

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In re: SHELL CHEMICAL COMPANY,
LAKELAND, FLORIDA
Petition for Variance

OGC File No. 98-2889

FINAL ORDER GRANTING PETITION FOR
VARIANCE FROM RULE 62-522.300(2)(a)

On October 13, 1998, Shell Chemical Company, Lakeland, Florida (Shell Chemical), filed a petition for variance from requirements in rule 62-522.300(2)(a) of the Florida Administrative Code, under section 120.542 of the Florida Statutes and rule 28-104.002 of the Florida Administrative Code. The petition was for a variance from rule 62-522.300(2)(a), which prohibits a zone of discharge for discharges through wells, in order to use its in-situ remedial product. This product involves the injection of calcium peroxide as an oxygen releasing compound through one or more temporary Class V underground injection control wells at its Lakeland, Florida facility to enhance natural biodegradation of aromatic hydrocarbons in the ground water. A notice of receipt of the petition was published in the Florida Administrative Weekly on December 18, 1998.

1. Petitioner is located at 2525 South Combee Road, Lakeland, Florida 33801.

2. Shell Chemical will use a food grade product manufactured by FMC Chemical Products Group for the remediation of ground water contaminated with hydrocarbons. Calcium peroxide, when injected in slurry form at optimal locations, will release oxygen beneath the water table thereby stimulating biodegradation of the aromatic hydrocarbons in ground water. The by-products from the reactions are water, carbon dioxide, and calcium ions. Laboratory experiments have been conducted to assess the performance of the food-grade calcium peroxide as an oxygen source. Calcium peroxide generated maximum dissolved oxygen levels of 20 to 40 ppm with pH levels at the source ranging from 10 to 12. The sandy soil used in the experiment had sufficient buffering capacity to neutralize the elevated pH levels within a few feet from the source. The total dissolved solids did not exceed 500 mg/L.

3. Under rule 62-520.420 of the Florida Administrative Code, the standards for Class G-II ground waters include the primary and secondary drinking water standards of rules 62-550.310 and 62-550.320 of the Florida Administrative Code.

4. Upon injection of the calcium peroxide into the ground water, the pH and total dissolved solids may temporarily exceed the secondary drinking water standards of 8.5 and 500 mg/L, respectively, within a small area possibly extending out in a radius of twenty-five feet from the immediate point of injection. The presence of pH and total dissolved solids above the standards

has no anticipated adverse impacts to human health because such exceedance will occur only in ground water at a site already contaminated by organics, and the ground water is not presently used for domestic purposes. No other constituents of the injectate or resulting bioremediation will exceed any other primary or secondary drinking water standard. The pH and total dissolved solids will return to meeting the secondary drinking water standards, or meet the naturally occurring background value, whichever is less stringent, within 365 days from injection.

5. The use of this product by injection is through an underground injection control well, Class V, Group 4, "injection wells associated with an aquifer remediation project," as described in rule 62-528.300(1)(e)4 of the Florida Administrative Code. Under rule 62-528.630(2)(c), "Class V wells associated with aquifer remediation projects shall be authorized under the provisions of a remedial action plan . . . provided the construction, operation, and monitoring of this Chapter are met."

6. The rule (62-522.300(2)(a)) from which this petition seeks a variance prohibits the Department from granting a zone of discharge for a discharge through an injection well to Class G-II ground water. Strict adherence to this rule would preclude the Department from granting approval for the use of the food-grade calcium peroxide product for remediation of contaminated ground water.

7. The applicable rules state in pertinent part:

62-522.300(1) . . . [N]o installation shall directly or indirectly discharge into any ground water any contaminant that causes a violation in the ground water quality standards and criteria for the receiving ground water as established in Chapter 62-520, F.A.C., except within a zone of discharge established by permit or rule pursuant to this chapter.

62-522.300(2) No zone of discharge shall be allowed under any of the following circumstances:

(a) Discharges through wells or sinkholes that allow direct contact with Class G-I and Class G-II ground water

8. Shell Chemical has stated in its petition that to apply the zone of discharge prohibition to its use of this remediation product would create a substantial hardship because the use of the process is to remediate contaminated ground water. The petition also states that other methods of remediation not using in-situ products or processes are more costly and take longer. Remediation would improve the water quality, and to prohibit any exceedance of the specified secondary drinking water standards, non-health-based standards, in such a small area of already contaminated ground water and for short duration would violate the principles of fairness. This small and temporary exceedance is not the usual occurrence, nor are most dischargers involved in the remediation of contaminated ground water. By allowing the use of the product, the clean-up of the contaminated ground water will be accelerated and returned to a usable condition. In addition, the use of the product has been tentatively approved by

the Department's Division of Waste Management as being a sound environmental solution to the contamination, so long as Shell Chemical is able to obtain a variance.

9. Zones of discharge for the use of the calcium peroxide product are necessary because of the temporary exceedance of the pH and total dissolved solids standards in the ground water immediately surrounding the injection. Because this ground water is already contaminated and does not meet all applicable standards, allowing a zone of discharge as part of an approved remediation strategy for hydrocarbon contaminants meets the purpose of the underlying statute, which is to improve the quality of the waters of the state for beneficial uses. Such contaminated ground water is not presently used for drinking purposes, thus posing no threat to human health.

10. The Department received no comments about the petition for variance.

11. Shell Chemical has demonstrated that it is entitled to a variance from the prohibition of zones of discharge in rule 62-522.300(2)(a) for the remedial product, with the conditions below.

a. Use of the calcium peroxide product must be through a Department-approved remedial action plan, or other Department-enforceable document, for an aquifer remediation project and such approval shall not be solely by a delegated local program.

b. The discharge to the ground water must be through a Class V, Group 4 underground injection control well which meets all of the applicable construction, operating, and monitoring requirements of chapter 62-528 of the Florida Administrative Code.

c. The extent of the zone of discharge for pH and total dissolved solids shall be a twenty-five foot radius from the point of injection and the duration of the zone of discharge shall be 365 days. This will allow ample time for the temporarily exceeded parameters to return to their secondary drinking water standards set forth in chapter 62-550 of the Florida Administrative Code, or their naturally occurring background levels at the site, whichever is less stringent.

d. The injection of the product shall be at such a rate and volume that no undesirable migration occurs of either the product, its by-products, or the contaminants already present in the aquifer.

e. The Department-approved remedial action plan shall address appropriate ground water monitoring requirements associated with the use of the calcium peroxide product for remediation based on site-specific hydrogeology and conditions. These shall include the sampling of ground water at monitoring wells located outside the contamination plume, before use of the product, to determine the naturally occurring background levels of pH and total dissolved solids which are the parameters

pertinent to this variance. Monitoring of these parameters in ground water downgradient from the injection points should be for at least one year after active remediation.

This order will become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57 of the Florida Statutes before the deadline for a filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's action may file for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions filed by the Shell Chemical Company, or any of the parties listed below must be filed within 21 days of receipt of this written notice. Petitions filed by any other persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 21 days of publication of the public notice receipt of the written notice, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The petitioner shall mail a copy of the

petition to Shell Chemical Company, 2525 South Combee Road, Lakeland, Florida 33801, at the at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

(a) The name, address, and telephone number of each petitioner; the Department case identification number and the county in which the subject matter or activity is located;

(b) A statement of how and when each petitioner received notice of the Department action;

(c) A statement of how each petitioner's substantial interests are affected by the Department action;

(d) A statement of the material facts disputed by the petitioner, if any;

(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;

(f) A statement of which rules or statutes the petitioner contends require reversal or modification of the Department action; and

(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under section 120.573 of the Florida Statutes is not available for this proceeding.

This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of

Appellate Procedure with the clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

DONE AND ORDERED this 20th day of January 1999 in Tallahassee, Florida.

Mimi Drew

Mimi A. Drew
Director,
Division of Water Facilities

2600 Blair Stone Road
Mail Station 3500
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Telephone: (850) 487-1855

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to s. 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Debra O'Neal
Clerk

1/22/99
Date

Copies furnished to:

Rich Deuerling, UIC Section
Bill Neimes, Bur. Waste Cleanup
Rick Ruscitto, Bur. Petroleum Cleanup
Brent Hartsfield, Bur. Waste Cleanup
Paula Noblitt, SW District
Cynthia Christen, OGC

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing Final Order has been furnished by U.S. Mail to Robert D. Roesch, Plant Manager, Shell Chemical Company, 2525 South Combee Road, Lakeland, Florida 33801, on this 22nd day of January 1999.

Cynthia K. Christen
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