 90 percent use gas for cooking; that additional gas supplies must be obtained to serve gas to over 800 additional people daily, due to rapid growth of the area; and that commercial and industrial growth has been commensurate with the population (residential service) growth. This rate of growth is reflected by applicants' estimates.

Local Natural Gas Supply

Applicants contend that the amount of gas available from sources in California is declining. Gas reserves have fluctuated up and down but receipts of local gas are declining. In 1953 applicants and their affiliate represent that they received approximately 203 billion cubic feet of natural gas from the California producers; five years later in 1958 they received a total of about 170 billion cubic feet (Exhibit No. 15). Applicants estimate that the supply of California gas will continue to decline from 149.4 billion cubic feet in 1960 to 114.7 billion cubic feet by 1965 (Exhibit No. 65). Similarly, they estimate that the supply from California sources to meet peak-day requirements will follow a steady decline from 494 million cubic feet per day in the winter of 1960-61 to 397 million cubic feet per day in the winter of 1965-66 (Exhibit No. 65).

Air Pollution Problem

Applicants represent that the problem of air pollution in southern California has become severe in recent years and that air pollution control authorities have indicated continued interest in increasing industrial uses of natural gas.

The Air Pollution Control District of Los Angeles County states that weather conditions in the Los Angeles Basin impose real and observable restrictions upon the natural air supply; that these conditions are extremely conducive to the accumulation and concentration of aerial waste products; that in the Los Angeles Basin there are now more than 20,000 industrial units, more than 6,000,000 people, somewhat in excess of 3,000,000 automobiles, buses and trucks, and the nation's third largest petroleum refining capacity; that there are now 11 steam power plants operating in Los Angeles County and more are planned; and that the use of natural gas in lieu of fuel oil during the peak periods of operation would reduce the emission of air contaminants from 582 tons per day to 85 tons per day. The District's conclusion is that the increased use of natural gas in lieu of fuel oils will materially lessen the problem of air pollution posed by the continued expansion of steam power plant facilities, that natural gas in the quantities now needed for such use are not available in the Los Angeles Basin, and it takes the position that the granting of applicants' request would serve to improve the serious air pollution problem.

Staff's Study as to Need for Rock Springs Gas

The Commission staff's study as to need for the Rock Springs gas is based upon analyses and statistics set forth in Exhibits Nos. 70 and 71. These exhibits present the staff's studies of supply and requirements for southern and northern California. The staff points out that weather (primarily temperature) has a major effect upon usage by the firm customer. Between a warm year and a cold year the variation in actual use per customer amounts to about

35 percent.^{10/} For this reason the staff studied the effects of the coldest or abnormal peak day, the second coldest day, the third coldest day, a colder than average temperature year, an average temperature year, and a warmer than average temperature year.

Table No. II shows a summary of the staff's study with regard to peak supply and requirements on these three cold days, and average day supplies and requirements for a cold year and an average temperature year. The average day figure for both supply and requirements is 1/365 of the gas supplied or required for the year. The tabulation shows that for an abnormal peak day, existing supplies exceed firm customer requirements until the heating season 1965-66, for the second coldest day until the same heating season 1965-66, and for the third coldest peak day until the heating season 1967-68. Under average day conditions, for a colder than average year, existing supplies exceed firm requirements until the year 1970-71, and for an average year until 1973-74. While not shown on Table No. II, the staff's exhibits show that for a warmer than average temperature year, existing supplies exceed requirements until the year 1975-76.

In considering the average day estimates shown on the bottom half of Table No. II, it should be pointed out that additional peak shaving facilities would be necessary after roughly 1965 if no additional primary supplies are brought into southern California assuming, of course, that there is no curtailment of the firm load on cold peak days.

^{10/} For the cold year 1948-49 the usage was 15.5% above average and for the warm year 1958-59 the usage was 19% below average using a 10-year average base.

TABLE NO. II

GAS SUPPLY AND REQUIREMENTS FOR SOUTHERN CALIFORNIA
IN MILLION CUBIC FEET (FROM STAFF'S EXHIBIT NO. 71)

I - Peak Day Estimates

<u>Period</u>	<u>Existing Supplies</u>	<u>Abnormal Peak Day</u>	<u>Firm Requirements</u>	
			<u>Second Cold-est Day</u>	<u>Third Cold-est Day</u>
1959-60	2,988	2,553	2,457	2,296
1960-61	3,340	2,709	2,607	2,437
1961-62	3,383	2,868	2,761	2,581
1962-63	3,383	3,042	2,929	2,737
1963-64	3,438	3,233	3,113	2,908
1964-65	3,438	3,391	3,264	3,050
1965-66	3,438	3,589	3,457	3,229
1966-67	3,438	3,800	3,659	3,419
1967-68	3,438	3,995	3,845	3,591
1968-69	3,425	4,217	4,065	3,793
1969-70	3,405	4,437	4,276	3,989
1970-71	3,385	4,665	4,496	4,192
1971-72	3,365	4,899	4,724	4,403
1972-73	3,345	5,141	4,955	4,617
1973-74	3,325	5,389	5,195	4,839
1974-75	3,305	5,645	5,443	5,069
1975-76	3,285	5,907	5,695	5,302
1976-77	3,215	6,177	5,955	5,543
1977-78	3,068	6,453	6,219	5,787
1978-79	2,972	6,737	6,496	6,043

II - Average Day Estimates

<u>Period</u>	<u>Colder Than Average Year</u>		<u>Average Year</u>	
	<u>Existing Supplies</u>	<u>Firm Requirements</u>	<u>Existing Supplies</u>	<u>Firm Requirements</u>
1959-60	1,385	996	1,344	833
1960-61	1,689	1,061	1,639	888
1961-62	1,725	1,124	1,672	941
1962-63	1,749	1,193	1,696	998
1963-64	1,772	1,268	1,718	1,060
1964-65	1,772	1,328	1,718	1,111
1965-66	1,772	1,407	1,718	1,176
1966-67	1,772	1,489	1,718	1,245
1967-68	1,772	1,564	1,718	1,308
1968-69	1,772	1,647	1,718	1,380
1969-70	1,772	1,731	1,718	1,451
1970-71	1,772	1,818	1,718	1,524
1971-72	1,772	1,907	1,718	1,599
1972-73	1,772	1,998	1,718	1,676
1973-74	1,772	2,092	1,718	1,755
1974-75	1,772	2,188	1,718	1,836
1975-76	1,772	2,287	1,718	1,919
1976-77	1,772	2,388	1,668	2,004
1977-78	1,595	2,491	1,541	2,081
1978-79	1,519	2,597	1,465	2,181

Ability of Interruptible Customer
to Absorb Any Surplus Gas

An interruptible industrial customer is one whose service is subject to discontinuance if there is insufficient gas or capacity to supply the need of the firm customers. There are now approximately 1,900 interruptible customers served by the applicants. Their annual requirements vary from a few hundred Mcf (thousand cubic feet) to several million Mcf per year and, in general, are not affected by temperature variations.

Rule No. 62 of the Los Angeles County Air Pollution Control District, requiring full use of gas or low sulphur content oil during the warmer half of the year, has resulted in some shift of the interruptible load, but generally has caused no change in the over-all annual requirements of these customers.

Table No. I (bottom half) indicates that the present interruptible plus firm requirements exceed the existing supply of gas. For example, in 1961 this indicated deficiency on a cold year basis is 130,870 million cubic feet. Dividing by 365, it yields a daily average deficiency of 358 million cubic feet. This deficiency is a large part of the indicated capacity of the project of 475 million cubic feet per day. Table No. I shows a rapid growth in this deficiency and by 1962 it should surpass the 475 million figure. However, there is the problem of fitting the gas under the load curve when firm requirements fluctuate sharply from warm to cold days and certain interruptible loads are curtailed or interrupted.

The revised contract, which provides for a reduced purchase of gas during the first three years of the project, minimizes the risk that there will be any gas delivered into southern California by this project in excess of the amount that can be used by the interruptible customer.

Other Gas Supplies

In considering the need for Rock Springs Gas we should consider the fact that there are other new sources of gas which the record shows will or may be available during the proposed life of this project. In California there is some gas held by the Richfield Oil Company which has been sold to the Southern California Edison Company directly. During the course of the hearings applicants were offered an additional block of gas from the Transwestern Pipeline Company. Edison also is negotiating for direct purchase of gas from fields located in the Gulf Coast Area and its transmission by the Tennessee Gas Transmission Company. Plans of the Pacific Gas and Electric Company to import a large block of gas from Canada were made known. Applicants could interconnect with the Pacific Gas and Electric Company and the possibility of obtaining some additional gas from this source should not be overlooked.

Richfield Gas

The Southern California Edison Company has purchased 500 billion cubic feet of gas from the Richfield Oil Corporation over the next 20 years, i.e., an average of 42,000 Mcf per day. The California Supreme Court has confirmed Edison's right to acquire this Richfield gas in California (Richfield Oil Corporation v. Public Utilities Commission, 54 A.C. 363).

Transwestern Gas

On May 10, 1960 (Exhibit No. 86) the Transwestern Pipeline Company offered to sell to applicants' affiliate, Pacific Lighting Gas Supply Company, an additional volume of 150 million cubic feet per day over and above the 300 million now being obtained from Transwestern, with a price stated not to be in excess of 39.65 cents per Mcf. for the total volume of 450 million. On the basis of this price the 150 million increment would be of lower price and in the neighborhood of 34 cents per Mcf. The supply company had some

question as to the reserves to support this added 150 million and was concerned that it might conflict with the additional 50 million to be made available by Transwestern by November 1963. Because the applicants had contracted to purchase the Rock Springs gas to the extent of 400 million, plus the 70 million of best efforts gas thereover, the supply company did not accept Transwestern's offer of 150 million.

Gulf Coast Gas

The Senior Vice President of the Tennessee Gas Transmission Company testified that his company has main line transmission facilities which extend from the Rio Grande River in the vicinity of McAllen, Texas to the northern part of the United States, which facilities reach to within about 3 miles of the International Border in the vicinity of McAllen; that his company has entered into a letter of intent with Petroleos Mexicanos wherein Tennessee Gas will design and construct or cause to be constructed a 34-inch pipeline from the Town of Reynosa, Mexico, which is across the river from McAllen, Texas, across Mexico approximately to the Town of Mexicali in Baja, California; that this system when fully powered, will be capable of exporting some 750 million cubic feet per day and that into this system Tennessee plans to export some 335 million cubic feet per day of gas which it will purchase or take for the account of its California market; that the pipeline facilities required in the State of California from Mexicali north to the facilities of Edison will be constructed by Tennessee or an affiliate or subsidiary of Tennessee;^{11/} and that the gas supply which Tennessee obtains from Texas and Louisiana for this project are to flow into Tennessee's existing

11/ Since submission, California Gas Transmission Co., a Tennessee affiliate, has filed application No. 42931 for a certificate to operate as a gas corporation.

system and in pipeline parlance be "front-ended", and an equal amount exported from Texas into Mexico from Tennessee's south Texas System.

Canadian Gas - P.G. & E. Co.

In addition to the Canadian gas which is concerned in the Pacific Northwest line of the Rock Springs Project, the Pacific Gas and Electric Company through subsidiaries is in the process of obtaining a supply of Canadian gas in the quantity of 415 million cubic feet per day. They have received provincial approval to export 4.2 trillion cubic feet of gas over a 25-year period from Alberta through the proposed connection at Kingsgate. The Pacific Gas Transmission Company will build the pipeline from Kingsgate to Klamath Falls and the Pacific Gas and Electric Company will build from Klamath Falls to the San Francisco area.

Interconnections

Pacific Gas Transmission Company as part of the "Alberta-California" project will have interconnections with Pacific Northwest near Coeur D'Alene, Idaho, and Pendleton, Oregon. Pacific Northwest proposes imports of 150 million cubic feet per day at Kingsgate, which Pacific Gas Transmission will transport to Coeur D'Alene. These systems as proposed will tap the foothill regions of Alberta, an area of recent discovery and intense exploration activity.

The Pacific Gas and Electric Company now obtains a large quantity of gas from the El Paso Natural Gas Company at Topock, Arizona. Its Topock-Milpitas 34-inch pipelines cross certain of applicants' large transmission pipelines near Newberry, California. With the bringing in of Canadian gas to San Francisco, surplus gas on the Topock-Milpitas system could be diverted to the applicants' system if proper interconnections were made near Newberry where the lines cross. In this manner Canadian gas could, by substitution, reach the applicants' system without the building of the Rock Springs Project.

Summary as to Need for Project

Considering the applicants' and the staff's studies alone without the advantages of new out-of-state supplies or any inter-connection advantages, the need of the firm customers may be summarized as follows:

	<u>First-Time Additional Primary Gas Required</u>
1. Applicants' Abnormal Peak Day	1964
2. Staff's Abnormal Peak Day	1965-66*
3. Staff's Second Coldest Day	1965-66*
4. Staff's Third Coldest Day	1967-68*
5. Applicants' Cold Year	1974
6. Staff's Cold Year	1970-71*
7. Staff's Average Year	1973-74*

* Staff's results on heating season July-June of following year

There is a question as to the necessity of providing for the abnormal peak day as this condition has happened only once in 29 years. Also, if we give some weight to the full year results (with addition of peak shaving facilities) we arrive at the conclusion that the Rock Springs Project is not needed for several years. The median of these several forecasts is 1968 or seven years in the future. If a warm cycle of years continues for the next several years we may not even need additional peak shaving facilities before 1968.

If the project is authorized right away the evidence shows that the gas can be utilized; however, there may be a little excess gas for a year or two beyond the capability of the interruptible customer to absorb under the load curve. Applicants' revised contract with the El Paso Natural Gas Company minimizes this condition during the first three years so that the question of excess gas over firm needs is not a factor in our determination of need for this project, but is a factor in the economic feasibility determination.

A summation of all of the evidence is that the firm customer does not need the project for about seven years.

ISSUE NO. 2 - ECONOMIC FEASIBILITY

Applicants' Representations as to Economic Feasibility

Applicants prepared Exhibit No. 65, (Tab. E) for the purpose of showing the economic feasibility of the Rock Springs project over its probable minimum life (20 years) under certain hypothetical assumptions. The data were developed assuming fixed primary gas supplies and existing gas storage facilities and method of operation. Under these hypothetical assumptions, applicants represent that there would be large curtailment of both interruptible and firm customers in future years, but in actual future operations they would increase both primary gas supplies and storage capabilities to avoid any firm curtailment and to hold interruptible curtailment at a reasonable level.

Exhibit No. 65 shows for the period 1961-1979 an average annual volume delivered without Rock Springs of 588,569,000 Mcf and with Rock Springs gas, 737,506,000 Mcf. Corresponding delivered costs of gas are \$221,878,000 and \$284,698,000, and corresponding unit costs per Mcf are 37.70 cents and 38.60 cents. These dollar and cents figures are set forth by years and summarized on Table No. III, together with a cumulated summary of the additional gross revenue required if the Rock Springs Project is authorized. From the table it will be noted that applicants' estimate of the delivered cost of the existing supply is 36.89 cents per Mcf in 1961 and increases gradually to approximately 37.81 cents in 1979. All of these costs are at 14.73 pressure base. These costs include the annual costs related to the existing transmission and compressor facilities necessary to deliver the gas to the market center in the Los Angeles area.

TABLE NO. III

ECONOMIC FEASIBILITY ANALYSIS
(FROM APPLICANTS' EXHIBIT NO. 65)

Years	Unit Cost Per Mcf	Present : Supply : Including: Without :Rock Spr.: Increment:	Net Delivered Cost :(Thousand Dollars)	Present : Supply : Including: Without :Rock Spr.: Increment:	Additional Gross :Revenue Requirement: :(Thousand Dollars)	Annual Due to Rock Spr.:	Cumulative Total
1961	36.89¢	37.82¢	\$224,397	\$239,033	\$ 5,901	\$ 5,901	
1962	37.66	39.85	226,989	265,464	13,942	19,843	
1963	37.68	39.04	225,872	275,431	8,185	28,028	
1964	37.67	38.67	225,223	288,086	5,168	33,196	
1965	37.71	38.49	223,663	294,040	2,656	35,852	
1966	37.74	38.50	222,306	292,649	2,128	37,980	
1967	37.75	38.51	221,454	291,776	1,496	39,476	
1968	37.73	38.50	222,003	291,633	974	40,450	
1969	37.75	38.53	221,711	290,487	(489)	39,961	
1970	37.75	38.54	221,728	289,776	(2,582)	37,379	
1971	37.75	38.55	221,387	288,817	(4,876)	32,503	
1972	37.74	38.54	221,275	288,630	(7,585)	24,918	
1973	37.77	38.56	220,347	288,082	(10,632)	14,286	
1974	37.77	38.56	220,470	288,058	(12,972)	1,314	
1975	37.77	38.56	220,465	287,953	(15,148)	(13,834)	
1976	37.76	38.54	220,350	288,297	(17,525)	(31,359)	
1977	37.79	38.57	219,356	287,415	(19,069)	(50,428)	
1978	37.80	38.58	218,556	287,064	(20,971)	(71,399)	
1979	37.81	38.58	218,121	286,562	(22,030)	(93,429)	
Average 61-79	37.70	38.60	221,878	284,698	(4,917)	-	
<u>(Revenue Surplus)</u>							

The applicants developed the delivered cost of proposed gas supply including Rock Springs gas in the same manner as costs for the existing supply were developed, except that the cost of the additional Rock Springs gas and the costs related to the new facilities required to transport the new gas supply to the market area were added. Under the June 22, 1959 letter contract, a cost for the Rock Springs gas of 40 cents per Mcf at 14.9 pressure base (39.54 cents at 14.73 pressure base) was used until December 31, 1963 or until the applicants elect their option to convert to a regular demand-commodity rate based on the contract demand quantities in the June 30, 1958 letter contract. For 1961 and 1962 the Rock Springs increment is priced at 39.54 cents per Mcf. Thereafter, because of the improved load factor, a demand-commodity rate of \$2.81 per month per Mcf of contract demand plus 28.67 cents per Mcf, both at 14.73 pressure base were used. The corresponding average cost at 100 per cent load factor is 37.9 cents.^{12/}

Including the Rock Springs increment the cost per Mcf in 1961 is 37.82 cents. In 1962 the cost rises to 39.85 cents per Mcf due to the temporary reduction in the purchase load factor of out-of-state gas. In 1964 and thereafter, when the out-of-state gas purchase load factors are restored to approximately 100 per cent, the costs decline to approximately 38.50 cents per Mcf.^{12/}

The additional gross revenue requirement necessitated by the Rock Springs gas is substantial in the first two years and then declines year by year, and becomes a revenue surplus in 1969 and thereafter. After eight years of load growth and curtailment of sales of this gas to the interruptible customer at low rates, the

^{12/} These discussions of cost omit consideration of differences in heating value. Applicants' tariffs are bottomed on gas at 1100 Btu per Mcf with adjustments of 4-1/2 percent in rates for each 50 Btu change in heating value. The expected heating value of Rock Springs gas is approximately 1,030 Btu per Mcf.

20-year period the applicants' estimates show that the revenue surplus averages \$4,917,000 a year. However, at the end of the first ten years the project is still in the posture of requiring an accumulated additional revenue of \$37,379,000.

Rate Increase Indicated

Applicants' estimates indicate that a rate increase would be required in the early years of the Rock Springs Project when the gas is taken at reduced load factors and when most of the incremental revenues come from interruptible sales. Later as the load factor improves and the incremental unit revenues increase, rates could theoretically be reduced. Applicants state, however, this is on the assumption that there are no further increases in gas supply, and that the incremental revenues from Rock Springs supply are compared only with the incremental cost of the Rock Springs gas. In actual practice, applicants represent that there is no such allocation of particular gas supplies to particular customers, and that the concept is contrary to the fact that all gas supplies available at any particular date are available for all customers on a rolled-in price basis in accordance with regulatory body rate-making practices. Applicants admit, however, that the incremental procedure, as followed in Exhibit No. 65, is a convenient method of isolating the Rock Springs gas from a cost and revenue point of view to test the economic feasibility.

Applicants state that if additional gas supplies were assumed to be purchased in subsequent years, rate increases would be required at that time if the incremental delivered cost of gas was higher than the lowest rate block. On the other hand, if no new supplies were procured, there would have to be major increases in underground storage and applicants indicate this again might

necessitate related rate increases. Applicants foresee no particular problem in designing increased rates which would recover all of the costs related to the proposed gas supply in the early years, but state they will be needed only for a few years and, in any event, they are comparatively small.

Sales to Interruptible Customers

Applicants admit that their competitive margins on interruptible sales are narrow and that they have lost some business to fuel oil, but it is one of the reasons why they have estimated their market assuming 25 per cent of large customer requirements will be satisfied with fuel oil, and that additional major increases in the cost of existing gas supplies, if reflected in interruptible rates, could result in being priced out of the market.

The California Manufacturers Association's interest in this proceeding is in ascertaining that a supply of gas is available in the applicants' service area adequate to meet the needs of firm customers on the most favorable terms. That as representative of the class of firm customers (industrial) which would undoubtedly be the first to feel the pinch of a gas supply inadequate to meet all firm requirements, the Association believes it to be well worth the price suggested for the firm customers by the record in this proceeding in order to be assured of the Rock Springs supply.

With regard to the interruptible industrial customers, the Association's position is that a key factor in the economic feasibility of the Rock Springs Project is the continued availability of the interruptible gas market to applicants, that regular interruptible customers are not willing to bear the responsibility for importation of gas for interruptible use in excess of the amount which would be available as a normal adjunct to economical meeting of firm

requirements; that industry finds gas to be an attractive fuel and regular interruptible customers have always purchased interruptible gas so long as it has been attractively priced in relation to competitive fuels; that revenues from sale of interruptible gas at any rate level above immediate out-of-pocket costs will reduce the costs which must be borne by firm customers; and that applicants' interruptible customers are not a burden to them or their firm customers as some of the views expressed during the course of this proceeding seem to indicate.

The Southern California Edison Company now is a large user on the interruptible schedules and states that as a regulated public utility it is obligated to provide adequate and efficient electric service none of which is on interruptible schedules; that the principal source of gas fuel to produce electricity in the past has been from the interruptible schedules of the applicants; that such service does not provide for the present needs of its electric customers because of the instability, transient nature, and fade-out of annual deliveries with the growth of firm gas load in southern California; that its over-all fuel requirements to provide electric service will more than double in the next ten years and therefore it must take reasonable and adequate steps to obtain adequate fuel so as to be able to continue to provide satisfactory electric service on a long-range basis; that it is actively engaged in efforts to obtain an independent out-of-state gas supply for the southern California area; and that the Commission should consider the fact that applicants may not continue to serve its future steam plant as in the past when considering the economic feasibility of the project.

Two-Fuel Economy

The protestants point to the need for a two-fuel economy (gas and fuel oil) and state that the Commission must weigh the role of fuel oil in the southern California industrial market. Fuel oil and gas have always been in competition in this market and it is the objective of the oil companies to maintain this competitive situation. They represent that industrial customers have found this competition to be beneficial in the past and that ample fuel oil can be made available in southern California if it is not driven out of the market by surplus gas sold at subsidized rates.

Protestant oil companies state that the border price of 42 cents per Mcf (after adjustment for Btu content) is equivalent to a fuel oil price of \$2.52 per barrel and that the posted price of fuel oil of \$2.10 per barrel^{13/} (equivalent to 35-cent gas) is below the \$2.25 price for fuel oil in the Los Angeles area forecast in a study made by the Stanford Research Institute for applicants; that there is a world-wide surplus of crude and fuel oil and that it is unreasonable to expect that the price of fuel oil could reach such a level as to approach the equivalent cost of the Rock Springs gas; and that under the circumstances it would seem obvious that if the Rock Springs gas is to be sold in southern California it would have to be sold to interruptible customers for less than cost with the firm customers making up the deficit.

The oil companies state that the public authorities should be advised that the Rock Springs gas coming as it would immediately after Transwestern could well lead to a one-fuel economy; that fuel oil can be diverted to other uses and once this has occurred, the availability of fuel oil as a standby fuel for interruptible customers would be restricted; that fuel oil cannot be economically turned on

^{13/} As of September 24, 1960, the Commission was advised (outside of this record) that the posted price of fuel oil was increased to \$2.20 per barrel.

and off to meet short-term demands; that fuel oil is available and will continue to be available in large volumes if there is a market, but they cannot stand by for three, four or five years whenever the gas companies decide to saturate the market with two practically simultaneous pipeline projects.

Protestants take the position that a two-fuel economy is in the public interest; that too much gas would be as bad as too little gas in the southern California market; that it would be better for the southern California economy, better for the rate payers, better for the California oil industry, in fact better for the applicants themselves if the Rock Springs certificate were denied by the Commission.

Staff's Analysis of Economic Feasibility

With regard to the economic feasibility of the Rock Springs Project, the staff represents that in the first few years it will increase applicants' cost of existing supplies by over \$5,000,000 per year. Furthermore, if instead of the Rock Springs gas the additional 150 million offered by Transwestern were purchased there would have been a \$3,600,000 annual saving on the existing Transwestern supply. Moreover, there are intangible items on which a dollar figure is difficult to place, such as, risk of greater cost allocations from Pacific Northwest and Colorado Interstate Systems, added transport costs for circuitous routing and the likelihood that in the first few years of this proposed project the costs to deliver this gas will be in excess of rates which the applicants now charge for much of its interruptible gas.

The staff states that El Paso's existing system can supply greater than present contract deliveries and they should be increased until the pipeline additions here proposed are actually needed; that

25% of the proposed gas is from the San Juan Basin which is now directly connected to California; that 53% of the proposed gas is from Texas and Oklahoma where El Paso has a line terminating at Dumas, Texas, near the sources of this gas and through substitution could bring this gas directly to California; that the remaining 22% from Rocky Mountain sources could be brought to California over existing lines; that the Rocky Mountain area has great future potential, but El Paso is in a position to delay the addition of this pipeline until actual discovery and purchases have been effected in pipelineable quantities; and that the proposed project does not provide a direct route for Canadian gas to southern California.

As a verification of the showing by applicant regarding the revenue deficiencies in the early years of the project, computations were made from Exhibit No. 65 using supplementary material set forth in Exhibits Nos. 19, 59, 63 and 71, and the present filed tariffs. Such calculations verify the conclusions in Table No. III that it will not be before 1969 when increased revenues at present rates due to the availability of extra gas would exceed for that year the costs of the project assuming no change in the suppliers' costs.

Stated in unit terms the result of this computation are:

	<u>Per Mcf</u>
Cost of Rock Springs gas at Border	38.03¢
Cost of Transport to Market Center	4.14¢
Total Cost Delivered	<u>42.17¢</u>
Revenue from Firm Service	84.3¢
Revenue from Interruptible:	
Regular Interruptible	46.1¢
Steam Plant and Large	38.4¢

It is apparent that if during the first few years a large part of this gas has to be sold at 38.4 cents and it costs 42.17 cents to deliver it a deficient condition results, but when more of

the gas is sold at 46.1 cents and 84.3 cents per Mcf the deficient condition would be reversed in the later years of the project.

Line Routing Economics

The proposed Rock Springs Project brings gas from the Hugeton Field in southern Kansas and Oklahoma adjoining the Panhandle area, from the San Juan Basin, from Rocky Mountain sources, principally the Big Piney Field, and ultimately from Canadian sources via either Sumas, Washington, or Kingsgate, B.C. Rocky Mountain sources are now reached by Pacific Northwest and Colorado Interstate Gas Company pipelines.

The staff points out in Exhibit No. 69 that the route of the Rock Springs and Colorado Interstate lines is about 380 miles longer transmission distance from the Hugeton Field gas than if it were brought over the existing El Paso Natural gas lines. Also by Exhibit No. 69 the staff shows that the Canadian gas from Coeur D'Alene over the Pacific Northwest and Rock Springs lines is 900 miles greater distance to the state border than Canadian gas will have to travel over the Pacific Gas Transmission line. The proposed Rock Springs line is the most direct route from the Rocky Mountain area to Los Angeles but the quantity of Rocky Mountain gas comparatively is small. This Rocky Mountain gas could be moved to Los Angeles over the existing Pacific Northwest and El Paso systems via Topock with greater haul, or it could be moved to the San Francisco market via Pacific Northwest and interchange at Pendleton with Pacific Gas Transmission.

The witness for the El Paso Natural Gas Company pointed out that the pipeline distance from Dumas to Ivanpah Valley is 1,274 miles; the distance from Dumas to Topock is 964 miles, but Topock is 35 miles farther away than the Nevada-Las Vegas gateway; so the effective difference is 275 miles instead of the 380 miles

shown in the staff's exhibit. However, this witness pointed out that Colorado Interstate was never willing to make any sale of its Hugeton gas on a permanent basis for direct transport, but would only sell it where it could be a part of a project that would be useful in their system in serving their customers. In his judgment the advantage of being connected to the potential along the Colorado Interstate system offsets the difference of 275 miles.

The staff questioned the El Paso witness on justification for routing Canadian gas from Spokane, Washington, to Wyoming on the way to southern California as being a "direct route from Canada". In reply the witness stated that the gas connection can be considered direct by reversing the flow from Pendleton down to Rock Springs and by using capacity already constructed, such feat is possible by substitution part of the time and by actual physical delivery the balance of the time. With very little additional capital expenditure, he indicates, it is possible to deliver at Rock Springs an additional approximate 200 million cubic feet of gas per day. He maintains that this is a physically efficient as well as an economically efficient method of delivery of additional gas out of Canada to the California market.

Summary as to Economic Feasibility

Looking at the project from the short term (first 7 years) the project does not appear economically feasible because:

1. It will cost some \$39,000,000 more than the revenue to be derived using present rate levels.
2. It will tend toward a one-fuel economy if gas completely replaces fuel oil in steam plants and large industrial plants. The state needs an adequate supply of fuel oil to provide for the standby service required by

interruptible tariffs. Existing interruptible tariffs require that customers must have a standby source of fuel. Large gas sales and low fuel oil sales for two or three years may cause refiners to change the cracking process and lower availability of fuel oil to the point where the economic advantages of the interruptible business are lost.

3. A rate increase is indicated principally from the firm customers; however, applicants represent it will be small.
4. The advantage of purchasing additional gas to more efficiently utilize existing pipeline capacity substantially is blocked by present contracts.

Applicants have not come forth with any proposal that would save the firm customers the possibility of a rate increase in the early years of the project or alleviate completely the dangers of a one-fuel economy. From the long range standpoint the project appears economically feasible. An excess of revenue over cost delivered to the market area of \$93,000,000 over the life of the project is shown under the rates and costs as of the date of analysis. Applicants' studies generally assume that 25 percent of the fuel requirements of interruptible customers will be served by fuel oil; however, if many of the larger customers bring in their own gas supplies, this assumption may be wrong.

The large interruptible customers have been unwilling to make long term commitments with the gas companies and have testified in this proceeding that they will only purchase gas so long as it is competitive with fuel oil. The staff points out that the applicants have included in their annual total-use forecast the full gas requirements of all interruptible customers, although three of the largest of these customers have given notice that they will not permit automatic annual renewal of their G-54 contracts. Included therein is Southern California Edison Company, applicants largest interruptible customer, who takes approximately one-half of all steam-electric plant gas.

ISSUE NO. 3 - NEW AREAS AND NEW SOURCES

Applicants' Representation

One of the most significant advantages of the Rock Springs Project, in the opinion of the applicants' policy witness, is that the gas supplies will come from new areas, as yet unconnected to applicants' system, and that the southern California market will be able to draw gas from new sources in the Rocky Mountains and Canada having promising potential for future development and expansion to meet the future need for gas.

The president of DeGolyer and MacNaughton, a firm which has as its principal business consulting services in the field of geology, engineering and economics, including the estimation of oil and gas reserves, took exception to the published figure of proven gas reserves in the Rocky Mountain area at the end of 1959 to be 7.5 trillion cubic feet. Based upon his knowledge the recoverable gas reserves in the area are at least 12 trillion cubic feet and probably 15 to 20 trillion cubic feet. He also stated that oil and gas development in the Rocky Mountain area is in embryonic stage; that the area has made significant advances in the past decade; that exploration has barely scratched the surface; and that with a gas market available, the tempo of exploratory activity has been increasing each year.

Staff's Analysis

The staff points out that out-of-state gas imported to California is presently supplied principally from three sources: Permian, Panhandle and San Juan Basins. The gas is gathered and transported to California through the large networks of the El Paso Natural Gas Company pipeline systems. The recent introduction of

Transwestern Pipeline Company extended these sources of out-of-state gas. It reaches two principal areas, the lower Permian Basin in the proximity of Puckett, Texas, and fields in the Panhandle area of Texas and Oklahoma.

Approximately one-half of the gas for this project will come from southern Kansas and Oklahoma adjoining the Panhandle area which already is connected with California. Approximately one-quarter of the gas will come from the San Juan Basin which likewise is connected to California. The other one-quarter will come from Rocky Mountain sources. This project in effect introduces two new producing areas to southern California, namely, the Rocky Mountain area and Canadian sources.

The Rocky Mountain area already is reached by Pacific Northwest and Colorado Interstate Gas Company lines. In view of the comparatively small quantity of gas available in the Rocky Mountain area, there is considerable question as to the logic of placing a pipeline direct to such area. The staff's analysis of available published information on quantities of gas and local use of gas in the Rocky Mountain area is set forth in Exhibit No. 69 and is summarized below:

	<u>1958</u>	<u>1966</u>
<u>Proven Reserves in Million Cubic Feet</u>		
Colorado	2,381,000	-
Utah	859,000	-
Wyoming	3,457,000	-
Total	6,697,000	9,012,000
<u>Twenty-Year Deliverability in Million Cubic Feet</u>		
Per Year	334,850	450,590
Per Day	917	1,234
<u>Gas Marketed Per Year, Million Cubic Feet</u>		
Colorado	97,000	-
Utah	19,247	-
Wyoming	113,000	-
Total Annual	229,247	454,626
Total Average Daily	628	1,246

The estimates for 1966 of reserves and gas marketed are based on projected trend of 1954-58 actual by a straight-line statistical projection.

The staff's conclusion on this situation is that in the three Rocky Mountain states of Colorado, Wyoming and Utah, if present trends of gas discovery and gas consumption continue, and neglecting importation of gas from other areas to these states, consumption will exceed deliverability from proven reserves by 1966.

Danger of Loss of Proposed Supply

The City of Los Angeles takes the position that this Rock Springs proposal offers an opportunity for California to tap two new sources of gas - sources from which California may secure gas in increasing quantities toward satisfying the highest future uses and needs of its growing population; that industrial gas users can purchase and transport gas outside of effective regulation and, therefore, the Commission must recognize that the gas supply involved in an application will probably be unavailable in the future unless the application is promptly granted; that the effectuation of this proposal may involve cost risks, but if these risks are not assumed the promised additional gas supply may be lost forever, and may be lost without recourse; that any cost risks incurred in effecting the proposal here in issue are more than offset by the advantages; and that the approval of this project will serve the public interest.

Were the proposed gas supply all to come from one field, the danger of loss of the supply would appear greater than the current proposal where it comes from several sources and is held under contracts by more than one supplier. Furthermore, the cost of the gas is sufficiently high that this risk of loss is further minimized.

The City of Los Angeles also pointed out it is within the Commission's power to mitigate cost risks, however, if it should conclude that the applicants' industrial market estimates may be high or that their California supply estimates may be low; and that the Commission in view of the testimony by the president of El Paso, can properly condition its approval of the application upon delivery postponements to match the applicants' needs.

Substitute Fuels

The effect of substitute fuels on future needs of natural gas should not be overlooked. If the price of gas continues to rise residential customers may switch to electricity, oil and coal for their fuel needs. Coal may be converted to gas in the fields and oil may be converted to gas locally. Furthermore, in addition to the future effect of possible direct gas purchases by industrial customers in considering the need for Rock Springs gas, the staff points to the testimony of the large cement company witnesses to the effect that they might even convert to use of soft coal, and to the future effect of nuclear energy to be used by steam-electric plants in replacing gas fuel.

Long Range Benefits

As to the long range benefits of the proposed project the staff states that the Rock Springs Project does not provide a new source of gas as gas comes from existing systems and from areas already tapped by these various systems; that it is not a new pipeline, but rather an addition to existing pipelines; it is not a pipeline direct to field sources as it involves rearrangements of existing systems, interconnections and service from these systems and will, in fact, share in diversity of load with customers now served in 10 western states; that the distance of transmission of

this gas is several hundred miles greater than by means of direct pipelines to field sources which necessarily add to its cost; that the Rock Springs project in future adjudication of price at the border will have to consider costs on the entire Pacific Northwest system of El Paso as well as costs on the entire system of Colorado Interstate; that the Pacific Northwest system has not in recent years achieved normal earnings and future rate proceedings are expected; that peculiarities of Colorado Interstate system will result in cost allocations by which California is sharing in the cost of facilities which are and will be used solely to serve the Denver Market; that in the first few years of this proposed project, the interruptible customer will receive the major benefits as the costs to deliver it will be in excess of rates which they now charge for interruptible gas; and that no long-range benefits will be gained by bringing the additions of this project well in advance of need.

The staff also points out that the price of Rock Springs gas at the border is barely favorable with other new out-of-state sources and particularly mentions this Commission's recent Decision No. 60564 which gives the cost of Canadian gas to Pacific Gas and Electric Company stated in the tariff equivalent basis as:

Year 1961 -	38.7¢ per Mcf
Year 1962 -	39.5¢ per Mcf
Year 1963 -	41.7¢ per Mcf

for 418,000 Mcf per day at the state border.

The applicants' views as to long range benefits are:

- (1) The Rock Springs supply will permit Southern California to draw gas from sources in the Rocky Mountains having promising potential for future development and expansion;
- (2) that the position of the staff completely ignores the tremendous advantages of attaching to a new source of supply in its early stages of development;
- (3) that

the uncontroverted testimony of the president of DeGolyer and MacNaughton completely overrides any contention that this is a gas deficient area; (4) that even in the early stages of the Rock Springs Project, substantial quantities of gas will come from the Rocky Mountain region; and (5) that so-called circuitous pipeline routes are of no significance, provided they do not result in costs greater than the costs that would be required with direct independent pipelines.

Summary of New Areas and New Sources

The proposed project will bring to southern California gas from two new areas and sources, Rocky Mountain and Canadian, but less than half of the proposed supply will be coming from such new areas and sources. The danger of loss of the new supply is not as great as the City of Los Angeles contends. Substitute fuels and development of nuclear energy are important factors to weigh in considering the advisability of a project of the magnitude proposed. The public interest requires consideration and weighing of the long range benefits and cost risks involved in this project.

Competition and Franchises

Applicants state that the proposed project will pass through territory now served by Pacific Gas and Electric Company and Southwest Gas Corporation and that they served copies of the application upon each such company. They propose to obtain later any needed permits or franchises to cover construction of the pipeline.

The Pacific Gas and Electric Company presented Exhibit No. 80 for the purpose of showing the location of applicants' lines and its lines in San Bernardino County; showing the location and where the proposed new Rock Springs pipeline would cross areas now

covered by Pacific Gas and Electric Company certificates of public convenience and necessity; pointing out that Pacific Gas and Electric Company now serves some 3,500 customers in San Bernardino County, including two resale and 7 large customers; and asking the Commission not to impair the rights of Pacific Gas and Electric Company in San Bernardino County. By this order none of the certificates heretofore issued to Pacific Gas and Electric Company are being modified in any way.

Contract Conditions

The basic contract between the applicants and El Paso, dated July 30, 1958, provides for initial deliveries of gas commencing not later than January 1, 1960. Because of the complex nature of this project there have been delays occasioned by the third and final submission^{14f} of this matter on September 26, 1960. Already the January 1, 1960 date has passed. The supplemental agreement dated June 22, 1959 mentions the initial years of the project as 1961, 1962 and 1963 and provides for reduced initial deliveries. If this project were authorized today it is improbable that it could be completed in time to deliver any gas in 1961. Under the present status of such contracts, it appears that practically speaking the load building period would be less than two years (early 1962 to December 1963). Moreover, the Federal Power Commission has not given final approval to this project and this may cause the period to be shortened.

14/ See Appendix B for a chronology of Application No. 40583.

It is apparent that conditions have changed^{15/} since the contracts were drawn and, before approval of this project, the applicants and the supplier should have opportunity to reappraise these agreements and amend them.

Position of the El Paso Natural Gas Company

The president of the El Paso Natural Gas Company, as its witness, stated that oil and gas are found only in sedimentary basins; that the item of most importance is the potential of the Rocky Mountain area; that the southern California market is the largest part of El Paso's business; that it has great faith in the growth of southern California; and that it has advanced substantial amounts of money to hold supplies and to carry out this Rock Springs Project.

Under cross-examination this witness admitted that the 100 million cubic feet per day contract that Colorado Interstate had with Pacific Northwest was its most expensive gas (which gas is being diverted to this Rock Springs Project); that the Pacific Northwest pipeline is now making less than a reasonable return and its earning position would be improved by the Rock Springs Project; that the El Paso Company sees the need to tailor deliveries to meet the market and will not force the delivery of any gas on the applicants that they cannot market; that El Paso is undertaking the business risk of the prices being such that the gas can be marketed

15/ These changed conditions (within the record) and briefly restated are:

- a. Edison obtains Richfield gas.
- b. Applicants rejected extra Transwestern gas.
- c. Put on notice as to Edison's proposal to import gas directly through Tennessee Gas Transmission Company efforts.
- d. New pipeline for Pacific Gas and Electric Company to obtain Canadian gas and possibility of interchange.
- e. Testimony of president of El Paso Natural Gas Company not insisting on full compliance with present contracts.

and that if the market became "flooded with gas" El Paso would entertain on its part a modification in the contract as it exists.

Findings and Conclusions

After considering the record in this application, the Commission finds the following main advantages and disadvantages of the Rock Springs Project:

Main Advantages

1. It provides direct connection to a new area (Rocky Mountain) with gas potential and indirectly to Canada.
2. It will help assure a long-term supply for the firm customers in southern California.
3. It will help alleviate the serious smog condition in Los Angeles County as the gas can be used by industry and not wasted, assuming a reasonable load building period.

Main Disadvantages

1. There is not sufficient exportable gas in the new area (Rocky Mountain) alone to justify this project. (Large blocks of gas have to be brought to Rock Springs, Wyoming, from other areas.)
2. A witness for the applicants testified that it will be necessary to have a rate increase in the early years of the project in its present posture.
3. Under present conditions the project does not appear economically justifiable for eight years or fully advantageous for fourteen years.
4. The firm customer will not need this project for about seven years.
5. There is merit to the position advanced by the oil companies of the danger of the possible disruption of the economic balance of a two-fuel economy in this state from the standpoint of the fuel using public and gas system economics if this project is authorized as now constituted.
6. The contracts are out-dated and in view of the expressed willingness of El Paso to entertain modification, the contracts in their present form are not consistent with the public interest, particularly in their exclusion of other potentially economical sources of supply.

In the Commission's opinion the disadvantages outweigh the advantages, unless applicants can obtain contract revisions or new contracts to eliminate the need for a rate increase, to reduce the period before the project is economically feasible, and to maintain a reasonable balance in the two-fuel economy. It appears that Pacific Northwest (now El Paso) and Colorado have much to gain from this project. The record shows that the Pacific Northwest pipeline extending from the San Juan Basin into the Northwest is not now making its full rate of return, that the economics of Pacific Northwest have been skimpy (Tr. 3234), and that as the result of the Rock Springs Project, the economic condition of Pacific Northwest will be much improved (Tr. 3235).

Also, the record shows that without the Rock Springs Project, the Rocky Mountain Division of Colorado Interstate for the year 1960-61 would have a deficiency of \$5,000,000, but with the Rock Springs Project the deficiency would be only \$1,000,000 (Tr. 3224), and that Colorado Interstate would be relieved from purchase of 100 million cubic feet per day from Pacific Northwest which was its most expensive gas (Tr. 3225). It appears to the Commission that Pacific Northwest (now Northwest Division of El Paso) and Colorado Interstate have so much to gain from this project that at a minimum they should share with the California ratepayers their benefits and underwrite the early losses and dangers to the economic balance of a two-fuel economy.

In view of the fact that the president of El Paso has expressed willingness to modify the contracts, that the applicants and the City of Los Angeles have recognized that the Commission may properly take this fact into consideration, the Commission finds and concludes that public convenience and necessity require the construction, maintenance and operation of a 34-inch pipeline and

related facilities between the California-Nevada border near Ivanpah Valley and Newberry, California subject to the condition that applicants be offered by El Paso Natural Gas Company revised or new supply contracts (preferably new contracts) that will be more attractive to the California ratepayer than present contracts and acceptable to the applicants and to the Commission, and such revised or new contracts to conform to the requirements of the order herein.

The Commission further finds and concludes that authorization granted by interim Decision No. 59455, dated January 5, 1960, granting the applicants a certificate that public convenience and necessity require the construction, operation and maintenance of a 36-inch pipeline between Newberry and Placentia should be affirmed and finalized.

All motions not consistent with the above findings and conclusions are denied.

The certificate hereinafter granted is subject to the following provision of law:

That the Commission shall have no power to authorize the capitalization of this certificate of public convenience and necessity or the right to own, operate, or enjoy such certificate of public convenience and necessity in excess of the amount (exclusive of any tax or annual charge) actually paid to the state as the consideration for the issuance of such certificate of public convenience and necessity or right.

O R D E R

The above-entitled application, as amended, having been considered, public hearing having been held, the matter having been submitted and basing this order on the foregoing findings and conclusions; therefore,

IT IS ORDERED that Southern California Gas Company and Southern Counties Gas Company of California be and they are granted a certificate that public convenience and necessity require the construction, operation and maintenance of a 34-inch pipeline and related facilities between the California-Nevada border near Ivanpah Valley and Newberry, California, as described in the application, the procurement and use of the necessary permits, easements and franchises as may be necessary for the construction and/or operation of the project, the transportation and sale of gas from the project to their customers in accordance with their certificates of public convenience and necessity, and with their rates and rules duly filed with this Commission subject to the following conditions:

1. That applicants obtain from the El Paso Natural Gas Company a new supply contract or contracts acceptable to them and to the Commission to replace the old contracts that will (a) eliminate the need for a rate increase as the result of this project during the early years of the project, (b) reduce the period before the project is economically feasible, (c) provide a load building period and schedule of gas importation that will maintain a reasonable balance in the two-fuel economy of southern California taking into account changed conditions since July 30, 1958.
2. That applicants prepare and file a revised economic feasibility study (similar to Exhibit No. 65) showing the economic, supply and requirements situation based on outlook approximately as of the date of the new supply contract.
3. File four copies of a new supply contract to complete the record in this application, showing date applicants accepted the new contract.
4. Applicants shall not start construction of this project until authorized by supplemental order herein.
5. In rewriting the contracts applicants shall require all pipeline suppliers to agree to maintain with this Commission up to date copies of their approved tariffs on file with the Federal Power Commission and to furnish this Commission copies of annual reports filed with the Federal Power Commission.

6. That the contract should have an appropriate heating value provision which will recognize reduced revenue to applicant for deliveries at lower heating values.

IT IS FURTHER ORDERED that: (a) Southern California Gas Company and Southern Counties Gas Company of California shall file with this Commission a detailed statement of the capital costs of the 34-inch pipeline and related facilities herein authorized within six months following the date of completion; (b) interim Decisions Nos. 58095 and 59455 herein are affirmed and made final.

The authorization herein granted will expire within one year unless applicants obtain new supply contracts which meet with Commission approval, but in the event such supply contracts are obtained the authorization will expire if not exercised within three years after the effective date hereof.

The effective date of this order shall be twenty days after the date hereof.

Dated at San Francisco, California, this 28th day of December, 19 60.

Arthur H. Rogers
President
John E. Hatched
Theodore J. Jensen

I concur in the granting of the Commissioners Certificate, but dissent as to some of the reasons and some of the conditions involved in application. I dissent. My reasons will be filed later.
Walter J. Gentry
-45-

APPENDIX A

LIST OF APPEARANCES

For Applicants: T. J. Reynolds, Harry P. Letton, Jr., Henry F. Lippett, 2nd, for Southern California Gas Company; Milford Springer and Robert M. Olson, Jr., for Southern Counties Gas Company of California.

Protestants: Gerald H. Trautman of McCutchen, Doyle, Brown and Enersen, for Richfield Oil Company, Standard Oil Company of California, Golden Bear Oil Co., Lloyd Corporation, Ltd., National Oil Company, Thornberg & Geis, Mt. Diablo Co., Bonmac Oil Company, Marco Oil Company, Atlas Royalties, Inc., McGreghar Land Company, Petroleum Supply Company and Frank Goldman.

Interested Parties: O. C. Sattinger, J. R. Elliott and Joseph R. Rensch, for Pacific Lighting Gas Supply Company; Rollin E. Woodbury, Harry W. Sturges, Jr., John R. Bury by William E. Marx, for Southern California Edison Company; Chickering & Gregory by C. Hayden Ames, Angus G. MacDonell and Frank R. Porath, for San Diego Gas & Electric Company; C. H. McCrea for Southwest Gas Corporation; W. W. Miller, Richard Edsall, Willis T. Johnson and F. A. McCrackin, for California Electric Power Company; Brobeck, Phleger & Harrison by George D. Rives, Gordon E. Davis, Robert N. Lowry, and W. W. Evers, for California Manufacturers Association; J. J. Deuel and William L. Knecht, for California Farm Bureau Federation; Roger Arnebergh, T. M. Chubb, Robert W. Russell, John Synott, Phil A. Erickson, Manuel Kroman and Alfred H. Driscoll, for the City of Los Angeles; Dion R. Holm, Orville I. Wright and Robert R. Laughhead, for City and County of San Francisco; Wallace K. Downey, for California Portland Cement Company; Enright, Elliott & Betz by Norman Elliott, for Monolith Portland Cement Company; F. T. Searls and John C. Morrissey, for Pacific Gas and Electric Company; Henry E. Jordan, Leslie E. Still and Walhfred Jacobsen, for the City of Long Beach; O'Melveny & Myers by Lauren M. Wright, for Riverside Cement Company, Division of American Cement Corporation; W. D. MacKay (Commercial Utility Service) for Challenge Cream and Butter Association; Harold C. Brown, and Vinson, Elkins, Weems & Searls by Raybourne Thompson, for Transwestern Pipeline Company.

Commission Staff: Louis W. Mendonsa, Harold T. McCarthy.

LIST OF WITNESSES

Evidence was presented on behalf of the applicants by: Grove Lawrence, J. A. Millen, Frank M. Foster, J. C. Oberseider, Keith Kelsey, W. M. Jacobs, John H. Murrell, M. M. McMahon, W. J. Herrman, Paul Kayser, W. E. Mueller, Homer R. Ross, A. M. Lawson, Raymond W. Todd, Farrele S. Young, James W. Gaston, M. C. Norwood, Edward L. Dunn, Melvin A. Ehrlich, Barry Hunsaker, Thomas L. Pelican, John J. Yeonopolus and Mills Cox.

Evidence was presented on behalf of the interested parties by: Willis T. Johnson, T. M. Blakeslee, Robert P. O'Brien, Robert W. Maney, David C. Honey, R. G. Patterson, Edward J. Rey, and William W. Witmer.

Evidence was presented on behalf of the protestants by: Felix Chappellet, D. D. Ostrom, Richard R. Von Hagen, A. C. Rubel and Fredrick C. Loomis.

Evidence was presented on behalf of the Commission staff by: Kenneth J. Kindblad, Louis W. Mendonsa, Bruno A. Davis, Harold H. Heidrick, and Clarence Unnevehr.

APPENDIX B

CHRONOLOGY OF APPLICATION NO. 40588

November 7, 1958 Application filed and assigned No. 40588.

January 13, 1959 First day of public hearing.

March 10, 1959 First Interim Decision No. 58095 issued after five days of hearing.

May 14, 1959 Order approving petition of Western Oil and Gas Association for leave to withdraw.

May 22, 1959 Order granting petition of Richfield Oil Company, Standard Oil Company of California and others for permission to intervene.

June 11, 1959 Matter concluded and first submission.

June 24, 1959 Applicants' filed petition to set aside submission and reopen proceeding.

June 29, 1959 Order setting aside submission and reopening for further hearing.

August 12, 1959 Second submission.

August 31, 1959 Opening brief filed by applicants.

September 22, 1959 Reply briefs filed by protestants and interested parties.

October 2, 1959 Reply brief filed by applicants.

November 18, 1959 Applicants filed an Amendment to Application for authority to build Newberry-Placentia line promptly.

December 1, 1959 Order setting aside submission and reopening for further hearing and requiring additional studies by applicants.

January 5, 1960 Second Interim Decision No. 59455 issued authorizing 36-inch line Newberry to Placentia.

July 29, 1960 Third submission after a total of 25 days of hearing subject to filing of briefs.

August 19, 1960 Applicants' opening brief filed.

September 12, 1960 Answering briefs of protestants, interested parties and staff filed.

September 26, 1960 Reply brief of applicants filed.

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The overriding consideration giving rise to my dissent is basically predicated upon the imperative need of an adequate gas supply for the southern California area. The amazing growth in gas requirements in this area makes it mandatory on the Southern California and Southern Counties Gas Companies to obtain the necessary gas and install the necessary facilities to serve an additional population each year of approximately equal to the combined population of the cities of Glendale, Pasadena and Burbank, aggregating more than 320,000 people.

This Commission has not only encouraged, but has directed these gas utilities to make the necessary investigations to insure an adequate gas supply not only for the present and the immediate future, but the foreseeable future. Any doubt as to the requirements underreaching the supply should be resolved in favor of obtaining a greater amount of gas than is presently needed in order definitely to insure the ability of the gas companies to meet future requirements.

This Commission has demonstrated pragmatically its awareness of the critical character of gas as the thermal fuel for the majority of California householders. In April 1957, it instituted an investigation into the present and potential adequacy of gas supply and service in California for the purpose of determining, among other things, whether or not the gas utilities were taking the necessary steps to insure that the rapidly growing requirements would be met by the obtaining of new supplies.

The basic obligation imposed upon the certificated applicant gas corporations is to provide an adequate gas service at all times to its householder customers without restriction or interruption. The corollary of this obligation is that the gas companies shall have the exclusive control of the gas service in the areas in which they are certificated. In order to meet the obligation to the householders, the gas companies necessarily must strike a reasonable balance between the gas usage of such householders, and the so-called interruptible consumers, when the householders are not utilizing the maximum supply for their requirements.

My basic quarrel with the foregoing order is that the grant of applicants' request to construct a 34" pipeline from the California-Nevada border near Ivanpah

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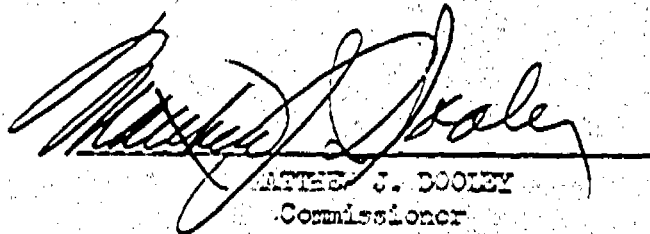
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Valley ^{to} Newberry, California, is made subject to conditions that are anomalous in general, uncertain in application, and practically postulate what is tantamount to a rehearing even if applicants are endowed with divine prescience in attempting to comply with the conditions imposed upon them.

It is my considered opinion that Items (a), (b) and (c) of ordering subparagraph 1 of the Order should be spelled out in a reasonably definitive manner so that applicant companies will be apprised of just what the Commission will consider to be compliance with the conditions imposed.


ARTHUR J. DOOLEY
Commissioner