

Petitioner advances three specific contentions in support of his petition, all of which are hereafter considered in detail.

I. BACKGROUND

Jack K. Bryant and Associates, Inc., submitted a report of waste discharge on September 28, 1972, proposing to discharge oily waste materials by surface spreading and soil discing on lands known as the U. S. Naval Weapons Station, Seal Beach. The project is licensed by the United States Navy for the purpose of abating weeds, controlling dust in and around the munitions storage areas and improving perimeter roads.

The Regional Board, after a public hearing, adopted waste discharge requirements for the project by Order No. 73-19. Order No. 73-19 permitted discharge of up to 200,000 gallons per day of oily waste by surface spreading and soil discing on specified areas of the Naval Weapons Station.

Discharge was limited to roads and an experimental area not to exceed 25 acres. Concentration limits and requirements were set for electrical conductivity, cadmium, total chromium, selenium and cyanide. A statement under penalty of perjury from each oily waste source was required to the effect that no toxic or taste-producing chemicals such as, but not limited to, phenols, chromium, cadmium, selenium and cyanide have been introduced into the waste.

The order does not include a finding that the disposal site meets the criteria for classification as an appropriate

waste disposal site under the requirements of Title 23, California Administrative Code nor does it include a finding waiving the approval or classification of the disposal site as provided by Title 23, California Administrative Code, Section 2540.

Petitioner is a resident and owner of property adjacent to the Naval Weapons Station.

II. SITE CHARACTERISTICS

The U. S. Naval Weapons Station, Seal Beach, is located in Orange County. It is bounded on the north by the San Diego Freeway and on the west and east by Seal Beach Boulevard and Bolsa Chica Avenue, respectively. The Orange County Flood Channel forms the south boundary and the southwest corner of the station includes Anaheim Bay and extends into the Pacific Ocean.

The base consists of 4,969 acres of land, tidal marsh, tidal channels and flats, sandy beach and open water. The western portion of the property, along Seal Beach Boulevard, is utilized for administrative offices, shops, personnel housing and other station facilities. Six hundred acres of the property in the northern and eastern interior is devoted to storage facilities for munitions. A buffer zone several hundred feet wide has been reserved between the facilities and the outside boundaries for security purposes, and a total of 2,190 acres of the buffer zones is presently leased out to a truck farming operation.

The southern portion of the property is occupied by a tidal lagoon and marsh land covering approximately 700 acres. This marsh land plus another adjacent 500 acres has been established as a national wildlife refuge and provides a unique habitat for mammals, birds, vertebrates and invertebrates.

The Environmental Impact Report filed by the discharger further describes the area as follows: "The Base is bordered on the north, east and west sides by busy streets and highways. The surrounding area is in various stages of development with private housing, a golf course, oil fields, aircraft companies, agricultural properties and undeveloped land"

"The perimeter of the Navy properties is fenced with high chain-link fences. These fences are regularly patrolled for security reasons. The patrol roads are little more than trails filled with mud holes in the winter and dust piles in the summer. During the dry season these unimproved roads contribute large volumes of dust to the atmosphere adversely effecting air quality in the general area."

III. THE GROUNDWATER BASIN

The base is located at the western edge of the Orange County Water District and hydrologically lies within the Anaheim Basin. At least five aquifers underlie the area from depths of 800 feet to approximately 100 feet below the ground surface. In the order of shallowest to deepest, these aquifers are called Artesia, Gage, Hollydale, Lynwood and Silverado. Although the top of the Artesia aquifer is approximately 100 feet below the surface, data presented by the Orange County Water District indicates the static water levels in the area was at depths of only 10 to 20 feet below sea level and 30 to 40 feet below the ground surface in 1972. Water quality in the general area is reported by the District to be high with a total solids concentration of approximately 260 ppm. Several wells on the base produce water for irrigation.

IV. CONTENTIONS OF PETITIONER

Petitioner makes the following contentions:

A. The proposed discharge of oily wastes will threaten irreparable harm to fish and wildlife in the wildlife refuge on the base, will result in offensive odors contaminating the air and will permit the possibility of degradation of ground and surface water.

B. The action of the Regional Board was improper in that the discharge requirements provide for the disposal of Group 1 wastes at a site which does not conform to the requirements of a Class I site, and the Board acted inconsistently with the requirements of Title 23, California Administrative Code, by failing to classify the site as Class I or to waive the classification.

C. The monitoring requirements are insufficient to prevent such hazards as offensive odors, damage or harm to wildlife or persons.

The petitioner bases his contentions, in part, on a prior operation of the discharger at Garden Grove which resulted in complaints of offensive odors.

V. FINDINGS

A. Potential for Damage to Water Quality, Wildlife or Nuisance

Evidence received by the Regional Board from both the proponents and the opponents of the project indicates a number of significant factors which could adversely affect water quality, create a hazard

to wildlife or cause a failure of the project due to obnoxious odors creating a nuisance to nearby residents and businesses. Each of these factors is discussed in detail below.

1. Toxicity of Oil Wastes

At the June 15, 1973 hearing, Dr. Michael Martin, Water Quality Biologist, California Department of Fish and Game, expressed concern over the effects of toxic substances contained in the oily waste materials upon fish and wildlife in the area, and presented departmental recommended concentration limitations for electrical conductivity, phenol (no recommended concentration limits as it is biodegradable in soils) cadmium, chromium, selenium, and cyanide. These recommendations were incorporated in the adopted waste discharge requirements through discharge specification No. 6 and are based in part upon studies which establish that nearly all the toxic substances (there are 57 individual constituents that are toxic in some specified concentration level) can exist in some safe concentration as long as that concentration is low enough.

The requirements further provide that from each oily waste source, a statement from a responsible official shall be submitted under penalty of perjury to the effect that no toxic or taste-producing chemicals such as, but not limited to, phenols, chromium, cadmium, selenium and cyanide have been introduced into the oily waste. The information presented by Dr. Martin was concerned primarily with the trace elements of constituents known to exist in refinery products such as crude oil and refined oil by-products, and which are known to regulate complex physiological and metabolic systems of wildlife species.

Although safe limits for a number of additional constituents which may be toxic in some concentration have not been determined, the waste discharge requirements specify concentration limits for cadmium, total chromium, selenium, and cyanide which are based on the best information available to the Board at the time of adoption of the order and which, in the current state of knowledge, afford adequate protection to fish and wildlife inhabiting the area.

In addition, the requirements allow for monitoring of other toxic substances, such as mercury and lead, when evaluation of additional information indicates that such additional monitoring requirements are necessary.

2. Surface Water Pollution

The discharge of oily wastes is limited to a maximum rate of 200,000 gallons/day (220 acre-feet/year) on roads adjacent to structures and in an experimental test area not to exceed 25 acres. Additionally, discharge specification No. A.2. states:

"The discharge of these oily wastes shall be accomplished at such a loading rate commensurate with the ability of the soils to absorb such wastes and prevent ponding and of the ability of the soil micro-organisms to assimilate the oil without producing nuisance conditions."

The greatest danger to surface waters would occur from potential storm runoff. To minimize this type of problem and to evaluate the effects of any surface water runoff, the land use permit issued by the Navy contains the following specifications:

"4. Operations shall not be conducted during times of rain, imminent rain, certain ordinance operations, conflicting station requirements or periods when the wind velocity exceeds 30 knots. The judgment of the Commanding Officer shall prevail.

"8. Water quality testing shall be required to assure that no deleterious substance enters the ground or marsh water and that no unacceptable concentrations of heavy metal are contained in the deposited liquid. Each material source shall be tested no less than monthly or as directed by the Commanding Officer."

We find that there is a minimal probability of contamination to the valuable marsh lands adjoining the Seal Beach property because of restrictions on the allowable oily wastes application rate and areas of application.

3. Groundwater Pollution

At the June 15, 1973 hearing the Executive Officer stated:

"Reviewing the technical information made available, it became apparent that the water quality to be protected was not, in fact, a potable water supply but a perched water zone, which lies directly below the site, and then a potable water supply exists in a deeper aquifer ... The groundwater, the potable water supply, is good and is used for domestic supply in the area. However, it is shielded from the tidal or perched zone by a clay layer and, in addition, the groundwaters in this area are in a pressure aquifer so that we could not expect percolation from the surface would be able to percolate to this zone."

Those conclusions were not disputed at the hearing.

The Environmental Protection Agency report titled "Oily Waste Disposal by Soil Cultivation Process" dated December 1972 concluded that oil and fertilizer chemicals did not infiltrate vertically into the soil at the test locations under prevailing conditions. Sampling was completed at depths of 2.4 and 6 feet. Finally, the State Board Supervising Engineering Geologist concluded in a letter dated March 30, 1973 that compliance with the proposed waste discharge requirements will protect water quality.

There is a minimal probability of groundwater contamination due to the nature of the underlying zones and restrictions on the allowable oily wastes application rate. However, since this operation is experimental in nature and may later be utilized in other areas of the State, it is necessary to maintain accurate records regarding application rates and oil types and it would be advisable to sample extensively the site to determine concentrations and depths of penetration of the oil and oily waste constituents prior to applying the technique to more extensive projects.

4. Nuisance

The main criticisms of the proposed project are that the oil spreading will emit oily odors creating a nuisance.

It is well established that the regional boards must adopt and enforce waste discharge requirements for the prevention of nuisance. Water Code Section 13050(m) defines nuisance as follows:

"'Nuisance' means anything which: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, and (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and (3) occurs during or as a result of the treatment or disposal of wastes."

Health and Safety Code Section 24243 further provides that:

"Discharge of injurious or annoying material; prohibition. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business of property."

Information was received at the Regional Board hearing that the discharger had previously conducted a similar operation at Garden Grove which resulted in more than 20 odor complaints to the Air Pollution Control District. The major portion of the complaints were in regard to minor oily odors which would be expected to be normally associated with this type of operation. However, there were cases of a sulfur odor associated with the volatilization of organic materials contained in the oily wastes.

a. Anaerobic Biodegradation of Oily Wastes

The petitioner contends that the emission of hydrogen sulfide gas from the Seal Beach spreading operation in obnoxious quantities is a reasonable probability. There were numerous complaints of sulfur-type odors from the discharger's previous operations at the Garden Grove site. However, review of the records indicates that these were generally not at obnoxious levels.

Oily wastes will contain some unknown level of sulfur. Under aerobic conditions, sulfur contained in the oily wastes is converted to sulfate. That sulfate can be converted to sulfide when later combined with organic matter under anaerobic conditions. At low pH values, the sulfides can be converted into hydrogen sulfide gas which will emit the typical rotten egg type odor. At pH values of 8.0 and above, most of the reduced sulfur exists in solution as

HS⁻ and S⁼ ions, and the amount of free H₂S is so small that its partial pressure is insignificant, and odor problems do not occur. At pH levels below 8.0 the partial pressure of hydrogen sulfide becomes great enough to create serious odor problems whenever sulfate reduction yields a significant amount of sulfide ion.

The main problem here relates to maintaining aerobic conditions at all times such that the conversion from sulfate to sulfide cannot take place. To minimize the potential for this occurring, the land use permit contains the following specification:

"5. A part of the program shall consist of discing a designated area to eliminate weed growth and then applying oil or oil and water emulsions to the soil. The oily products are to be applied by spreading from a vacuum truck or other suitable means so as to obtain an application rate of approximately two gallons per square yard per pass. The maximum oil content of the soil shall not exceed 10% by weight at any time. After application the oily material shall be disced into the soil in a manner to promote mixing and eliminate any oil from ponding at the surface." (emphasis added)

Although prediction of the potential for project failure from this cause is a difficult task, we believe that the emission of hydrogen sulfide gas in obnoxious quantities, while possible, is not probable. In the event of such an occurrence, the odors can be eliminated in a short period by discing the applicable area to reestablish aerobic conditions in the soil/oily waste/water mixture.

b. Volatilization of Oily Wastes

Odors can be emitted from the volatilization of organic materials contained in the oily wastes. Nine complaints regarding this class of odors were received by the Orange

County Air Pollution Control District regarding the spreading operations that took place at the Garden Grove site on October 6, 1972. Investigation disclosed that the incident was due to inadequate monitoring as a single supplier was allowed to discharge a truckload that contained material other than the typical oily waste material.

The possibility of this type of incident occurring during the Seal Beach operation is minimal because of additional operational and monitoring restraints that will be imposed on the discharge. The Regional Board Executive Officer is authorized to issue an abatement order to halt immediately any discharge that is causing a nuisance. The Commander of the Seal Beach facility is authorized to, and has indicated that he intends to, temporarily terminate the spreading operations in the event that substantial odor problems do occur. He additionally has the authority to terminate permanently the contract with Jack K. Bryant and Associates, Inc.

B. Provisions of Title 23, California Administrative Code

Oily wastes containing toxic substances are Group 1 wastes (Sec. 2520) which ordinarily must be disposed of at Class I disposal sites (Sec. 2531). However, the disposal of certain Group 1 wastes may be allowed in a Class II-1 site by a regional board when in the judgment of the board such disposal will not unreasonably affect water quality (Sec. 2532).

Also, the regional board may waive the classification of the disposal site when an operation will not unreasonably affect water quality (Sec. 2540).

As indicated in prior portions of this order (see V.A.3. Groundwater Pollution) the proposed discharge in accordance the provisions of Order No. 73-19 will adequately protect groundwaters. Therefore, it would be appropriate for the regional board to waive classification of the site as provided in Sec. 2540.

VI CONCLUSIONS

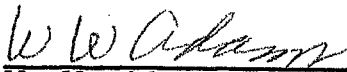
After review of the record and consideration of contentions of the petitioner, the State Board concludes as follows:

1. Provisions taken by the Regional Board for the protection of fish and wildlife from toxic wastes are adequate.
2. There is a minimal probability of groundwater or surface water contamination due to the nature of the underlying zones and restrictions on the allowable oily wastes application rate.
3. The emission of noxious odors in sufficient quantities to create a nuisance is possible but minimal because of the strict operational and monitoring restraints that have been imposed on the discharge.
4. Although oily wastes are Group 1 wastes which generally must be disposed of at Class I disposal sites, if the discharge will adequately protect water quality the regional board may waive site classification.
5. Under the facts of the instant case, it would be appropriate for the Regional Board to waive the requirement for classification.
6. In all other respects the action of the Regional Board in adopting Order No. 73-19 was appropriate and proper.


IT IS HEREBY ORDERED that:

The matter of determination of appropriate site classification or waiver of site classification for the proposed discharge by Jack K. Bryant and Associates, Inc., is remanded to the Regional Board for further consideration in light of the views expressed herein.

Dated: February 21, 1974




W. W. Adams, Chairman



Ronald B. Robie, Vice Chairman



Roy E. Dodson, Member



Mrs. Carl H. (Jean) Auer, Member



W. Don Maughan, Member