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STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of	)	
Westside Citizens, Ranchers and	)	
Agricultural Interests for Review	)	
of Order No. 79-183 of the	)	Order No. WQ 79-37
California Regional Water Quality	)	
Control Board, Central Valley Region.	)	
Our File No. A-250.	)	

BY THE BOARD:

On July 27, 1979, the California Regional Water Quality Control Board, Central Valley Region, (Regional Board) adopted Order No. 79-183 prescribing waste discharge requirements for a Class II-1 solid waste disposal site, located approximately 20 miles southwest of Modesto in Stanislaus County. The site, referred to as the West Hill Industrial Residue Storage Facility, will be constructed and operated by FMC Corporation.

On August 24, 1979, the State Board received a petition for review of Order No. 79-183 from Westside Citizens, Ranchers and Agricultural Interests. This group, numbering 153 persons, is comprised of landowners living in the vicinity of the proposed disposal site as well as other interested citizens. Petitioners request that the State Board either set aside Order No. 79-183 and adopt an order prohibiting the discharge of wastes by FMC Corporation at the site or modify Order No. 79-183 to include more stringent protective measures to safeguard the health and welfare of the Westside Citizens.

The proposed disposal site is owned by Edward J., Thomas R., and James P. Filbin of the Filbin Ranch; and FMC Corporation has a long-term lease on the property. The site

consists of 80 acres of land situated west of Interstate Highway 5 in the lower foothills of the Coast Range Mountains of central California. The western edge of the San Joaquin Valley floor is approximately one mile northeast of the project site.

The middle fork of Martin Creek, an intermittent stream flowing primarily in response to rainfall, passes through the site. The Delta-Mendota Canal and the California Aqueduct are located approximately two miles east of the proposed site. There is no indication of usable groundwater underlying the site.<sup>1/</sup>

FMC Corporation proposes to utilize 20 acres of the 80-acre site to dispose of solid waste residue generated from the production of barium and strontium salts at FMC's Industrial Chemical Division Plant in Modesto. These residues are classified as Group I wastes. (Section 2520, Title 23, California Administrative Code.)

The company plans to dispose of the residues in a trench cut and cover landfill on the 10 to 30 percent slopes of the 20-acre portion of the site. Thirteen trenches will be cut, having a total capacity 450,000 cubic yards. Each of the trenches will be provided with runoff diversion and leachate disposal facilities. The runoff diversion facilities will typically consist of earth channels which will divert runoff to natural drainage courses as

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1. Groundwater in the foothill area consists primarily of localized shallow water resulting from the infiltration of rainwater into the sandy soils and deeply weathered or fractured bedrock. No groundwater was encountered at the project site during test pit excavation and soil borings.

much as possible. All drainage channels are designed for a 100-year 24-hour duration storm. In addition, all disposal facilities will be located at least 15 feet above the projected 100-year flood level of Martin Creek as a safeguard against the 100-year storm. The leachate disposal system will consist of collection facilities and a storage pond with irrigation spraying equipment to facilitate disposal of the leachate by evaporation.

In Order No. 79-183, the Regional Board found that the proposed disposal site, if properly constructed and operated, would meet the criteria contained in Title 23, Subchapter 15 of the California Administrative Code, for classification as a Class II-1 disposal site.<sup>2/</sup> Stanislaus County, the State Department of Fish and Game, the State Department of Health Services, and State Board geologists either concurred with or expressed no opposition to the waste discharge requirements adopted by the Regional Board.

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2. Class II-1 disposal sites are defined in Section 2511 of Subchapter 15, California Administrative Code, as follows:

"Class II-1 sites are those overlying usable groundwater 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 disposal of Group I wastes may be allowed in a Class II-1 site upon a finding by the Regional Board that such disposal will not unreasonably affect water quality. (23 CAC Section 2532.)

CONTENTIONS AND FINDINGS

1. Contention: Petitioners contend that the requirements adopted by the Regional Board are inadequate to protect against the danger that leachate or surface runoff, contaminated by residue, will be released from the site and enter downstream bodies, including the Delta-Mendota Canal and the California Aqueduct.

Finding: Order No. 79-183 contains several provisions which address the potential problem of contamination of the downstream waters of Martin Creek by leachate or surface runoff:

"A. \* \* \*

2. Discharge of leachate or liquid waste to surface waters, surface water drainage courses, or usable groundwater is prohibited."

\* \* \*

"B. \* \* \*

4. The discharge shall not cause a degradation of any water supply.
5. The disposal area shall be protected from any washout or erosion of wastes or covering material, and from inundation, which could occur as a result of floods having a predicted frequency of once in 100 years.
6. Surface drainage from tributary areas, and internal site drainage from surface or sub-surface sources, shall not contact or percolate through wastes discharged at the site.

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8. Waste confinement barriers shall be protected and maintained to ensure their effectiveness.
9. The exterior surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding.

10. Annually, prior to the anticipated rainfall period, all necessary runoff diversion channels shall be in place to prevent erosion or flooding of the site.
11. During the winter months when precipitation can be expected, impervious covers (permeability  $10^{-6}$  cm/sec or less) shall be maintained over all but the active area for disposal.
12. Waste materials shall not be discharged on any surface which is less than 15 feet (4.6 m) above the 100-year flood level.
13. No liquids shall be deposited at this site, and water used during disposal site operations shall be limited to a minimal amount reasonably necessary for dust control purposes.
14. A leachate collection and disposal system shall be constructed and maintained down-gradient from the disposal area to prevent any leachate or other liquid wastes from entering surface waters or usable groundwaters.
15. Leachate volumes contained by liquid control barriers shall be maintained below a volume equal to 75 percent of the total liquid storage capacity of the barrier."

Further, Order No. 79-183 requires monitoring of Martin Creek, above and below the disposal site. It also requires the installation of groundwater monitoring wells, down-gradient from the site, which must be installed and from which samples will be taken prior to the start-up of operations at the disposal site.

The above requirements were modeled after those contained in the State Board publication entitled, "Waste Discharge Requirements for Nonsewerable Waste Disposal to Land" (January 1978). Order No. 79-183 also conforms with the State Board regulations contained in Subchapter 15, Title 23 of the California Administrative Code, governing classification of Class II-1 disposal sites.

Petitioners have failed to point out in what respects the requirements adopted by the Regional Board are inadequate. We find that the requirements previously cited, including the monitoring program, are sufficient to protect against the danger of leachate or surface runoff contaminating Martin Creek.

2. Contention: Petitioners contend, in essence, that the Regional Board failed to adequately consider potential earthquake effects on the site.

Finding: Petitioners cite the fact that the Tesla-Ortugalita Fault is located approximately one and one-half miles from the site. The record indicates, however, that this fault is considered inactive. The last surface movement along the fault occurred five million years ago, and there has been no evidence of subsurface movement for about two million years.

If an earthquake were to produce ground accelerations at the site, it would probably result from the Calaveras Fault located approximately 25 miles west of the site. According to the environmental impact report prepared for the disposal facility, the site was designed to withstand maximum ground accelerations of 0.25 G, which is based upon an earthquake of 7.5 Richter Magnitude Scale on the Calaveras Fault.

It should also be noted that the wastes, which are estimated to contain about 40% moisture, will be deposited in 15 feet deep trenches below ground surface. Above-ground structures will consist of spraying equipment and dikes composed of recompacted native material. Consequently, if an earthquake did occur, causing the dikes to fail, contamination of downstream waters would result

only if the earthquake coincided with a floodflow traversing the site and washing the wastes down into the San Joaquin Valley. If the latter event did not occur, it appears that the dikes could be easily repaired.

In view of the above, we find petitioners' contention to be without merit.

3. Contention: Petitioners contend that the environmental impact report and other information provided by FMC Corporation does not contain enough supportive data to indicate that there is no continuity between valley aquifers and hillside aquifers.

Finding: Finding No. 9 of Order No. 79-183 states that there is no hydrologic continuity between the proposed waste disposal site and the San Joaquin Valley freshwater aquifers. This is also the conclusion reached in the environmental impact report prepared by FMC, which includes a geotechnical study on the proposed site.

This finding of no hydrologic continuity was concurred by State Board staff geologists who reviewed the requirements contained in Order No. 79-183 prior to its adoption.<sup>3/</sup>

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3. The majority of the proposed disposal site is underlain by the Moreno formation, composed predominantly of claystone with a few sandstone lenses. The claystone dips eastward under the San Joaquin Valley where it is found deep beneath the base of the freshwater aquifers. Data from deep wells in the San Joaquin Valley indicate that the Moreno formation becomes almost exclusively clay downdip to the east. Percolation tests at the site indicate that the permeability rate of the Moreno formation underlying the site is  $10^{-7}$  cm/sec, which is considered impermeable. (Impermeable or impervious formations, as defined in State Board publication, "Waste Discharge Requirements for Non-sewerable Waste Disposal to Land" for Class II-1 disposal sites, have permeabilities less than  $10^{-6}$  cm/sec.) The low permeability of the Moreno formation sediments underlying the site coupled with the fact that the claystone dips down well below the

Petitioners have not alleged any basis for questioning the validity of the conclusion reached by State Board staff and in the environmental impact report regarding the hydraulic continuity of the site and San Joaquin Valley aquifers. Their contention must, therefore, be rejected.

4. Contention: Petitioners contend that FMC Corporation should be required to comply with proposed regulations of the Environmental Protection Agency, issued on December 18, 1978, imposing financial responsibility requirements on owners or operators of hazardous waste treatment, storage, or disposal facilities.

Finding: Petitioners request that FMC Corporation be required to post a bond or otherwise guarantee financial responsibility for injuries caused to persons or property from the release of hazardous wastes into the environment, as provided in the proposed EPA regulations. We find that such a requirement would be inappropriate. The Regional Boards do not have statutory authority under the Porter-Cologne Act, Division 7 of the California

3. (continued)

San Joaquin Valley aquifers supports the conclusion that there is no hydrologic continuity between the site and the freshwater aquifers of the valley.

Overlying the Moreno formation and outcropping in the stream canyon to the east is the younger Neroly formation, consisting of cemented sandstones. It is staff's opinion that these sands probably do not have the capability of transmitting contaminants from the site area to the valley fill. Nevertheless, the Regional Board, based upon the advice of State Board staff, followed a conservative approach in the adoption of requirements for the site, by requiring that all of the waste disposal trenches be located solely on the outcrop of Moreno formation sediments. The requirements also forbid placement of Group I wastes any closer than 200 feet from the northeastern edge of the lowermost Neroly formation sediments.



Water Code, to impose this requirement. Further, we note that the EPA regulations cited by petitioners are presently in a state of revision, and it is uncertain what financial responsibility requirements, if any, will ultimately be adopted by that agency.

The State Board recognizes, however, that federal or state law may be enacted in the future which imposes financial responsibility requirements on the owners or operators of hazardous waste disposal sites. The Regional Board will, therefore, be directed to make appropriate revisions to the waste discharge requirements for the Westhills disposal site, if that event occurs.

5. Contention: Petitioners also contend that no additional solid waste disposal sites should be approved by the State Board until regulations implementing Sections 14040, and following, of the Water Code have been adopted.

Finding: Water Code Sections 14040 through 14040.3 were enacted to ensure adequate closure and maintenance of liquid waste and hazardous waste disposal sites. State Board regulations implementing these sections are currently in draft form. It is anticipated that a public hearing will be held on the proposed regulations sometime in December.

Provision C.5 of Order No. 79-183 contains essential elements of the State Board's proposed regulations. It provides:

"Six months after adoption of these requirements the discharger shall submit a tentative technical report to the Board describing the methods and controls to be used to assure protection of the quality of surface and groundwaters of the area during final operations and with any proposed subsequent use of the land, including a revenue program to provide sufficient funding for closure. This report shall be prepared by or under the supervision of a certified engineering geologist or registered civil

engineer, updated annually, and submitted to the Board by the 15th of January each year. The method used to close the site and maintain protection of the quality of surface and groundwaters shall comply with waste discharge requirements established by the Board. The final report shall be submitted six months prior to closure of the site."

The Board finds that Provision C.5 adequately ensures proper closure and maintenance of the disposal site, and that it is unnecessary to await adoption of the proposed regulations implementing Water Code Section 14040 before acting on this petition. If the report required by Provision C.5 proves inadequate, the Regional Board retains the authority contained in Water Code Section 14040 through 14040.3 to assure that the owner or operator of the site has the financial capability to close the site after it has served its useful life.

6. Contention: Petitioners contend that Order No. 79-183 should be modified to specify that FMC Corporation will be the exclusive user of the site.

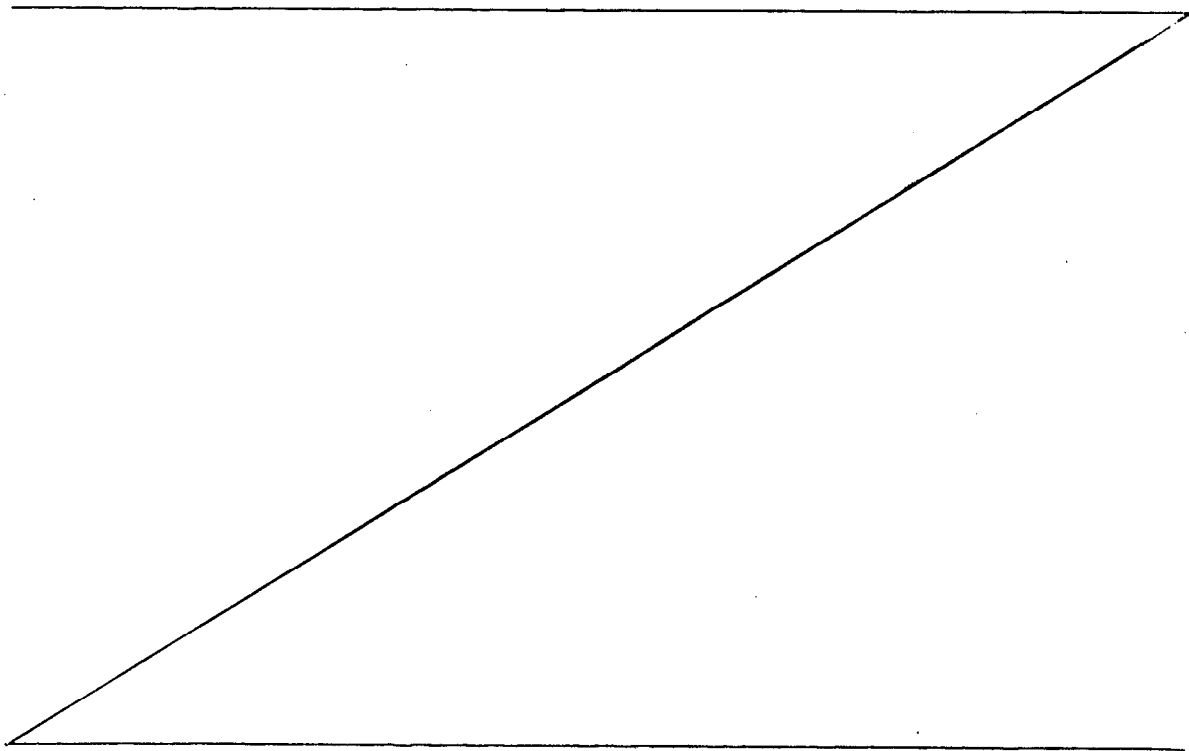
Finding: We conclude that the requested modification is unnecessary and would be inappropriate. The primary concern of the Regional Board, in adopting waste discharge requirements for the proposed disposal site, was to ensure that water quality will be adequately protected and not to restrict users of the site. The requirements contained in Order No. 79-183, however, were formulated based upon FMC Corporation's proposed discharge of barium and strontium solid waste residues at the site. Consequently, Order No. 79-183 limits the discharge of Group I wastes at the site to barium and strontium waste residues and other selected materials approved by the Regional Board's Executive Officer. In addition, the order requires FMC Corporation to submit

a new report of waste discharge in the event of any material change or proposed change in the character, location, or quantity of the waste discharge. These provisions restrict the ability of FMC Corporation, or any other user of the site with FMC's permission, to make any significant changes in the types or quantities of wastes disposed at the site.

In any case, the Board notes that rezoning performance standards imposed by Stanislaus County limit use of the site to the FMC plant in Modesto.

CONCLUSION

After review of the record and consideration of the contentions of the petitioners, the State Board concludes that the action of the Regional Board in adopting Order No. 79-183 was appropriate and proper.



ORDER

IT IS HEREBY ORDERED that the petition in this matter is denied.

IT IS FURTHER ORDERED that the Regional Board is directed to make appropriate revisions to the waste discharge requirements for the FMC waste disposal site if, at some future date, applicable federal or state law is enacted which imposes financial responsibility requirements on owners or operators of hazardous waste disposal sites.

Dated: NOV 27 1979

/s/ Carla M. Bard  
Carla M. Bard, Chairwoman

/s/ William J. Miller  
William J. Miller, Vice Chairman

/s/ L. L. Mitchell  
L. L. Mitchell, Member