FG

Decision No. 85910

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application of PACIFIC GAS AND ELECTRIC COMPANY for a certificate of the present and future public convenience and necessity to construct, install, operate, maintain, and use a hydroelectric pumped storage project to be known as HELMS PUMPED STORAGE PROJECT, which will utilize the water resources of Helms Greek and the North Fork Kings River in the County of Fresno, together with transmission lines and related facilities.

(Electric)

Application No. 54450
(Filed November 15, 1973)

O P I N I O N

Applicant's Request

By this application Pacific Gas and Electric Company (PG&E) seeks an order of the Commission issuing to it a certificate under Section 1001 of the Public Utilities Code of the State of California and the Commission's General Order No. 131 declaring that the present and future safety, health, comfort, convenience and necessity of the public requires or will require the construction, installation, operation and maintenance of a hydroelectric pumped storage project to be known as the Helms Pumped Storage Project. The Helms Pumped Storage Project together with transmission lines and related facilities will utilize the water resources of Helms Creek and the North Fork Kings River in the County of Fresno.

Project Description (PG&E's Proposal)

The proposed Helms Pumped Storage Project will be a combination pumped storage and conventional hydroelectric project. The installation will allow the comprehensive utilization of the water power resources of the North Fork Kings River and Helms Creek.

The project completes development of the available head between Courtright Lake, maximum water surface elevation 8,184 feet, and the U.S. Army Corps of Engineers' Pine Flat Reservoir, maximum water surface elevation 952 feet. The maximum head to be developed by the project between Courtright Lake and Lake Wishon is 1,744 feet.

The power potential will be developed by constructing a conduit consisting of two tunnels, a short pipe section and a penstock between Courtright Lake and an underground powerhouse. Total length of this conduit, which is entirely underground except for the 140-foot pipe section, is 20,408 feet. The tailrace tunnel connects the underground powerhouse with Lake Wishon.

During periods of heavy power demand water will be released from the upper reservoir (Courtright Lake) through the conduit and turbines to the lower reservoir (Lake Wishon). Subsequently, during off peak periods water from Lake Wishon will be pumped back into Courtright Lake using available power from PG&E's integrated electric system. The design flow in the generating mode is 8,640 cubic feet per second (cfs) and 7,530 cfs during pumping. Natural inflow into Courtright Lake will also be used for electrical generation. The average annual energy produced from this natural inflow is estimated to be 64,000,000 kw-hours.

The two reservoirs, Lake Wishon and Courtright Lake, are a part of an existing power project on the Kings River and the North Fork Kings River. On November 1, 1955, the Commission issued Decision No. 52180, Application No. 37004 which granted PG&E a certificate of public convenience and necessity to construct, own, operate, maintain, and use those two reservoirs as a part of the power project on the Kings River and the North Fork Kings River.

The underground powerhouse for the project will contain three vertical shaft reversible pump-turbines. Each pump-turbine will be directly connected to a generator-motor with a nominal rating of 350,000 kw in the generation mode, for a total plant nominal rating

of 1,050,000 kw. The dry year average monthly capability of the proposed project is 1,114,000 kw. As a result of the project, the average monthly water surface in Lake Wishon will be higher than at present, thus increasing the dry year average monthly capability of the downstream Haas Powerhouse by 14,000 kw.

Land within the project boundary totals about 4,700 acres. Of this total, 726 acres are presently owned by PG&E. About 3,350 acres involve United States lands, 2,714 acres of which overlap land included in the previously mentioned PG&E Kings River Project.

PG&E will design the facilities and supervise construction activities. The plant can operate unattended. The entire system incorporates overriding control devices for shut down should operating conditions exceed prescribed limits.

To provide reliable transmission capability for the Helms motor-generator units, two 230-kv circuits with bundled conductors (two conductors per phase) will be employed. At higher elevations, where the lines could be subject to frequent heavy snow loadings, the two 1,113,000 CM ACSR bundled conductor circuits will be supported independently on two parallel lines of towers on a right-of-way 200 feet wide. At lower elevations, where snow is not a factor, the two circuits will consist of bundled 1,272,000 CM aluminum conductors and will be supported on a single line of double-circuit towers on a right-of-way 120 feet wide.

The lattice steel towers being used for the single-circuit portions of the lines will vary from 70 to 120 feet in height. The double-circuit section of the lines will also have lattice steel towers but with heights varying from 105 to 160 feet.

The proposed route for the transmission lines is shown in the Commission's Environmental Impact Report. This choice resulted from an evaluation process in which the environmental and other benefits of this route were compared to those of the alternative routes. Details of two of the several possible alternate routes for the transmission lines have been shown in the EIR.

To provide power for testing it is planned to complete the transmission lines one year ahead of the date of the power plant's commercial operation.

The power plant and related facilities of the Helms Pumped Storage Project will be located in the Sierra National Forest. In addition, the transmission lines will traverse Federal, State and private lands.

The cost of the Helms project is estimated by PG&E to be $234,000,000 (in 1980 dollars). This includes transmission and stepup and terminal substation facilities. PG&E is financing this project from available funds or funds to be obtained from the sale of securities.

Environmental Impact Report (EIR) Process

THE EIR process, as it has been carried out in this proceeding, is in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., the Guidelines for Implementation of CEQA (Guidelines), Public Resources Code Section 15000 et seq., and Rule 17.1[1] of the Commission's Rules of Practice and Procedure. When the Draft EIR on this project was issued, Public Resources Code Section 15061 (b) read:

> 15061 (b) Where a project which may have a significant effect on the environment is to be carried out by a non-governmental person subject to approval, financial support, or some other involvement by a public agency, the Lead Agency will prepare environmental documents by its own efforts or by contract. However, the Lead Agency may require the person to supply data and information, both to determine whether the project may have a significant effect on the environment, and to assist in the preparation of an EIR by the Agency. This information may be submitted in the form of a draft EIR, if the agency desires. If information is provided in the form of a draft EIR, the Lead Agency may not use the Draft EIR

1/ In Commission Decisions No. 81237 and 81484 in Case No. 9452, the Commission adopted Rule 17.1 pursuant to the California Environmental Quality Act of 1970 and the Guidelines issued pursuant thereto by the California Resources Agency.

In Case No. S.F. 23031, the Planning and Conservation League, Sierra Club, and High Desert Defense Fund petitioned the California Supreme Court for a writ of certiorari to review the above decisions. On or about January 17, 1974, the California Supreme Court denied the writ.

as its own without independent evaluation and analysis. The draft EIR which is sent out for public review must reflect the independent judgement of the Lead Agency. The Lead Agency should require an applicant to specify to the best of his knowledge which other public agencies will have jurisdiction by law over the project.

Section f(4) of Rule 17.1 read:

(4) If it is determined that the project may have a significant effect on the environment, the staff shall review the proponent's EDS for form, adequacy, and objectivity and, if necessary, request proponent to correct any deficiencies. When more than one public agency will be involved in undertaking or approving the project, the staff shall consult with all responsible agencies, i.e., all the other public agencies involved in carrying out or approving the project, before completing a Draft EIR. The EDS reviewed, corrected, amended and independently evaluated and analyzed by the staff may become the Commission's Draft EIR. When issued, the staff shall arrange for circulation of the Draft EIR for comment to all public agencies which have jurisdiction by law over the project, including responsible agencies, i.e., all the other public agencies involved in carrying out or approving the project. It may also be circulated for comment to any person who has special expertise with respect to any area of environmental concern involved in the project. The staff may also consult with and request the services of state agencies or others who have special expertise with respect to any area of environmental concern involved in the project.

In November 1973, PG&E submitted its environmental report, which served as the Environmental Data Statement (EDS) provided for under the Commission's Rule 17.1. The contents of the EDS were modified and expanded in an extensive continuing technical exchange between the Commission staff and the applicant. In November 1975, the Commission staff issued the Draft EIR. It was sent to all public agencies having jurisdiction by law over the project, to State agencies having pertinent statutory authority or expertise in accordance with the Resources Agency Guidelines, and to interested local agencies. Some of these agencies responded with comment on the Draft EIR. Their written comments were included in Appendix A of the Final EIR. The Final EIR was issued in March 1976.

This decision, pursuant to Rule 17.1 of the Commission's Rules of Practice and Procedure, includes below a series of findings 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.

On March 4, 1976 the Commission issued its Final EIR for the Helms Pumped Storage Project. The Final EIR has been identified and is adopted herein as Exhibit No. 1 in Application No. 54450.

The procedural steps of filing exceptions and replies to exceptions to the Final EIR have been completed. No exceptions were received. This matter now stands ready for decision.

Need for the Project

The Helms Pumped Storage Project is part of a planned expansion of electrical capacity to meet the need of the area covering most of northern and central California. Applicant estimates include the electrical need of this system, taking additions planned by other agencies into consideration in determining the new capacity needed to meet future requirements.

In its application PG&E showed that in order to meet an area winter peak demand of 18,290,000 kw and provide reserve capability adequate to maintain reliable electric service, as measured by its criteria, that it would be necessary to have the project completed and in service in 1980. PG&E showed that without the Helms Project in service in 1980 the system reserve margin would drop to 1,445,000 kw. It was shown that with this margin, none of the criteria used to determine reserve requirements would be met. The criteria are: (1) Capacity reserves in any month greater than the combined capacity of the two largest units in service during that month, (2) Service reliability index, based on probability of loss of load analysis,

greater than 10, and (3) Reserve capacity greater than 12 percent of the estimated annual peak demand.

Subsequently, the project completion was rescheduled to 1981 and more recent estimates of load show that the demand levels referred to in the application will not occur until 1981 or 1982. While the applicant's recent load estimate for the 1980 peak, as shown in the FEIR is 17,550,000 kw or 1,180,000 kw less than the estimate made at the time the EDS was filed, its 1981 estimate is now 19,300,000 kw. The staff's 1981 estimate as shown in the FEIR is 18,270,000 kw.

The applicant has stated that, "At the time of the filing of the application (for Helms) several of the projects shown for operation in the years 1978 and beyond were in the very preliminary stages of planning. For example, several resources were undetermined with respect to location and fuel type, and several hundred megawatts shown as gas turbines were undetermined as to location. Consequently, in PG&E's more recent load and resource projections, the schedules for many of these resource additions have been slipped to allow for longer lead time necessary to find sites and fuels...". In addition, Helms is part of a continuing program to reduce the use of fossil fuels.

The Final EIR shows that based on staff projections Helms will be needed. The proposed Helms Project will make additional use of existing facilities that have unique characterictics to fulfill an anticipated peak load demand. Were this anticipated demand to be met by gas turbine generation, system use of expensive oil fuel with attendant air resource degradation, would be increased.

In order to test the effect of the Helms Project on air quality and fuel consumption, a system simulation study, based on operation for the period 1981 to 2000 was prepared by General Electric for the applicant. This study shows that the Helms Project would result in lower oil fuel consumption and air pollution for the total system than the alternatives to the project, including the No Project alternative.

The Helms Pumped Storage Project can be operated over a wide range of conditions between the extremes of either maximum generation or maximum pumping. This requires that the planned transmission lines (from Helms to the Fresno area) be capable of absorbing up to 1,125 MW of generation for load or of delivering up to 1,064 MW for pumping. Presently the Fresno region is served by local generation and by PG&E's interconnected transmission system. This includes five 230 kv circuits from three substations. An additional 230 kv circuit is planned for 1977. For several years these six circuits will then serve the area adequately. However, additional transmission will be needed by 1980 for area service, and it is this supplement that is to be coordinated with transmission from Helms.

To provide the needed transmission reinforcement a single circuit 500 kv line from Gates to the future Gregg Substation is anticipated. It will operate initially as two 230 kv circuits. Thus, in addition to supplying the needed additional service to the Fresno area, these two new circuits will provide transmission capacity to connect the Helms facility to PG&E's total system.

Alternatives to the Proposed Action

The potential of a number of alternate sites in Northern California was compared to the Helms location by the applicant. The selection of the Helms site was based upon least cost and the least environmental disturbance. The criteria for a site were (1) suitable topographic features for upper and lower dams and reservoirs, (2) at least 700 feet elevation difference (head) between upper and lower reservoirs, (3) horizontal distance between reservoirs not to exceed 15 times the head and (4) an adequate water supply for filling and maintaining the reservoirs.

For an alternate site that satisfied these basic criteria, design layouts and cost estimates were prepared. Four sites that had the lowest cost and were close to transmission lines were given

further study as possible alternatives to Helms. These were comparable to Helms with respect to storage and power production. The estimates included the cost of the transmission line and also were adjusted to reflect the additional time which would be required to make the facility available to the system.

In comparison to the four alternate sites, Helms is located in an area known to be geologically sound whereas the alternate sites have not yet been proven geologically. These sites also would require the construction of dams and reservoirs involving more new land use than Helms. And to develop an alternate would postpone the facility's availability an estimated additional three years. Use of any of the four alternative sites would require inundation of land to form the upper and lower reservoirs. Three alternatives are located within National Forest boundaries: Humbug Creek in the Stanislaus National Forest; Pilot Creek in the Eldorado National Forest; Jose Creek in the Sierra National Forest, Bug Table on Coon Creek was the fourth site.

Reservoirs for the alternative sites as well as the access roads leading to them, would need to be constructed, whereas Courtright and Wishon Reservoirs and the roads leading to them already exist. The lower reservoir of each of the alternative sites would be in a long, narrow canyon, too steep for good access or recreational facility development. Likewise, the upper reservoir of each of the alternatives appears of questionable value for recreational use.

Pacific Gas and Electric examined a number of alternative forms of generation to the proposed hydroelectric pumped storage facility. However, no other available generating alternative was found to have the peaking capability and characteristics of a pumped storage facility. The alternatives do not completely replace Helms as an alternate means of satisfying peak power demand, meeting system generating resource needs, and providing spinning reserve. Combustion

turbines are a leading option, but when compared to pumped storage, combustion turbines are less reliable, consume more fuel, are slower to respond and have a low capacity for storage of rotational energy.

Pumped storage units have favorable operating characteristics such as rapid start-up and load acceptance, long life, low costs of operation and maintenance, and low outage rates. The ability to accept or reject large blocks of load very quickly favor the pumped storage units over steam-electric units (either fossil-fueled or nuclear). The ability of a pumped storage plant to accept the changes in system load permits more uniform and more efficient base loading of units in the overall system. The use of off-peak energy for pumping improves the plant factor of the base-loaded thermal units. This reduces cycling of these units and results in improvement in efficiency and life expectancy. A pumped storage plant can play an important role in assuring system reliability. It functions as spinning reserve and allows maximum loading rates and protects the system against sudden loss of generating capacity.

Helms pumping power will be from fossil fuel plants. Excess nuclear generation will not be available within the foreseeable future. The project will thus have an adverse impact on air quality; however, less than the most reasonable alternatives, combustion turbines or combined cycle. Other environmental impacts connected with the combustion turbines or combined cycle alternatives are less readily identifiable. The impacts would depend upon location of the facility. Impacts on visual, aesthetic, and noise level could be expected.

An examination of alternate routes for the Helms transmission line has shown the selected location to be the most direct route. It is approximately 60 miles in length whereas the length of one alternate is 66 miles and the second is 68 miles.

Route selection was also based on a consideration of environmental, visual, economic, engineering, and construction and operating factors.

The alternative of conservation has been and continues to be of overriding concern to the Commission. An effective use of conservation alternatives would appear to result in the reduction of the rate of demand growth, however the proper and effective methods for accomplishing conservation are continuing to be studied by the Commission. It appears that in view of uncertainties and because of the long construction period for this project that delay of the project involves a risk which should not be taken at this time.

Environmental Matters

A comprehensive record on environmental matters for the proposed Helms Project has been developed through the preparation of an Environmental Impact Report in consultation with other public agencies and interested entities. This process culminated in the issuance of the Final EIR on March 4, 1976. This process results in the determination of the environmental impacts associated with the proposed project. The significant impacts are described in the summaries that follow.

Scenic and Visual Quality

Adverse scenic impact will occur from the presence of the proposed Helms transmission lines. The corridor has been selected to avoid critical environmental and scenic areas to the extent possible. Seeding and revegetation will be utilized to minimize the effect. Visual degradation also results at the reservoirs from the construction activity and addition of new facilities. Mitigating measures are planned such as using an existing quarry for excavated material. The quarry will then be revegetated and landscaped at the completion of the construction phase of the project.

Water Quality

Degradation of water quality occurs from runoff from construction activities, disturbance of sediments in the reservoirs, placing excavated material in the reservoirs, and disposal of sewage. The Final EIR identifies possible impacts on water quality. Requirements on waste water discharge have been issued. A Water Quality Certificate for the project has been issued. To offset stirring up silt at the northern end of Lake Wishon the applicant will utilize a method to direct release away from silty deposits.

Wildlife

Impacts on wildlife occur as a result of the displacement of certain species. This will be partially offset by the enhancement of certain other species habitat. PG&E and California Fish and Game as well as the U.S. Forest Service and U.S. Wildlife Service have been participating in the formulation of a Fishery Plan and a Wildlife Habitat Plan for the project.

Fisheries

Trout spawned naturally as well as hatchery plants will be lost from construction of the project and its operation. Losses occur during temporary dewatering of the reservoirs for construction and in the pump-turbine during operation. Mitigation will be accomplished by planting replacements, and the applicant will bear the cost.

Recreation

Presently, congestion of recreationists occurs at Courtright Dam. The U.S. Forest Service in conjunction with PG&E has proposed improvements. PG&E in cooperation with the other parties such as the U.S. Department of Agriculture, U.S. Department of Interior, Bureau of Outdoor Recreation, and State and local recreation agencies, is expected to contribute further to a revised

recreation plan for submittal to the FPC. At present the U.S. Forest Service has agreed to PG&E's proposal for initial recreation facilities on the west side of Courtright Reservoir.

Air Quality

The impact on air quality resulting from construction activities of the project is not expected to place an unreasonable burden on the air quality of the project area and Fresno County. Simulation computer model studies have indicated that operation of the project will save fuel oil and will result in a decrease in the emission of air pollutants from PG&E's system.

Findings of Fact

The Commission has carefully considered the evidence in this matter, especially the contents of the Final EIR, and makes the following Findings.

NEED FOR THE PROJECT

1. To maintain reliable electric service, PG&E must add generating and transmission capacity to its system on a timely basis.

2. The proposed Helms Project is a part of PG&E's generating and transmission capacity addition program.

3. Both the staff's and PG&E's estimated peak demands for the 1980's as set forth in the Final EIR show the capacity of the proposed Helms Project to be needed in the early 1980's.

ALTERNATIVES TO PROPOSED ACTION

4. Conventional steam electric generating units are characteristically base-load facilities and do not provide the operating capabilities that are needed and will be provided by the proposed Helms Project.

5. The alternative of purchased power is not considered reasonable because no other agency or electric utility is anticipated to have the necessary excess capacity available to supply PG&E at the time of need.

6. The gas turbine or combined cycle generation, although the most viable alternatives, would not provide the reliability and capability of the proposed Helms Project. In addition, fuel consumption and operating costs would be higher.

7. Electric generation by nuclear fission is not a viable alternative because the innate base-load characteristics of nuclear generation, like steam electric, would not accommodate peaking loads.

8. No hydroelectric or pumped storage alternative has the economic and environmental advantages of the proposed Helms Project due to present existence of the project reservoirs.

9. Other possible forms of energy such as nuclear fission, breeder reactors, magnetohydrodynamics, solar energy, and fuel cells are in the research and development stage and are, therefore, not realistic alternatives for the Helms Project.

10. Two alternative transmission routes were studied by the applicant and are reviewed in the EIR. Neither is superior to the applicant's preferred route.

11. The no-project alternative is not reasonable because:

a. PG&E would be required to provide the needed capacity, in part, by retaining older less efficient generating plants.

b. System capacity and reliability would be lower with consequential economic and social impacts.

12. Although energy conservation and various pricing changes being considered and implemented may slow the growth in need for generating capacity, they are not considered as alternatives to the proposed project.

ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

13. The proposed generating and transmission facilities will not conflict with present or future land use.

14. The project will not affect any national historic places listed in the National Register of Historic Places. And there are no California State points of historical interest which will be affected by the proposed project.

15. There will be minimal effects on the water quality of Courtright and Wishon Reservoirs from the project.

16. The proposed Helms Project will affect air quality in the construction zone temporarily but will not place an unreasonable burden upon the air quality or visibility in the vicinity of the plant or transmission line after completion of the project.

17. Site preparation will have some minor impacts upon terrain, vegetation, and wildlife.

18. Animal species native to the area are expected to temporarily leave the immediate area.

19. The generating units, transmission line, and associated facilities have been adequately designed concerning geology and seismology.

20. Although some of the facilities are visible, the project will not have a significant adverse aesthetic impact.

21. There will be short duration impact from sound levels during construction. During operation there will be no adverse impact on ambient noise level.

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

22. Unavoidable adverse environmental effects associated with this project will occur during construction. Dust and noise will be a temporary adverse effect on the natural plant life. However, this effect is not expected to be excessive. Displacement of wildlife will occur at the site during construction of the facilities.

23. Air quality will be reduced during construction. Vehicle emissions will constitute the largest source of pollution. After completion, air quality in the project area will return to preconstruction level.

24. Removal of vegetation in the transmission corridor will produce micro-climates with greater temperature extremes and exposure to more wind. The area will experience accelerated erosion until slopes stabilize and revegetation becomes effective.

25. Construction work will increase noise levels in most areas of the project.

26. The natural eastern brook-trout population in Courtright Reservoir will be reduced for several years by the dewatering associated with project construction.

27. Trucks, cranes and personnel vehicles will impair visual quality of the area during the construction period.

28. The Courtright gate valve house, the Lost Canyon pipe crossing, the two surge openings, the switchyard and the powerhouse access tunnel opening and the transmission lines will be visible throughout the lifetime of the project.

29. The PG&E headquarters camp will be in a scenic area and visible from the Wishon Reservoir.

30. The tops of the switchyard structures will be visible from the Wishon Dam and Reservoir.

31. Use of the existing recreational facilities will be reduced during the construction period.

32. Daily fluctuations in the level of both reservoirs will have certain adverse effects on recreation on and about the reservoirs.

MITIGATION ASPECTS AND PROPOSED MEASURES TO MINIMIZE THE IMPACT

33. The use of existing reservoirs for upper and lower storage considerably reduces the amount of construction necessary to achieve this project.

34. Energy conservation in the 1980 to 2000 period, by use of the Helms Pumped Storage Project in comparison to combustion turbines, is estimated to be 73 million barrels of oil fuel.

35. Major facilities of the project will be constructed underground thereby reducing the visual impact of a project of this size.

36. The applicant has indicated plans to incorporate a number of mitigating features and measures in the project. The significant ones are as follows:

a. Construction specifications will require contractors to conform with all regulations for the protection of the environment.

b. Excavated rock debris will be, in part, disposed of in an existing quarry to be revegetated at the conclusion of the project.

c. Excavated rock debris will also be deposited below water level in the reservoirs. It will be deposited while the reservoirs are essentially drained thereby avoiding water degradation that would occur if the reservoirs were filled.

d. To aid in satisfying the existing demand for recreational facilities, selected recreational developments will be undertaken concurrently with construction of the major features.

e. It is planned to concentrate initial recreation development on the west side of Courtright Lake. This will avoid an increase in vehicular traffic into an area contiguous with the John Muir Wilderness area.

f. Siltation damage to fish sustaining streams along the transmission corridor will be reduced by careful drainage and rapid stabilization of cut surfaces and vegetal cover.

g. Switchyard facilities are designed to be low in profile to reduce visibility.
h. Structures will be painted to blend with background.
i. The finish on conductors and towers is specified to blend into the natural setting.
j. Transmission tower types are selected and the frames treated to achieve reduced visibility.
k. Excavation disposal areas will be compacted during buildup and seeded on completion.
l. Clearing will be limited to transmission tower locations, access roads, trails and areas of possible hazard during operation.
m. The transmission route selected benefits from natural contours to minimize silhouetting.
n. Fines from the spoil to be dumped in Lost Canyon will be caught by a filter to be built on the downstream face of the fill if such a measure proves necessary.
o. Revegetation will be employed whenever practicable in laydown areas, roads, stringing trails, transmission tower sites and construction camp sites.
p. Vehicular traffic will be limited to approved routes, and construction facilities will be kept away from existing recreation areas wherever possible.
q. The applicant will conduct further archeological surveys as work progresses, and any qualifying site found will be recorded and protected in accordance with established procedures.

r. For the two archeological sites known to exist within the proposed area of the contractors' trailer camp a professional archeological survey and report will be completed and mitigation measures instituted.

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

37. Construction and operation of Helms is an example of continuing use of local land and water resources. Since change to the resources and environment is minimal, productivity is maintained.

38. The development of electrical generation capacity at Helms involves no significant long-term effects on archeological, historical, or aesthetic resources of the area and should not affect maintenance and enhancement of long-term productivity.

39. The additional local emissions in air basins from which pumping energy is obtained, will be an environmental cost of the applicant's addition of peak-load power.

40. Use of the Helms Pumped Storage Plant Project and facilities will help to provide an adequate future power supply for the area systems served by the applicant.

41. Long-term environmental gains from the Helms Project include more efficient utilization of the power-producing capability of the water resource in the area, provision of access to land and lakes for recreation and generation of a significant amount of electrical power without impacting a new area.

IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION

42. The expenditure of resources for construction is irreversible as well as the commitment of labor from the planning stage through completion and operation of the project.

43. Helms will reduce the suitability of 5,800 acres of the Dinkey Lake Roadless Area for possible classification in the future as a wilderness region.

44. An irretrievable loss of commodities will occur. These would normally be produced from renewable resources such as timber, forage, and wildlife.

45. Helms will obtain the needed energy for pumping from plants using irretrievable fuel resources.

46. The cycling of water between the two reservoirs during operation will result in fish loss that is irretrievable and irreversible.

GROWTH INDUCING IMPACT OF THE ACTION

47. The proposed Helms project is being constructed to meet expected electrical demand, not to create an increase in demand. The growth of PG&E's system depends on the numerous communities which make up its service territory and the nature of the economic and other resources available, and the manner in which communities utilize the resources.

48. 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 by an adequate supply of energy.

49. Local and temporary growth in the project area will be experienced during the first two to three years of construction since the work force will peak at 1,100 persons.

ENVIRONMENTAL ASSESSMENT IN THE AGGREGATE

50. In summary, the project will not place an unreasonable burden on the environment, and furthermore, the steps being taken to mitigate any deleterious consequences, as described in the Final EIR and as highlighted in the findings stated above, are adequate.

51. In conformance with General Order No. 131, the construction and operation of the Helms facility:

a. Is reasonably required to meet area demands for present and/or future reliable and economic electrical 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 archeological sites.

52. The project will help maintain reliable electrical service from an integrated system serving a substantial part of northern California; its benefits should thus outweigh any potential significant adverse environmental impact; its planned construction and operation is an economic, efficient, and appropriate means of providing capacity needed by 1981.

53. Present and future public safety, health, comfort, convenience and necessity require the construction, maintenance, operation, and use of the Helms Pumped Storage Power Plant together with transmission lines and related facilities.

54. No significant issues or opposition to this project have arisen. For that reason and as provided by Rule 17.1 (h) no public hearings are necessary in this matter.

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 of 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 Helms Pumped Storage Project should be authorized in the manner and to the extent set forth in the following order.

O R D E R

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to Pacific Gas and Electric Company to construct and operate the Helms Pumped Storage Project together with transmission lines and other related facilities, all as proposed by Pacific Gas and Electric Company in this proceeding.

2. Pacific Gas and Electric Company shall file with this Commission a detailed statement of the capital cost of the Helms Pumped Storage Project including transmission lines and related facilities within 18 months after the date the facility is placed in commercial operation.

3. The authorization granted shall expire if not exercised within three years from the effective date hereof.

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 20 days after the date hereof.

Dated at San Francisco, California, this 2nd day of JUNE, 1976.

President

Commissioners

APPENDIX A

NOTICE OF DETERMINATION

TO: XX Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

☐ County Clerk
County of _____

_____

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

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

Project Title
Helms Pumped Storage Project

State Clearinghouse Number (If submitted to State Clearinghouse)
75111719

Contact Person
William R. Johnson

Telephone Number
(415) 557-1487

Project Location
Fresno and Madera Counties

Project Description
Application by Pacific Gas and Electric Company to the California Public Utilities Commission to construct, install, operate, maintain and use Helms Pumped Storage Project and facilities including transmission lines.

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 XXX approved ☐ disapproved by the Lead Agency.

2. The project ☐ will XX will not have a significant effect on the environment. (See Decision No. attached.)

3. XXX 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
Executive Director
Date

FOR VALUE IN THIS SPACE