

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Applications 25794
and 25818 to Appropriate Water by

CHEVRON U.S.A., INC., AND BY SAN
DIEGO GAS AND ELECTRIC COMPANY,
RESPECTIVELY.

Applicants

DEPARTMENT OF FISH AND GAME

Protestant

Decision: 1557

Source: New River

County: Imperial

DECISION APPROVING APPLICATIONS 25794 AND 25818

BY CHAIRWOMAN BARD, VICE CHAIRMAN MILLER AND MEMBER MITCHELL:

Chevron U.S.A., Inc., and San Diego Gas and Electric Company having filed, respectively, Applications 25794 and 25818; protests having been received; a public hearing having been held by the State Water Resources Control Board on February 14, 1980; the applicants, protestant and interested persons having appeared and presented evidence; and the evidence received at the hearing having been duly considered; the Board finds as follows:

Substance of Applications:

1. Application 25794 is for a permit to appropriate 69 cubic feet per second (cfs) from January 1 to December 31 of each year from the New River in the County of Imperial. The point of diversion is near Clark Road within SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Section 5, T17S, R14E, SBB&M. The place of use is within the geothermal area immediately south of Heber, California, within all or portions of Sections 26 through 35, T16S, R14E, SBB&M. Water will be used for industrial purposes.

2. Application 25818 is for a permit to appropriate 28 cfs from January 1 through December 31 of each year from the New River. There are

two points of diversion. The first coincides with the diversion at Clark Road proposed by Application 25794, described in paragraph 1. The second is near Drew Road within NW $\frac{1}{4}$ of SW $\frac{1}{4}$, Section 24, T16S, R12E, SBB&M. The place and purpose of use are as set forth in paragraph 1.

3. The applications are partially overlapping, that is, they seek to appropriate water from the same source for the same place of use and purpose. Application 25794 is for the larger amount of water and is inclusive of the water sought in Application 25818.

The Projects of the Applicants:

4. Chevron U.S.A., Inc., (Chevron) proposes to develop the geothermal anomaly near Heber, California. Heat energy available in the subsurface water of the anomaly will be used to generate electric energy. Development will consist of building seven power plants over a 10 year period. It is estimated that the anomaly will support the production of about 500 megawatts of electricity.

5. Fifty thousand acre-feet per year (afa) of water will be required for the development. Water is needed for injection underground to maintain the supply of subsurface water and to minimize subsidence. Water is also needed for cooling tower make-up. Facilities will be constructed for diverting and treating water taken from the New River.

6. Construction will include the drilling of wells for extracting hot water for the power plants. Additionally, injection wells are required to maintain the quantity of water in the underground reservoir. Maintenance of sub-surface water will be accomplished by reinjection of produced water and by the addition of water proposed to be diverted from the New River.

7. Chevron does not propose to construct, own, or operate any power plants. Instead, it will sell the hot geothermal water to entities constructing and operating the power plants. It will also treat and supply water diverted from New River necessary for the power plant operation and will operate the injection facilities.

8. The San Diego Gas and Electric Company (San Diego) proposes to construct, own and operate one or more power plants within the anomaly. In addition to the foregoing physical works, San Diego may construct a separate point of diversion for New River water at Drew Road should the supply diverted at Clark Road prove to be inadequate.

Background:

9. The New River rises about 15 miles below the international border, flows northward for 65 miles and empties into the Salton Sea. The river is one of the main drainage courses of the Mexicali and Imperial Valleys. Flow in the river at the border is irrigation return flow and treated and untreated municipal wastewater. Between the border and the Salton Sea, irrigation return flows and tailwater from the Imperial Irrigation District substantially increase flows in the river.

10. The quality of the river water is poor. Averaging 4,656 parts per million (ppm) total dissolved solids (TDS) at the border and 3,600 ppm at Westmorland, California, near where the river enters the Sea, the high TDS precludes the use of the water for irrigation, domestic, municipal and most industrial uses. In addition to high TDS, the river carries feces, old tires, dead animals and similar matter. No use is currently made of the water except instream uses in the river and the Salton Sea.^{1/} That use is severely limited in the upper reaches of the river because of the poor quality of water. Eight species of fish are present in the New River, including Bluegill, Bass and Catfish. (p. III-17, Heber Geothermal Project, Final Master Environmental Impact Report, 1980.)

^{1/} "Instream uses" means the use of water in place for fish, other aquatic life, maintenance of riparian vegetation, recreation, esthetics, and the like.

11. The Salton Sea, situated about 228 feet below sea level, was created in the early 1900's when diversion works on the Colorado River failed. Sustained by agricultural drainage water the level of the Salton Sea continues to rise. The Salton Sea is about 30 miles long and 10 to 15 miles wide. It is an important recreation resource for Southern California. Principal recreational uses of the Salton Sea include camping, boating, and fishing. In more recent years, the rising level of the Sea has inundated points of access to the sea and reduced boating for recreational and fishing purposes.

12. The Salton Sea has no outlet and thus acts as a salt sink. As mentioned previously, the water flowing to the Sea is high in TDS content. Once pooled in the Salton Sea, the concentration of salts is increased through evaporation. The present concentration is nearly 39,000 ppm -- about 14 percent higher than ocean water. Assuming normal amounts of precipitation, it is estimated that the concentration of salts will begin to interfere with the reproduction of aquatic life in about 10 years. The water flowing from New River slightly dilutes the concentration of salts in the Salton Sea. By diverting up to 50,000 cfs of water from the New River, it is estimated that the proposed project will shorten this period by about two years. The diversion will slow the swelling of the Salton Sea and thereby reduce the amount of littoral lands inundated. The rising level is a serious problem to shore facilities, subdivisions, adjacent agricultural land and to the delta wildlife habitat of the rivers flowing to the Salton Sea.

Protests Against the Applications:

13. Both Chevron and San Diego filed a protest against the other's application. The California Department of Fish and Game and the Imperial Irrigation District filed protests against each application.

14. The District stated that most of the water in the river consists of agricultural return flow and waste flow of water obtained originally from the Colorado River. It was contended that the issuance of permits for unappropriated

water would interfere with the District's right to recapture, reduce or prevent agricultural return flows and waste flows from entering the river.

15. Any water right permits issued to the applicants could not interfere with the District's right to reduce or terminate the discharge of Colorado River water to the river. The District was advised that the following special condition would be included in any permit issued:

"To the extent that water available for use under this permit is return flow, imported water, or wastewater, this permit shall not be construed as giving any assurance that such supply will continue."

The District was further advised that its protest would not be accepted because the potential for injury was lacking. Although the District was advised it could file another protest following publication, no protest was filed.

16. The basis for the protest by each applicant is that the competing application will not best conserve the public interest. The basis for Chevron's protest against Application 25818 is that its own application (A-25794) was for the amount of water necessary to develop the entire anomaly and that until San Diego executes a heat sales contract there is no assurance that San Diego would ever need water for its fraction of the project. San Diego's protest against Application 25794 contends that it is not prudent to rely solely upon the upstream Clark Road point of diversion because the flow in the river at that point is too dependent upon the continued availability of water from Mexico. San Deigo's application includes another downstream point of diversion at Drew Road capable of diverting agricultural return flows contributed to the River below Clark Road.

17. The applicants have jointly signed a stipulation resolving their mutual protests and requested the Board to make certain of the provisions part of any permits issued (Chevron Exhibit 1). In general terms, the provisions requested for inclusion would (1) make it clear that water used by San Diego would be under its own permit, and (2) San Diego would divert water at Drew Road only when it is unable to meet its water needs through the Clark Road diversion. These terms should be included in the permits as requested.

18. The Department of Fish and Game (Department) filed a protest against each application. In summary, each protest alleges that the proposed diversion of water would (1) affect the catfish in the river, and (2) adversely affect the fishery in the Salton Sea. Prior to and during the hearing, however, the Department indicated it had no objection to the proposed diversions. In its memorandum of January 28, 1980, to the Board the Department states:

"We have determined that several significant factors other than the proposed diversions from New River will affect the future viability of the Salton Sea fishery, which has been our basic reason for protest. Among these other factors are proposed water conservation by Imperial Irrigation District (which would reduce irrigation return flow into Salton Sea), future geothermal development and cumulative demand on processing water in the basin, future agricultural development, and vagaries of the weather and runoff (e.g., high-runoff tropical storms in recent years, a great variation in the norm)."

19. Concurrently, the Department requested the Board to "...reserve jurisdiction over any permits issued...to insure that permittees provide appropriate mitigation of any adverse impacts of their projects on fish and wildlife that cannot be foreseen...." (Memorandum of January 28, 1980.) During the hearing, counsel for the Department stated:

"...that it (the Board) should retain continued jurisdiction so that the Department of Fish and Game can conduct a study; and if it can come up with an acceptable feasible means of saving the Salton Sea, then this Board should at that time have the opportunity to pass upon that and not only that but the role that these applicants might have with respect to the portion of responsibility they might have towards contributing to saving this important resource." (p. 248, February 14, 1980, Hearing Transcript. The words in parentheses are added).

Finally, the Department stated that it has no resources for conducting the proposed study and it did not indicate that it has plans for obtaining the resources for conducting the study (RT 251).

20. The Board finds the request for reserved jurisdiction inappropriate for inclusion as a special term in these permits. Because of relatively unique circumstances, aquatic life in the Salton Sea has a limited future. Various methods for preserving all or portions of the Salton Sea's fishery have been evaluated. In 1974 dollars the capital costs (exclusive of operating costs) for implementing the various alternatives ranged from 58 million to 140.7 million dollars. Today's cost would be substantially higher because of inflation and because the Salton Sea is higher and contains more water. While the applicants' project will hasten the demise of life in the Salton Sea, it does not logically follow that the applicants should be charged with a portion of the cost of preserving the entire Salton Sea. With or without the project, the future of life in the Salton Sea is limited. The project merely aggravates a pre-existing condition. The Board has no power to require a specific project to save the Salton Sea nor the means equitably apportioning the costs of a project among the applicants and others whose activities affect the Sea. The Board will, however, impose the standard term included in all permits, which confirms its statutory authority to prevent waste, unreasonable use, unreasonable method of use, and unreasonable method of diversion of water and which sets forth specific examples of how the authority may be exercised. The Board will also impose

the special condition requiring that the proposed diversion works include measures to protect the aquatic habitat.

Availability of Unappropriated Water

21. Streamflow records of the river have been kept by Imperial Irrigation District since 1951 at the international boundary. The minimum recorded daily flow at the international boundary during the last eighteen years of record occurred July 7, 1966, and amounted to 50 cfs. The maximum daily flow at that point was 649 cfs recorded on August 17, 1977, as a result of Hurricane Doreen. The average daily flow during the last 18 years of record at the international boundary was 154 cfs. The average flow at the entrance to the sea is 567 cfs. The average flow at Clark Road is estimated to be about 185 cfs, and at Drew Road about 228 cfs. There are no existing diversions from the river and no vested water rights, and there is no great seasonal fluctuation in the flow. There have been occasional occurrences of low flow at the border, and the extent of accretion between the border and Clark Road has not been measured. It is apparent that unappropriated water is available in sufficient quantity to meet full project demands, except for possible infrequent periods of low flow. Flows of less than the project diversion rate (69 cfs) have not occurred since 1967.

Public Interest

22. The use of water for the production of electric energy is a beneficial use. As previously observed, pollutants and high TDS in the river preclude the use of the water for irrigation, domestic, municipal and most industrial use. The use of wastewater for the production of electricity is consistent with: (1) legislated policy encouraging the maximum reuse of wastewater for beneficial use (Water Code, Section 461); and (2) the Board

policy on the use of inland water for power plant cooling (Resolution No. 75-58). Although the project will have environmental impacts on the river and the Salton Sea, impacts on the river will be mitigated. The diversion will reduce the rate of inundation of littoral lands and delta wildlife habitat. It will also improve the overall quality of water in New River below Clark Road. The Board finds the appropriation of water by the applicants to be in the public interest.

Other Matters

23. By joint letter of February 12, 1980, from the Imperial County Health Officer and County Director of the Division of Environmental Quality, the County expressed its position in favor of the project. The letter points out the various public health benefits and benefits associated with slowing the inundation of lake shore property that can be credited to the project. It concludes with the statement that even more benefits could be realized if the project could divert more river water than proposed.

Findings Concerning the California Environmental Quality Act

24. The County of Imperial (County) has prepared a Final Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act. The Board has reviewed and considered the information contained in the EIR. The EIR identifies three significant adverse environmental impacts of the project. These are impacts on (1) cultural resources, (2) the aquatic habitat of the New River, and (3) the sport fishery of the Salton Sea.

25. "Cultural resources" refers to sites which may contain Indian artifacts. Power plant locations will be surveyed for cultural resources. Mitigation measures in the EIR include avoidance of cultural sites and, if avoidance is not feasible, surface collection and limited excavation to determine the value of the sites. Such measures are the responsibility of the County of Imperial. The County has imposed a permit term in the Geothermal Production Permits issued to Chevron and San Diego requiring that the projects be designed, constructed, and operated in conformance with the County permits which require implementation of the mitigation measures in the EIR.

26. At present, the aquatic habitat in the vicinity of the proposed diversion at Clark Road is degraded by untreated domestic wastewater from Mexico. In consequence, flathead catfish are not found in the vicinity of the proposed diversion at Clark Road. The project may have a beneficial affect on New River to the extent that pollutants are removed by the projects' water treatment facilities. However, the proposed diversion can be considered as having a possible beneficial effect on instream uses only because of the current degradation from untreated wastewater.

27. It is estimated that under average conditions the diversion will lower the depth of the river by twelve inches at Clark Road and eight inches near Drew Road. The Imperial Irrigation District has measured daily flows near the international boundary for many years. The lowest average monthly flow of record at the border is 17 cfs (July, 1954). Flows at Clark Road have not been measured. Under full operating conditions the project will divert 69 cfs. If daily flows in the river approach or fall below 69 cfs there will be insufficient water for this project and for instream uses. Neither the EIR nor the record disclose what minimal streamflow and depth are essential for maintaining the aquatic habitat during critical low flow conditions.

28. While the EIR identifies the adverse impact, no mitigation is specified even though Chevron indicated that it may be able to manage depths in the river by varying the rate of diversion. The Board will require mitigation of this impact by adopting a condition requiring the applicants to submit a plan to maintain minimal streamflow or depth essential for maintaining the aquatic and riparian habitat in New River. Further, the Board will reserve jurisdiction to include additional measures in the permits, if found necessary to protect the riparian and aquatic habitat below Clark Road from critical low flow conditions.

29. The proposed project will have significant adverse and beneficial impacts on the Salton Sea, both as a result of reducing the flow of river water reaching the Sea. It is estimated that the diversion will shorten the reproductive life of several species of fish by about two years. (See findings under paragraph 12.) Testimony during the hearing indicated that the total number of anglers fishing the Salton Sea in 1965, 1967 and 1969 ranged from 250,000 to 380,000 (RT 208, 209). Angler use today is less by as much as fifty percent. The reduction is believed to be due to inundation of shore developments and access facilities by the rising level of the Sea; the rise in level of the Sea will be reduced by the project.

30. Several mitigation measures were considered in the EIR including: (1) modifications of the project to avoid diversion of water from the river; (2) desalination of the Salton Sea; and (3) hatchery production of the principal game fish. For either technical or economic reasons the EIR concludes that these measures are not feasible. The EIR does not identify any off site measure to mitigate the loss of the Sea's fishery. The Board finds there are no feasible measures or project alternatives identified in the EIR that will mitigate or avoid the loss of the Sea's fishery. Notwithstanding the unmitigated loss, the Board finds the project should be approved. As noted earlier, aquatic life in the Sea has a limited future. Although the proposed diversions will hasten the demise of life in the Sea, the diversions will also reduce the amount of littoral lands inundated and reduce the loss of delta wildlife habitat of the rivers flowing to the Sea. The water diverted by the project will be beneficially used for production of electric energy.

Conclusion

31. From the foregoing findings, the Board concludes that the applications should be approved and that permits should be issued to the applicants subject to the conditions set forth in the orders following.

ORDER

IT IS HEREBY ORDERED that Applications 25794 and 25818 are approved and that permits be issued to the applicants subject to the following conditions:

1. The water appropriated under the permit issued to Application 25818 (San Diego) shall be limited to the quantity which can be beneficially used and shall not exceed 28 cubic feet per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 20,000 acre-feet per year. Permittee may divert water at the Drew Road diversion point under this permit only if it is unable to obtain sufficient water at Clark Road to meet the total consumptive water use requirements for any of SDG&E's geothermal power plants utilizing heat from the Heber Unit area.

2. The water appropriated under the permit issued to Application 25794 (Chevron) shall be limited to the quantity which can be beneficially used and shall not exceed 69 cubic feet per second to be diverted from January 1 to December 31. The amount diverted under this permit shall not exceed 50,000 acre-feet per year.

3. Each of the permits issued on Applications 25794 and 25818 shall be subject to the following conditions:

3.a. The amount authorized for appropriation may be reduced in the license if investigation warrants.

3.b. Actual construction shall begin within two years from date of permit and shall thereafter be prosecuted with reasonable diligence, and if not so commenced and prosecuted, this permit may be revoked.

3.c. Construction of diversion works and power plants shall be completed by December 1, 1989.

- 3.d. Complete application of the water to the proposed use shall be made by December 1, 1990.
- 3.e. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until license is issued.
- 3.f. Permittee shall allow representatives of the State Water Resources Control Board and other parties as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit.
- 3.g. Pursuant to California Water Code Sections 100 and 275, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water. The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to minimizing waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement such programs as (1) reusing or reclaiming the water allocation; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as

to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

- 3.h. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

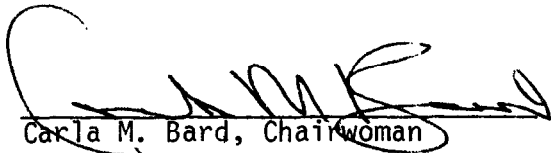
- 3.i. To the extent that water available for use under this permit is return flow, imported water, or wastewater, this permit shall not be construed as giving any assurance that such supply will continue.
- 3.j. The total amount of water diverted under permits issued pursuant to Applications 25794 and 25818 shall be for use at the Heber Unit Area and shall not exceed either a rate of 69 cubic feet per second (computed as an average in any 30 day period) or 50,000 acre-feet per water year of October 1 through September 30. Water used by San Diego Gas and Electric Company shall be under authority of permit issued pursuant to Application 25818 whether diverted at Clark Road or at Drew Road, notwithstanding the fact that the diversion works may be owned by others.
- 3.k. In accordance with Section 1603 and/or Section 6100 of the Fish and Game Code, no water shall be diverted under this permit until the Department of Fish and Game has determined that measures necessary to protect fishlife in the vicinity of the diversion works have been incorporated into the plans and construction of such diversion. The construction, operation, or maintenance costs of any facility required pursuant to this provision shall be borne by the permittee.
- 3.l. Prior to diversion of water under this permit, permittee shall submit for Board approval a study showing the minimum flow quantity, or other measurable standard related to quantity, required to protect aquatic habitat in New River. The study shall show how the diversions will be managed to avoid reducing flow in the river to a point where it would adversely affect aquatic habitat.

No water shall be diverted under the permit until the plan has been approved by the Board.

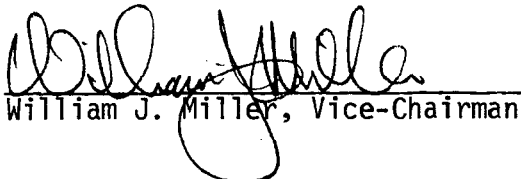
3.m. The Board reserves jurisdiction to include in the permits specific mitigation measures, if found necessary, through evaluation of the study required in 3.1. Notice to the permittee and opportunity for hearing shall be provided before exercise by the Board of this reserved jurisdiction.

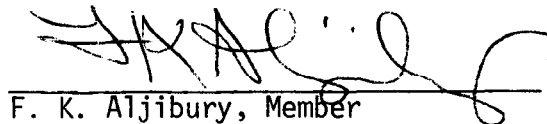
Dated: **MAY 15 1980**

WE CONCUR:


Carla M. Bard, Chairwoman


J. B. Dunlap, Member


William J. Miller, Vice-Chairman


F. K. Aljibury, Member


L. L. Mitchell, Member