(Decision No. C82-199)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * *

IN THE MATTER OF THE APPLICATION OF COLORADO-UTE ELECTRIC ASSOCIATION, INC., P. O. BOX 1149, MONTROSE, COLORADO, 81401, FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, OPERATE AND MAINTAIN A 345 KV TRANSMISSION LINE AND RELATED SUBSTATION FACILITIES, TO BE LOCATED IN NINE COUNTIES IN WESTERN COLORADO, AND ONE COUNTY IN NEW MEXICO, SUCH FACILITIES COLLECTIVELY TO BE KNOWN AS THE RIFLE-SAN JUAN 345 KV TRANSMISSION LINE.	APPLICATION NO. 33226 COMMISSION DECISION GRANTING EXCEPTIONS OF GUNNISON RIVER COALITION AND WRIGHTS MESA ELECTRIC CONSUMERS ASSOCIATION, AND DENYING EXCEPTIONS OF COLORADO AND NATIONAL WILDLIFE FEDERATION, AND DENYING APPLICATION

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February 5, 1982
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STATEMENT AND FINDINGS

BY THE COMMISSION:

On October 10, 1980, Colorado-Ute Electric Association, Inc., (hereinafter "Colorado-Ute"), filed the instant application. By this application, Colorado-Ute seeks a certificate of public convenience and necessity to construct, operate and maintain a 345 KV transmission line in nine counties in western Colorado, and one county in New Mexico. Hereinafter, such transmission line may be referred to as the "Rifle-San Juan Line."

The following parties filed requests to intervene in this proceeding. Such requests were granted on the following dates by the following Commission Decisions:

INTERVENOR	DATE	GRANTED BY DECISION NO.
Ronald K. Dessain	November 21, 1980	C80-236
High Country Citizens Alliance	December 1, 1980 & March 9, 1980	C80-458
Wrights Mesa Electric Consumers Association	January 15, 1981	C81-113
Empire Electric Association	January 23, 1981	C81-236
Robert T. Colgan, James M. Jackson & Ben D. Shaw	February 4, 1981	C81-279
Western Colorado Utility Taskforce	March 26, 1981	ER81-1
Gunnison River Coalition	April 2, 1981	ER81-11
Delta-Montrose Electric Association	April 13, 1981	R81-724-I

The matter was initially set for hearing in Montrose, Colorado on March 18 and 19, 1981, by Notice issued December 19, 1980. That hearing date was vacated and the matter was reset for May 18 through 20, 1981, Montrose, Colorado. As rescheduled, the matter was heard on May 18, 19, and 20, 1981. However, the hearing not being completed, the matter was set for further hearing on July 14, 1981, Montrose, Colorado, and continuing thereafter through the 17th of July, 1981 if necessary. The matter was heard on each of those days and was concluded on July 17, 1981.

At the commencement of hearing on May 18, 1981, a motion to add co-intervenors was presented by the National Wildlife Federation and the Colorado Wildlife Federation, requesting leave for such parties to intervene. The motion was denied on the grounds that it was extremely late, being filed after hearing had commenced, that good cause for being late had not been shown, that a substantial personal interest had not been shown, and that the petition did not show the nature and quality of the evidence to be presented. On June 25, 1981, a letter was filed with

the Commission asking that this ruling be reconsidered. A response to said letter was filed by Colorado-Ute on July 2, 1981. Decision No. R81-1201-I was issued on July 8, 1981, striking the letter request. The National and Colorado Wildlife Federations filed a response to Colorado-Ute's request to strike on July 9, 1981. At the commencement of Hearing on July 14, 1981, a letter was tendered to the Examiner from the National Wildlife Federation and the Colorado Wildlife Federation asking that the formal response filed on July 9, 1981, be considered as a motion to set aside the order denying intervention status to those entities. Colorado-Ute filed a response to the letter motion on July 21, 1981. By Recommended Decision No. R81-1891, the Examiner treated the response filed on July 9, 1981, as a motion to set aside interim order, and concluded that sufficient grounds were not set forth therein to modify the ruling denying intervention status to the National and Colorado Wildlife Federations.

Over the seven days of hearing, testimony was heard from the parties to the proceeding and from 37 public witnesses. Numerous letters, cards, and petitions were received, some in favor of the application and some opposed to the application.

Exhibits 1 through 72 were marked for identification during the hearing. All such exhibits were admitted, with the exception of Exhibit No. 7, which was rejected. In addition to the numbered exhibits, lettered exhibits A through J were marked for identification and admitted into evidence. At the conclusion of the hearing, the parties were granted until August 10, 1981, to file statements of position if they so desired, and the subject matter was taken under advisement by the Examiner.

Statements of position were filed on behalf of Delta-Montrose Electric Association, Colorado-Ute, the Staff of the Commission, and the Gunnison River Coalition and Wrights Mesa Electric Consumers Association.

On November 13, 1981, Hearings Examiner Robert E. Temmer issued Recommended Decision No. R81-1891 (hereinafter Decision No. R81-1891). By said decision, the Examiner recommended that a certificate of public convenience and necessity be granted to Colorado-Ute for that portion of the Rifle-San Juan 345 KV transmission line from Delta, Colorado, south to the Colorado-New Mexico border. The Examiner further recommended that the Staff proposal be implemented by Colorado-Ute for that portion of the proposed transmission line extending from Delta, Colorado, north to Rifle, Colorado. The Examiner conditioned the implementation of the Staff proposal by Colorado-Ute upon the following: "Colorado-Ute shall contact the owners of the two lines to be upgraded to secure their cooperation, and shall make a comparative analysis of the two alternatives. Said study shall be filed with this Commission within forty-five days of the effective date of this order, and if it shows the upgraded lines and related facilities to be more favorable, this condition shall be satisified. If the study does not show that result, this matter may be set for further hearing to determine what facilities should be certificated for the area north of Delta."

On December 3, 1981, the Gunnison River Coalition and Wrights Mesa Electric Consumers Association filed consolidated exceptions to Decision No. R81-1891. Also contained in such consolidated exceptions are the exceptions of the Colorado and National Wildlife Federation regarding the denial of party status. Colorado-Ute filed response to the consolidated exceptions of Gunnison River Coalition and Wrights Mesa Electric Consumers Association, and on denial of party status only of Colorado and National Wildlife Federation on December 14, 1981.

The Commission has reviewed the record of proceedings in this application, together with the transcripts of testimony and exhibits, the various statements of position and other pleadings filed by the parties herein. On the basis of that review, the Commission finds that it should enter its own findings of fact and conclusions of law in the decision herein without regard to the recommended decision of the Examiner.

FINDINGS OF FACT

THE COMMISSION FINDS:

A. THE PARTIES

Colorado-Ute is a public utility engaged in the transmission, generation, purchase and sale of electric power and energy. It sells the electric power and energy at wholesale, principally to its 14 members. Its members are rural electric distribution cooperatives in the State of Colorado.

Delta-Montrose Electric Association, Inc., and Empire Electric Association, intervenors in this proceeding, are members of Colorado-Ute. They receive all of their power from Colorado-Ute pursuant to all requirements contracts.

The Gunnison River Coalition and the Wrights Mesa Electric Consumers Association are citizens groups. These two organizations will hereinafter be referred to as "intervenors." Any other intervening party will be referred to by name.

B. COLORADO-UTE'S PROPOSAL FOR A 345 KV TRANSMISSION LINE AND RELATED SUBSTATION FACILITIES

As indicated earlier in this decision, Colorado-Ute, on October 10, 1980, filed with this Commission the instant application seeking a certificate of public convenience and necessity for the construction, operation, and maintenance of a double circuit 345 KV transmission line and related substation facilities, such facilities collectively to be known as the Rifle-San Juan 345 KV Transmission Line. The line would extend from Colorado-Ute's Rifle Substation, near Rifle, Colorado, south to New Mexico, with one circuit ending at the San Juan Generating Station, and the other circuit ending at the Shiprock Substation. It is proposed that the double circuit line would proceed generally south from Rifle to the Paonia-Hotchkiss area, then would proceed west to the Delta area, then would proceed southerly to the Lost Canyon Substation near Cortez, then easterly to the proposed Hesperus Substation near Durango, then southerly to New Mexico, and the termination points. The exact siting of the line would be determined in accordance with applicable law and is not an issue in this proceeding, as only the general route of the line is an issue in this proceeding. The line will cover approximately 290 miles. It is proposed by Colorado-Ute that there would be substations, either at the outset or in the future, designated as the North Fork Substation, which would be in the Paonia-Hotchkiss area, the Delta Substation, which would be near Delta and would really be for future use, at Montrose, at Norwood, at Lost Canyon and at Hesperus.

Colorado-Ute, in its application, stated that it would have an ownership interest in the San Juan 345 KV transmission line of between 65 and 70 percent and that the Western Area Power Administration (WAPA), an agency of the United States Department of Energy, would have an ownership interest of between 30 and 35 percent. Colorado-Ute stated that details as to the exact ownership percentages of the substation facilities and

responsibilities for construction, operation and maintenance of the San Juan line had not been finalized as of the date of its application, but that ownership of the terminal and substation facilities would be determined by the requirements and benefits to the "respective parties."

Colorado-Ute has major generating facilities in the Hayden-Craig area of northwest Colorado. At the present time, Colorado-Ute has a 138 KV - 115 KV transmission system that runs from Hayden through the Rifle Substation and southwestern Colorado to the New Mexico border. Colorado-Ute, along with others, also has a 230 KV transmission line that runs from the Hayden-Craig area to the Rifle Substation. This transmission line was built so that it could be uprated to 345 KV. This will be done. WAPA has a 230 KV transmission line that runs from the Hayden-Craig area to its Rifle Substation and south from Rifle through Curecanti and Lost Canyon to New Mexico. This portion of the line from Hayden to Rifle is being uprated to 345 KV.

The proposed double circuit 345 KV transmission line would roughly follow WAPA's 230 KV line from Rifle to the Paonia-Hotchkiss area, then would leave that route and go west and then roughly follow Colorado-Ute's 115 KV line to the Norwood area, then would leave the route of that line and go back to roughly follow the route of the WAPA 230 KV line to Lost Canyon. It would then again follow Colorado-Ute's 115 KV line to the Hesperus area and then go south to the New Mexico border. It is proposed that Colorado-Ute's existing 115 KV line will become a sub transmission system and be transferred to Colorado-Ute's members.

Colorado-Ute has indicated that the three main purposes to be served if the double circuit 345 KV line is built is to serve its member loads in the southwestern part of the state, to strengthen the interconnected transmission system in the area, and to provide a base transmission system to tie in new base load generating facilities.

C. PUBLIC CONVENIENCE AND NECESSITY: THE LEGAL PARAMETERS:

The construction of a new facility, plant or system, such as the proposed Rifle-San Juan 345 KV Transmission Line, in governed by CRS 1973, 40-5-101 which states:

> 40-5-101. New construction - extension. (1) No public utility shall begin the construction of a new facility, plant, or system or of any extension of its facility, plant, or system without first having obtained from the Commission a certificate that the present or future public convenience and necessity require or will require such construction. Sections 40-5-101 to 40-5-104 shall not be construed to require any corporation to secure such certificate for an extension within any city and county or city or town within which it has theretofore lawfully commenced operations, or for an extension into territory, either within or without a city and county or city or town, contiguous to its facility, line, plant, or system and not theretofore served by a public utility providing the same commodity or service, or for an extension within or to territory already served by it, necessary in the ordinary course of its business. If any public utility, in constructing or extending its line, plant, or system interferes or is about to interfere with the operation of the line, plant, or system of any other public utility already constructed, the Commission, on complaint of the public utility claiming to be injuriously affected, after hearing, may make such order prohibiting such construction or extensions or prescribing such terms and conditions for the location of the lines, plants, or systems affected as to it may seem just and reasonable.
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> (2) Whenever the Commission, after a hearing upon its own motion or upon complaint, finds that there is or will be a duplication of service by public utilities in any area, the Commission shall, in its discretion, issue a certificate of public convenience and necessity assigning specific territories to one or to each of said utilities or by certificate of public convenience and necessity to otherwise define the conditions of rendering service and constructing extensions within said territories and shall, in its discretion, order the elimination of said duplication upon such terms as are just and reasonable, having due regard to due process of law and to all the rights of the respective parties and to public convenience and necessity.

Although the Public Utility Law itself does not set forth any standards to guide the Commission in determining whether a new facility, plant or system is required by the public convenience and necessity, Colorado case law does provide some guidance for the Commission's determination of when the public convenience and necessity requires the construction of a facility, or a plant, or a system.

In Western Colorado Power Co. v. Public Utilities Commission, 159 Colo. 262, 411 P.2d 785, appeal dismissed 385 U.S. 22, 87 S. Ct. 230, 17 L.Ed. 2d 21, rehearing denied 385 U.S. 984, 87 S. Ct. 500, 17 L.Ed. 2d 445 (1966), the Colorado Supreme Court held that proof of public convenience and necessity is mandatory prior to the construction of any new facility, plant or system; the Court also set forth some basic principles of public convenience and necessity. First, section 40-5-101, supra, is the foundation of the principle of regulated monopoly. It was designed to prevent duplication of facilities and competition between utilities. Second, any public utility service, facility or plant which creates rather than prevents duplication is not in the public convenience and necessity. Third, the inadequacy of existing facilities must be shown in order for the Commission to authorize a new service or construction of a new facility or plant. Id., 159 Colo. at 273-274, 411 P.2d at 791. In Western Colorado Power, the Court held that the Hayden I electric generating plant constructed by Colorado-Ute was not required by the public convenience and necessity. The Court specifically found from the record that adequate electric service was available to serve the needs of Colorado-Ute's proposed new customers; that the construction of the Hayden plant, which required an investment of $30 million, was not necessary to supply any electric requirements for the present or foreseeable future; that Colorado ratepayers should not be required to pay for the plant through their rates; and that the Hayden plant was an unnecessary duplication of existing electric facilities which were adequate to supply the needs of the public. Id., 159 Colo. at 278-279, 411 P.2d at 793-804.

Under section 40-5-101, the Commission has the power and authority to issue all or part of the requested certificate of public convenience and necessity ("CPCN") and to attach to a CPCN such terms and conditions as in the Commission's judgement may be required by the public convenience and necessity. See C.R.S. 1973, 40-5-103(1) as

amended by H.B. 1035; cf., International Union, United Mine Workers of America v. Public Utilities Commission, 170 Colo. 556, 463 P.2d 465 (1970).

Basically then, the question of public convenience and necessity revolves around three questions: (1) is there a need to be met, (2) is the proposed construction operationally feasible to meet the need, if such there be, and (3) is the construction proposal financially feasible.

D. COLORADO-UTE, ON THE BASIS OF THE RECORD HEREIN, CANNOT BE FOUND TO BE FINANCIALLY CAPABLE OF CONSTRUCTING THE PROPOSED RIFLE-SAN JUAN 345 KV TRANSMISSION LINE AND PROVIDING ADEQUATE SERVICE AT REASONABLE RATES.

It is axiomatic that a utility seeking a certificate of public convenience and necessity must submit to the regulatory body with authority to issue the certificate data showing the utility's "estimated cost of construction and expenses of operation" and "how it plans to raise the money needed to construct its plant."[1] This Commission has formalized this requirement in its Rules of Practice and Procedure. Appendix H. IV. A., states:

> A. Application for a Certificate of Public Convenience and Necessity -- Initial Issuance, Extension, Transfer or to Exercise Franchise Rights.
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> When application is made for authority for a certificate of public convenience and necessity, extension, transfer or to exercise franchise rights, the applicant in addition to complying with the rules applicable to all pleadings, particularly Rules 11 and 13, will submit the information where applicable and appropriate either in the application or as exhibits.
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> 1. Name and address of applicant. If individual, state in addition if trade name is to be used, ie., John Smith, dba (doing business as) Farmers' Utility Company;
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> a. If a partnership, name and address of co-partners and trade name, if any;

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[1] Welch, Francis X., Cases and Text on Public Utility Regulation (1968 Rev. Ed.), at page 78. On the showings requisite to a utility's obtaining a certificate of public convenience and necessity, Welch concludes: "In short, it will have to demonstrate that it, as a utility business, could provide adequate service at a reasonable price." Id. (emphasis in original)

b. If a corporation incorporated under the laws of the State of Colorado, a copy of its Articles of Incorporation with all amendments to date certified by the Secretary of State of the State of Colorado. If an out-of-state corporation, a certified copy of its Articles of Incorporation and amendments to date, certified by the Secretary of State of its state of incorporation and attached thereto a copy of its authorization to do business in Colorado, certified by the Secretary of State of Colorado; or reference to filing if already on file with the Public Utilities Commission.

2. Description of type of utility service rendered or to be rendered and a written description of the area served or sought to be served; a map of the area sought suitably marked to conform with the written description in the application.

3. A feasibility study showing estimated investment, income and expense.

4. A copy of the proposed tariff showing the proposed rates, rules and regulations.

5. Evidence of financial ability to carry out operation contemplated in certificate request including a verified recent financial balance sheet, operating and earned surplus statement, if any, for a 12-month period ending as of date of balance sheet.

6. Names of public utilities of like character serving in or near the area sought in the application.

7. Statement that competent evidence will be presented at the hearing to show qualifications of applicant to conduct the utility operations sought in the application, and that public convenience and necessity requires the granting of the application.

8. In application to exercise franchise rights, also certified copy of franchise ordinance, proof of publication, adoption and acceptance by the company attached to the original application, number of customers served or to be served, population of city or town and any other pertinent information.

9. Application to transfer existing certificate of public convenience and necessity may be by joint or separate applications by the transferor and transferee containing attached copies of sales agreement or contract of sale together with all instruments pertaining to the transfer; also statement showing accounting entries, including any plant acquisition adjustment amount proposed, on the books by both parties before and after the proposed transfer, all in accordance with the Uniform System of Accounts prescribed by this Commission. Evidence that the transfer is in the public interest with an evaluation of benefits and detriments, if any, occurring to customers of both or all parties after transfer of certificate of public convenience and necessity as compared to cost and kinds of services rendered prior to transfer.

The reason for the requirement (as set forth in subparagraphs 3 and 5 above) that a utility demonstrate the economic feasibility of a major new project before issuance of a certificate of public convenience and necessity is obvious. The Commission ultimately has the duty to enforce dual statutory mandates that the utility charges be "just and reasonable" and that utility service be "adequate, efficient, just and reasonable." CRS 1973, 40-3-101 (1) and (2). If the Commission failed to scrutinize the expenses and revenues associated with major new utility construction and the financial fitness of the utility desiring to undertake the construction, before issuing certificates of public convenience and necessity, a utility which did not have the financial wherewithall could place the Commission in an untenable position. Having obtained a certificate of public convenience and necessity, but unable from borrowings or internal generation to complete or operate a project, a utility is likely to request the appropriate regulatory authority, in our case this Commission, to allow it through rate increases to raise the construction and operating capital it requires. If rate increases, necessary to raise construction and operating capital, put pressure on the statutory requirement of "just and reasonable" rates, CRS 1973, 40-3-101(1), the utility could threaten project abandonment, thereby jeopardizing "adequate and efficient" service CRS 1973, 40-3-101 (2), if the Commission declined to authorize the raises necessary to sustain construction, operating, and capital costs in connection with a new project. In order to avoid the untenable situation of having to choose between higher rates, which may not be just and reasonable, and project abandonment, it is necessary in the first instance for a utility to show that a particular project is feasible and that it has the financial ability to carry out the project for which a certificate of public convenience and necessity is sought. In short, the utility is required to present competent evidence upon

which the Commission can make a proper finding that the proposed project is economically feasible. International Union, United Mine Workers of America v. Public Utilities Commission, 170 Colo. 556, 561; 463 P.2d 465 (1970).

In its Statement of Position, the Gunnison River Coalition states (on page 6) that it specifically requested copies of Colorado-Ute's Appendix H. IV. A(3) feasibility studies in its Consolidated Interrogatories and Request for Production which it filed on April 8, 1981. According to the Gunnison River Coalition, Colorado-Ute answered in its responses served April 23, 1981:

> "Colorado-Ute furnishes herewith a copy of 1975 Loan Support Study, and has previously furnished to all parties of record on April 16, 1981, a copy of the 1978 Loan Support Study, which documents Colorado-Ute believes satisfy paragraph (iv) (A) (3) of Appendix H of the Commission's Rules of Practice and Procedure."

Neither the 1975 nor 1978 loan support studies were made a part of the application or offered as exhibits by Colorado-Ute in this proceeding. Colorado-Ute did attach an unverified balance sheet and statement of operations to the application herein. (Exhibit D and E to the application, respectively both dated August 21, 1981). However, we find that these two financial statements were neither current nor reflective of Colorado-Ute's present and reasonably foreseeable future financial condition.

The only financial witness presented by Colorado-Ute in this docket was Robert Vold, Colorado-Ute's vice president for finance and accounting. Mr. Vold sponsored no exhibits. His prepared testimony, exhibit D, was 5½ pages long, 1½ pages of which described his education, experience and corporate duties. At the conclusion of his few pages of prepared direct testimony, Mr. Vold concluded that Colorado-Ute had

> . . .successfully arranged financing for much larger projects and expect[ed] no particular difficulty in completing this project.

Exhibit D, p. 6. Such information as Mr. Vold was able to provide concerning the estimated costs of the proposed power line came from Colorado-Ute's manager of power systems and economic planning, Raymond Keith. Mr. Keith sponsored exhibit 14 which is a breakdown of estimated project costs and a divison of those costs between Colorado-Ute and WAPA. Mr. Keith devoted 7 lines of discussion in his 27 pages of prepared direct testimony to the subject of the project's costs, and none of this discussion dealt with revenue/expense analysis. Exhibit B, p. 25.

Mr. Vold confirmed on cross-examination that Colorado-Ute had experienced negative operating margins of slightly less than $7 million[2] for the 12 months ending December 31, 1980, and negative operating margins of slightly more than $7½ million[3] for the 12 months ending March 31, 1981. He also confimed that operating margins were negative for the 12 months ending June 30, 1981, although he was unable to supply the precise dollar amount. Consistent with these negative margins, Mr. Vold admitted, was a times interest earned ratio (TIER) of less than 1.0 for the same accounting periods. Mr. Vold acknowledged that Colorado-Ute's precarious financial condition since early 1980 persisted in spite of the Commission's allowance of very large rate increases to Colorado-Ute in early 1980 and in early 1981 -- 25% in the former year and 20% in the latter.[4] These increases, it is to be noted, were only the most

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[2]See also Colorado-Ute's 1980 Form 1 filed with the Commission at schedule page number 114.

[3]See also exhibit I to Colorado-Ute's securities application filed April 27, 1981, and docketed with the Commission as Application No. 33775-Securities.

[4]See Tr., vol. III, p. 42

recent in a number of increases Colorado-Ute has obtained since 1975. These increases took effect at an annual rate of 16.6% on a compound basis for 1975-1980[5] and ranged from 12.6% per year to 28.9% per year over the period[6]. Mr. Keith admitted that for 1981 the rate of increase in Colorado-Ute's wholesale rates to its members would be of a comparable magnitude (in excess of 15%).[7]

Against this record of financial decline accompanied by rapidly increasing rates, Mr. Vold on cross-examination discussed Colorado-Ute's $1.5 billion five year (1981-1985) capital requirements[8], requirements that themselves are more than three times as large as Colorado-Ute's total book assets of $516 million at the end of 1980.[9] These capital requirements would be met predominantly through debt borrowings, stated Mr. Vold which would require Colorado-Ute to incur ever increasing amounts of interest expense[10]; with margins increasing at a slower rate than interest expense, or margins actually continuing to be negative. Increasing interest expense, Mr. Vold conceded, could

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[5]See exhibit 62.

[6]See exibit 33 and Tr., vol. III, p. 41.

[7]See Tr., vol. III, p. 42.

[8]See exhibit 36.

[9]See Colorado-Ute's 1980 Form 1 filed with the Commission at schedule page number 110.

[10]Some of this expense in 1981, Vold agreed, could be traced to interest on borrowings for construction of Craig 3 ($125 million borrowed in 1981); construction of a $13 million headquarters control center ($2 million to be borrowed in 1981); construction of various projects in preliminary stages, including the power line proposed here and the proposed Tri-County Reservoir (up to $20 million to be borrowed in 1981 against $50 million authorized); and construction of Colorado-Ute's 20% share of the Hayden-Blue River transmission line (unknown 1981 borrowings).

have a severe impact on TIER. Acknowledging that Colorado-Ute's TIER has been less than 1.10[11] in recent periods, Mr. Vold agreed that Colorado-Ute's mortgage or indenture agreement with its principal lenders of past years -- the Rural Electrification Association (REA) and the Cooperative Finance Corporation (CFC) -- required Colorado-Ute to maintain a TIER above 1.0 in order to be considered eligible for credit.

Perhaps to alleviate its eroding margins and falling TIER, Colorado-Ute anticipates requesting rate relief in 1982, 1983 and 1984. Mr. Vold did not speculate on the size of the increases that Colorado-Ute would seek in those years; nor did he venture an opinion about the further rate relief Colorado-Ute would require beyond 1984. However, Staff witness Bruce Mitchell, an engineering analyst, on cross-examination, dicussed his Exhibit 46 which indicates that the proposed 345 KV line alone would precipitate revenue deficiencies for Colorado-Ute in excess of $20 million a year in its early years of operations. Mr. Mitchell considers it highly probable that Colorado-Ute will seek rate relief on a frequent basis after 1984 even if there is rate relief in 1982, 1983 and 1984.

Exhibit 14 sets forth a total construction cost for the proposed project of $243 million; these are said to be "escalated" 1983 dollars.[12] Colorado-Ute's share of the $243 million is shown on Exhibit 14 to be

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[11]Of course a TIER of 1.0 is less than what Colorado-Ute intends to achieve through rate increases. In its last rate case, Colorado-Ute's then executive vice president stated that a TIER of 1.92 was "the minimum needed in view of future financing requirements." I&S Docket No. 1474, Girts Krumin's pre-filed pages 15-16.

[12]Exhibit B, p. 26.

$168 million. On cross-examination Mr. Vold agreed that Colorado-Ute's $168 million share should actually be shown to be $20-$25 million higher to account for interest during construction.[13] This would push the entire project cost as high as $193 million. In response to questioning, Mr. Vold agreed that the cost of this project for Colorado-Ute -- whether estimated at $168 million or at $193 million -- in fact qualifies the proposed 345 KV line as the most expensive single project Colorado-Ute has to date undertaken.[14] Mr. Vold testified that sources of capital Colorado-Ute had drawn on in the past for long-term financing -- equity, pollution control bonds, and loans insured by the REA -- would be unavailable for the proposed power line project. For all but 10%[15] of its $188-$193 million share of the capital costs of the project, Mr. Vold stated that Colorado-Ute would have to seek a loan guarantee from REA[16] and actual loan proceeds from some other lending source. Such a source for Colorado-Ute in the past has been the Federal Financing Bank, but Mr. Vold expressed doubt (Exhibit D, page 6) that this institution could continue to supply funds under the loan guarantee program. Mr. Vold could name no other potential lenders that might make capital available to Colorado-Ute under an REA guarantee.

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[13]Presumably the $20-$25 million is based on a range of assumed interest rates of 12% (12% X $168 million = $20.1 million) to 15% (15% x $168 million = $25.2 million)

[14]Cross-examination revealed that the book value of a large Colorado-Ute transmission line like that from Craig to Rifle was under $15 million; that the book values of Craig 1 and 2 were $116 million and $102.5 million, respectively; and that as of year end 1980 Colorado-Ute had spent only $39.5 million construction work in progress (CWIP) on Craig 3. It is also worth noting that the capital costs on the proposed power line will have to be raised, and will be expended faster than Colorado-Ute heretofore has experienced on a major project. This is because of the project's tight two year timetable for material acquisition and construction (see exhibit 30, page 13).

[15]Mr. Vold testified that 10% of Colorado-Ute's share of the power line, when operational, would be devoted to the benefit of non-REA Act beneficiaries and thus 10% of project costs would be ineligible for the REA guarantee. Exhibit D, page 5,. The non-REA Act 10% Colorado-Ute would seek to obtain from CFC. Id.

[16]When it submitted its application, Colorado-Ute stated financing might in part come from REA-insured loans (App. No. 33226, p. 5, para. 6). Mr. Vold contradicted this claim.

As indicated above, Colorado-Ute, in its application, stated it would have an ownership interest in the San Juan 345 KV transmission line of between 65 and 70 percent, and that WAPA would have an ownership interest of between 30 and 35 percent. The exact parameters of WAPA's participation in the proposed line did not become clear throughout the course of these proceedings, and this lack of clarity stands out as one of the critical deficiencies in Colorado-Ute's proof of financial feasiblity. Colorado-Ute witness Vold claimed not to know whether Congress had even deliberated let alone approved, appropriations for WAPA's contribution of 30 to 35 percent of the total project costs. WAPA has not entered into a firm agreement to participate in the project, even though Colorado-Ute and WAPA were supposed to have executed a "definitive" contract before January, 1981.[17] Colorado-Ute's late president, Mr. Bugas, stated that Colorado-Ute itself would try to fund the entire project cost even if WAPA doesn't contribute.[18]

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[17]Exhibit 6, page 5, paragraph 11. No explanation has been offered by Colorado-Ute for its failure to come to terms with WAPA. As late as April 22, 1981, Mr. Bugas expected to have the agreement signed before May 21. See Ex. A, p. 22.

[18]Tr., vol. II, p. 58. Colorado-Ute, however, has offered no showing that it could do so and remain in compliance with the REA loan guidelines for non-Act projects. Those guidelines are set forth in exhibit 49 at page 13.

Mr. Vold's professed ignorance of WAPA's ability, readiness and willingness to contribute financially to the project is particularly disturbing in light of the impact of WAPA's participation on capital requirements for the project. As Colorado-Ute's witness Mr. Keith (Exhibit B, page 22) and the then executive vice president Krumins (Exhibit 30, page 1) have plainly stated, Colorado-Ute's needs for transmission capacity (even as Colorado-Ute sees them) could adequately be met by a single-circuit 345 KV line; WAPA's participation is the sole and exclusive reason for the proposal that the line be double circuit. Colorado-Ute's own Exhibit 12 shows that the cost per mile of a double-circuit 345 KV line is 80% higher than the cost per mile of a single-circuit 345 KV line ($500,000/mile vs. $275,000/ mile). Thus, WAPA's possible participation presumably has increased the project's capital requirements about 80%. If Colorado-Ute were to proceed with the double-circuit line and WAPA is not ready, willing and able to participate financially, Colorado-Ute alone would bear the burden of this 80% inflation of project costs. Yet, curiously, Colorado-Ute's senior financial officer apparently did not perceive a need to make even informal investigations of WAPA's ability to contribute capital.

Based upon Colorado-Ute's failure to present credible information with respect to the financial viability of the project, we find that Colorado-Ute, based upon the record, does not have the ability to finance, construct, or operate a project as costly and large as the proposed 345 KV double-circuit line while still providing adequate service at reasonable price levels. If the Commission were to authorize the proposed line herein, it is very likely that Colorado-Ute's members would be burdened with an annual regimen of major rate increases for years to come. We do not find that Colorado-Ute can make this project pay its own way, nor do we find that Colorado-Ute can absorb further fixed and variable costs on a major project of this magnitude without negative margins or an unacceptable TIER.

E. COLORADO-UTE HAS NOT PROVED A COMPELLING NEED FOR THE PROPOSED LINE IN ORDER TO SERVE ITS SOUTHWEST MEMBERS.

In the law of public convenience and necessity, "necessity" raises two questions. One is whether new or additional service is required. The other question, assuming the answer to the first is positive, is whether the particular system or facility proposed by the applicant utility is appropriate to the need. The distinction between the two inquiries was aptly set out by the court in Kentucky Utility Co. v. Public Service Commission, 252 SW. 2d 855 (Ky. 1952).[19] For a regulatory body to grant a certificate of public convenience and necessity, the court there stated, the body must first find a "need for a new service system or facility"; then, the court continued, the body must find "an absence of wasteful duplication resulting from construction of the new system or facility." 252 SW 2d at 890. The Kentucky court defined duplication in this context as:

> ". . .an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of properties."

Id. See Western Colorado Power Co. v. Public Utilities Commission, 159 Colo. 262, 304, 411 P.2d 785 (1966) [holding that Colorado's law on public convenience and necessity requires "that duplicating facilities requiring enormous investments should not be supported by the consuming public if they are unnecessary."]

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[19] In the case, the court overturned a commission decision approving a cooperative's proposal to construct 597 miles of new transmission line. Although the court agreed with the commission that additional transmission service was needed, it determined the commission had not considered the alternative of having utilities other than the cooperative expand their existing system to make it "adequate to serve all consumers at a cost much lower than the cost of two separate sets of lines." 252 SW 2d at 892.

Colorado-Ute here has proposed a double-circuit 345 KV transmission line with a nominal capacity of 1000 MW, 70% of which or 700 MW, is to be owned by Colorado-Ute.[20] The line will run from Rifle, Colorado to San Juan, New Mexico. The new line will not replace, but will be in addition to an existing WAPA 230 KV line and an existing Colorado-Ute 115 KV line also running from Rifle to the San Juan-Shiprock, New Mexico area. WAPA is planning to uprate the 230 KV Rifle-Shiprock line to 345 KV.[21] Thus, the Colorado-Ute-WAPA project proposed here cannot be viewed narrowly as the replacement of whatever existing transmission capacity there is in western Colorado by a new 1000 MW system. The proposed new 1000 MW system must be seen as an addition to existing capacity that will make available in two to three years, nominal carrying capability of from 1,273 MW to 1,623 MW in western Colorado as follows:

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[20]This assumes WAPA participates in the project and becomes entitled to 30% of the capacity. If WAPA cannot or will not participate, Colorado-Ute would own all 1000 MW of capacity.

[21]Exhibit 6, p. 4, para. 7; exhibit 16, p. 30; exhibit 28, p. 8; Tr., vol. II, p. 118. According to the cited reference in exhibit 6, Colorado-Ute is to be offered an opportunity to participate in the uprating and ownership of an uprated 345 KV WAPA line from Rifle to Shiprock.

	Nominal Maximum (MW)	Nominal Minimum (MW)	Reference
Colorado-Ute SW Colorado generation	73	73	Ex. 4, Ex. 5, last page[23]
Colorado-Ute 115 KV line	50	--	Ex. 4
WAPA Rifle-Shiprock line			
at 230 KV	--	200	Ex. 12
at 345 KV	500	--	Ex. 12
Rifle-San Juan-Line	1,000	1,000	Ex. 12
	1,623 MW[22]	1,273 MW[22]	

Colorado-Ute in the course of these proceedings has brought forth numerous formulations of "need" for its proposed 345 KV double-circuit line. Responsible application of the public convenience and necessity doctrine requires close examination of those formulations. It is necessary to determine, first, whether there is a need at all for improved transmission capacity in Colorado-Ute's western Colorado territory; and, then, to determine whether Colorado-Ute's proposed system addition is appropriate, given the regulatory duty to avoid "an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of properties." Kentucky Utility Co. v. Public Service Commission, supra, 252 SW 2d at 890. We shall address each

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[22] Minimum case assumes existing Colorado-Ute 115 KV line would be withdrawn from transmission service in southwestern Colorado and that WAPA reversed plans to uprate the 230 KV line to 345 KV. Additional capacity from series compensation is not considered here. Also, the capacities here are understated since the fact of existing interconnection of the WAPA 230 KV and the Colorado-Ute 115 KV lines gives the system greater than nominal capacity. Tr., vol. II, p. 22.

[23] Through 1989, the southwest Colorado local generation capability is shown on the last two pages of exhibit 5 as: Bullock 1 & 2 (12 MW): Tacoma-Ames (11 MW); Nucla 1, 2, 3 (36 MW); Collbran (13.5 MW). Colorado-Ute witnesses parenthetically have claimed that combined fixed and variable costs of the Nucla and Bullock plants are so high that the plants cannot economically be operated beyond 1989. See e.g., ex. B, p. 6. Actually, the 1980 combined fixed and variable power costs of Craig 1 were 35.84 mills/kwh and for Nucla were 31.72 mills/kwh. Colorado-Ute Form 12 Operating Report (1980), schedule 12(d).

of Colorado-Ute's stated needs for the proposed line in terms of those needs merits and in terms of whether investment in a 345 KV double-circuit line is a cost-effective way of addressing the needs. The various "needs" that have been mentioned by Colorado-Ute and/or its two members who intervened in support of the instant application may be grouped as follows:

Needs Related to Colorado-Ute's Southwest Transmission System

- Reducing line losses
- Improving voltage levels and voltage stability
- Improving reliability
- Meeting the demand growth of Southwest Colorado members in the 1980's

Needs "Secondary"[24] to Improving Southwest Colorado Transmission System

- Providing base transmission system for planned doubling or tripling of generation capacity in the 1980's
- Increasing the north-to-south transfer capability of the Colorado-New Mexico transmission system interconnection

[24] "Secondary" is Colorado-Ute's own description. Ex. A, p. 15; ex B, p. 10.

The Southwest Colorado Transmission System

Colorado-Ute has six members in southwestern Colorado.[25] According to Colorado-Ute's late president, Mr. Bugas, meeting the needs of those members "is what this case is all about."[26] The principal problem with meeting those needs is the difficulty of being able to transmit electricity a distance of some 100-200 miles from the Craig-Hayden complex in the north to where the southwest Colorado members take power in the south. The problem arose because some years ago Colorado-Ute made a corporate decision to locate its major generation addition for the mid-1980's in the north even though it knew that the southwestern load center would be its "critical" growth area.[27]

The existing north-to-south transmission path available to Colorado-Ute consists of its own 115 KV Rifle-New Mexico line and the 230 KV Rifle-New Mexico line of WAPA. Although according to exhibit 12 the nominal capacity of these lines would be 50 MW and 200 MW, respectively, for a combined capacity of 250 MW, the fact that they are interconnected at various points (see map in exhibit 2) means that operated in parallel they have considerably greater capacity.[28]

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[25] They are: Delta-Montrose, Empire, Grand Valley, Gunnison County, La Plata and San Miguel. See exhibit 8 and map in exhibit 1.

[26] Tr., vol. I, p. 198. Mr. Keith agreed. Tr., Vol. II, P. 197.

[27] Colorado-Ute explicitly recognized as early as 1975 (in its 1975 Loan Support Study) that the southwest load center would require either additional transmission or additional generation capacity in the early-to mid-eighties because of its projected exceptional growth. Tr., vol II, p. 194, p. 196. It conducted the planning process for location of the unit that would follow Craig 1 and 2 in the 1-2 years following 1975. Tr., vol. II, p. 194. In that planning process Colorado-Ute management expressly considered and expressly rejected building the next unit in the southwest. Tr., vol II, p. 195. Colorado-Ute elected to locate its next unit in the north where Craig 3 is under construction today.

[28] Tr, vol. II, p. 22. The interconnection is pursuant to contract for the mutual benefit of Colorado-Ute and WAPA. Exhibit A, p. 14.

In recent years, Colorado-Ute has been able to rely on WAPA's parallel 230 KV system in the southwest to meet member loads at peak when Colorado-Ute's own 115 KV line and Colorado-Ute's local southwest generation capacity -- some 73 MW[29] -- prove inadequate. At peak in 1980, Colorado-Ute used 50 MW of capacity on WAPA's parallel line.[30] WAPA's parallel line will be available to Colorado-Ute for back-up at peak in the southwest until at least 1983.[31]

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[29]See exhibit 4; exhibit B, p. 6.

[30]Tr., vol. II, p. 22.

[31]Id. WAPA has never indicated to Colorado-Ute that its 230 KV line could not be available beyond 1983. Tr., vol II, p. 25.

1. Line Losses

There is no evidence in the record that losses of power and energy on WAPA's 230 KV line are significant. There is evidence, however, that transmission losses on Colorado-Ute's 115 KV line are excessive, perhaps in the range of 8%[32] although Colorado-Ute has provided no systematic demonstration of line loss levels. Colorado-Ute's late president, Mr. Bugas, agreed that line losses in southwest Colorado -- whatever their level -- have been reduced as a result of a new WAPA-Colorado-Ute transmission system interconnection at Lost Canyon and can be somewhat mitigated by operation of the Nucla station.[33] Nevertheless, it could well be that losses will remain excessive on the 115 KV line without some corrective action.

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[32]See testimony of Delta-Montrose witness Potter, Exhibit E, p. 16.

[33]Tr., vol. II, pp. 18-19. Empire's Mr. Johnson testified the Lost Canyon interconnection was in service as of July 15, 1981.

2. Voltage Levels And Voltage Stability

Again, there is no evidence of problems on WAPA's 230 KV line with voltage levels or voltage stability. Again, Colorado-Ute has offered no quantification of the magnitude of any voltage problems on its 115 KV line, although its witnesses allude to such problems in their narratives. Mr. Johnson of Empire described voltage regulation problems experienced on Empire's system in the last year.[34] Both he and the late Mr. Bugas[35] agreed these voltage problems have been directly addressed and solved by the new Lost Canyon WAPA-Colorado-Ute interconnection. Mr. Potter said that Delta-Montrose had voltage problems at the Montrose substation. To the extent shunt capacitors cannot alleviate Delta-Montrose's problems, some corrective action may be necessary.

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[34] Exhibit F, p. 3 ff.

[35] Tr., vol. II, p. 18.

3. Transmission System Reliability

The late Mr. Bugas denied that there was a reliability problem on either Colorado-Ute's or WAPA's southwest transmission system.[36] The Staff made inquiries about sustained forced outage rates on the line over the three years, 1978-1980; the inquiries revealed that in 1980, the only year in which the rate was unusually high, the cause was vandalism, and there was no "technical deficiency."[37] To the extent reliability has been an issue in this case with respect to Colorado-Ute's southwest system, it has been in the context of what Mr. Keith called the "sacrifice of reliability" associated with Colorado-Ute's proposed new double-circuit line, i.e., an "occurrence or disaster that would cause one tower to go down would cause us to lose both circuits."[38]

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[36]". . .[W]ithin the limits of operation of the system I think it is very reliable." Tr., vol. II, p. 15

[37]Tr., vol. III, p. 78.

[38]Tr., vol. III, p. 54.

4. Member Demands In The 1980's

In truth and in fact, Colorado-Ute's case for the need for additional transmission capacity in the service areas of its southwestern Colorado members rests on its projections of member load growth through the 1980's. Those projections are a matter of wide disagreement in this record, for Colorado-Ute's projections significantly exceed those of the two other witnesses in the case who prepared projections. The difference in the projections is illustrated below.

Southwest Colorado Member Load Projections

	Colorado-Ute[39]	Staff Member Mitchell[40]	Coalition Witness Dr. Shah[41]
1980 (actual)	170.2 MW	--	--
1984 (projected)	338.1MW	275-314 MW	227.9-277.9 MW
1989 (projected)	508.0 MW	472 MW	291-412.5 MW

Colorado-Ute prepared its projections of member loads by conducting a "power requirement study." Exhibit 9, the 1980 Power Requirement Study Report, was sponsored by Mr. Keith to illustrate the methodology and result of Colorado-Ute's projections. Preparation of Colorado-Ute's power requirements study, Mr. Keith admitted, followed a set of procedures outlined by REA in the latter's Bulletin 120-1.[42] The procedures began with the prepar-

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[39] Exhibit 8.

[40] Ex. G, p. 9 and ex. 44. Mr. Mitchell projected no range for the year 1989.

[41] Ex. J. pp. 36-38. Dr. Shah's ranges are with (high) and without (low) the following new industrial loads: AMAX, Shell-Mobil, Homestake and C-b Tract. Ex. J, p. 10.

[42] Tr, vol. II, p. 200. Bulletin 120-1 appears in the record as exhibit 32.

ation by Colorado-Ute of what Mr. Keith agreed was a "fairly mechanical"[43] set of least squares projections of the power requirements of each member's residential and small commercial customers based on trending of historical data from the 1970s. Colorado-Ute then turned its least squares projections over to the members, who may have modified those projections and who, in addition, estimated the future loads of their own large commercial and industrial customers.[44] In addition, according to Mr. Keith, in the course of the power requirement study Colorado-Ute and its members:

> . . .contacted large commercials concerning their long-range power and energy requirements. . .; conducted surveys in the residential class. . .; performed studies on the effects of price elasticity on electrical use; and analyzed and included the effects of conservation.

Exhibit 9, pp 2-3. A brief anaysis of Mr. Keith's statement follows.

a. Contacts Of Large Commercials

A major contributor to increased power demands in 1984 and 1989 in Colorado-Ute's projections is the addition of new large industrial or commercial customers. Nineteen of the largest of these potential new customers are shown on exhibit 13 to exhibit 9; they alone account for the addition of 294.5 MW of demand on the system (in Colorado-Ute's projections) in 1989 that did not exist in 1979. Mr. Keith testified that he talked with six of these nineteen customers, although he was unable to find any notes or memoranda concerning his contacts.[45] Under REA guidelines

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[43] Tr., vol. II, p. 204.

[44] Tr., vol. II, p. 205.

[45] Tr., vol. II, p. 6.

for the preparation of power requirements studies, Mr. Keith admitted, the loads of large industrial/commercial customers such as these are not supposed to be included in power projections unless those loads are already "known or contracted."[46] Nevertheless, Mr. Keith was unable to identify one customer of the nineteen large "potentials" in exhibit 13 to exhibit 9 that was under contract for power either in 1984 or 1989.[47] The late Mr. Bugas was able to say that one of those customers, AMAX-Mt. Emmons (35 MW in 1989), definitely was not under contract;[48] Mr. Johnson of Empire Electric noted that another, Shell-Mobil (60 MW in 1989) still was not under contract; public witness David Sumner related that another, Homestake Mine (6 MW in 1989), had indefinitely postponed its project;[49] and Mr. Keith admitted that still another, C-b tract, while scheduled by Colorado-Ute to demand 100 MW in 1989, actually was itself considering not only the generation of its own power but also selling back to Colorado-Ute up to 80 MW[50]. There is no hard evidence in the record, to say nothing of even such soft evidence as notes of hearsay conversations, by which the projected load of any potential Colorado-Ute member large customer can be scrutinized for accuracy and reliability.

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[46]Tr., vol II, p. 208; exhibit 32, p. 4; Tr., vol. III, p. 4.

[47]Tr., vol. III, p. 6.

[48]Tr., vol. II, p. 115.

[49]Tr., vol I, p. 79.

[50]Tr., vol. III, p. 9.

b. Conduct Of Surveys In The Residential Class

Exhibit 9 to the contrary notwithstanding, Mr. Keith admitted on cross-examination that neither Colorado-Ute nor any Colorado-Ute member had done anything like an engineering end-use survey or appliance saturation study because it was "impossible for them to do so."[51] In an attempt to support Mr. Keith, Delta-Montrose brought on Mr. Potter to declare that his utility had done a substitute for a real saturation study because a real one, even though REA recommended it, "would not be appropriate. . . in a winter peaking system such as Delta-Montrose's."[52] Mr. Potter then had to be reminded that he had said nothing about the "inappropriateness" of an engineering end-use forecast for Delta-Montrose when he had submitted the latter's own actual power requirement study to REA. At that time he had said nothing about winter peaks; he had simply admitted Delta-Montrose neither had the time nor the money to do a real appliance saturation survey.[53] Neither Colorado-Ute nor its two member-supporters in this case offered any quantified or quantifiable data reflecting the impact of any saturation studies on Colorado-Ute's 1984 and 1989 projections.

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[51] Tr., vol. III, p. 14.

[52] Exhibit E, p. 8.

[53] Exhibit 70, p.9

c. Studies On The Effects Of Price Elasticity

Mr. Keith could identify no price elasticity study prepared by a Colorado-Ute member; Colorado-Ute's own such study, Appendix C to Exhibit 9, is the only one in the record.[54] Colorado-Ute's study, assuming a rate of increase in its own wholesale rates of 9% per year through the 1980s, concluded that the price of electricity would have no impact on reducing demand for energy in the 1980s unless something unforeseen were to reverse the trend of the 1970s.[55] Colorado-Ute's study assumed a 9%/year increase in its own wholesale price of electricity during the 1980-1990 time period even though its data showed those wholesale rates had increased at a compound rate of 16.6%/year from 1975-1980 and its members' retail rates increased at a rate of 12.6%/year during the same period;[56] even though its own wholesale rate was to increase more than 15% in 1981[57]; and even though its chief financial officer had no qualms about admitting that Colorado-Ute would seek Commission-authorized rate relief annually at least through 1984.[58]

No economist assisted or participated in the Colorado-Ute elasticity study.[59] The Coalition's Dr. Reading critiqued the study. Dr. Reading, a Ph.D. economist, was qualified as the only expert in this docket in statistics, econometrics and economic forecasting. Among the many flaws Dr. Reading observed in Colorado-Ute's elasticity study was the study's absurd prediction that "as the price of electricity went up, people would tend to use more."[60] A result such as this, Reading opined, was at such variance with economic theory and common

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[54] Tr., vol. III, pp. 16-17
[55] Tr., vol. III, pp. 38-39; Ex.9, Appendix C, p.16
[56] Ex. 62
[57] Tr., vol. III, p.41
[58] Testimony on July 14, 1981
[59] Tr., vol. III, p.47
[60] Ex. H, p.7

sense that Colorado-Ute should have known it had fundamental data and/or statistical problems with its model.[61] Dr. Reading concluded a properly formulated model would indeed have found price elasticity exercising an effect on demand in the 1980s; Colorado-Ute's study, he said, was so flawed it would have to be reformulated to be useful.[62]

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[61] Id.

[62] Ex. H, p. 9. On rebuttal, Colorado-Ute witness Krumins, an engineer-attorney who last took an economics course in college 20 years ago and could not define "econometrics," tried to show that in his critique of Appendix C Dr. Reading had incorrectly calculated a rate of real price increases of 10-11% per year for the 1980s. To get 10-11%, Dr. Reading subtracted an inflation rate for 1975-80 of 7.5% from an average Colorado-Ute annual wholesale price increase rate over 1975-1980 of 18.7%. Ex. H. p. 10. Subtracting an inflation rate of 8.9%/year instead of 7.5%/year as Mr. Krumins suggested was proper, would not change the result of Dr. Reading's calculation. Although in its study Colorado-Ute subtracted an inflation rate from an assumed rate of annual increase in its wholesale prices (of 9%) over the 1980s to derive a rate of real price increases, Krumins suggested on rebuttal that Dr. Reading should have subtracted the inflation rate from the rate of retail price increases to get the rate of real price increases. If Dr. Reading had done so, he might have taken the 8.9% inflation rate suggested by Mr. Krumins in Exhibit 61 from the 12.6% 1975-1980 compound annual rate of increase in Colorado-Ute's members' retail prices (Exhibit 62) to get a real price rate of increase of about 4%. This is less than the 10% rate that would result from proper application of Colorado-Ute's own methodology but still significantly greater than Colorado-Ute's 0 - .5% predicted annual rate of 1980-1990 real price increases.

d. Analysis Of The Effects Of Conservation

On cross-examination, Mr. Keith admitted that neither Colorado-Ute nor its members had attempted to quantify demand or energy savings from a single conservation practice or renewable energy source in the decade of the eighties. Colorado-Ute's 1980 Power Requirements Study specifically took no consideration of the effect of conservation measures such as member distribution of hot water heater blankets, water flow restricters or electric outlet gaskets.[63] It identified no potential source of cogeneration or small power production that could either reduce load or the need for Colorado-Ute's own generation, or both.[64] And it made no adjustment for the saturation of solar hot water heating through the members' service areas.[65] In short the Colorado-Ute power projections quantified absolutely zero reduction in demand or energy on its and its member systems through 1990 due to any load management or conservation policy. Thus, we find that Mr. Keith's claims about the comprehensiveness of the data inputs of Colorado-Ute's power requirements study is less than meaningfully accurate.

When all is said and done, Colorado-Ute's 1980 Power Requirements Study must be acknowledged as no more, no less than what Dr. Reading characterized it to be: the outcome of a "rubber ruler"[66] process of mathematical straightline trending of historical data with seat-of-the-pants guesses and judgments to "bend" the ruler here and there. Colorado-Ute's own exhibits show that this method of rubber ruler forecasting has consistently over-projected since 1975. Exhibit 5 and exhibit 8 to the 1980 Power Requirement Study (itself official exhibit 9) pictorially display the way Colorado-Ute's 1977 projections consistently exceed even its 1980

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[63] Tr., vol. III, p. 18.

[64] Tr., vol. III, p. 19.

[65] Tr., vol. III, p. 20.

[66] Ex. H, p. 5.

ones. This is because the rubber ruler approach used by Colorado-Ute depends so heavily on trending historical data and obviously, as Mr. Keith admitted, the 1980 projections have more historical data relevant to the period 1980-1990 than the projections prepared in 1977 could have.[67]

Mr. Mitchell of the Staff concluded that Colorado-Ute's study "essentially used judgment coupled with trends of customers and average consumption per customer to derive the forecast."[68] Mr. Mitchell found Colorado-Ute's projections of southwest Colorado member loads in the past had consistently over-projected more than the projections of load growth by other Colorado utilities had,[69] and as a result he felt compelled to reduce Colorado-Ute's 1984 southwest member demand projection from 338 MW to a range of 275 MW - 314 MW.[70] Dr. Reading, as an economic forecasting expert, was forced to conclude that the 1980 study "should be rejected as a basis for making judgments about the future needs in Colorado-Ute's area" and "should not be used for planning purposes."[71]

While Dr. Reading critiqued Colorado-Ute's 1980 Power Requirements Study and Mr. Mitchell ventured an alternative to the study's 1984 southwest local projections simply because he "had as much faith" in his own judgmental estimates as in Colorado-Ute's,[72] the Coalition's witness, Dr. Shah, actually prepared an alternative forecast to Colorado-Ute's as the result of a load-resource analysis. Dr. Shah, a Ph.D. electrical engineer with twenty years experience working for industry and government, was qualified as an expert in power engineering, electrical load forecasting and electrical transmission system design and planning.

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[67] Tr., vol. III, p. 29.
[68] Ex. G, p. 10.
[69] Ex. 44.
[70] Ex G, pp. 9-10.
[71] Ex. H, p. 11.
[72] Ex. G, p. 10.

Because Colorado-Ute and its members possessed no "credible" studies of the effect of energy conservation, price elasticity or load management on consumption or demand through the 1980s, Dr. Shah did not build adjustments for those phenomena into his forecast, even though he felt the phenomena would deflate actual power and energy requirements.[73] Dr. Shah did, however, examine the separate 1980 power requirements studies of Colorado-Ute's eight western area members[74] as well as the data sheets for each Colorado-Ute member's individual power requirements study in appendix D to exhibit 9;[75] he also revised Colorado-Ute's 1980-1990 population estimates for the southwest members by pinning those estimates to data generated by the state demographer for counties and incorporated places.[76] Finally, Dr. Shah systematically quantified demand and energy savings certain to occur in the 1980s due to certain technological and economic developments with which he was familiar both by training and by consulting

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[73] Ex. J, pp. 5-6.

[74] They are listed at p. 33 of ex. J and include, in addition to the "southwest" members, White River and Yampa.

[75] Ex. J, p.6.

[76] Colorado-Ute's Mr. Krumins admitted on rebuttal that engineers untrained in demography (a discipline Mr. Krumins claimed never to have heard of) disaggregated the state demographer's data to produce their own population projections for Colorado-Ute's members.

experience: improvements in motor efficiency, industrial power factors, lighting system design and building energy performance standards.[77] Thus, although his analysis used the same raw historical statistical data for each member that Colorado-Ute used; i.e. the same consumption and customer class data, Dr. Shah quantified some of the factors that, as Dr. Reading testified, would make the 1980s so different from the 1970s that mechanical trending of data from the latter decade inevitably would lead to gross over-projections. Recognizing that a significant proportion of Colorado-Ute's projected demand for the southwest members in 1984 and 1989 was made up of estimates of demand for "potential" large commercial/industrial customers not under contract, Dr. Shah produced a low estimate (excluding those loads) and a high one (including them) for each year.[78]

F. COLORADO-UTE EXISTING GENERATION AND TRANSMISSION RESOURCES ARE SUFFICIENT TO MEET THE NEEDS OF ITS SOUTHWEST MEMBERS INTO THE MID TO LATE 1980's.

1. Generation Capacity

After completion as scheduled in 1983 of the Craig 3 unit now under construction, Colorado-Ute projects its 1984 capacity will be 1,076 MW. Thus, with Craig 3 on line, Colorado-Ute will have more than adequate net generation and firm power through 1984 to meet even its own

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[77] Ex. J, pp. 36-38.

[78] Ex. J, pp. 36-38.

projections of 1984 member demand. This includes the projected demand of Colorado-Ute's 14th member, Intermountain Rural Electric Association (Intermountain).[79]

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[79]This was established in lengthy examination of the late Mr. Bugas (beginning at Tr., vol. II, p. 204) in which net generation for the pre-1980 13 members (exhibit 25) was compared to the projected coincident demand of the pre-1980 13 members (exhibit 3 to official exhibit 9); supplemented by examination of the late Mr. Bugas on the projected demands and available firm power for meeting the needs of Intermountain, the new 14th member (See exhibit 26). The latter examination showed that pursuant to contract with WAPA and Public Service of Colorado, Colorado-Ute in 1984 expected to have at least 135 MW of firm power to meet what the late Mr. Bugas agreed was an overstated projection of Intermountain's 1984 projected demand coincident with the 13 member of 187 MW. See Tr., vol. II, pp. 10-11.

Colorado-Ute plans to have two new large 400 MW units in addition to Craig 3 in place by 1989. If those units are built and in place, Colorado-Ute can easily meet even its own high 1989 projections of member demands.[80] Even if those two units are not built, Colorado-Ute's capacity in 1989 will be more than adequate to meet Dr. Shah's 1989 demand projections.[81] Various resource-demand comparisons appear below.

SUMMARY RESOURCE (CAPACITY) ANALYSIS

Year	MW Available Capacity	DEMAND (MW) Colorado-Ute	DEMAND (MW) Shah	% RESERVES Colordo-Ute	% RESERVES Shah
1984	1,076.5	766.9	603.72	40%	78%
1989 (with 2 SW units)	1,916.5	1,195.8	818.67	60%	134%
1989 (without 2 SW units)	1,076.5	1,195.8	818.67	(10%)	31%

Note: (1) Capacity figures from last 2 pages of exhibit 5; (2) Colorado-Ute's demand figures from exhibit 3 to exhibit 9; (3) Shah's figures from exhibit J, p. 35. All figures are for 13 members exclusive of Intermountain and potential firm capacity sales.

[80] Colorado-Ute's 1989 capacity projection is 1,916.5 MW. See same sources as in preceding footnote.

[81] See p. 35 of exhibit J, as corrected.

2. Transmission Capacity

At no point in its direct case did Colorado-Ute through witness or exhibits state precisely what its southwest area transmission capacity would be in future years. The late Mr. Bugas stated that the existing southwest system is adequate, with WAPA back-up, to meet Colorado-Ute's own projections of southwest member needs through 1983.[82] This supports an inference that WAPA will have backup capacity at Colorado-Ute's peak in 1983 in excess of 150 MW on its 230 KV line (the nominal capacity of which according to exhibit 12 is 200 MW).[83] That WAPA has so much capacity available of course throws doubt on the persistent (and persistently undocumented) hearsay assertion of Colorado-Ute's witnesses[84] and third-hand exhibits[85] that WAPA's line is already "fully loaded." More significantly, it suggests that the actual capacity of the southwest transmission system currently available to Colorado-Ute is in the neighborhood of 300 MW.

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[82]Tr., vol. II, p. 22.

[83]Colorado-Ute's southwest members' peak can be calculated to be 291.4 MW from ex. 3 to ex. 9. Subtracting the nominal 50 MW of capacity in Colorado-Ute's 115 KV line and the 75 MW of southwest generation (see ex. 4) leaves 178.4 MW that must be provided by WAPA at the 1983 peak.

[84]For example the late Mr. Bugas at p. 20 of exhibit A.

[85]For example the draft of the Draft E 19, ex. 16, at p. 26.

An inference to this effect finds support in the testimony of Mr. Mitchell. Relying on Yampa Project documents supplied by Colorado-Ute in discovery but not entered by Colorado-Ute into evidence, Mr. Mitchell concluded that the existing southwest system had effective carrying capability of 306 MW. Given his certainty that Colorado-Ute had over-projected its loads, Mr. Mitchell concluded unequivocally that the existing transmission system without any upgrading at all could meet the needs of Colorado-Ute's southwest members through 1985-1986.[86] Mr. Mitchell also testified that series compensation applied to WAPA's 230 KV line could immediately add 20 MW of additional capacity; and that more elaborate series compensation on that line, if found feasible after a 6-12 month study, could add 100 MW of capacity.[87] This would give the southwest system a capability in the neighborhood of 450 MW (325 MW now plus 120 MW through compensation) without the addition of a single new line. That 450 MW of capacity could, according to Colorado-Ute's own projections, almost meet the southwest members' requirements until the winter of 1987-1988;[88] and could meet even the high estimate of 412.5 MW for the winter season of 1989-90 of Dr. Shah.[89]

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[86] Ex G, p. 10-11. This estimate did not consider the effects of this amount of load in the southwest Colorado area on the ability to transfer power to the Arizona-New Mexico area. The necessity to transfer energy to the Arizona-New Mexico area during peak load periods in southwest Colorado is debatable because of the power exchange agreement between WAPA and the Salt River Project. A sensitivity analysis of the capability of the existing transmission system to provide for increasing southwestern Colorado loads as well as probable schedules of generation, including transfers of energy to the Arizona-New Mexico area was not entered into evidence by Colorado-Ute.

[87] Tr. vol. 5, page 79-80. We find it is appropriate to take into account transmission capacity of WAPA even though WAPA is neither regulated by nor an applicant before the Commission. See Western Colorado Power Co. v. PUC, supra, 159 Colo. at 303-304.

[88] 1987 southwest demand is 463 MW according to Exhibits 3-9.

[89] Ex. J., pp. 36-38.

We find that Colorado-Ute failed to prove that the existing transmission system, with construction of some modifications significantly less extensive than the proposal of Colorado-Ute herein, could not meet the needs of the southwestern members into the late 1980's.

G. COLORADO-UTE SHOULD PERFORM FEASIBILITY STUDIES TO DETERMINE COST EFFECTIVE ALTERNATIVES TO ITS PROPOSAL HEREIN WHICH WILL MEET THE REALISTIC TRANSMISSION NEEDS OF ITS SOUTHWESTERN SYSTEM.

Colorado-Ute's Mr. Walker, agreed that the only systematic evaluation of alternatives to a 345 KV double-circuit line that Colorado-ute performed was set forth in the 4½ pages of text in the environmental analysis (exhibit 15, p. B-2, pp. B-5 through B-8). The alternatives reviewed were:

1. No action
2. Reduction of Project Need through Conservation
3. Purchase of Power
4. Noncentralized Generation Facilities
5. Rebuilding existing Transmission Lines
6. Installing Series Compensation

Each was rejected with cursory comment. Colorado-Ute performed no studies of the feasibility of any of the alternatives; nor did WAPA; nor did Colorado-Ute's engineering consultant in the environmental review process; nor did the REA, the project's potential funder.

The Staff, as well as the Coalition's witness, Dr. Shah, suggested several transmission system design alternatives that Colorado-Ute apparently did not consider. Dr. Shah was qualified in this docket as an expert in transmission line planning.

He proposed modifications to the existing southwestern Colorado transmission system which, by creating five new loops, or electric beltways, in his judgment would both increase system reliability and augment capacity to handle southwestern Colorado demands for 1989 and beyond. Dr. Shah believes his alternatives would do so at a cost of less than $15 million, compared to Colorado-Ute's $193 million share of the project.[90]

Dr. Shah's principal alternative had three components. The first component was to construct a 230 KV line from Cameo to Grand Junction with a 230 KV/115 KV transformer at Grand Junction. The second component was to construct a new 230 KV line to Delta along with a new 230 KV switching station on the Rifle-Curecanti 230 KV line with a 230 KV/115 KV transformer at Hotchkiss. The third component was either to install series capacitors on WAPA's 230 KV line from Curecanti to Shiprock;[91] or to build a new 115

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[90] Ex. J. pp. 12-13.

[91] Mr. Mitchell testified this step alone could add 100 MW of capacity.

KV line from Lake City to Durango. Dr. Shah priced his alternative proposal at $12,590,000.[92] If Colorado-Ute seriously considered his alternative or any other similar one, the record herein fails to indicate it. No competent evidence was presented to rebut the feasibility of this alternative.

The testimony of Mr. Weaver (exhibit I), sponsored by Dr. Reading, recited numerous conservation-based strategies that Colorado-Ute and its members have rejected without study. Dr. Reading urged that Colorado-Ute not be allowed to expand bulk transmission capacity on the premise that future demand would require that capacity until Colorado-Ute had exhausted the demand/energy saving potential of these conservation measures.

Dr. Shah recommended as well that Colorado-Ute seriously consider construction of decentralized "peaker" plants in the southwest load center.[93]

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[92]The ability of the Cameo - Grand Junction and Rifle - Curecanti 230 KV lines to provide capacity for southwestern Colorado loads was not rebutted by any competent evidence pertaining to the cost, concept, or feasibility of this alternative.

[93]Ex. J. p. 12.

Peakers, Dr. Shah said, could meet Colorado-Ute's shorter term southwest power requirements at a cost, even if they burned oil, substantially less than the cost of the "excessive" transmission line losses Colorado-Ute and its members in the case complained of.[94] Dr. Shah's decentralized peaker approach was also endorsed by Dick Wingerson, a nuclear and chemical engineer with interests in energy resources.[95] Colorado-Ute by contrast, did not produce a study or evidence in support of its decision to reject the peaker option.

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[94] See Ex. E, p. 16.

[95] Tr., vol I, p. 61, pp. 65-66.

The Staff, too, has recommended alternatives. In the Staff's view, Colorado-Ute:

> . . .has not really attempted to demonstrate the economic consequences or advantages to the power system of the proposed course of action [double-circuit 345 KV line]. Instead [Ute] has almost exclusively relied on the results of technical engineering analysis to provide justification for the proposal. The consideration of alternatives, either of long or short term nature, wasn't adequately addressed.

Exhibit G, page 5 (emph. supplied). When the Staff asked Colorado-Ute for an economic analysis of alternatives, what the Staff obtained according to Staff witness Mitchell, was "a long subjective narrative on the advantages of the proposal as advanced by [Ute] with very little information concerning specific alternatives." Id. In light of the inadequacy of Colorado-Ute's analysis of alternatives, the Staff specifically proposed several of its own.

One of the Staff's recommendations was that Colorado-Ute and WAPA pursue the possibility of series compensation of WAPA's 230 KV line south of Delta to add 100 MW of capacity. Ex. G, page 13. Mr. Mitchell stated that the studies required to ascertain the feasibility of this proposal (mainly in light of possible subsynchronous resonance) could be performed in 6-12 months; he also opined that Colorado-Ute could continue to meet its southwest member needs through 1986 with no upgrading of the existing system. Thus, Colorado-Ute could easily study series compensation through calendar 1982 and still have time, if technical analysis proved series compensation not feasible, to take other steps responsibly to meet southwest member needs.

North of Delta, the Staff has also endorsed an alternative to Colorado-Ute's proposal. The Staff would simply follow uprating of the existing Rifle-Cameo 230 KV line (owned by Public Service Company of Colorado) to 345 KV with construction of a short, new line from Cameo to Delta and another from Curecanti to Montrose -- all of course, with appropriate substations. Cf. exhibit G, pp. 15-16. The Staff has documented that its alternative proposal north of Delta would cost somewhat less than

Colorado-Ute's proposal north of Delta. See exhibit 47. Thus, both Dr. Shah and the Staff recognized the existence of transmission system planning alternatives that Colorado-Ute rejected without any meaningful study.[96]

The Commission, at this time is not endorsing any of the alternatives discussed in this Decision. However, the Commission assumes that Colorado-Ute will re-evaluate the various alternatives which may be utilized in realistically forecasting and meeting the transmission needs of its Southwestern system members. In undertaking this re-evaluation, Colorado-Ute should perform feasibility studies with regard to the various alternatives, and be prepared to present the same to the Commission in any future certificate proceeding involving the transmission needs of its Southwestern members or other members.

In Decision No. C81-1198, issued July 7, 1981, in Case No. 5693, the so-called generic case, we indicated that we were greatly encouraged by the activities of Colorado utilities in the area of power pooling. Power pooling, of course, involves both generation and transmission. That being the case, it should be clear that this Commission is not opposed to appropriate interconnection capability of Colorado-Ute with other utilities. However, our endorsement, and even encouragement, of power pooling does not equate to an acquiescence in the concept of Colorado-Ute being a future energy broker for the Western United States. It is not necessary for us, in this docket, to reach any conclusion, accepting or rejecting the claim put forth in this case by the Coalition that Colorado-Ute envisions itself as a regional power energy broker for the Western United States. Nevertheless, we wish to make it perfectly clear that our concept of power pooling and transmission interconnection does not carry with it any implied acquiescence of the concept that Colorado-Ute, or any other utility, should play the power-broker role.

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[96]Tr. vol. III, p. 105-106.

Power pooling, and the necessary transmission interconnections which go with it, is designed to render reliable service at less cost than if individual utility members operated independently of a pool. In other words, once reliability has been assured in a power pool, the primary motive becomes the reduction of costs in the construction and operation of the members' power systems. Power pooling results in the reduction of production costs through the conservation of fuel and capacity, and the increase in reliability of the bulk power system. The essence of power pooling is mutuality. Export of energy, on a more or less permanent basis, is not what we envision as being a regular feature of appropriate power pooling. To the extent that strengthened transmission facilities interconnecting with other utilities can be of material benefit to Colorado-Ute's members' systems, Colorado-Ute should be prepared to demonstrate the same by clear and competent evidence in any future certificate proceeding.

H. Denial of Intervention

With respect to the exceptions filed by Colorado and National Wildlife Federation, the Commission states and finds that the Examiner's denial of intervention and party status to those potential intervenors was within his discretion and judgment under the factual circumstances considered by him and will not be disturbed.

C O N C L U S I O N

Premises considered, we find that Colorado-Ute, in this docket, has not shown that its proposed 345 KV San Juan Transmission Line is financially and operationally feasible in meeting the needs of its Southwestern distribution members. Accordingly, we are unable to find and conclude that the public convenience and necessity requires the line as proposed by Colorado-Ute in this docket.

An appropriate order will be entered.

O R D E R

THE COMMISSION ORDERS THAT:

1. Application No. 33226, being the application of Colorado-Ute Electric Association, Inc., for a certificate of public convenience and necessity to construct, operate and maintain a 345 KV transmission line and related substation facilities, located in nine counties in Western Colorado and one county in New Mexico, such facilities collectively to be known as Rifle-San Juan 345 KV Transmission Line, be, and hereby is, denied.

2. The exceptions filed by the Colorado and National Wildlife Federation on December 3, 1981, be, and hereby are, denied.

3. The exceptions filed by Gunnison River Coalition and Wrights Mesa Electric Consumers Association on December 3, 1981, be, and hereby are, granted to the extent the same are consistent with the Order and Decision herein and in all other respects the same be, and hereby are, denied.

This Order shall be effective twenty one (21) days from the day and date hereof.

DONE IN OPEN MEETING the 5th day of February, 1982.

THE PUBLIC UTILITIES COMMISION
OF THE STATE OF COLORADO

Edythe S. Miller

Daniel E. Muse

L. Duane Woodard

Commissioners