

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
Aerojet General Corporation and)
Cordova Chemical Company for Review)
of Orders Nos. 79-258, 79-259, and)
79-260, of the California Regional)
Water Quality Control Board, Central)
Valley Region. Our File No. A-260.)

Order No.
WQ 80-15

BY THE BOARD:

On January 17, 1980, a petition was filed on behalf of the Aerojet General Corporation (Aerojet) and the Cordova Chemical Company (Cordova) for review of two orders and a resolution adopted by the Central Valley Regional Water Quality Control Board (Regional Board), on December 19, 1979. These orders pertain to waste discharges of Aerojet and Cordova in eastern Sacramento County. Order No. 79-258 is a cleanup and abatement order issued to Aerojet under Water Code Section 13304. Order No. 79-259 refers violations of Water Code Section 13350 by Aerojet to the Attorney General for enforcement. Resolution No. 79-260 amends an earlier action of the Regional Board which referred violations of Water Code Section 13350 by petitioners to the Attorney General

Our review is based upon the Regional Board record as augmented by the following:

- (a) A declaration on behalf of Aerojet outlining remedial actions taken since December 19, 1979.

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80-15

(b) Well log and water quality data submitted by Petitioners to the Attorney General on February 6, 1980 in connection with litigation initiated by the State against petitioners at the request of the Regional Board.

BACKGROUND

On March 20, 1980, the State Board adopted Order No. WQ 80-4. This order concerned waste discharges of Aerojet and Cordova unrelated from those addressed by this order. Our earlier order upheld several enforcement orders of the Regional Board that were based on violations of the Porter-Cologne Water Quality Control Act.

Order No. WQ 80-4 contains findings relating to the background of petitioners' manufacturing and disposal operations. It also contains findings applicable to the issues we address herein. Such background discussions, findings, and conclusions contained in Order No. WQ 80-4 are incorporated into this order by reference and will be specifically referred to as appropriate during the remainder of this order.

In addition to the discharges relating to manufacturing processes that were the subject of Order No. WQ 80-4, petitioners conducted additional waste disposal operations on their Eastern Sacramento

County property. Domestic wastes from centrally located administrative and manufacturing areas of the Aerojet site are treated in activated sludge plants. These discharges are regulated by Regional Board Order No. WQ 79-39 and are not at issue today.

Domestic waste from outlying areas of the site has been handled by individual septic tanks and by holding tanks. (Reporters Transcript (R.T.) December 19, 1979, Page 5.) These holding tanks are pumped out on a predetermined schedule based on historical use and capacity. Since approximately 1965, septage wastes pumped from these tanks have been disposed of in unlined lagoons located on Aerojet's property. The original septage disposal lagoon was abandoned in 1977. At that time a second lagoon was constructed approximately 1/4 mile north of the old one. The new lagoon was used from that time until the December 1979 action of the Regional Board. The original lagoon has been filled in and covered with native tailings and soils from the area (R.T. 8). Depth from the lagoons to groundwater is about 60 feet.

Since the 1950's, Aerojet's waste disposal activities have been governed by various requirements issued by the Regional Board. Order No. 62-21 prescribed general requirements for waste disposal on the property. The provisions of Order No. 62-21 include the following:

"1. Waste discharges shall not cause concentrations of materials in usable groundwaters which are deleterious to human, animal, plant or aquatic life."

* * *

"5. The waste discharges shall not cause the quality of usable ground or surface waters to fall below those standards generally accepted for a Class 1 irrigation water, nor shall the quality of these waters fall outside the limits set in the U.S. Public Health Standards for domestic water supply."

Order No. 62-21 also contains this recital:

"Aerojet General Corporation has accepted the responsibility for control of all waste discharges originating on Aerojet owned or leased properties, or originating from Aerojet operations on other properties in the Nimbus area."

Order No. 62-21 requires any new discharges and any material change in the waste disposal operations or systems to be reported to the Regional Board.

In addition to the general requirements contained in Order No. 62-21, Order No. 78-21 was issued by the regional board to regulate the disposal of domestic wastes from numerous outlying facilities into the new septage disposal lagoon. Pertinent provisions of Order No. 78-21 include the following:

"B.7. Group I wastes shall not be deposited at this site.

"B.12. Hydraulic continuity with underlying groundwater shall be restricted by placement of an artificial barrier on the base and perimeter of the disposal area capable of reducing permeability to 1×10^{-6} cm/sec. or less. Such a barrier must be demonstrated to the satisfaction of this Board's staff prior to discharging waste material.

"C.2. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of the waste discharge at either the landfill site or the septage lagoon. For the purpose of these requirements, this includes any proposed change in the boundaries, contours, or ownership of the disposal areas."

Finally, it should be noted that an NPDES¹ permit was issued to govern the discharge into Buffalo Creek of treated domestic wastes from central administrative and manufacturing areas (Order No. 79-39). Treatment is performed in two package activated sludge plants.

State Board Order No. 80-4 contains a lengthy discussion of Regional Board hearings and Regional Board staff investigations concerning groundwater pollution underlying the Aerojet site. As part of the continuing staff investigation of such problems, staff visited the septage lagoons on August 31, October 10, and December 5, 1979.

On August 31, 1979, the Regional Board staff took samples of material surfacing from the covered lagoon site, from the new lagoon below the influent chute at the east end, and from the new lagoon at the west end.

On October 10, 1979, a 12-foot excavation was made in the old, covered lagoon. Samples were taken from this excavation and from barrels that were discovered during the excavation to be buried in the lagoon.

On December 5, 1979, groundwater samples were taken from a monitoring well located 30-50 feet from the new lagoon

Results of analysis of these samples are summarized on the following tables:

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1. "NPDES" means National Pollutant Discharge Elimination System as that term is used in the federal Clean Water Act (33 U.S.C. Sections 1251, et seq. Under the provisions of the Clean Water Act, discharges of pollutants to the waters of the United States are prohibited except as permitted by an NPDES permit. Waters of the United States generally are limited to surface waters and do not include groundwaters.

TABLE 1

AEROJET (ABANDONED) SEPTAGE LAGOON

Constituent	Surface Sample of Moist Earth August 31, 1979	Soil Sample From 12' Excavation October 10, 1979	Barrel Contents From 12' Excavation October 10, 1979
Trichloroethylene	~ 130,000 ppb	50,000 ppb	300,000 ppb
1,1,1 Trichloroethane	~ 1,000,000-1,500,000 ppb		150,000 ppb
Chloroform		10,000 ppb	50,000 ppb
3-pentanone		10,000 ppb	
4-pentene-2-ol		10,000 ppb	
hexane		10,000 ppb	
methyl butanoate		10,000 ppb	
2-methyl-3-pentanone		10,000 ppb	
4-methyl-2-pentanone or 2-hexanone		100,000 ppb	
2-methyl-3-hexanone		10,000 ppb	
methyl 2-methylbu- tanoate		10,000 ppb	
toluene		50,000 ppb	
ethylbenzene		10,000 ppb	
xylene isomer		10,000 ppb	
xylene isomer		10,000 ppb	
dichloromethane		10,000 ppb	
ethanol		10,000 ppb	
2-butanone		10,000 ppb	
ethyl acetate		10,000 ppb	
3-methyl-2-butanone		10,000 ppb	
polychlorinated bi- phenyl (PCB)		28,000 ppb	
a homologous series of long chain hydro- carbons		10,000,000 ppb	
palmitic acid, stearic acid, xylene, isopro- pylbenzene, a trime- thyl benzene, alkanes, alkenes, cycloalkanes, cycloalkenes, kerosene		all detected	
perchlorate	1.7 ppm	20 ppm	
sulfate		350 ppm	

TABLE 2

NEW AEROJET SEPTAGE LAGOON

Constituent	#1 Black Sludge From West End		#2 Liquid Supernatant From East End at Influent Chute 31 Aug 79	#3 FRM well #26 at North End of Lagoon 5 Dec 79
	31 Aug 79	12 Dec 79		
Trichloroethylene	<0.1 ppm	ND	21 ppb	320 ppb
Tetrachloroethylene		ND	47 ppb	--
1, 1, 1 Trichloroethane		ND	30 ppb	68 ppb
1, 1 Dichloroethane		ND	39 ppb	69 ppb
Trans 1, 2 Dichloro- ethylene		ND	31 ppb	300 ppb
Choroform		ND	180 ppb	--
Dichloromethane		ND		33 ppb
Aluminum	<0.3 ppm			
Arsenic	0.42 ppm			
Boron	26 ppm			
Chromium	24 ppm			
Mercury	0.13 ppm			
ND = none detected				
Blank = not analyzed				

These samples, which indicate that hazardous materials had been discharged to the lagoons in violation of requirements, coupled with the fact that the lagoons were unlined, led to the consideration and adoption of the two orders we are reviewing today.

Order No. 79-28, after finding that unreported Group I wastes had been discharged to lagoons, that the unlined lagoons were in hydraulic continuity with the underlying groundwater, that pollution of the groundwater had occurred and was further threatened, placed the following order on Aerojet:

1. Abate forthwith the discharge of Group I wastes to the septage lagoons, usable groundwater, and to ponds, surface waters, surface water drainage courses, or to soil and sediment in hydraulic continuity with usable groundwater.
2. Clean up forthwith polluted groundwater and toxic or hazardous earth.
3. Remove forthwith all wastewater and contaminated soil and dispose of them in a site approved by the Executive Officer.

Order No. 79-259, after making similar findings, refers the matter of requirements violations to the Attorney General for civil monetary remedies and for injunctive relief.

Aerojet seeks review of these orders. Petitioners also seek review of Regional Board Resolution No. 79-260. This Resolution expands an earlier referral order (79-202) of the Regional Board to include a request for injunctive relief in addition to civil monetary remedies.

CONTENTIONS AND FINDINGS

Regarding the two orders, Aerojet generally asserts that there never was an order or requirement of the Regional Board with respect to the old septage lagoon; that there is no evidence that either lagoon is in hydraulic continuity with underlying groundwater; that the small quantities of chemicals found in the lagoons are not hazardous; that these small concentrations may have come from a discharge of laboratory rinse water permitted by the Regional Board; that the requirement to clean up forthwith is too vague; and that civil monetary remedies are inappropriate given Aerojet's voluntary efforts to cease all discharges said to be violations.

1. Contention: Aerojet contends that consideration of evidence as to improper discharges to the old lagoon was in error since there was never an order or requirement of the Regional Board with respect to the old septage lagoon.

Finding: It is true that the Regional Board never adopted an order specifically limited to the old septage lagoon. However, Order No. 62-21 contained general requirements governing all

discharges on Aerojet's property. Included was a requirement that any new discharges and any material changes in the waste disposal be reported. The discovery of unreported buried drums and soils in the old septage lagoon containing high concentrations of hazardous wastes shows that violations of Order No. 62-21 occurred.

Moreover, even if it can be said that requirements did not govern the discharges to the old septage lagoon, Water Code Section 13304 permits the issuance of a cleanup and abatement order to one who (1) negligently or intentionally causes or permits any waste to be...deposited where it is, or probably will be, discharged into the waters of the state, and (2) creates or threatens to create a condition of pollution or nuisance. Our review of the evidence indicates that Aerojet's discharges to the old septage lagoon violated this statutory standard.

2. Contention: Aerojet contends that there is no evidence to support the findings that the original and new septage lagoons are in hydraulic continuity with the underlying groundwater.

Findings: As we found in Order No. 80-4, soils in the area of Aerojet's property consist largely of sedimentary rocks, permeable gravel, sand, silts, and dredger trailings left from past mining operations. These soils are considered pervious and rapid infiltration may occur in old stream bed locations on the property.

At the Regional Board hearing of December 19, 1979, Aerojet's groundwater expert stated that he did not know if water is seeping out of the bottom of the lagoons (R.T. 82). He stated that if it seeps, it would move down vertically until it intercepts more impermeable

material. Then it would run laterally on top of this material, until a break. Upon reaching such a break, vertical movement would begin again.

It is not disputed that both lagoons were constructed with native materials and that the ponds were unlined. It is also not disputed that these lagoons had been used on a continual basis to dispose of large volumes of waste. For example, 200,000 gallons of waste per month were discharged to the new lagoon for at least part of 1979. Even Petitioner's attorney admitted that the waste has gone somewhere (R.T. 90).

In addition, we have reviewed well logs submitted by Petitioners to the Attorney General's Office on February 6, 1980. These logs indicate that the soils in the immediate area of the lagoons allow for both lateral and vertical continuity. The well log profiles show mainly sands and silts with some cobblestone, clays and gravels interspersed throughout the profiles. Water can permeate both laterally and vertically through all layers since none of the layers is a tight, homogeneous clay layer which would preclude the movement of water. Considering the nature of these sediments, together with the fact that the area contains old river and stream channels, it can be concluded that water would move laterally along less permeable layers until interception occurred with old channels or other more permeable layers. At that point, water would migrate downward to underlying groundwater.

Based on this review, we must conclude that there is both lateral and vertical continuity between the septage disposal lagoons and underlying groundwater.

3. Contention: Aerojet contends that the amounts and concentrations of organic chemicals found in the samples do not constitute a public health hazard and that, based on this contention, the orders are inappropriate.

Findings: State Department of Health Services (DHS) personnel testified before the Regional Board that several of the constituents found in the sludge of the lagoons and in the groundwater sample are listed by EPA as carcinogens or suspected carcinogens (R.T. 16). They also testified that several substances found in the tests appear in concentrations not expected to occur naturally in soil and are cited in regulations adopted by DHS as hazardous. A review of the samples clearly indicates that the concentrations of several toxic and suspected carcinogenic organic chemicals found exceeded levels recommended by EPA and DHS for drinking water. The presence of such substances, for which there is no known "safe" concentration level and of pollutants in excess of drinking water standards, present an unreasonable threat to water quality.

Additionally, it is clear that these substances are Group I wastes as defined in our regulations (23 California Administrative Code Section 2520). Group I wastes include "toxic or hazardous fluids from industrial operations, such as cleaning fluids, petroleum fractions, chemicals, acids, alkalies, phenols, and spent washing fluids". Disposal of such liquid wastes can only occur at Class I or Class II-1 disposal sites (Water Code Section 14040; 23 California Administrative Code Section 2530). It is

clear that the septage lagoons do not meet the water quality protection criteria necessary to qualify as such a site and have not been so classified.

Given these factors, orders to clean up and abate the effects of the presence of such substances and to consider the imposition of civil monetary remedies and injunctive relief are entirely appropriate.

4. Contention: The Petitioner contends that whatever volatile organics might have been discharged to the new lagoon are concentrated near the influent chute and that such amounts are consistent with a theory that the organics came from laboratory rinse water which, by Order No. 79-39, was permitted to be discharged to the lagoon.

Finding: As indicated earlier, Regional Board Order No. 78-21 was adopted to specifically govern discharges to the new septage lagoon. This order was a waste discharge requirement issued pursuant to the provisions of state law, especially Chapter 4 of the Porter-Cologne Water Quality Control Act (California Water Code, Provision 7, commencing with Section 13000). By its specific terms, the discharge of Group I wastes to the septage lagoons was prohibited. It is undisputed that the volatile organics found in the lagoons are Group I wastes.

Notwithstanding this clear prohibition, Aerojet submits that the discharge of laboratory rinse water to the lagoon was permitted by the terms of Regional Board Order No. 79-39. Aerojet further submits that such discharge could be the source of the organics found in the lagoon.

Regional Board Order No. 79-39 is an NPDES permit which was issued to regulate the discharge of treated domestic wastewater, test pad cooling water, laboratory rinse water, and storm water runoff into Buffalo Creek. Buffalo Creek is tributary to the American River. The jurisdictional limits of the Clean Water Act are well defined. NPDES permits are limited by statute to cover discharges of pollutants to navigable waters. Thus, Order No. 79-39 was not intended to and did not cover the discharge into the artificial lagoons constructed by Aerojet. The latter discharge was to land and was properly governed by Order No. 78-21, a waste discharge requirement issued under State law.

Other factors support our rejection of Aerojet's contention. Even if it can be said that the discharge of rinse water to the lagoon was permitted, the more specific provision of Order No. 78-21 that no Group I wastes be discharged to the lagoon would control.

It must be noted that Aerojet indicated in its permit application that the new lagoon would be used for the same disposal purposes as the old lagoon. As indicated earlier in this order, the old lagoon had been used to dispose of drums containing volatile organics. The fact that since hazardous materials were disposed of in the old lagoon, coupled with Aerojet's statement that the new lagoon would be used for the same disposal purposes as the old lagoon, indicate that such materials may have been so discharged in clear violation of Order No. 78-21.

More importantly, Aerojet's own data indicates the presence in samples throughout the lagoon, of chemical organics (R.T. 68).

Finally, the data submitted to the Attorney General on February 6, 1980, indicates that such chemicals were found to be present in groundwater samples taken from several test wells in the vicinity of the new and old septage lagoons.

5. Contention: Aerojet contends generally that the requirement contained in Order No. 78-21 that the new lagoon have a barrier to restrict continuity between the lagoon and underlying groundwater was waived by staff.

Finding: Regional Board Order No. 78-21 contains the clear and unequivocal requirement that hydraulic continuity between the septage disposal lagoon and the underlying groundwater shall be restricted by placement of an artificial barrier on the base and perimeter of the disposal area. Aerojet in essence maintains that staff had waived this requirement. However, Water Code Section 13223(a) plainly states that the power to issue or modify a waste discharge requirement rests with the Regional Board itself and cannot be delegated.

Any person dealing with a state agency is chargeable with knowledge of all of the powers possessed or which may be legally exercised by the officers in charge of such agency, and all acts of such officers which go beyond the scope of the power vested in the officer exercising the functions of such agency are void, and knowledge must be presumed to be had not only of the extent of the power, but also of its mode of exercise (Hampson v. Superior Court for Inyo County (1977); 135 Cal. Rptr. 722; 67 C.A. 3d 472).

In this connection, it can be noted further that the alleged waiver of the barrier requirement was made, if at all, by a staff engineer and not by the Executive Officer.

6. Contention: The petition lists several contentions that we adequately addressed in State Board Order No. ^{WQ}80-4. These include the rejection of an offer of proof regarding the harmfulness of the materials found; that an order to clean up "forthwith" is unconstitutionally vague; and that civil penalties are inappropriate given Aerojet's voluntary efforts to cease discharges and to remove materials.

Finding: For the reasons stated in Order No. ^{WQ}80-4, these contentions are rejected. In connection with the appropriateness of civil penalties, Water Code Section 13350 provides that corrective action taken by the discharger must be considered by the court in determining the amount of liability.

7. Contention: Petitioners object to the Resolution No. 79-260 as an inappropriate expansion of an earlier referral of water quality law violations to the Attorney General.

Findings: On August 24, 1979, the Regional Board adopted Order No. 79-202. Order No. 79-202 referred Aerojet and Cordova to the Attorney General for willful or negligent discharges in violation of Water Code Section 13350. This Order was upheld by us in Order No. WQ 80-4.

Resolution No. 79-260 expanded this referral to specifically include a request for injunctive relief. Such a referral is authorized by Water Code Section 13002(c).

Petitioners submit that such a request was inappropriate in this instance since they had ceased the discharges that were the subject of No. 79-202. However, even if the discharge to the pond had ceased, discharge to the underlying waters may continue. In any event, as we concluded in our Order No. 80-4, a present pollution problem exists.

Given these factors, Petitioner's arguments fail to persuade us to change our policy of not disturbing such discretionary referral orders.

CONCLUSIONS

After review of the record and for the reasons expressed in this Order and Order No. 80-4, we have reached the following conclusions:

1. That discharges to the original septage disposal lagoon are properly the subject of the Regional Board enforcement orders.
2. That there is hydraulic continuity between the septage lagoons and the underlying groundwater.
3. That Aerojet's discharges to the septage lagoons were in violation of waste discharge requirements.
4. That Orders Nos. 79-258 and 79-259 of the Central Valley Regional Board are appropriate and proper.

5. That Resolution No. 79-260 of the Central Valley Regional Board is appropriate and proper.

ORDER

IT IS HEREBY ORDERED that the Petition of Aerojet General Corporation and Cordova Chemical Corporation for review of Orders Nos. 79-258, and 79-259, and Resolution No. 79-260 of the Central Valley Regional Water Quality Control Board is denied.

DATE: SEP 18 1980

/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

/s/ Jill B. Dunlap
Jill B. Dunlap, Member

ABSENT
Falih K. Aljibury, Member