SW/NB *

Decision No. 85566

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application of SOUTHERN CALIFORNIA EDISON COMPANY for a certificate that the present and future public convenience and necessity require or will require construction and operation by applicant of the Nos. 1 and 2 220-kv transmission lines from Coolwater Generating Station to Kramer Substation.	Application No. 53602 (Filed September 25, 1972)

Rollin E. Woodbury, Robert J. Cahall, and William E. Marx, by Hobart D. Belknap, Jr., Attorney at Law, for applicant.
Stanford C. Shaw, Attorney at Law, for himself and informally for neighbors, protestants.
Vincent MacKenzie, Attorney at Law, and Page E. Golsan, Jr., for the Commission staff.

O P I N I O N

By this application Southern California Edison Company (Edison) seeks, pursuant to Section 1001 of the Public Utilities Code and to Section 1 of General Order No. 131, a certificate of public convenience and necessity to construct and operate two 220 kv transmission line circuits, in San Bernardino County, from Coolwater Generating Station to Kramer Substation (Coolwater-Kramer 220-kv transmission lines Nos. 1 and 2). These transmission lines will carry the electricity generated by Edison's Coolwater combined cycle Units Nos. 3 and 4, having a total

capacity of 472 megawatts, which were authorized by Decision No. 85298 dated January 6, 1976 in Application No. 53389, to the interconnected Edison system.

EIR Process and Public Hearings

In January 1973 Edison submitted its environmental report for this project, which upon promulgation of our Rule 17.1 served as an Environmental Data Statement (EDS). In June 1973 the Commission staff issued the Draft EIR for this project, which carried, as its identifying number, SCH #73062553. It was sent to all public agencies having jurisdiction by law over the project, to State agencies having pertinent statutory authority or expertise according to the Resource Agency Guidelines, and to various interested local agencies. Some of those agencies commented on the Draft EIR. Their written comments were included in Appendix B of the Final EIR. The Final EIR was issued in August 1975.

Public hearings were held in Application No. 53389, Edison's Coolwater combined cycle project, and in this related matter before Examiner Main on August 8, 9, 10, 28, 29, and 31; September 5, 6, 7, 13, and 14; October 15; and November 5, 7, and 9, 1973. The joint hearings were held in Barstow and Los Angeles and were devoted primarily to environmental matters. Certain testimony and exhibits presented at the hearings were incorporated into Appendix C of the Final EIR for this project.

By Decision No. 84205 dated March 18, 1975 the Commission assigned responsibility for preparation of the Final EIR to the staff chief environmental engineer, Harold T. Sipe. The Final EIR was issued, as noted earlier, in August 1975. No exceptions to the Final EIR were filed. Closing briefs were received in September 1975, and this matter now stands ready for decision.

Project Description

The project consists of two 220 kv transmission line circuits of three conductors each constructed on a single set of lattice steel double-circuit towers. The double-circuit tower line will originate at the Coolwater Generating Station, about 10 miles east of Barstow in San Bernardino County, and connect to the Edison system at Kramer Substation, also in San Bernardino County, at the junction of U.S. Highways 395 and 466, traversing a line distance of 43.4 miles. It will parallel an existing 115 kv wood-pole line from Coolwater to Kramer.

The double-circuit towers that support the two lines will be fabricated from structural-angle steel and galvanized to protect against corrosion. The galvanization will be dulled to eliminate sheen. Tower heights will average 140 feet and towers will be placed approximately 1,100 feet apart. Each line consists of three aluminum stranded steel core reinforced non-specular conductors. Basic data and the estimated cost of these transmission lines are as follows:

Line Length:	43.4 miles
Type of Conductor:	Aluminum conductor steel reinforced (ACSR)
Size of Conductor:	1590 MCM ACSR 45/7
Conductor Configuration:	1 conductor per phase
Capacity (thermal):	1,535 Amps
Voltage:	220 kv
Structures:	Double-circuit, self-supporting, lattice steel, square-based towers
Height of Structure:	140 feet
Average Span Length:	1,100 feet
Estimated Construction Cost:	$5,156,000

The proposed Coolwater-Kramer 220 kv transmission line route is located in a sparsely populated portion of the Mojave Desert. The terrain and vegetation in this area are typical of it. Both ends of the line route are near major highways and railroads, but the remainder of the route is located several miles from any major public highway.

The Coolwater Generating Station, where the new combined cycle generating units are to be installed, is located just north of the Santa Fe Railroad main line and U.S. Route 66 approximately one and one-half miles east of the town of Daggett. The transmission line leaves the plant in a northerly direction. Approximately three-tenths of a mile north of the plant the line turns west and proceeds for approximately one mile before crossing the Union Pacific Railroad main line. After crossing the railroad, the line continues west for approximately 1.1 miles crossing the Mojave River bed, and then turns north to avoid Elephant Mountain. The line continues for approximately one mile paralleling the western boundary of the U.S. Marine Corps Supply Center (Yermo area), a Texaco fuel storage area, and several residences. The line then turns in a northwesterly direction for approximately 0.9 miles to an angle point just south of Interstate 15, turns north, makes a right-angle crossing with the highway, and continues north for 0.7 miles, turns northwest and proceeds for 7.7 miles approximately parallel to and 3 miles southwest of the base of the Calico Mountains. The line then turns in a westerly direction at Camp Irwin Road and continues for 4.4 miles on the north side of the Waterman Hills.

The line then turns in a northwesterly direction and continues for approximately 1.4 miles to the south side of the township line between Townships 10 and 11 North, San Bernardino Base and Meridian. The line then continues west for 25.2 miles parallel to the township line. This portion of line crosses Rainbow Ranch Road, Blacks Ranch Road, Harper Lake Road, and several other desert roads. It passes approximately one mile south of Lockhart, a small farming community of less than 50 people, near Harper Dry Lake.

At a point that is approximately 1/2 mile east of U.S. Highway 395, the line turns south on right-of-way previously acquired for the Inyokern-Kramer 220 kv line. The line continues approximately 0.7 miles south across the Santa Fe Railroad main line and U.S. Highway 466. The line turns west, crosses U.S. Highway 395, and enters Kramer Substation.

Kramer Substation is located south of U.S. Highway 466 and west of U.S. Highway 395 on the easterly edge of Edwards Air Force Base and Flight Test Center. The substation is approximately 6.5 miles east of the town of Boron.

The construction of the Coolwater-Kramer 220 kv transmission lines will not require an extensive road-building program because the existing 115 kv transmission line has a paralleling patrol road along the entire length of the right-of-way. This road is an unimproved dirt road, originally bladed through the desert for the construction of the existing 115 kv line.

The erection of the new 220 kv transmission lines can be done from the patrol road, with little disturbance to the surrounding vegetation and landscape. In flat terrain, the assembly of the towers can be done alongside the road using cribbing blocks. Stub roads to each tower site will be necessary

in the hills about two miles west of the Camp Irwin Road for the tower assembly and erection operation. These stub roads will also be necessary for maintenance of the finished line.

The self-supporting lattice steel towers for the new 220 kv transmission lines will be erected on concrete foundations consisting of cast-in-place reinforced concrete piles poured in augered holes. The average height of the footings above ground is one and one-half feet, but the height may range between one-half and four feet. Overhead steel ground wire one-half inch in diameter will be installed on the top of the towers for protection against lightning.

The new Coolwater-Kramer 220 kv transmission lines will provide the sole connection between Coolwater Combined Cycle Units Nos. 3 and 4 and the Edison system. In accordance with system reliability criteria, the double-circuit line will be designed to carry the full output of the two generating units under a one-circuit-out contingency without imposing an overload in excess of the acceptable emergency rating.

At the Coolwater Generating Station a four-position 220 kv switch rack utilizing a low profile design with spacing for three power circuit-breakers and two line-getaways in each position will be constructed and equipped for two lines and three transformer banks. The line deadend structures will be 30 feet high with a 10-foot extension for ground wires. The bus structures will be pedestal-type spanning four 47-foot positions and spaced 370 feet from outside bus fencing. The line structures will be box-type steel shape with arch profile to the line of sight.

At Kramer Substation, two positions of 220 kv switch rack will be constructed to terminate the two 220 kv lines from Coolwater Generating Station. These will be built in the existing station that has 220, 115, and 33 kv lines and 220-115 kv and 115-33 kv transformation. The 220 kv line deadend structures will be 60 feet high with a 10-foot extension for ground wires. The bus structures will be 32 feet high, spanning four 45-foot positions. The structures will be wide-flange steel shape.

Alternative Routes

The Final EIR contains the following discussion of alternative routes to connect Coolwater combined cycle Units Nos. 3 and 4 to the integrated transmission system:

> "1. In the selection of the preferred route for the proposed transmission lines, two alternative routes were studied by Edison. These routes are discussed in the Draft EIR, Tab 2, Section 6 and are shown on the map in Figure 6-1, Section 6. Major portions of the routes were adjacent to existing transmission lines and therefore no new corridors would have to be established.
>
> "2. One alternative route can be described as the Middle Route and is parallel to the Coolwater-Kramer and the Tortilla-Kramer 115-kv lines. It is 42.9 miles in length and located up to eight miles south of the preferred or North Route. This route was not selected for the following reasons:
>
> "(a) It would pass through an area of the City of Barstow and through the community of Grandview.
>
> "(b) The westerly portion of the line would be in the proximity of an area used by the Air Force for low level practice runs. This condition would require the lowest possible construction for new lines to be built in the area resulting in closely spaced towers and increased line costs.

"(c) The Mojave River crossing would be about one mile in length causing access and maintenance problems and the construction of four tower foundations in the riverbed.

"3. A second alternative route can be described as the South Route and would deliver power to Kramer Substation via Victor Substation and consists of eight partial line segments connected to form any one of four possible routes. This route was not selected for the following reasons:

"(a) Much of the terrain is mountainous in nature and would require heavy loading construction which would result in greater conductor sag requiring shorter spans and/or taller towers.

"(b) Routing power through Victor Substation would increase the overall system line length to Kramer Substation by approximately 34 miles.

"(c) The various possible routes for this South Route would pass within two miles of the cities of Victorville and Oro Grande and through the community of Mojave Heights.

"(d) Additionally, Mr. Schmus indicated under cross-examination (Tr. pp. 146-154) that the preferred route from Coolwater to Kramer was chosen because of a future need to serve power north rather than south of Kramer Substation. If the route from Coolwater to Victor were chosen, ultimately a transmission line would have to be constructed from Victor to Kramer resulting in more miles of transmission line than the Coolwater-Kramer route.

"4. The Environmental Improvement Agency of the County of San Bernardino requested justification by Edison for only studying routes adjacent to existing routes (Exh. 20, p. 14).

"5. Mr. Bom in his testimony (Tr. pp. 683-685) referred to a Federal Power Commission publication entitled 'Electric Power Transmission and the Environment' which in part indicated that existing right-of-way should be given priority as the locations for additions to existing facilities. It was further indicated by Mr. Bom that Edison did in fact investigate other rights-of-way not following transmission facilities, but following other utility corridors such as gas pipelines, railroads and highways. These were rejected because the corridors passed through developed areas."

Environmental Matters

A comprehensive record on environmental matters has been developed in this proceeding through public hearings, preparation of the Draft EIR, consultation with public agencies, and presentation of expert testimony and exhibits by various parties, all of which are elements in the EIR process culminating in the preparation and issuance of the Final EIR.

The next section of this decision includes, pursuant to Rule 17.1 of our rules of practice, an extensive series of findings, Nos. 6 through 29, based on the Final EIR's coverage of (a) the environmental impact of the proposed action; (b) any adverse environmental effects which cannot be avoided if the proposal is implemented; (c) mitigation measures proposed to minimize the impact; (d) alternatives to the proposed action; (e) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; (f) any irreversible environmental changes which would be involved in the proposed action should it be implemented; and (g) the growth-inducing impact of the action.

Findings of Fact

NEED FOR PROJECT

1. There will be a need to transmit power from the recently authorized Coolwater combined cycle Units Nos. 3 and 4 to meet system requirements.

2.a. The Coolwater-Kramer 220-kv lines Nos. 1 and 2 will provide the sole connection between Coolwater combined cycle Units Nos. 3 and 4 and the Edison system.

b. These 220-kv lines will be designed to carry the full generating output from Units Nos. 3 and 4 under a one-circuit-out contingency without imposing an overload in excess of the emergency rating of the remaining line.

3. A need will exist in the future to add transmission capacity north from Victor Substation to Kramer Substation. Constructing the lines directly to Kramer from Coolwater will serve to delay the need for further transmission additions and have the effect of minimizing losses.

4. Edison has the ability to finance the Coolwater-Kramer 220-kv transmission project.

5. No exceptions to the Final EIR have been filed.

The Commission has carefully considered the evidence on environmental matters, especially the contents of that Final EIR, and makes Findings 6 through 29 pursuant to Rule 17.1(j)(3) of its Rules of Practice and Procedure.

ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

(a) Land Use Impact

6. The Coolwater-Kramer 220-kv transmission lines will cross potential scenic highways (see Finding 11 below). From other points of scenic interest these lines will be barely visible and will not interfere with the existing uses of the land in proximity to the transmission lines.

7. There are no significant archaeological resources presently visible on the existing or proposed right-of-way and the impact of the proposed construction on the archaeological resources of the area immediately adjacent to the right-of-way is likely to be minimal.

(b) Biological Impact

8. The construction of the transmission lines will have little impact on the plant life because the existing service road will be utilized for most of the construction access. Since few additional roads will be constructed and care will be taken in tower construction not to remove large sections of vegetation, impact of construction on the environment should be minimal.

9. Since the proposed construction utilizes the existing access road, it is expected that little harm will be done to vertebrate fauna. Some movement of animals is expected to occur as they shy away from construction activities. This impact will be temporary and reoccupation of fauna habitat areas will probably occur shortly after construction activities have terminated.

(c) Impact on Human Activities

10. The principal environmental effect on human activities of the proposed project is aesthetic. Portions of the transmission line project will be visible from the community of Daggett (population 650). However, because of the dulled galvanized tower finish, it is expected that the line will blend with the terrain and have a diminished visual effect.

11. The transmission lines will have some visual impact on persons using Highway Routes 15 and 58, but the dulling of the steel towers and the use of non-specular conductors will lessen the impact.

12. The amplitude noise level will vary with humidity but will be below 45 dba, well within acceptable levels.

ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSAL IS IMPLEMENTED

13. Access spur road cuts will disturb the desert surface and tower footing excavation will be necessary. This will cause small amounts of habitat removal which will have a minimal adverse effect on vegetation and wildlife.

14. An adverse environmental impact which cannot be avoided, due to construction and operation of the transmission lines is the aesthetic or visual impact. Because of little public exposure, the aesthetic impact will be minimal.

MITIGATION MEASURES PROPOSED TO MINIMIZE THE IMPACT

15. The impact to terrestrial life communities resulting from construction activities will be minimized by utilizing the existing paralleling patrol road along the entire length of the right-of-way. Erection of the new transmission lines can be done from the patrol road with little disturbance to the surrounding vegetation and landscape.

16. The impact of destruction of vegetation and desert habitat at tower sites will be mitigated by minimizing the grading required at each tower site. This will be accomplished by designing the towers to permit the use of unequal legs so that the slope of the ground may be approximate with the base of the tower.

17. The environmental impact to endangered species such as the desert tortoise will be mitigated by employing a biologist to accompany the crews for location of tower sites and spur roads. This will enable the transmission work crews to avoid direct damage to tortoise dens.

18. The aesthetic impact of the transmission line will be mitigated by using structural angle steel that is galvanized to protect against corrosion and dulled to eliminate sheen for all tower construction. In addition, non-specular conductors will be used to reduce shine and make the lines less visible.

19. The impact of construction materials upon the environment will be mitigated by requiring the contractor to remove excess material, concrete, wood lagging, and all other waste material from the right-of-way when each phase of the construction is completed. In areas where erosion control will be required, such as the Waterman Hills area, the contractor will be required to take the necessary steps to prevent erosion.

20. As mitigation for the disturbance caused by the construction activities, Edison has agreed to carry out a reseeding program as recommended by the Department of Fish and Game.

ALTERNATIVES TO THE PROPOSED ACTION

21. The alternative routes proposed would either pass through population centers or other areas susceptible to environmental damage. The route selected by Edison will provide the least environmental impact.

22. Scenic type towers, as alternative towers, are less environmentally acceptable in this setting than lattice towers, since they are designed to be seen, whereas lattice towers are designed to blend in against the background from a distance of two or three miles.

23. The alternative of undergrounding sections of the transmission lines as an alternate to the proposed transmission lines is not warranted because of the cost.

24. If the project was not constructed, the power generated by the Coolwater combined cycle Units Nos. 3 and 4 would not be available to the interconnected Edison system to meet the increased electrical power demands and is, therefore, not a viable alternative.

THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

25. In the short-term there will be some disturbance of the natural environment due to increased activity in the area during construction and the use of patrol roads to maintain the lines. However, these effects will be minor. The transmission lines in the long-term should have no effect on the environment or productivity of the area.

ANY IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

26. The major irreversible or irretrievable commitment of resources associated with the construction and operation of the transmission lines is the expenditure of manpower necessary to manufacture materials and to construct the transmission lines. The line and tower materials are reclaimable and a future removal of these lines could be done in a manner which would allow the right-of-way to eventually return to its natural state.

GROWTH-INDUCING IMPACT OF THE PROPOSED ACTION

27. The transmission lines are being constructed to meet expected electrical demand, not to create an increase in demand. The growth of the Edison system depends on the numerous communities which make up the utility's service territory and the nature and economic resources available, and the manner in which communities utilize the resources.

28. While an inadequate and unreliable supply of electricity will discourage growth and cause economic disruption, an adequate supply of power does not of itself assure or encourage growth. Growth is due primarily to many socio-economic factors which are not necessarily created or significantly influenced by an adequate supply of energy.

ENVIRONMENTAL ASSESSMENT IN THE AGGREGATE

29. In summary, the project should not, on balance, have a significant effect on the environment:

a. The new 220 kv lines will be parallel and adjacent to existing transmission lines.

b. Existing service roads will be used for most of the construction access.

c. Alternative routes to the proposed project would cause more visual impacts and would result in greater construction problems.

d. The new lines will be barely visible from points of scenic interest and will not interfere with existing use of land in proximity to the transmission lines.

e. Travelers using Highway Routes 15 and 58 will have some exposure to visual impact. Also, portions of the transmission line project will be visible from the community of Daggett.

f. The steps to be taken to mitigate any deleterious consequences as described in Chapter 7 of the Final EIR and as highlighted in Findings 15 through 20, above, are adequate.

30. In conformance with General Order No. 131, the construction and operation of Coolwater-Kramer 220 kv transmission lines Nos. 1 and 2:

a. Is reasonably required to meet area demands for present and/or future reliable and economic electric service; and

b. Will not produce an unreasonable burden on natural resources, aesthetics of the area in which the proposed facilities are to be located, community values, public health and safety, air and water quality in the vicinity, or parks, recreational and scenic areas, or historic sites and buildings, or archaeological sites.

31. The project will help maintain reliable electric service from an integrated system serving a substantial part of southern California; its benefits should thus outweigh any possible minor environmental impact; its planned construction and operation is an economic, efficient, and appropriate means of connecting the Coolwater Combined Cycle Units Nos. 3 and 4 to the Edison system and meeting the increasing demands for electric service.

32. Present and future public convenience and necessity require the construction and operation of this Coolwater-Kramer transmission project.

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

> 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.

The action taken herein is not to be considered as indicative of amounts to be included in future proceedings for the purpose of determining just and reasonable rates.

The Notice of Determination for the project is attached as Appendix A to this decision, and the Commission certifies that the Final EIR has been completed in compliance with CEQA and the Guidelines and that it has reviewed and considered the information contained in the EIR.

Based on the foregoing findings the Commission concludes that the Coolwater-Kramer transmission project should be authorized in the manner set forth in the following order.

O R D E R

IT IS ORDERED that a certificate of public convenience and necessity is granted to Southern California Edison Company to construct and operate Nos. 1 and 2 220 kv transmission lines from Coolwater Generating Station to Kramer Substation, together with related appurtenances, as proposed by Southern California Edison Company in this proceeding.

The Executive Director of the Commission is directed to file a Notice of Determination for the project, with contents as set forth in Appendix A to this decision, with the Secretary for Resources.

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

Dated at San Francisco, California, this 16th day of MARCH, 1976.

President

Commissioners

A. 53602

APPENDIX A

NOTICE OF DETERMINATION

TO: [X] Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

FROM: (Lead Agency)
California Public Utilities Commission
350 McAllister Street
San Francisco, CA 94102

[ ] County Clerk
County of _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code

Project Title Coolwater-Kramer 220 kv Transmission Line Project	
State Clearinghouse Number (If submitted to State Clearinghouse) 73 06 2553	
Contact Person William R. Johnson	Telephone Number 415-557-1487
Project Location Between Daggett and Kramer Junction, San Bernardino County	
Project Description Application by Southern California Edison Company to the California Public Utilities Commission to construct 220 kv transmission lines which will be needed to transmit power from Coolwater Generating Station combined cycle Units 3 and 4 to Kramer Substation.	

This is to advise that the California Public Utilities Commission (Lead Agency) has made the following determinations regarding the above described project:

1. The project has been [X] approved [ ] disapproved by the Lead Agency.

2. The project [ ] will [X] will not have a significant effect on the environment. (See Decision No.. attached.)

3. [X] An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

[ ] A Negative Declaration was prepared for this project pursuant to the provisions of CEQA. A copy of the Negative Declaration is attached.

Date Received for Filing

Signature William R. Johnson
Executive Director
Title

Date