

Decision 83 10 004 OCT 5 - 1983

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the Application of
 SAN DIEGO GAS & ELECTRIC for a
 Certificate that Present and Future
 Public Convenience and Necessity
 Require or Will Require the Construct-
 ion and Operation of a 230 kV Trans-
 mission Line from Imperial Valley Sub-
 station to the International Border to
 Interconnect with the Comision Federal
 de Electricidad, Baja California Norte
 System.

Application 82-09-28
 (Filed September 17, 1982)

Manning W. Puette, Attorney at Law, for
 San Diego Gas & Electric Company,
 applicant.

Allen R. Crown and Antone S. Bulich, Jr.,
 Attorneys at Law, for California Farm
 Bureau Federation, interested party.

Robert Cagen, Attorney at Law, for the
 Commission staff.

O P I N I O N

By Application (A.) 82-09-28 San Diego Gas & Electric Company (SDG&E) seeks an order granting a certificate of public convenience and necessity to construct and operate a 230 kilovolt (kV) transmission line extending approximately five miles from its Imperial Valley Substation to the International Border. There, the line will connect with the Comision Federal de Electricidad (CFE) transmission line, which will extend four miles south to its La Rosita Substation. Purpose of the line is to receive electricity generated by CFE's Cerro Prieto geothermal plants, located south of Mexicali.

A prehearing conference was conducted in San Francisco May 31, 1983. A hearing was held in El Centro July 18, 1983 for the purpose of receiving comments from the public concerning the Draft Environmental Impact Report (DEIR). At this hearing Michael Danna, SDG&E's Supervisor of Land Planning and Permitting, explained that the company desires to import 150 megawatts (MW) for its own use, plus 70 MW which will be transmitted and delivered to Southern California Edison Company (SCE) at San Onofre.

Four days of evidentiary hearings were conducted in San Diego July 19 through 22. The matter was submitted subject to the receipt of four late-filed exhibits and concurrent briefs by August 15, 1983.

Background

The following schedule summarizes our actions and the actions taken by SDG&E and SCE to acquire Mexican power.

By Decision (D.) 88758, dated May 2, 1978 in OII 4 the Commission ordered SDG&E to use its best efforts to negotiate a contract for the purchase of Mexican power.

In July 1978 SDG&E and CFE undertook joint studies to interconnect their systems for the sale and purchase of energy.

On February 20, 1980 SDG&E, SCE and CFE signed a Letter of Intent to purchase and sell 220 MW of firm power.

By D.91743 dated May 6, 1980 we authorized SDG&E to negotiate a final contract with CFE for the purchase of electric energy.

On November 10, 1980 a transmission service agreement was signed between SDG&E and SCE under which SDG&E is to wheel 70 MW for SCE to the San Onofre switchyard.

On November 12, 1980 SDG&E and CFE signed a power purchase contract and interconnection agreement specifying that SDG&E will receive 150 MW of firm power over a 10-year contract period. Also on this date a contract between CFE and SCE was signed for the purchase and sale of 70 MW of firm power.

By D.92448 dated December 2, 1980 SDG&E was granted a certificate to construct and operate a 230 kV transmission line from its Miguel Substation near San Diego to the International Border.

On November 10, 1981 an addendum was issued to the SDG&E/CFE power purchase contract, obligating SDG&E to build the Imperial Valley Substation transmission line by May 1984 as a second interconnection because CFE cannot reliably transmit 220 MW through the Miguel-Tijuana interconnection.

By D.93785 dated December 1, 1981 we granted SDG&E a certificate to construct and operate a 230 kV double circuit transmission line from Mission Tap to Miguel Substation, and a single circuit 500 kV transmission line from Miguel Substation to the Palo Verde Nuclear Generating Station (the Eastern Interconnect Project).

The power purchase agreement executed pursuant to D.91743 requires SDG&E to complete construction of the proposed transmission line by May 1984 and requires CFE to complete construction of transmission facilities and the first of three generating units within 40 months from execution of the contract (by March 12, 1984).

The contract provides that the connection period shall commence when the first generating unit is placed in commercial operation, and that the time period which lapses between the commercial operation date of the first unit and the commercial operation date of the third unit shall not exceed 16 months. Commercial operation is defined as the date when each unit is available for commercial operation, having: operated at 110 MW gross

output continuously for at least 730 hours; operated at intermediate loads for sufficient time to permit testing and calibration; and having no problems which require an outage of more than three consecutive days to correct.

The 500 kV line and the Imperial Valley Substation are both part of the Eastern Interconnection Project. When the CFE and SDG&E facilities are completed and CFE's new Cerro Prieto units 2 and 3 brought on line, 220 MW of capacity will be available to SDG&E from the La Rosita Substation through CFE's Baja California system. The company will take delivery of this power through both the Imperial Valley Substation in the east and the Miguel Substation in the west, and in turn deliver power to SCE at San Onofre Station switchyard.

The staff has concluded that we should grant the certificate of public convenience and necessity because both SDG&E and SCE will be able then to acquire 220 MW of firm geothermal power for a ten-year period at a price substantially below avoided costs.

General Information

SDG&E alleges that the project is required:

1. To promote future safety, health, comfort and convenience of the public.
2. To reliably transmit 150 MW of capacity purchased from CFE.
3. To reduce SDG&E's dependence upon oil/gas generation by purchasing power derived from proven geothermal resources.
4. To provide a greater level of reliability to SDG&E's and CFE's electrical transmission systems.
5. To meet future electrical capacity and energy requirements.

In the Proponent's Environmental Assessment (PEA) contained in the application, the company further asserts:

1. This second interconnection with CFE from Imperial Valley Substation to the border is necessary because CFE cannot transmit 220 MW by May 1984 across the Miguel Tijuana interconnection.
2. With the La Rosita interconnection in place, SDG&E would experience greater reliability with its Eastern Interconnect Project in the event of an outage of the 500 kV line between Imperial Valley Substation and Miguel Substation.
3. This second interconnection will provide SDG&E and CFE personnel with operational flexibility for unforeseen situations or for scheduled maintenance involving the Imperial Valley-La Rosita line, the Miguel-Tijuana line and CFE's transmission lines from La Rosita to Tijuana.

Project Description

The proposed transmission line will extend about five miles on the United States side and about four miles on the Mexican side of the Border. Approximately 25-30 double-circuit steel lattice type towers and 10 wood pole structures will be erected in a 120 foot right-of-way. Conductor configuration will be three-phase vertical, single conductor per phase using 1,033 KCMIL ACSR conductors with a thermal capacity of 400 MW. The route for the transmission circuit is located entirely on public lands managed by the United States Bureau of Land Management (BLM).

The proposed route traverses non-irrigated unincorporated land areas of Imperial County. Imperial Valley Substation is located approximately 2.6 miles north of State Highway 98, and 1.3 miles west of the Westside Main Canal. The line will extend from this substation in a southeasterly direction, crossing State Highway 98 and continuing to a point at the International Border approximately one mile west of the Westside Main Canal. The minimum ground clearance of the conductors will be 30 feet; the steel towers will average 80 feet in height at the lowest arm and 120 feet - 135 feet in height at the top of the tower. A map showing proposed and existing lines and facilities is attached as Appendix A.

Evidence

Two witnesses appeared for SDG&E, and two for the staff. Testimony was offered in two areas, (1) need for the certificate, and (2) environmental issues.

I. CERTIFICATION

Demand Growth of SDG&E

Staff Utility Engineer Gary Loo prepared a report (Exhibit 8) concerning the certification of this project. Loo provides us with the following information with respect to SDG&E's anticipated growth:

1. In 1981 SDG&E's peak demand was 2,113 MW.
2. Available system resources in 1981 were 2,511 MW.
3. Thus, the 1981 reserve margin of 398 MW was 18.8% of peak demand, somewhat less than the company criterion of 20%.
4. The company forecasts its peak demand by 1994 at 2,783 MW.
5. Between 1982 and the year 2001, the company estimates its average annual demand growth will be 2.4%.

The following table portrays the company's estimates of total peak demand and resources for selected years 1983 through 1995.

SDG&E's RESOURCE PLAN FOR SELECTED YEAR

	MW By Years				
	1983	1984	1985	1990	1995
<u>SDG&E Resources</u>					
Oil/Gas Steam	1840	1640	1440	1340	1740
Gas Turbines	273	273	273	273	273
Cogeneration	63	63	63	63	63
Total Oil/Gas	2176	1976	1776	1676	2076
Nuclear	307	527	527	527	527
Geothermal	0	0	0	37	137
Other	0	0	0	0	250
TOTAL SDG&E OWNED	2483	2503	2303	2240	2990
<u>Purchases</u>					
Firm Cogen & Other	34	53	90	130	140
WWP	112	112	112	150	150
TEP	100	100	165	280	0
PNM	106	170	185	0	0
Mex. Geothermal	0	0	150	150	0
Magma	0	0	24	74	74
Subtotal	352	435	726	784	364
Non-Firm Trans.	-106	0	0	0	0
Trans. Losses	-15	-14	-16	-7	-5
Net Purchases	231	421	710	777	359
Net Resources	2714	2924	3013	3017	3349
Total Peak Demand	2033	2104	2158	2549	2848
Margin-MW	681	802	855	468	501
Margin-%	33.5	39.0	39.6	18.4	17.6

Note: 1985 is the first year shown for Mexican geothermal capacity.

Loo has concluded from an analysis of the company's detailed system resource plan for the years 1982 through 2001 that SDG&E's reserve margins will be well above its 20% criterion for each year until 1990, when the margin will fall to 18.4%. However, he recommends granting of the certificate to construct the proposed line because both SDG&E and SCE will jointly be able to acquire 220 MW of firm geothermal power for a 10-year period at a price substantially below avoided costs.

Loo formulated several additional conclusions concerning the proposed project. These are essentially as follows:

1. While SDG&E's project can be constructed by the May 1984 deadline it does not appear likely that CFE will be able to complete its Cerro Prieto facilities to deliver the full 220 MW by that date. CFE may be able to transmit 132 MW of firm capacity for SDG&E and SCE by May 1984 and the full 220 MW after 1985.
2. SDG&E's contract with CFE does not contain any liquidated damage provisions to compensate SDG&E in the event delivery of the full 220 MW is delayed substantially beyond the original delivery dates planned.
3. Based upon information determined from the utility, the beginning date for a "normal" 10-year contract period of geothermal delivery, which becomes

effective after the third unit dedicated to SDG&E and SCE's use is in commercial operation, will be no earlier than July 1985.

4. If CFE cannot complete Cerro Prieto Unit 3 by July 1985 SDG&E should seek to renegotiate its terms to require that CFE substitute Cerro Prieto Unit No. 2 for Unit 3 to meet the 220 MW of firm power by July 1985.
5. SDG&E's forecasts of pricing for capacity and energy are estimates based upon a range of peso to dollar exchange rates. The actual exchange rate will be determined in negotiations currently under way. SDG&E requires a decision on the certification of this project prior to conclusion of negotiations. If the cost of purchased CFE power should exceed SDG&E's avoided cost over the life of the contract, the company should not be allowed to recover through Energy Cost Adjustment Clause (ECAC) proceedings any of the excess costs.
6. SDG&E should notify the Commission's Executive Director and its Fuels and Operations Branch as soon as firm power prices are negotiated with CFE. Related charges to SCE, such as revised wheeling charges, should also be provided at this time.

7. The 1980 contract negotiated between SDG&E, SCE and CFE does not specify a guaranteed minimum period of operation during which CFE cannot exercise a "force majeure" termination. SDG&E's and SCE's ratepayers should not be required to bear the risk of contract termination within the 10-year contract period. SDG&E should be placed on notice that if CFE invokes the "force majeure" termination provisions prior to 1989 a rate base adjustment will be made to remove the cost of the transmission line.
8. Installation of the 230 kV Imperial Valley-La Rosita interconnection will enhance the reliability of both SDG&E's and CFE's systems. CFE cannot transmit the full 220 MW over its existing Baja California system from Mexicali to Tijuana Substation.
9. A review of load flow studies shows that the proposed single 230 kV circuit will be ample to transmit CFE purchase power. The proposed project of constructing a single 230 kV circuit on a double-circuit steel tower is reasonable if the company intends to acquire additional CFE capacity after 1988. If the Commission approves the lattice-type towers, staff recommends that the utility not string the second circuit

until justification of a need for additional capacity is presented to the staff. (However, Loo points out that General Order 131-B presently allows a utility to string 230 kV conductors on a vacant tower position without further authorization from the Commission.)

10. Bundling of 230 kV circuits or stringing of more than one line cannot be economically justified by the proposed acquisition of 220 MW. The single 230 kV Imperial Valley circuit would be ample to carry the expected loadings, and the additional cost of bundling lines cannot be justified by potential savings expected in transmission line losses.

The Letter of Intent dated February 20, 1980 contained an estimated price for CFE energy of 4.62 cents per kWh, based on 1979 dollars. The price was comprised of a demand charge and two variable energy charges. Each component of the energy payment was to escalate in accordance with specified escalation indices. The demand charge was to be adjusted from the July 1979 base until the date of operation of the generating units, at which time it will become fixed. By D.91743 we found the above cost formula to be just and reasonable.

The staff has recently received from SDG&E an updated pricing forecast for this power and has compared this later price with that shown in the Letter of Intent, as well as with SDG&E's own estimated long-term avoided costs for the period 1984-1993. Staff has determined that the updated CFE price is considerably below the earlier estimate and substantially below SDG&E's own avoided costs.

William Yturralde is the project manager of SDG&E's Mexican Projects Department, and is charged with administering the contracts between SDG&E and Mexico. He is also project manager of the company's Imperial Valley transmission line.

Yturralde pointed out that the company has reduced the estimated cost of the project by \$1 million, from \$5.2 to \$4.2 million. Reasons for the reduction: Imperial Irrigation District is now a participant in the Southwest Power Project, resulting in a decrease in SDG&E's portion of the total cost by \$360,000; material orders for the line have turned out to be \$460,000 less than expected; and labor costs are \$170,000 less than originally anticipated.

Yturralde took exception to several of Loo's conclusions. Loo had recommended that if CFE cannot complete generator No. 3, Unit 3, by July 1985, the company should seek to renegotiate terms with CFE, requiring that CFE substitute Unit No. 2 as the means of providing 220 MW of firm power by that date. The witness believes it would not be in the ratepayers' interests to attempt to reopen negotiations, and is not necessary to do so. He believes that reopening negotiations could expose SDG&E to the risk of new policies being implemented by the newly formed Mexican government and result in higher costs.

Yturralde objects to Loo's recommendation that if CFE purchased power exceeds the company's avoided costs over the life of the contract, the utility should not be allowed to recover such excesses in any ECAC proceeding. He notes that the risk would be strictly one way in such a situation; that in D.91743 the Commission reviewed the Letter of Intent which was the basis for the contract, and concluded that the cost of the Mexican power compared favorably with the company's other purchases. He concludes that the contract

as executed is fair and reasonable. Furthermore, he states it was concluded by the staff that the cost of geothermal power would be less than oil and gas costs for the company's own system. He states that the Commission by D.91743 commended SDG&E for aggressively pursuing the purchase of Mexican power, and that had the Commission indicated that the shareholders would have to bear the risk for any cost above avoided costs, the utility would not have entered into the contract. If SDG&E were now to withdraw from the contract, it would be liable for a breach of contract penalty of \$52 million. The witness observed that it is the Commission that develops the methodology for determining avoided costs, which methodology is subject to change during the period of the contract and that SDG&E has no control over such determinations.

Yturralde cites the "reasonableness" rule as the guiding Commission policy of the past, which considers management prudence as the primary criterion in the event of extenuating circumstances. With respect to Loo's recommendation that SDG&E be placed on notice that if CFE invokes the "force majeure" provisions of the contract prior to 1989, the line should be removed from rate base, Yturralde notes that "force majeure" under this contract is not the same as under United States law. Under Mexican law, he states, the term applies only in connection with acts of God.

Yturralde pointed out that the November 12, 1980 contract with CFE specifies that SDG&E must have the Imperial Valley-La Rosita line completed by May 1984, or CFE may rescind the contract and the company's breach penalty would be at a minimum of \$52 million. The contract requires that CFE complete the first of three generating units by March 1984. There is a penalty provision which may be invoked by SDG&E if CFE does not satisfy its contractual obligation,

amounting to \$19 million. He points out that this penalty would more than exceed the expected \$4.2 million construction cost of the project. The witness believes that if there were a protracted period of time between the date the generators are built and the time they become commercial, SDG&E may rescind the contract and collect penalties, but that there are factors working against such an eventuality, e.g., already large investments in plant facilities and the need for the receipt of U. S. dollars for debt payments.

Yturralde estimated at the time of the hearing that the first unit was 57% complete, the second unit 51% and the third unit 43%. Late filed Exhibit 3, a report on the status of Cerro Prieto power plants, was received August 15, 1983 after the regular quarterly review meeting held in late July. This exhibit shows that at the end of the second quarter of 1983 Unit 1 was 78% complete and Unit 2 74% complete. This report concludes that there is reasonable assurance that one unit at Cerro Prieto II will be completed by March 12, 1984 and that Cerro Prieto III will be complete by July 1985.

In summary, by D.91743 we authorized SDG&E to negotiate with CFE for the purchase of geothermal energy. The agreement executed requires SDG&E to complete construction of the proposed line by May 1984 and CFE to complete construction of transmission facilities and the first generating unit within 40 months from execution of the agreement, i.e. March 12, 1984. The contract further provides that the connection period shall commence when the first of three units is placed in commercial operation, and that no

longer than 16 months shall elapse between the commercial operating date of the first unit and the commercial operating date of the third unit. Commercial operation is defined as the date when each unit is available for operation, since it has operated at 110 MW continuously for at least 730 hours, operated at intermediate loads for sufficient time to permit testing and calibration, and no problems arise requiring an outage of more than three consecutive days. The "normal" period of operation - 10 years - begins with the commercial operation of the third unit.

Concerning SDG&E's construction schedule for the proposed line, Yturralde testified that the utility proposes to commence construction in October 1983, assuming the Commission authorizes the certificate. Actual tower construction will be initiated in February 1984 and completed in April. Conductor stringing will commence March 1 and be completed by May 1, 1984. The line will be in service by the end of May 1984. But Yturralde believes that should the line not be completed on schedule, the company's ratepayers should share the penalty risk, since the project contract was approved by the Commission, and there was no suggestion at that time that the risk should be borne entirely by SDG&E's shareholders.

Yturralde testified that the SDG&E project cost of \$4.2 million will result in a base rate increase (carrying charge and operation and maintenance) for the project of approximately one million dollars per year over the next 30 years. He estimates the net fuel and purchase power savings will range from \$151 million to \$233 million for the period 1984-1990 alone. He states that the cumulative present value of the net fuel and purchase power savings is estimated to range from \$81.1 million to \$122.5 million; that the cumulative present value of the net fuel and purchase power savings through 1984 is estimated to range between \$8.7 million and \$10.4 million, exceeding the lifetime present value of the base rate increase due to the project of \$6.3 million. He notes that in either case the project will pay for itself during the first full year of operation. Staff concurs with Yturralde's estimates.

July 1985 is not necessarily the date upon which delivery of 220 MW must be delivered under the contract. Rather, it is the expected or planned date. Yturralde stressed that economy power purchased during the first year in quantities less than 220 MW will produce savings which will more than cover the cost of the transmission line. This is not to say the company would be content with the purchase of economy power for the next ten years, since economy power is interruptible. The witness stated that the contract provides that CFE may substitute units operated anywhere in its system for the Cerro Prieto units, if necessary. Thus, in addition to four 110 MW units which will be maintained at Cerro Prieto, there are twelve others in Baja California capable of substitution.

Yturralde explained that if there were a delay in its construction of the project, power could be temporarily received through the Miguel-Tijuana line currently in operation, by adding a second conductor to the present line. That work is under way and will be completed by May 1984. The second circuit will be a bundled, rather than separate circuit. Bundling involves connecting the phase conductors from both sides of the tower at each end of the line. He testified that it is SDG&E's and SCE's intent to import an additional 440 MW from CFE by 1988.

Staff expressed concern that CFE's penalty for a breach of contract is \$19 million, but that SDG&E's liability for breach would be \$52 million. Yturralde explained that the latter amount represents one-year of demand charges to the utility. He pointed out that on the basis of investment-to-penalty ratio, the terms are reasonable. He stated that CFE's investment at Cerro Prieto is \$400,000,000, so that its penalty payment from SDG&E of \$52,000,000 equates to a ratio of 13%; whereas the CFE penalty of \$19 million divided by SDG&E's investment cost of \$4.2 million equates to a much larger ratio of 440%. He believes this to be a significant disproportionate share of risk in favor of SDG&E's ratepayers.

Price of Purchase Power

Yturralde testified that there are eight indexes used in the purchase power contract to determine CFE's total price of power. When originally signed, the contract price was based upon their known costs, and the eight indexes were established in order to give proper consideration to the effects of inflation. Yturralde believes we would be justified in arriving at a decision on the company's request for a certificate without knowing exactly what SDG&E must pay for the power it will purchase from CFE. This is because savings to ratepayers through 1990 are expected to be between \$151 million and \$233 million.

Based on Yturralde's testimony, Loo concluded that CFE will not be able to complete geothermal generator No. 3, Unit 3 by July 1985. He amended his conclusion in this respect by recommending that SDG&E now be directed to urge CFE to make every effort to bring 220 MW on line by January 1, 1986 instead of July 1985. Concerning his recommendation that if the cost of CFE power exceeds SDG&E's avoided cost over the life of the contract SDG&E should not be allowed to recover the excess through ECAC proceedings,

Loo refers us to our D.83-05-047 in A.82-08-49 in SDG&E's recent Heber Binary Project, where we stated (Finding 9) "During the commercial phase of the project, energy purchases which exceed SDG&E's long run avoided costs are not reasonable."

Yturralde referred to a document entitled "Evaluation of the Cerro Prieto Geothermal Field" (Exhibit 10) which indicates that the field has a capacity of 1,500 MW, and that this condition is expected to continue until the year 2000. It is because of this optimistic estimate that SDG&E wants to use the steel lattice towers proposed for the project, since they have a two-circuit capacity.

Discussion of Certificate Conditions

The staff has concluded that the requested certificate should be granted. Based upon the evidence we concur with SDG&E and the staff, even though the utility will not require the 220 MW of firm energy until 1988. However, there are certain conditions which the staff would have us attach to our granting the certificate.

First, the staff would have SDG&E urge CFE to commit itself to a firm schedule for delivery of the 220 MW. The staff now suggests January 1, 1986 as the commencement date for commercial operation. SDG&E's witness in this area has been involved in negotiations with CFE for several years. He testified that attempting to renegotiate such a condition could well jeopardize the entire agreement, and that the existing contract already provides CFE with the flexibility necessary to substitute other units in order to assure delivery of the contracted power.

The evidence indicates that the cost of CFE purchase power will be extremely favorable to SDG&E and its ratepayers, based upon present and foreseeable conditions. But nothing in the world of economics is forever static. We would not want to see these favorable conditions deteriorate and the utility's ratepayers lose as a consequence of the company not having done all possible to take advantage of these conditions.

In light of the circumstances surrounding this application, it appears reasonable to preserve for the parties a degree of flexibility concerning the precise date of commencement of delivery of the 220 MW contracted for. However, we will include in our order a directive that SDG&E use its best efforts to impress upon CFE the need to commence delivery of 220 MW by January 1, 1986.

The staff recommended that if the cost of purchased CFE power exceeds the company's avoided costs over the life of the contract, SDG&E should not be allowed to recover through ECAC any excess costs. If such a condition were adopted, the company's ratepayers would receive the entire benefit; whereas if costs should come in at a level over avoided costs, only the shareholders would lose. The utility considers this to be a "Heads, ratepayers win, tails, shareholders lose situation". The company's shareholders will receive a return on equity only on the capital invested in the project, and not on the power purchased. It appears that for a small investment SDG&E will be able to import a large quantity of firm geothermal power at prices significantly below the company's avoided costs. SDG&E has acted at the direction of the Commission. We reviewed the estimated costs in 1980, and found them to be just and reasonable. The staff referred us to our Heber decision (D.83-05-047) in support of its recommendation. But SDG&E notes that in that proceeding the ratepayers assumed the risk and cost of the project construction during the research and development phase up to a cost of \$89 million; whereas in this situation ratepayers would assume none of the risk. Yturralde observed that SDG&E would not have undertaken the project if we had imposed such a condition in D.91743. Furthermore, the staff report (Exhibit 8) contained a conclusion that SDG&E's actions have been prudent and consistent with the Commission's policies.

In Ordering Paragraph 9 of D.83-05-047 we stated:

"Recovery of costs during the commercial phase of the project shall be limited to reasonable operating and maintenance expenses. These costs shall be accounted for and reviewed in SDG&E's ECAC account. In reviewing the reasonableness of this cost, the Commission staff will include in their considerations the cost data developed during the demonstration phase of the project and the avoided energy cost of other long-run alternatives available to SDG&E."

In light of the circumstances surrounding this matter we do not believe it is necessary or appropriate to condition the requested certificate with a provision concerning purchased power costs. Rather, we will place SDG&E on notice that its cost of purchased power from CFE will be limited to those costs determined to be just and reasonable, such determination to be made at the appropriate ECAC proceeding.

Staff recommended that our decision contain a condition that if CFE invokes the "force majeure" provision of the contract prior to 1989, the project should be removed from rate base. SDG&E's position in this matter is that "force majeure" under Mexican law is limited to acts of God rather than such events as labor strikes or technical difficulties. The utility argues that if a "force majeure" event occurs and lasts for a significant period of time, it would attempt to recover compensation as provided in the contract. The

SDG&E witness, stated that if such an eventuality should occur after the first full year of operation, the ratepayers have already been made whole. This is because the estimated fuel and power purchase savings during the first full year of operation will range between \$8.7 million and \$10.4 million, and this exceeds the lifetime present value of the base rate increase of the project, \$6.3 million.

The staff also stated in its report that the proposed line will provide greater reliability not only in connection with CFE power, but also with respect to east-west transmission for both Mexico and SDG&E. If SDG&E's shareholders had to take all the risk in connection with this project, there would be little incentive to build the line since the entire purpose of the project is to benefit the ratepayers. This recommendation of the staff will be rejected.

The staff recommended that SDG&E not be allowed to string a second circuit without further approval of the Commission or its staff. The evidence shows that the line should be constructed on double-circuit steel lattice towers. General Order 131-B exempts the stringing of additional conductors on existing towers from certification requirements. The reservoir capacity at Cerro Prieto is approximately 1,500 MW for 20 years. SDG&E's present intent is to purchase additional power from CFE in the future. The condition suggested by the staff is unnecessary; however SDG&E in its brief suggests that if a condition is deemed essential to granting of the certificate, the following wording is appropriate: "SDG&E shall not string a second circuit on the supporting steel lattice towers authorized by this decision until contract(s) for purchase of an additional 220 MW of firm power between CFE and SCE and/or between CFE and SDG&E have been filed with the Commission staff." This latter wording appears more reasonable in these circumstances and will be adopted.

In granting the application, we will require that SDG&E notify our Executive Director and our Fuels and Operations Branch when firm power prices are negotiated with CFE and the level of those prices. Related SDG&E charges to SCE, such as revised wheeling charges, should also be provided at the same time.

II. ENVIRONMENTAL

In compliance with General Order 131-B, the application contains a Proponent's Environmental Assessment (PEA). A Draft Environmental Impact Report (DEIR) was prepared by Environmental Science Associates, Inc. (ESA) in May 1983 and received into the record as Exhibit 1. A final Environmental Impact Report (FEIR) was received September 13, 1983.

At the public hearing held in El Centro on July 18, John Jackson, a resident of Imperial County, stated that his family owns farm land fronting on about two miles of the proposed right-of-way; that he has been completely satisfied with the efforts made by SDG&E in the proposed routing of the line, especially since potential problems had been foreseen in connection with crop-dusting activities in the area. The portion of his property where crops are raised is situated no closer than one-half mile from the proposed line extension route.

Keith Moore of the Department of Fish and Game expressed concern about the location of the proposed line. He stated his general concern with the entire Yuha Desert Development, and that the Yuha will have been fragmented in three places if the proposed line is constructed. He noted that the proposed site goes through a high density population of desert flat-tailed horned lizard, listed by the BLM as a sensitive species. He would prefer to see the line routed further to the east, thereby minimizing the impact upon the area.

Several alternatives to the proposed project were considered in the DEIR and rejected. These alternatives are: (1) no project; (2) upgraded system; (3) smaller project alternatives; (4) underground transmission alternative; (5) alternative route; (6) alternative tower design; and (7) conservation and load management. Since the alternatives have been discussed and rejected in the DEIR we will confine our discussion of this portion of the decision to the mitigation measures proposed by ESA and the exceptions to those measures by SDG&E.

The staff presented its mitigation suggestions through Michael Zander of ESA. Zander was the project manager in the preparation of the report. ESA is a multi-disciplinary consulting firm maintaining a staff of land use planners, socio-economists, geomorphologists, hydrologists and biologists. ESA has performed environmental studies for 10 years. Zander's personal training has been in biology and botany with a Master's degree in plant taxonomy. He has worked in natural resource management for seven years and in environmental consulting for two-and-one half years.

SDG&E excepted to the proposed mitigation measures through the testimony of Michael Danna, a civil engineer. Staff asserts that Danna does not possess the expertise in biology, hydrology, erosion, dust control, etc. necessary to properly evaluate the proposed measures, and that Zander's qualifications should weigh more heavily than those of Danna in this phase of the proceeding.

At the outset, SDG&E argues that the California Environmental Quality Act (CEQA) does not require that all environmental impacts, but only those that are significant, be mitigated, and that none of the impacts discussed in the DEIR are significant. The company refers us to Section 21068 of the Public Resources Code where a significant effect on the environment is defined as "a substantial or a potentially substantial adverse change in the environment."

Danna urges that since the BLM will be issuing a right-of-way authority for the project containing its own conditions, we should first clear our adopted mitigation measures with or make our decision advisory to BLM so that there will be no conflicting recommendations facing the company. We have not abdicated our statutory responsibilities under CEQA in other proceedings of this type. BLM has not commented on the DEIR nor has any BLM representative advised SDG&E or the staff that any of the mitigation measures contained in it are inconsistent with BLM policies. We will of course work closely with BLM and other concerned agencies in connection with this project; but we cannot relinquish our statutorily mandated responsibilities. This request of SDG&E will be rejected.

Specific Mitigation Measures

The issues contested by SDG&E are concerned with soil disturbance and erosion, dust control, energy resources, biological resources, cultural resources and radio and TV interference.

Soil Area Disturbed During Construction Period

The DEIR contained the following mitigation: "To reduce potential disturbance of soils by construction workers' vehicles, transport workers to the construction site in vans or buses. Restrict the parking of vehicles to graded areas or designated parking sites and forbid parking of vehicles off roads."

Zander testified that in his opinion without such a measure, there would be unregulated parking of construction worker vehicles along the transmission line route, which would increase disturbance to soils, potentially increasing impacts to cultural and biological resources. Danna stated, in response, that the transporting of workers to the construction site in vans or buses would not reduce potential soil disturbance to a level below that caused by construction vehicles and equipment.

It is apparent that if fewer vehicles are used to transport workers, there will be less disturbance to the local environment. The recommendation of ESA will be adopted.

The second mitigation under this specific heading contested by SDG&E concerns the recommendation to construct water bars at intervals no greater than 600 feet in order to reduce erosion of access roads. Danna states that the terrain along the proposed route is flat and new access roads will be constructed with minimal gradient; that the land is arid and sandy and water will tend to percolate rather than run off; and that except in washes, any runoff will occur mostly as sheet flow across the road and parallel to water bars. He further observes that water bars in washes would be washed away during flooding since they would be constructed with native soils using no cement or asphaltic stabilizers, and would not survive under construction vehicle wheel loads.

Zander responded that even if a road is flat there is a good potential for erosion. He pointed out that this recommendation is based on analysis by a team member who is both a hydrologist and a geomorphologist experienced in soil structure and soil form. Zander agreed that the land is arid and sandy and that in a light rain, water tends to percolate. However, he added, rather than light rains in the project area the weather pattern is characterized by prolonged winter storm systems and torrential summer rains coming mostly from the Gulf of Mexico. He believes that water in the quantities generated by these storm systems will not percolate, especially on a roadbed compacted to take heavy equipment. The result of such a situation can be flash flooding.

Zander concedes that natural ground contours trend northeasterly and access roads are aligned northwesterly and northerly and that water does wash off as sheet flow, except in

washes. However, the roadbed will be constructed with minimal gradient amid slopes having a greater gradient; therefore the water would tend to channelize with resultant washboard effect.

With respect to Danna's concern that water bars would wash away because constructed with native soils, Zander states that rather than native soils, railroad ties may be used because they are heavy, unlikely to be dislodged and easily replaced should they become dislodged. The installation of water bars appears to be a reasonable, effective remedy for potential erosion and will be adopted as a mitigation with the recommendation that the utility consider the use of railroad ties as the means of implementing this measure. A related measure concerning the installation of energy dissipaters at water bars will also be adopted.

The last issue in this area of mitigation had to do with the recommendation that the company conduct specific soil studies at each tower site to identify any special constraints and hazards. Danna testified that testing has already been done at several tower sites and that because of the uniformity of the soil type along the proposed route, it is not necessary to conduct studies at each tower site. Zander concurs with the utility engineers and withdrew ESA's recommendation. We will not require individual tower site testing in light of this circumstance.

Dust Control

The DEIR contained three mitigation measures concerning dust control. The company concurred in the first of these, i.e. that a speed limit of 20 miles per hour be imposed for all vehicles traveling on dirt access roads. The second measure would require that heavily traveled dirt access roads be treated with chemicals during construction and that SDG&E consult with Caltrans concerning treatment methods. The last measure suggests that during

construction of towers 15 - 21, SDG&E provide road signs on Highway 98 marked "Dust Area Ahead" for both directions of travel to reduce traffic hazards caused by poor visibility. During the construction of towers 17 and 18, which straddle Highway 98, flagmen would direct travel.

SDG&E's first objection is on the ground that chemical treatment agents such as cement, asphalt or resins could harden the soil for several years, thereby eliminating flat-tailed horned lizard habitat. Zander testified that there are suitable soil stabilizing agents that are water soluble and can be used to reduce dust; that Caltrans has done studies and tests in arid environments. SDG&E believes rather than Caltrans, BLM is the agency to consult concerning chemical treatment since it is responsible for managing this land. Zander stated that there are a number of experts who may be consulted concerning dust control techniques. We do not believe it is necessary here to specify one particular agency which must be consulted regarding this measure. We will adopt the recommendation that dirt access roads be treated with dust control chemicals during construction, and add that SDG&E consult with an appropriate expert or experts in the field concerning the best materials to employ in this treatment.

With respect to the recommendation that road signs and flagmen be used during construction to warn motorists, the company believes this measure to be unnecessary since dust would be controlled by the chemical treatment. The use of flagmen it considers particularly redundant and an inefficient use of labor if road signs are used. We believe the road signs and flagmen are necessary. The dust control efforts will be very useful, but there is likely to be some obscured vision regardless of these efforts. The use of signs appears to have the virtue of great potential

benefit for very little expense. Similarly, the use of flagmen during the construction of the two towers straddling Highway 98 will maximize, rather than duplicate measures to prevent accidents to construction workers and motorists which might otherwise be caused by obscured vision. These measures will be adopted.

Energy Resources

One measure remains at issue in this area, that of instituting a vanpool program to transport construction crews to and from the site to reduce fuel consumption. SDG&E, alternatively, would encourage carpooling to the contractor's staging site. Zander believes vanpooling is imperative because it will reduce air pollution, impacts from parking and impacts to soil, biological and cultural resources. The utility witness conceded that the cost of vanpooling would not be exorbitant. The benefits stemming from reduced vehicle activity in the area justify the adoption of this measure.

Biological Resources

The DEIR points out that the entire five mile corridor contains habitat which may support relatively large flat-tailed horned lizards. The mitigation measure objected to by SDG&E is a lizard recovery program prior to commencement of any construction activity. The company believes that a recovery program would be ineffective because it would occur during a period when the lizards are inactive. Further, Danna considers that the total area SDG&E will disturb in its construction project will be only 39 acres, and he views this as a minor disturbance because, as indicated in the PEA, there are approximately sixteen square miles, or ten thousand acres of prime high-density habitat in the area south of the utility's Imperial Valley Substation. Zander and Keith Moore, a biologist employed by the Department of Fish and Game, both support

the recovery program, and agree that such a program in September and October will be most effective. Both are of the opinion that the warmer the air, the greater number of lizards will be recovered, and that if construction is to commence in October, recovery should begin in September. Moore believes that recovery activity should continue up until the time construction commences.

This lizard is classified as a sensitive species by BLM and a fully protected species by the California Department of Fish and Game. The air temperature will probably be cooler by the date of this decision, raising the question whether efforts to recover and relocate the lizard will be effective. Although Danna estimated the cost of a recovery program to be \$3,000, which we deem minor in comparison with the total project cost, rather than adopting a measure requiring the company to institute such a program we will direct it to consult with BLM and/or the California Department of Fish and Game immediately upon issuance of this decision to determine whether such a program is then feasible, and to institute whatever program should be developed through such consultation.

Another biological resource issue involves the recommended mitigation that access roads should bypass sensitive plant locations by at least 100 feet. SDG&E apparently interpreted this to mean that existing roads should be moved; but this is not the intent of the recommendation. Zander found only one proposed access road, between towers 26 and 27, which would have to be rerouted. But he expects that a qualified botanist will review the sites to make sure that other sensitive plants, not located earlier, do not run within 100 feet of new access roads. This measure, including the later inspection by a qualified botanist, is reasonable and will be adopted.

Cultural Resources

The company has recommended that the Desert Conservation Plan Programmatic Memorandum of Agreement (PMOA) be applicable to

this project. A PMOA is an agreement for the protection of cultural resources and the mitigation of adverse effects on those resources. Zander in the FEIR also recommends that mitigation of cultural resource impacts be accomplished under the provisions of this PMOA. In the circumstances this joint recommendation will be adopted.

Radio and Television Interference

The DEIR recommended mitigation of radio and TV interference by increasing the transmission line diameter. SDG&E pointed out that this measure would be excessively costly as a corrective measure. Danna states that repairing of shield hardware and insulators is typically all that is necessary to resolve complaints. Zander agreed that increasing the transmission line diameter is excessively costly, and urged that if the company is willing to identify and resolve complaints on a case-by-case basis, using whatever methods are necessary, that would be an appropriate strategy. In effect, Zander now recommends that the utility be ordered to resolve radio and TV interference, or at least mitigate it, but that it not be bound by any particular method in doing so. This mitigation is reasonable and will be adopted.

The mitigation measures adopted relate to significant, or potentially significant impacts upon the environment. There is a Mitigation Monitoring Program currently in progress which should be extended to include the environmental mitigation required during construction and operation of this project.

Findings of Fact

1. By D.88758, dated May 2, 1978 in OII 4, we ordered SDG&E to use its best efforts to negotiate a contract for the purchase of Mexican power.

2. By D.91743, dated May 6, 1980 we authorized SDG&E to negotiate a final contract with CFE for the purchase of electric energy.

3. On November 12, 1980 SDG&E and CFE signed a contract specifying that SDG&E will receive 150 MW of firm power over a 10-year period. On this same date a contract between CFE and SCE was signed for the purchase and sale of 70 MW of firm power.

4. On November 10, 1980 SDG&E and SCE signed a transmission service agreement under which SDG&E is to wheel 70 MW of firm power to the San Onofre switchyard.

5. In 1981 SDG&E's peak demand was 2,113 MW. Available system resources in 1981 were 2,511 MW. SDG&E forecasts its peak demand by 1994 at 2,783 MW.

6. Between 1982 and 2001, SDG&E estimates its average annual demand growth will be 2.4%.

7. SDG&E's reserve margins will be above its 20% criterion until 1990, when the margin will fall to 18.4%.

8. Construction of the proposed transmission line will allow SDG&E and SCE to reliably acquire 220 MW of firm geothermal power for a 10-year period at a price substantially below avoided costs.

9. Installation of the 230 kV proposed transmission line will enhance the reliability of SDG&E's and CFE's systems. CFE cannot transmit an additional 220 MW over its existing transmission system from Mexicali to Tijuana.

10. SDG&E intends to acquire geothermal power from CFE in addition to the 220 MW forming the basis for the filing of this application.

11. The proposed line is presently estimated to carry a cost of \$4.2 million.

12. Savings to SDG&E's ratepayers through 1990 are expected to be between \$151 million and \$233 million due to the acquisition of geothermal power from CFE.

13. SDG&E should be urged to use its best efforts to impress upon CFE the need to complete Cerro Prieto III, Units 1 and 2, and commence delivery of 220 MW of firm power by January 1, 1986.

14. There is no need to include in this decision a condition concerning whether, if CFE purchased power exceeds SDG&E's avoided costs, the excess should be disallowed from recovery in any ECAC proceeding. Such a consideration should be part of the appropriate ECAC proceeding.

15. The question whether the cost of this transmission line should be removed from SDG&E's rate base if CFE should be required to invoke the "force majeure" provisions of the purchase power contract is a matter for consideration in the appropriate SDG&E rate case.

16. SDG&E should not string a second circuit on the supporting steel lattice towers authorized by this decision until contract(s) for purchase of additional 220 MW of firm power between CFE and SDG&E and/or CFE and SCE have been furnished to the Commission staff.

17. SDG&E should notify our Executive Director and our Fuels and Operations Branch when firm power prices are negotiated with CFE, and the level of those prices. Related SDG&E charges, such as wheeling charges, to SCE, should also be provided.

18. The project description, including the preferred route, need for the project and alternatives to the proposed project are fully identified in the FEIR.

19. Mitigation measures required to minimize project impacts, and as discussed heretofore in this decision, are reasonable and are adopted. Those measures contained in the FEIR and not otherwise described in this decision, are also reasonable and are adopted.

20. The proposed project is essential to meet future public convenience and necessity.

21. There are no feasible alternatives to the proposed project.

22. The proposed project could have a significant effect upon the environment; however, such effect is far outweighed by the beneficial effects of the project.

23. The mitigation measures adopted by this decision relate to significant environmental impacts.

24. The mitigation measures adopted by this decision should not be advisory to or have the concurrence of the BLM.

25. Monitoring of construction costs and mitigation measures will ensure that our decision is fully implemented. The Mitigation Monitoring Program currently in progress for the Eastern Interconnect Project should be extended to include the environmental mitigation required during construction and operation of this project.

26. We have reviewed the record, the Final EIR, received on September 13, 1983, and the comments filed and find that the project, subject to the mitigation measures set forth, except as otherwise discussed in this decision, will not produce an unreasonable burden on natural resources, aesthetics of the area in which the proposed facilities are to be located, public health and safety, air and water quality in the vicinity of park, recreational, and scenic areas, historic sites and buildings, or archaeological sites.

Conclusions of Law

1. Present and future public convenience and necessity require the construction and operation of the project.

2. The Final EIR has been completed in compliance with the California Environmental Quality Act Guideline. We have reviewed and considered the information contained in the Final EIR in reaching this decision. The Notice of Determination for the project is attached as Appendix B to this decision.

3. The route identified in the Final EIR as the proposed route is clearly preferred when considering all environmental factors on a collective basis and represents the most feasible and reasonable route.

4. The mitigation measures set forth in the the Final EIR, and in this decision, should be conditions of authorization.

5. Mitigation measures have been or will be adequately implemented by project design, proposed construction, operation methods, modifications of the project, and the required conditions.

6. Any remaining environmental impacts are outweighed by the beneficial effects of the project.

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

8. Under Public Utilities Code § 1001, a 230 kV transmission line from SDG&E's Imperial Valley substation to the International Border should be authorized as set forth in the following order.

9. Because of the urgent need to implement environmental mitigation measures and to commence construction of the project, the effective date of this decision should be the date of signature.

O R D E R

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to San Diego Gas and Electric Company (SDG&E) to construct and operate a single-circuit 230 kV transmission line between its Imperial Valley substation and the International Border along the adopted (proposed) route in this proceeding subject to the mitigation measures recommended in the Final Environmental Impact Report, and in this decision.

2. SDG&E shall file quarterly reports with the Commission setting forth in detail the status of its mitigation program and actual project costs compared with its estimates.

3. SDG&E shall file with the Commission a detailed statement of the capital cost of the transmission line project within one year following the date it is placed in commercial operation.

4. Within 30 days of this decision, SDG&E shall communicate to CFE in writing the need to commence delivery of 220 MW of firm geothermal power by January 1, 1986, and shall furnish the Commission with a copy of such communication.

5. SDG&E shall not string a second circuit on the supporting steel lattice towers authorized by this decision until contract(s) for purchase of an additional 220 MW of firm power between CFE and SCE and/or between CFE and SDG&E have been filed with the Commission staff.

6. SDG&E shall notify the Commission's Executive Director and its Fuels and Operations Branch within 30 days after firm power prices are negotiated with CFE. Related SDG&E charges to SCE shall also be furnished with these power prices.

7. Immediately upon receipt of this decision, SDG&E shall consult with BLM and/or the California Department of Fish and Game concerning appropriate mitigation for the flat-tailed horned lizard, including the feasibility of implementing a recovery and relocation program, for flat-tailed horned lizards as discussed in the FEIR. If such consultation indicates that a recovery and relocation will be beneficial, the program shall be immediately implemented.

8. The Mitigation Monitoring Program currently in progress for the Eastern Interconnect Project shall be extended by SDG&E to include the environmental mitigation required during construction and operation of this project.

9. After the exhaustion of all administrative remedies in this proceeding, the Executive Director of the Commission shall file a Notice of Determination for the project as set forth in Appendix B to this decision with the Secretary of Resources.

This order is effective today.

Dated OCT 5 1983, at San Francisco, California.

LEONARD M. CRIMES, JR.
President

VICTOR CALVO

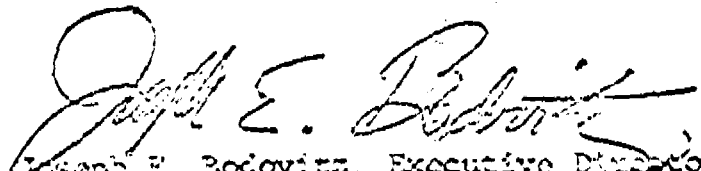
PRISCILLA C. CREW

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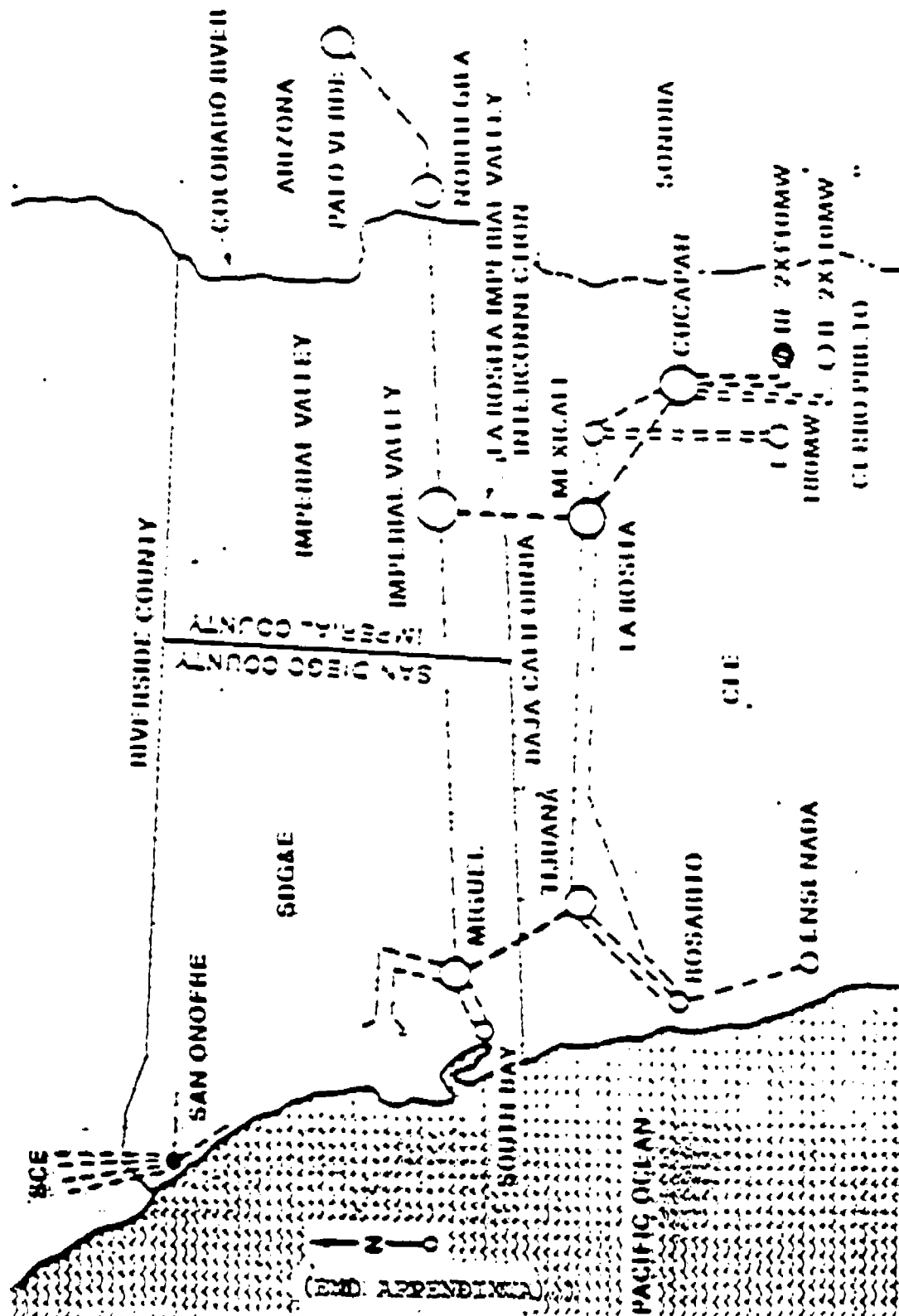
WILLIAM T. BAGLEY

Commissioners

I CERTIFY THAT THIS DECISION
WAS APPROVED BY THE ABOVE
COMMISSIONERS TODAY.


Joseph E. Bodovitz, Executive Director

APPENDIX A
San Diego Gas and Electric
LA ROSITA IMPERIAL VALLEY INTERCONNECTION



APPENDIX B

NOTICE OF DETERMINATION

TO: Secretary for Resources
1416 Ninth Street, Room 1312
Sacramento, CA 95814

FROM: California Public Utilities
Commission
350 McAllister Street
San Francisco, CA 941002

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

Project Title
SDG&E

State Clearinghouse Number (If submitted to State Clearinghouse)

Contact Person
Teresa Burns

Telephone Number
(415) 557-2374

Project Location
Imperial County

Project Description: SDG&E. A 230 KV T/L From Imperial Valley Substation to
International Border, all new facilities located in Imperial County.

This is to advise that the California Public Utilities Commission
(Lead Agency or Responsible Agency)

has approved the above described project and has made the following
determinations regarding the above described project:

1. The project ☒ will have a significant effect on the environment
☐ will not
2. ☒ 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.

The EIR or Negative Declaration and record of project approval
may be examined at 350 McAllister St., San Francisco, CA

3. Mitigation measures ☒ were ☐ were not made a condition of the
approval of the project.
4. A statement of Overriding Considerations ☐ was ☒ was not adopted
for this project.

Date Received for Filing _____

Executive Director

Date _____

(END OF APPENDIX B)