

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of )  
R. B. WELTY for Review of Order )  
No. 80-147 and Resolution No. 81-036 ) Order No. WQ 81-9  
of the California Regional Water )  
Quality Control Board, Central Valley )  
Region. Our File No. A-280. )

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BY THE BOARD:

On September 12, 1980, the California Regional Water Quality Control Board, Central Valley Region (Regional Board), adopted waste discharge requirements in Order No. 80-147 for FMC Corporation's proposed West Hills Industrial Residue Storage Facility Class II-1 Solid Waste Disposal Site (West Hills or site). The requirements establish prohibitions, specifications and provisions for operation of the site, which will accept Group 1 solid wastes generated in the processing of barium and strontium at FMC's plant in Modesto.

On October 10, 1980, the State Water Resources Control Board (State Board) received a petition from R. B. Welty (petitioner) seeking review of Order No. 80-147.

FMC Corporation subsequently submitted an operation plan for its proposed site. On February 27, 1981, the Regional Board approved the operation plan in Resolution No. 81-036. On March 20, 1981, the State Board received an appeal from the petitioner seeking review of Resolution No. 81-036.

## I. BACKGROUND

FMC Corporation is proposing to establish a Class II-1 Solid Waste Disposal Site in Stanislaus County. The site is to accept wastes from the processing of barium and strontium at FMC's Modesto plant. The Regional Board first established waste discharge requirements for the West Hills site in Order No. 79-183. Those requirements were the subject of a petition by Westside Citizens, a group of landowners in the area and other citizens.<sup>1/</sup> On November 27, 1979, this Board denied the petition of Westside Citizens and ordered the Regional Board to make appropriate revisions to the waste discharge requirements if federal or state law was changed to impose financial responsibility requirements on owners or operators of hazardous waste disposal sites.

On September 19, 1980, the Regional Board adopted new requirements for the proposed West Hills site in Order No. 80-147. The major changes in the new requirements were to include provisions requiring a closure report and financial report, and to modify the provision requiring an operation plan. These changed provisions were adopted pursuant to recent amendments in our regulations. (See 23 Cal. Admin. Code Sections 2552, 2553 and 2557.)

After adoption of Order No. 80-147, FMC Corporation submitted to the Regional Board a design plan and an operation plan for Phase I development of the site. Both the Regional

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1. The petition of Westside Citizens included contentions that the requirements did not ensure protection of the site and that FMC should be required to comply with proposed federal and state regulations regarding financial responsibility and closure and maintenance of disposal sites.

Board and the petitioner agreed to make these plans a part of the record in this case, and to grant additional time to the petitioner to supplement its petition in order to respond to the plans. We therefore consolidate these matters for purposes of appeal.

On February 27, 1981, the Regional Board approved the operation plan in Resolution No. 81-036.<sup>2/</sup> On March 20, 1981, the petitioner supplemented its petition by adding contentions regarding the operation plan.<sup>3/</sup> The Regional Board also submitted comments to this Board regarding the adequacy of the operation plan.

## II. CONTENTIONS AND FINDINGS

1. Contention: The petitioner claims that the site location is unsuitable for disposal of any Group 1 wastes.

Finding: In asserting that the site is unsuitable for Group 1 wastes, the petitioner relies on the following factors: (a) site location; (b) site geology and subsurface materials; (c) slope stability; and (d) area faulting and seismicity. These factors are each discussed below.

### (a) Site Location

The petitioner argues that the site location is unsuitable for disposal of any Group 1 (hazardous) wastes. In support of his

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2. 23 Cal. Admin. Code Section 2552 provides for submission of an operation plan by operators of hazardous or liquid waste disposal sites. No mention is made of a design plan. For purposes of this order, the term "operation plan" shall refer to both plans submitted by FMC, since both were reviewed by the Regional Board.
  3. The petitioner, citing the complexity of the issues raised, requests that we separately address the substantive and the procedural matters raised in its petition. We find no difficulty in addressing all contentions raised in this order and we therefore deny the petitioner's request.

argument, the petitioner states that the proposed site is located in a steep and hilly area.

As is conceded by the petitioner, most slope inclinations vary between 2 to 1 and 3 to 1, horizontal to vertical. Such slope inclinations are not unreasonably steep for use as a Class II-1 site. While some of the slopes bordering the drainage ways of Martin Creek are steeper, at 1-1/2 to 1, such slopes are limited in extent and are outside the areas of proposed construction.

(b) Site Geology and Subsurface Materials

The petitioner contends that a previously undetected sandstone bed, which was described in an engineering report by FMC's consultant, Woodward-Clyde Consultants (Woodward-Clyde),<sup>4/</sup> bears on the issues of permeability at the site, potential horizontal leaching of hazardous materials and the adequacy of the adopted requirements. The petitioner cites portions of the consultant's report which state that the sandstone bed does not meet minimum permeability standards and that a three-foot lining for disposal areas is necessary.

The Woodward-Clyde report does state that sandstone beds occur throughout the site. Laboratory tests performed by Woodward-Clyde revealed that the permeability of the sandstone is greater than  $10^{-6}$  cm/sec. Because these beds are fractured, it is possible that the permeability is even greater. The sandstone

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4. Woodward-Clyde Consultants, "Geotechnical Considerations, West Hills Industrial Process Residue Storage Facility Project" (May 1980).

beds must therefore be considered as potential conduits for leachate migration. The probability of leachate migration is increased since the residue pit sump<sup>5/</sup> is underlain by the fractured sandstone. Another potential for leachate migration is presented by the possibility of hydraulic continuity between the underlying Moreno Formation and the overlying Neroly sandstone, by way of sandstone dikes. Lateral migration of leachate would present a risk of leachate surfacing through sandstone exposures downslope from the facilities.

Given the possibilities of leachate migration and surfacing, we agree with the petitioner and with the recommendation made in the Woodward-Clyde engineering report that both the evaporation pond and the residue pit should be lined. We discuss our recommendations for construction of liners which will adequately reduce permeability, infra, at Number 2.

The contention which we address here, however, concerns the feasibility of the site location for use as a Class II-1 waste disposal site. We conclude that the site is indeed feasible, but that artificial means must be used to decrease the effects of the permeability of the existing geologic features. As we are satisfied that minimum permeability requirements can be attained at this site, we find without merit the petitioner's contention that the site is not an appropriate one.

(c) Slope Stability

The petitioner contends that FMC's consultant, Woodward-Clyde, was unable to conclude that the proposed disposal area is

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5. The sump is the lowest point in the pit, where leachate is collected.

free of significant erosion or landslide activity. The petitioner apparently argues that to be a feasible location, there must be conclusive findings in this regard. The petitioner also contends that Woodward-Clyde did not evaluate the effect of the proposed construction and development of the site on slope stability and seismic loading.

We find that Woodward-Clyde appears to have conducted a sufficient investigation of the site regarding slope stability. There was no evidence that the area is subject to significant landsliding or erosion. We do not require "conclusive proof" that no possibility of slope instability exists, and indeed we cannot imagine how such assurance could be made. However, we do feel that the installation of a slope indicator in the area closest to previous landslide activity is appropriate. This matter is discussed, infra, at III.

The petitioner argues that the effects of loading from stockpiled materials and from earthquake loading were not taken into account. Since the adoption of the waste discharge requirements, the discharger's proposal for site construction has changed from a trench design to a disposal pit scheme. Development of the site for the pit design calls for balanced cut and fill which produces little or no surplus soil. We therefore find that it was not necessary for the operation plan to account for load from stockpiled materials.

As to the petitioner's contention regarding seismic loading, a review of the Woodward-Clyde report reveals that the effect of seismic loading was analyzed. The analysis included assumption of a ground acceleration of 0.3 g. We find this analysis to be adequate as evidence of sufficient slope stability.

(d) Area Faulting and Seismicity

The petitioner contends that there is some risk of adverse effects from earthquake activity, and that such risk is unreasonable. In making its contention, the petitioner relies on Woodward-Clyde's engineering report, which found that the potential for surface faulting at the site is "very low". The Woodward-Clyde investigation did not reveal any evidence that the disposal area may be adversely affected by earthquakes. Rather, the report incorporated investigation of earthquake potential into its analysis of slope stability, and found the slopes to be stable. We find that the evidence in the record regarding the potential for earthquakes at this site does not demonstrate a risk too great for use as a Class II-1 disposal site.

In conclusion, we find that the petitioner's contention that the site location is unacceptable for development as a Class II-1 site is without merit. We will, however, require that the operation plan be amended to require adequate lining of the evaporation pond and residue pit, as described in this order.

2. Contention: The petitioner contends that the waste discharge requirements should not be approved because they do

not specify a minimum permeability standard and because the requirements do not incorporate the geotechnical recommendations made in the Woodward-Clyde engineering report.

Finding: The petitioner contends that the State Board has established a recommended minimum permeability standard for Class II-1 sites of  $1 \times 10^{-6}$  cm/sec, and that FMC is not being required to comply with this standard.

The recommended permeability standard to which the petitioner refers is found in this Board's guidelines entitled, "Waste Discharge Requirements for Nonsewerable Waste Disposal to Land," published in July 1980. The guidelines are intended as further explanation of Subchapter 15 of our regulations. See Waste Discharge Requirements for Nonsewerable Disposal to Land, at page 20; 23 Cal. Admin. Code, Chapter 3, Subchapter 15.

The permeability standard is found in the portion of the guidelines concerning Class II disposal sites, at 23 Cal. Admin. Code Section 2511. Section 2511 provides in relevant part:

"Class II-1 sites are those overlying usable ground-water and geologic conditions are either naturally capable of preventing lateral and vertical hydraulic continuity between liquids and gases emanating from the waste in the site and usable surface or ground waters, or the disposal area has been modified to achieve such capability."

The comment in the guidelines regarding Section 2511 provides in relevant part:

"Impervious formations, such as natural soil or the equivalent of artificially constructed barriers should have a permeability of  $1 \times 10^{-6}$  cm/sec or less.... Confinement capabilities should retain the wastes within the boundary of the disposal area including vertical infiltration as long as the waste poses a threat to water quality.... Infiltration in

non-water bearing sediments which do not have hydraulic continuity with usable water may be permitted."

We agree with the petitioner that the operation plan should require that the minimum permeability standard for Class II-1 sites contained in our guidelines be implemented at this site. While the Regional Board is correct in arguing that this site does not appear to overlie "usable groundwater," we find that the geologic features of this site may result in a threat to water quality since there may be hydraulic continuity with usable surface water. This possibility is discussed supra, at Number 1.b. The permeability test for sandstone members of the Moreno Formation was greater than  $10^{-6}$  cm/sec, and if fracture permeability had been evaluated, the sandstone permeability would probably be even greater.<sup>6/</sup> We therefore find that the exception to the permeability requirements for "infiltration in non-water bearing sediments which do not have hydraulic continuity with usable water" does not apply.

In order to prevent migration of leachate through the fractured sandstone beds and possible surfacing downslope, both the residue pit and the evaporation pond should be lined. The liners should have a permeability of  $10^{-6}$  cm/sec or less and should be designed to contain the waste within the disposal area for as long as the waste poses a threat to water quality.

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6. The Regional Board claims that since the field tests performed by Woodward-Clyde were done under dry conditions, their results are very conservative. We find this argument to be conjectural. Other factors, such as sandstone permeability, may in fact be controlling.

The operation plan submitted by the discharger proposes no liner for the disposal pit, and only a two-foot thick liner of  $10^{-6}$  cm/sec permeability for the evaporation pond. There is no explanation contained in the operation plan to show that a two-foot thick liner will be adequate to contain the waste for as long as the waste poses a threat to water quality.<sup>7/</sup>

Given the concerns discussed above, the operation plan should be amended to include liners for both the residue pit and the evaporation pond. In addition, the plan should include a full explanation of how the liners will comply with our guidelines. In order to accomplish this, there should be a discussion of the relationship between the active life of the Group 1 waste and the duration of transit through the recommended liners.

The petitioner also argues that the geotechnical recommendations made in FMC's engineering report should have been incorporated in the waste discharge requirement. A review of the expressed statutory intent for waste discharge requirements and of our regulations regarding waste disposal sites, however, indicates that these recommendations regarding operation of the site are more appropriately contained in the operation plan than in the waste discharge requirements.

The waste discharge requirements are intended to establish limitations and requirements for the discharge of waste:

The regional board, after any necessary hearing, shall prescribe requirements as to the nature of

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7. There is also no explanation why the proposal for a three-foot thick liner contained in the Woodward-Clyde engineering report was not followed.

any proposed discharge, existing discharge, or material change therein, ...with relation to the conditions existing from time to time in the disposal area or receiving waters upon or into which the discharge is made or proposed. Water Code Section 13263(a), in relevant part.

The operation plan, on the other hand, is intended to set forth a detailed account of the operations of the waste disposal site:

The operation plan shall include at least the following:

- (1) Description of the waste materials anticipated to be received.
  - (2) A map showing the boundaries of the disposal site and waste disposal areas.
  - (3) General description of disposal site operations.
  - (4) Detailed hydrological and geological data for the disposal area.
  - (5) Measures proposed for control of drainage, leachate, and gases.
  - (6) Anticipated land use after termination of disposal operations.
- (23 Cal. Admin. Code Section 2552(b)).

We therefore conclude that the Regional Board was not required to include the recommendations made in the engineering report in the waste discharge requirements. Instead, these recommendations were properly incorporated into the operation plan. However, as discussed above, we agree with the petitioner that the minimum permeability standards set forth in our guidelines must be met in construction of this project. The operation plan submitted by the discharger must therefore be amended to reflect that these standards will be met.

3. Contention: The petitioner contends that the Regional Board erred in not considering the operation plan itself and in failing to incorporate into the waste discharge requirements a specific engineering or operation plan.

Finding: The petitioner here takes issues with the provisions in the requirements which state that the discharger must file an operation plan with the Regional Board by January 6, 1981 and that the plan is subject to approval by the Executive Officer. The petitioner argues that the plan should have been incorporated into the waste discharge requirements, and thus subject to approval only by the Regional Board itself.

The petitioner's argument that approval of the operation plan may not be delegated to the Executive Officer is now moot. On February 27, 1981, the Regional Board voted to approve the plan. The delegation set forth in the requirements was therefore never exercised.

The petitioner also argues that the operation plan should have been incorporated into the requirements and therefore subject to challenge by the petitioner.

In support of his argument that the operation plan should have been incorporated into the requirements, the petitioner points out that our regulations specify that the plan is to be submitted along with the report of waste discharge, prior to the issuance of requirements. (23 Cal. Admin. Code Section 2552)<sup>8/</sup> The regulations do not, however, specify that an operation plan must be incorporated into the requirements. We do not

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8. In the instant case, the report of waste discharge was not accompanied by an operation plan. As is pointed out by the Regional Board, Section 2552 was adopted after the report had been submitted. Since the operation plan was ultimately submitted and adopted by the Regional Board, and is considered herein, it is unnecessary for us to resolve whether the report was submitted in a timely fashion.

find it necessary to resolve this question, since in the instant case all of the petitioner's concerns raised in this contention have been adequately met:

(1) The Regional Board did consider and approve the operation plan at its meeting of February 27;

(2) The petitioner participated in the Regional Board's proceeding regarding the plan and was permitted to address his comments and objections both to the Regional Board and to this Board; and

(3) The requirements specify that the deposit of waste materials is limited to trenches as described in the operation plan. (Specification B.2.)<sup>9/</sup>

We therefore conclude that the petitioner's claims that the Regional Board did not follow the correct procedures regarding the operation plan are without merit.

4. Contention: The waste discharge requirements and the operation plan should have regulated the access road to the site.

Finding: The petitioner contends that the waste discharge requirements and the operation plan should have established requirements for the access road to the site. The road leading to the site consists of a stretch of approximately five miles from Interstate 5 to the site entrance. The access road is

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9. As was discussed above, the operation plan does not describe deposition of waste in trenches. The plan calls instead for a disposal pit scheme. The waste discharge requirements should be amended to reflect this change.

privately owned. The petitioner argues that the road is unsafe and that an accident along the road could threaten the water quality of Martin Creek.

Given the evidence presented to this Board by the petitioner, it is our conclusion that the condition of the access road has been adequately addressed in the requirements and the operation plan. The requirements prohibit the spilling or deposition of wastes other than in the trenches designed for such deposition. (See, e.g., Prohibition A.2. and Specification B.2.) The operation plan outlines steps to upgrade the portion of the road which runs through the site.

The petitioner has presented no detailed evidence to substantiate its claims that the access road presents a danger to water quality. Given the scarcity of the evidence before us, and the fact that the portion of the road at issue herein is not a part of the disposal site, we conclude that the requirements as written provide sufficient protection to water quality.

5. Contention: The petitioner argues that the waste discharge requirements were improperly adopted because the Regional Board did not require certification from local agencies.

Finding: The petitioner bases his argument on Section 2551 of our regulations, which provides in relevant part:

...[A] report of discharge for a waste disposal site shall contain, or be accompanied by, a certification that all local agencies with jurisdiction have approved use of the site for the intended purposes.  
(23 Cal. Admin. Code Section 2551.)

The petitioner concedes that all relevant local agencies have approved the site, but he argues that the regulation requires

"certification" by local agencies which, the petitioner claims, is something more than "approval".

We find that the requirements of Section 2551 have been adequately met by the discharger. The section does not require "certification" of the site by local agencies. Rather, it is the discharger who must certify that local agencies "have approved use of the site for the intended purposes". There is no question that the discharger furnished sufficient proof of approval by local agencies.

The petitioner also argues that this Board should not accept the approvals by the local agencies, including a Conditional Use Permit issued by Stanislaus County, since they were based on an engineering report which has since been rewritten. Section 2551 requires only that local agencies approve the site "for the intended purposes". The approvals were based on a Class II-1 site for the disposal of barium and strontium waste products. The purpose of the site has not changed. We conclude that the discharger obtained the necessary approvals from local agencies as required by Section 2551.

This Board has recently been informed by the Stanislaus County Planning Commission that because of the new information it has received from FMC regarding construction of the disposal site, the Commission will consider that information and modify the Conditional Use Permit. While this Board could require that the discharger obtain a modified permit from the County prior to the adoption of waste discharge requirements, it is our determination that a better course would be to amend the requirements to

make them conditional upon receipt of a modified Conditional Use Permit. In this way, the County will be able to consider the further amendments to the waste discharge requirements and the operation plan which are required herein. To require a modified Conditional Use Permit prior to adoption of waste discharge requirements might result in an endless shuffling of papers between this Board and the County. By conditioning our requirements, adequate protection of the intent of Section 2551 will be guaranteed.

We conclude that the petitioner's contention that the discharger failed to comply with Section 2551 of our regulations is without merit. We further conclude that the intent of Section 2551 will be furthered by conditioning the waste discharge requirements on receipt of a modified County permit.

6. Contention: The petitioner contends that the Regional Board failed to implement the site closure and financial responsibility requirements in Water Code Sections 14040 et seq.

Finding: The petitioner argues that the provisions in the waste discharge requirements which require submission of a site closure report, and which detail the information to be included therein, (Provisions C.8. and C.9.) do not comply with Water Code Section 14040.3.

Water Code Section 14040.3 provides:

Regional water quality control boards may issue waste discharge requirements or other orders... which incorporate the requirements set forth in Section 14040 or 14040.1.

Section 14040(b) provides that Regional Boards may require owners or operators of liquid or hazardous waste disposal sites to submit a closure report. Section 14040(b) also sets forth a list of information to be addressed in the report. Section 14040(d) provides that the owner or operator must provide assurances that funds are available to ensure adequate closure of the site.

In Provisions C.8 and C.9. of the waste discharge requirements, the Regional Board set forth requirements for submission of a closure report. The language in the requirements generally follows that in the statute. The petitioner contends, however, that Section 14040.3 contemplates that the closure plan itself must be incorporated into the requirements and enforceable as part of the requirements. Section 14040.3, quoted above, states that the Regional Boards may incorporate the requirements of Section 14040 or 14040.1 into the waste discharge requirements, not that the closure plan itself should be incorporated. It is clear from the express language of the statute that the closure report need not be incorporated into the requirements.

The petitioner argues that Section 14040.1 provides support for his argument that the closure report should be incorporated into the waste discharge requirements. That section provides that where an owner or operator fails to comply with Section 14040, the Regional Boards may require posting of a bond, establishment of a monetary fund and other procedures to ensure financial responsibility. The remedies are available to the Regional Boards whether or not the closure report is

made a part of the requirements, and we therefore fail to see how this section supports the petitioner's argument.

The petitioner further argues that for proposed sites, the closure plan must be submitted before adoption of the waste discharge requirements, as a condition precedent thereto. The waste discharge requirements provide that the report must be submitted within 180 days after their adoption.

Section 14040(b) provides that the owner or operator must submit a closure report "...within 180 days after receiving notice from the appropriate regional board...." We find nothing in this section which would indicate that, in the case of proposed sites, submission of the plan is a condition precedent to adoption of waste discharge requirements. Since the intent of Section 14040 is to secure proper closure of liquid and hazardous waste disposal sites, we do not find that submission of a closure report is necessary even before requirements are adopted. We note also that Section 14040.3, as discussed above, provides that the requirements for submission of a closure report may be incorporated into the waste discharge requirements. This section would be meaningless if the report itself had to be approved at the time of adoption of the waste discharge requirements.

We therefore conclude that the petitioner's contention that the Regional Board failed to implement the statutory requirements for site closure and financial responsibility is without merit.

7. Contention: The Regional Board erred in approving the design and operation plan because the plan was limited to Phase 1 of the project, rather than covering the whole site.

Finding: The waste discharge requirements cover an 80-acre site, and allow for the disposal of up to 450,000 cubic yards of waste. The operation and design plan submitted by FMC covers only a first "phase" of disposal operations. Phase 1 operations will consist of deposition of 60,000 cubic yards of waste materials in a 4 1/2-acre area of the site.

The petitioner argues that the operation plan submitted by FMC and approved by the Regional Board does not meet the requirements of Section 2552 of our regulations. Section 2552 provides:

(a) Operators of hazardous or liquid waste disposal sites shall develop an operation plan which shall be updated when substantial change in operations have been made and a letter indicating conformance with existing plan submitted annually. Such reports shall be approved by the regional board. The initial operation plan shall be submitted to the regional board with the report of waste discharge pursuant to Section 13260 of the California Water Code. For existing hazardous waste sites, the plan shall be submitted to the regional board within six months of the date of adoption of this regulation. All other sites not having an operation plan on file with the regional board shall submit one upon request of the regional board. The regional board shall, upon receipt, send copies of the operation plan to the Solid Waste Management Board and the Department of Health Services.

(b) The operation plan shall include at least the following:

(1) Description of the waste materials anticipated to be received.

(2) A map showing the boundaries of the disposal site and waste disposal areas.

(3) General description of disposal site operations.  
(4) Detailed hydrological and geological data for the disposal area.

(5) Measures proposed for control of drainage, leachate, and gases.

(6) Anticipated land use after termination of disposal operations.

(c) The regional board shall within 120 days after receipt of an operation plan either approve the plan or inform the operator that the plan is not adequate and additional information is deemed necessary. This time period may be extended for good cause. If no response is received by the operator within that period, the operator may proceed with implementation of the plan. (23 Cal. Admin. Code Section 2552.)

The petitioner's argument, in essence, is that Section 2552 requires submission of an operation plan which covers the entire site before any disposal activities can take place. The Regional Board responds that while the instant plan does not cover the entire site anticipated by the waste discharge requirements, the requirements permit disposal only pursuant to an approved operations plan. (Specification B.2.)

A reading of Section 2552 does not provide a clear answer to the question before us. We must, therefore, consider the intent of this provision. Two considerations we keep in mind are the need to provide full protection to the quality of waters of the State and the ability of dischargers to meet our requirements. While the Regional Board is correct in pointing out that the waste discharge requirements specify that waste disposal must be according to an approved operations plan, we are concerned that the disparity which now exists between the plan and the requirements may lead to misunderstandings regarding the breadth of the operation which the Regional Board intended to approve. A phased approach puts planners, decision-makers and the public

at a disadvantage as to what the full impact of the completed facility will be. We also find persuasive, however, the argument advanced by FMC and the Regional Board, that because Phase 1 operations will take place over five years, maximum flexibility should be retained regarding future operations. A flexible approach will be advantageous not only to the discharger who will benefit from experience in the design and operation of future facilities, but also to the Regional Board. It may be that five years from now new technology will have uncovered safer means of disposing of hazardous substances than are known at this point.

We believe that all of these concerns will be met by limiting the breadth of the waste discharge requirements. FMC's anticipated use of the site over the next five years is limited to disposal of 60,000 cubic yards over a 4 1/2 acre area. The requirements should therefore be rewritten to limit FMC's disposal activities to the area and volume of disposal contemplated by the operation plan. By limiting the requirements in this fashion, FMC will not be forced to plan its disposal activities far into the future and the Regional Board will be able to maintain full authority to review disposal operations proposed in the future.

Because FMC will not complete Phase 1 for five years, according to testimony by a company spokesman, we do not think that revision of the requirements after Phase 1 has been concluded is unduly burdensome for FMC. In fact, our regulations require periodic review of waste discharge requirements at least once

every five years. (23 Cal. Admin. Code Section 2232.2.) FMC may, of course, choose to supplement its operation plan at an earlier date. In following this course, we want to make clear that, for purposes of this order, we have reviewed evidence regarding the entire proposed site. We have found that the site is feasible for use as a Class II-1 disposal site. See Contention No. 1. The reasons for limiting the breadth of the waste discharge requirements concern the absence of a comprehensive operation plan rather than any question regarding the technical feasibility of the site for the proposed uses.

We therefore conclude that the requirements should be remanded to the Regional Board to limit the requirements as described above.

### III. ADDITIONAL COMMENTS

In reviewing the waste discharge requirements and operation plan, we have found that several items in addition to those discussed by the petitioner require further discussion. This review on our own motion is made pursuant to Water Code Section 13320(a).

First, the monitoring requirements contained in the waste discharge requirements should be amended to require installation of a slope indicator at the embankment crest between Borings 1 and 7. FMC contends that the results of its stability analysis show such an indicator to be an unjustified expense. We believe the indicator is necessary because of the difficulty that would be encountered in containing any failure of the

northern perimeter embankment of the residue disposal pit. The slope indicator should be installed to a depth of 35 feet below original ground level and should be read at appropriate intervals.

Second, the monitoring wells for the residue disposal pit and evaporation pond should be redesigned. As presently designed, the wells do not intercept the beds underlying these structures. They should be redesigned so as to intercept the entire stratigraphic thickness of these beds. In addition, the location of the proposed monitoring well south of the evaporation pond should be changed. The proposed location is at the southern, or lowest, boundary of the major sandstone unit in the Phase 1 area. Any leakage from the residue disposal pit is likely to migrate along this sandstone bed. The well should be located at the northern boundary, which is at the top of the bed, and should be designed to penetrate the entire thickness of the bed. The operation plan should be amended to reflect these changes.

Finally, the waste discharge requirements should be amended to identify specifically the Group 1, or toxic, compound contained in the discharge. This amendment will therefore require notice to the Regional Board of changes in the percentage of that constituent contained in the waste.

#### IV. ORDER

1. IT IS HEREBY ORDERED that, for the reasons discussed above, the waste discharge requirements for FMC Corporation are remanded to the Regional Board for the following revisions:

a. The waste discharge requirements shall be amended to limit disposal activities to the 4 1/2 acres comprising the Phase 1 area and to discharge of 60,000 cubic yards of waste.

b. The monitoring requirements shall be amended to require installation of a slope indicator, as described above.

c. The requirements shall be amended to identify the type and quantities of Group 1 waste to be disposed of at the site.

d. The requirements shall be amended to reflect the fact that disposal is to be accomplished by a disposal pit and evaporation pond scheme.

e. The requirements shall be amended so that they are conditioned upon receipt of a modified Conditional Use Permit from the County of Stanislaus.

2. IT IS FURTHER ORDERED that, for the reasons discussed above, the resolution approving the operation plan for FMC Corporation shall be remanded to the Regional Board to require the following revisions in the operation plan:

a. The plan shall require lining of the residue storage pit and evaporation pond for a minimum permeability of  $10^{-6}$  cm/sec, and design to contain wastes within the disposal area for as long as the wastes pose a threat to water quality.

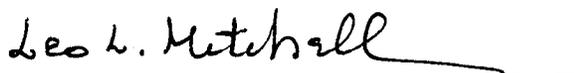
b. The plan shall require redesign of the monitoring wells, as described above.

3. IT IS FURTHER ORDERED that the Regional Board request the County to consider the issue regulating the access road when it modifies the Conditional Use Permit for the site.

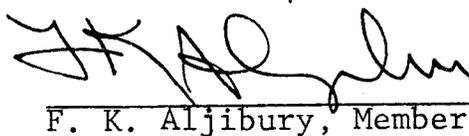
In all other respects, the petition is denied.

DATED: June 18, 1981

  
Carla M. Bard, Chairwoman

  
L. L. Mitchell, Vice-Chairman

  
Jill B. Dunlap, Member

  
F. K. Aljibury, Member

