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STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petitions for
Review of Order No. 79-09 (NPDES
No. CA0048721), California Regional
Water Quality Control Board, Central
Coast Region, by the California
Department of Fish and Game, and
the California Coastal Commission.
Our Files Nos. A-219 and A-219(a).

Order No. WQ 79-23

BY THE BOARD:

On January 12, 1979, the California Regional Water Quality Control Board, Central Coast Region (Regional Board) adopted Order No. 79-09 (NPDES No. CA0048721). The Order prescribes requirements for Western LNG Terminal Associates (Western Terminal). The Department of Fish and Game (Department) and the California Coastal Commission (Commission) filed petitions on February 13 and 14, 1979. The petitions seek review by the State Water Resources Control Board (State Board) of the Regional Board's adoption of the Order.

I. BACKGROUND

Western Terminal proposes to construct an LNG terminal and regasification facility near Point Conception in Santa Barbara County. LNG is an acronym for liquified natural gas. The site is situated approximately 3.5 miles east of Point Conception on the coastal terrace between two canyons. The proposed ship berthing facility, together with seawater intake and discharge pipelines, will occupy approximately 30 acres of leased offshore sub-tidal lands. Most of the land within a five-mile radius of the site is open and undeveloped. The storage and vaporization plant would be located

on a 209-acre parcel. Approximately 120 acres of the parcel will be developed.

Western Terminal proposes to regasify the LNG by using a seawater heating system to vaporize the gas. When fully operational, about 230 million gallons per day (mgd) of seawater will be passed through the heat exchangers. Seawater will be drawn at a maximum of 0.5 feet per second into a screening caisson stationed about 3,000 feet offshore in 30 feet of water. Sodium hypochlorite will be added at the intake structure to kill fouling aquatic organisms not eliminated by the caisson screening processes. The seawater will pass through an eight and one-half foot diameter pipe to a pump basin from which it will be pumped to the heat exchangers. Cooled about 12^oF, the seawater will flow by gravity through a 6 foot return line ending in a discharge port angled upward 20 degrees from the horizontal in about 50 feet of water. Sulphur dioxide will be added prior to discharge to neutralize any free chlorine remaining in the seawater.

With the exception of any necessary federal-state permit prescribing waste discharge requirements, the California Public Utilities Commission (PUC) has exclusive jurisdiction over siting and any requirements imposed upon an LNG terminal.^{1/} The PUC is the lead agency for purposes of the California Environmental Quality Control Act^{2/}. On July 31, 1978, the PUC adopted Decision No. 89177.

^{1/} Liquified Natural Gas Terminal Act, 1977, Section 5500, et seq., generally, and, more particularly, Section 5581, Public Utilities Code.

^{2/} Section 5635, Public Utilities Code.

The Decision includes the PUCs' adoption of the Environmental Impact Report (EIR) for this project. The following significant water quality impacts and mitigation measures were identified in the EIR:

1. The entrainment of marine organisms into the seawater system is the most significant water related impact that this project would cause. The effect of entrainment is aggravated by the fact that a biocide, chlorine, is added to the system to prevent many of the organisms taken into the system from attaching themselves to the walls and steadily decreasing the inflow of water. Because of the addition of chlorine, 100% mortality of entrained organisms is expected.

Western LNG has provided measures to decrease the impacts on fish and large invertebrates; i.e., intake screening devices, but because of the fouling nature of smaller organisms, is unable to develop a feasible mitigation solution for those animals that pass through the screens.

2. Construction of the seawater system will result in a long-term significant impact on a limited portion of benthic habitat. Underwater blasting will be required to fracture rock bottom in the trenching program for installation of conduits. Proposed blasting procedures using a slow-burning explosive with an 8-foot overburden should minimize damage to air bladder fishes. After conduits are emplaced, the trenches will be backfilled with imported armor rock. This substrate will be colonized and will support nearly a full complement of rocky bottom benthic organisms in 1 to 3 years.^{3/}

^{3/} Paraphrased from pages 159-163 of PUC Decision No. 89177.

The Decision is an interim order granting conditional approval to construct and operate an LNG terminal. The following condition is of concern herein:

"Western Terminal must submit to the Commission a plan for the design and operation of the seawater system to be used, which includes:

- (1) Use of the most effective and feasible method to prevent entrainment of fish.
- (2) Use of feasible alternatives to chlorinization such as mechanical, biological, or thermal anti-fouling.
- (3) Provisions for the most effective and feasible method of dispersion of the cold-water plume.
- (4) Use of the most effective and feasible methods of preventing biological damage caused by the operation of the seawater system.

Construction of the seawater system shall not begin until the Commission, after consultation with the CCC, has determined that the submitted plan complies with this condition and incorporates the most feasible technology for minimizing adverse effects on marine resources."^{4/}

The Decision indicates, additionally, that further hearings would be held to "[e]valuate the seawater alternatives...and select the appropriate system."^{5/} Responding to this condition, Western Terminal submitted a conceptual plan to the PUC for the design of the seawater system on December 21, 1978. The submittal indicated, however, that the model testing needed to validate the design concept had not been completed.

^{4/} PUC Decision No. 89177, page 252.

^{5/} PUC Decision No. 89177, page 326. The PUC staff anticipates these hearings will commence in mid to late June, 1979, and continue for one or more months.

Before modeling and any PUC hearings on the new submittal, the Regional Board adopted Order No. 79-09 on January 12, 1979. The Order prescribes waste discharge requirements for the proposed heating water discharge. The Order also makes findings regarding the seawater intake system and adopts certain measures for the heating system which are of concern to the petitioners. Following are the findings and provision in question:

"11.

* * *

The California Public Utilities Commission has caused the project to be changed. The original seawater intake system which included a velocity cap at the intake and a fish return system on shore has been changed to incorporate an offshore screening device at the intake which will prevent fish and other larger animals from entering or being impinged. This change of the project avoids some of the adverse environmental impacts of the project. All smaller organisms such as phytoplankton, zooplankton, larvae, and eggs taken into the system will be most likely destroyed by chlorination. It was found that this condition is infeasible to mitigate because many of the organisms taken into the system are biofouling in nature. If allowed to go uncontrolled they would attach to the walls and steadily decrease the inflow of water resulting in loss of efficiency.

* * *

Other agencies have the responsibility for minimizing the impacts, other than water quality, for this project.

"12. Consideration has been given to site, design, technology, and mitigation measures to minimize the intake and mortality of all forms of marine life.

The offshore caisson system reflects state of the art technology and provides better possibilities for minimizing adverse environmental inputs (sic) than the uniform velocity cap system.

"C. Provisions

* * *

- "4. Within twenty-four (24) months of the adoption of this Order the discharger shall complete all studies necessary to implement the provisions of all pertinent regulations established pursuant to Section 316(b) of the Federal Water Pollution Control Act."

II. CONTENTIONS AND FINDINGS

The contentions of the petitioners and our findings are as follows:

1. Contention: The Commission contends that adoption of Order No. 79-09 was premature because the modeling necessary to finalize seawater intake design was not complete and because the PUC has not approved the conceptual design.

Findings: Order No. 79-09 prescribes waste discharge requirements for the discharge of waste and requires performance of a Section 316(b) type study.^{6/} With the exception of Findings 11 and 12 and Provision 4, the Order centers upon the discharge of waste. The Commission made no arguments that it was premature to adopt requirements respecting the discharge of waste. This Board sees no reason why the Regional Board should not have adopted requirements for the discharge of waste. The Regional Board considered the seawater intake system as a separate element in its Order. When looking at Provision 4 (requiring a study) it is apparent, also, that the Regional Board believed that additional information was needed with respect to the seawater intake system. We note that a similar approach was taken by the PUC in adopting Decision No. 89177. That is, the applicant was given approval

^{6/} Section 316(b), Clean Water Act, requires that "...the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts."

to proceed with certain portions of its proposal while other portions (the seawater intake system) were subject to further study and later PUC approvals. The issue then is whether the Regional Board's particular findings and provision respecting the seawater intake system were inappropriate.

2. Contention: The Commission contends that the Regional Board did not comply with the requirements of Water Code Section 13142.5(b) when adopting Order No. 79-09.

Findings: We believe the Commission is correct. Section 13142.5(b) provides, in part:

"For each new...industrial installation using seawater for...heating...the best available site, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life."

If this provision is to be given any real meaning, it must require that a finding be made prior to commencement of construction that an applicant is proposing a seawater intake that will utilize the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of marine life. While calling for a Section 316(b) type study which would supply the information necessary to make such a finding, Order No. 79-09 neither makes the necessary findings to authorize construction nor prohibits construction until such findings are made. Accordingly, the Order should be amended to include the following provision:

11. The discharger shall not initiate construction of the seawater intake system until appropriate findings are made pursuant to Section 13142.5(b), California Water Code.

3. Contention: Although the Department supports the Section 316(b) type study, the Commission contends that the requirement is meaningless. Provision 4 of Order No. 79-09 requires Western Terminal to complete a study pursuant to regulations implementing Section 316(b), Federal Water Pollution Control Act.^{7/} The Commission points out that there are no federal regulations prescribing the content of a Section 316(b) type study.

Findings: Section 316(b) requires that "...the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts." Currently, no state or federal regulations prescribe the content of a Section 316(b) type study. However, Section 316(b) type studies are developed on a case-by-case basis utilizing guidance set forth in a draft publication entitled "Guidance For Evaluating the Adverse Impact of Cooling Water Intake Structures on the Aquatic Environment:, Section 316(b), P.L. 92-500" dated May 1, 1977^{8/} and guidance developed by State Board staff. We believe Provision 4 of the Regional Board's order can be read, in substance, to require development of a study in conformity with this guidance, which serves in place of formal regulations and for this reason do not accept the Commission's contention.

^{7/} See page 6, supra, for complete language of Provision 4.

^{8/} This is an Environmental Protection Agency document.

However, circumstances present in this matter mitigate against requiring Western Terminal to commence a full Section 316(b) type study at this time. As indicated previously, the Legislature has made the PUC the central agency for approving LNG terminals. Pursuant to Decision 89177, Western Terminal submitted a conceptual design of the intake structure on December 21, 1978.^{9/} The PUC's Decision indicates its intent to hold hearings to evaluate and select the appropriate intake system. These hearings will commence in the near future and may provide substantial amounts of information which would normally be developed as a part of a Section 316(b) study and would be relevant to the findings required pursuant to Water Code Section 13142.5(b). Accordingly, representatives of the State Board will participate in the PUC hearings regarding the seawater intake structure and will retain jurisdiction over this matter for the purpose of making a Section 13142.5(b) decision. The purpose of such participation would be to determine if evidence already exists as to whether the intake structure proposed by Western Terminal complies with the requirements of Section 13142.5(b). To the extent such evidence already exists the scope of the required Section 316(b) study can, of course, be reduced.

^{9/} See Background discussion, page 4, supra.

We note that the wording of the PUC's instruction to Western Terminal for submitting a plan which will be considered at its upcoming hearings for the design and operation of the seawater system is not identical with the language of Section 13142.5(b).^{10/} We are not sure whether the information being developed by Western LNG to comply with the PUC's instructions will provide all of the information necessary for us to make a Section 13142.5(b) finding. We can, however, state the information we need to make such a finding which is not currently a part of our record. The record before the State Board at this time does not contain sufficient quantitative information indicating why one location of the seawater intake line is preferable to another location. Further, insufficient information is available to identify the best available design and site for the seawater intake caisson and the best available operating methods for the intake system. If this information is currently available, it should be presented at the PUC's hearings. If Western Terminal is not prepared to provide this information at the PUC hearings, it should commence, immediately, Section 316(b) studies to answer these questions.

^{10/} See page 4, supra.

Provision 4 of Order No. 79-09 should be revised to clarify its intent and to recognize that forthcoming hearings by the PUC may answer some of the questions that the Section 316(b) type study would ordinarily address. Accordingly, Provision 4 should be amended as follows:

"Within twenty-four (24) months of the adoption of this Order, the discharger shall complete all studies necessary to make a showing to this Board why the proposed seawater intake system complies with the intent of Section 316(b), of the Clean Water Act and Section 13142.5(b), California Water Code. Such studies need not encompass any elements of Section 13142.5(b) for which the State Board determines the discharger has made a satisfactory showing upon analysis of the data presented at Public Utilities Commission's hearings scheduled to begin in June of 1979."

4. Contention: Without supporting rationale, the Commission contends that Section 13142.5(b) requires consideration be given to LNG vaporization by other means than the intake of seawater.

Findings: The language of Section 13142.5(b) does not support the Commission's contention.^{11/} In fact the Section has no legally implementable meaning until such time as it is proposed to use seawater for cooling or heating. It is only when seawater is proposed for heating or cooling that it becomes necessary to give consideration to how best to minimize the intake and mortality of marine life.

^{11/} See page 7, supra, for wording of Section 13142.5(b).

5. Contention: Both the Department and the Commission contend that portions of Findings 11 and 12 are inappropriate.^{12/} The Department contends "...that the findings prejudice the effects of the presumed intake design upon living resources, and presupposes ...that some...adverse effects cannot be prevented or mitigated. Therefore, the Order does not allow an impartial evaluation of the design and result of studies, stipulated elsewhere in the Order..." The Department contends, also, that Finding 12 is internally inconsistent. Finally, the Department contends the finding that "[o]ther agencies have responsibility for minimizing..." non-water quality impacts is inappropriate. The Commission contends that it was inappropriate to find that the proposed "...offshore caisson system reflects state of the art technology...".

Findings: We will commence with the Department's contention that it was inappropriate to find that "[o]ther agencies have responsibility for minimizing..." non-water quality impacts. The Department does not clearly articulate the basis for its contention. Plainly, when acting as a responsible agency pursuant to the California Environmental Quality Act, the Regional Boards may only consider "...the effects of those activities involved in a project, which it is required by law to...approve."^{13/} The PUC is the lead agency in this matter. The Regional Board is only a responsible agency. Therefore, we cannot concur with this contention.

^{12/} See page 5, supra, for contested findings.

^{13/} Section 21002.1(d), Public Resources Code. (California Environmental Quality Act).

We do, however, agree with the contentions of the Commission and the Department that certain portions of Finding 11 and all of Finding 12 should be struck from the Regional Board's Order. We agree with these contentions not necessarily because we feel, as contended by the petitioners, that the findings in question prejudice the result of studies required by other portions of the Regional Board Order and not yet completed but simply because we plan to participate in the PUC hearings in the near future. Since more up-to-date evidence regarding the particular issues covered in Findings 11 and 12 may be introduced at these hearings, the following amendments to the two findings should be made:

"11.

* * *

The California Public Utilities Commission has caused the project to be changed. The original seawater intake system which included a velocity cap at the intake and a fish return system on shore has been changed to incorporate an offshore screening device at the intake which will prevent fish and other larger animals from entering or being impinged. This change of the project avoids some of the adverse environmental impacts of the project. ~~All-smaller-organisms-such-as-phytoplankton-zooplankton,-larvae,-and-eggs-taken-into-the-system-will-be-most-likely-destroyed-by-chlorination.--It-was-found-that-this-condition-is-infeasible-to-mitigate-because-many-of-the-organisms-taken-into-the-system-are-biofouling-in-nature.--If-allowed-to-go-uncontrolled-they-would-attach-to-the-walls-and-steadily-decrease-the-inflow-of-water-resulting-in-loss-of-efficiency.~~

* * *

"12. ~~Consideration-has-been-given-to-site,-design,-technology, and-mitigation-measures-to-minimize-the-intake-and-mortality-of-all-forms-of-marine-life.~~

~~The-offshore-caisson-system-reflects-state-of-the-art-technology-and-provides-better-possibilities-for-minimizing-adverse-environmental-inputs-than-the-uniform-velocity-cap-system."~~

III. CONCLUSIONS

After review of the record and for the reasons herein stated, we conclude that with addition of Provision 11, the deletions from Findings 11 and 12, and the amendments to Provision 4 heretofore discussed, the adoption of Order No. 79-09 was appropriate. The State Board will retain jurisdiction over this matter for the purpose of making a Section 13142.5(b) decision. Order No. 79-09 should be remanded to the Regional Board for all other purposes.

IV. ORDER

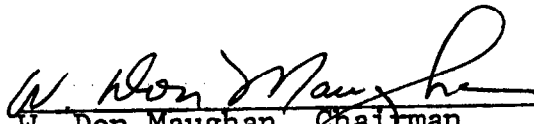
IT IS HEREBY ORDERED, that:

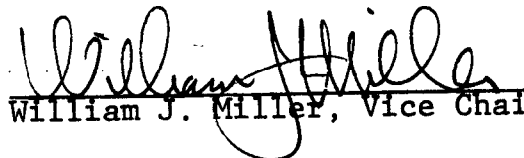
1. Provision 11 is added to Order No. 79-09 as set forth under the Findings of Contention 2.
2. Provision 4 is amended in Order No. 79-09 as set forth under the Findings of Contention 3.
3. Finding 12 is deleted and Finding 11 is amended as indicated under the Findings of Contention 5.

4. The State Board retains jurisdiction over this matter for the purpose of making a decision pursuant to Section 13142.5(b), California Water Code. Representatives of the State Board will participate in PUC hearings pertaining to the seawater intake system for the purpose of obtaining information to make said decision.

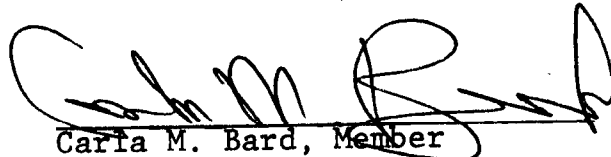
5. With the foregoing modifications, Order No. 79-09 is found to be appropriate and is remanded to the Regional Board for all purposes not covered in 4. above.

Dated: June 21, 1979


W. Don Maughan, Chairman


William J. Miller, Vice Chairman


L. L. Mitchell, Member


Caria M. Bard, Member

