

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In re: IT Corporation, Inc.
Petition for Variance

OGC File No. 99-1276

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

On June 29, 1999, IT Corporation, Inc., on behalf of the National Aeronautics and Space Administration and the United States Air Force, 45th Space Wing, 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 perform an innovative technology pilot test for its in-situ remedial product at Launch Complex 34, Cape Canaveral Air Station. This process involves the use of wells or borings which is considered installation of one or more temporary Class V underground injection control wells at the site of contamination. A notice of receipt of the petition was published in the Florida Administrative Weekly on August 20, 1999.

1. Petitioner is located at 3110 Cherry Palm Drive, Suite 355, Tampa, Florida 33619.

2. IT Corporation, Inc., (IT), wants to perform in-situ chemical oxidation using potassium permanganate for the proposed pilot demonstration test at Launch Complex 34, Cape Canaveral Air Station (pilot test). The site is contaminated with trichloroethylene (TCE), 1,2-dichloroethene (1,2-DCE), and vinyl chloride. In addition, a large non-aqueous phase liquid (DNAPL) plume of TCE is present adjacent to and possibly within the proposed area for the oxidation pilot test. The pilot test is being sponsored by the Interagency DNAPL Consortium which includes the US Environmental Protection Agency, Department of Energy, Department of Defense, US Air Force, and the National Aeronautics and Space Administration.

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. A solution of potassium permanganate with concentrations between 1.5% and 3% will be injected through wells or borings into soil and ground water. A free flowing pharmaceutical grade will be used. When the dissolved permanganate contacts the contaminant molecules, the molecular bonds are broken (oxidized). When chlorinated alkenes are oxidized by potassium permanganate, the resulting products are carbon dioxide, chloride ions, and manganese dioxide. Laboratory and field tests of in-situ chemical oxidation with potassium

permanganate have demonstrated remarkable success in quickly reducing contaminant concentrations.

5. When potassium permanganate is added to the ground water, the secondary drinking water standards for color (15 color units), total dissolved solids (500 mg/L), and manganese (0.05 mg/L) may temporarily be exceeded. It is also possible that pH and chloride could temporarily exceed the secondary drinking water standards of 6.5 - 8.5, and 250 mg/L, respectively. Trace minerals are present in the ore from which the potassium permanganate is extracted. Both chromium and arsenic may be present in the potassium permanganate in concentrations above the primary drinking water standards of 0.1 and 0.05 mg/L, respectively. None of these parameters will be exceeded beyond a 30-foot radius from each point of injection, and any exceedance will not occur for more than six months.

6. The pilot test site is a 50-foot by 75-foot plot on land entirely owned by the government and used solely for government/military purposes, and is expected to remain in such use. The ground water underlying the site has exceedances of the standards for sodium, chloride, total dissolved solids, and manganese. At depth, the ground water becomes more brackish. The pilot test will include a 3-cluster recovery well located near the center of the plot to optimize hydraulic mixing, and to provide hydraulic control of the injected and displaced fluids. The site is already heavily contaminated by DNAPLs, and the

ground water is not presently used nor is ever reasonably expected to be used for domestic purposes.

7. The injection of this product through eight temporary wells or borings is considered a type of 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."

8. 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 in-situ chemical oxidation with potassium permanganate for the pilot test for remediation of contaminated ground water.

9. 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

10. IT has stated in its petition that to apply the zone of discharge prohibition to its use of this remediation process at the Cape Canaveral site would create a substantial hardship or would violate the principles of fairness because the use of the process is to remediate contaminated ground water. The petition also states that other methods of remediation not using chemical oxidation are more costly and take longer. Remediation would improve the water quality, and to prohibit any exceedance of the specified drinking water standards in such a small area of already contaminated ground water and for short duration would cause a substantial hardship. 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 in-situ potassium permanganate, the clean up of the contaminated ground water and soils will be accelerated and returned to a usable condition. In addition, the use of the in-situ potassium permanganate has been tentatively approved by the Department's Division of Waste Management as being a sound environmental solution to the contamination, so long as IT is able to obtain a variance. Lastly, other similar in-situ processes have been granted variances for parameters with secondary standards, and not to allow this process to be used at

a pilot test site for the contaminants with secondary standards would violate the principles of fairness.

11. Zones of discharge for the use of the in-situ potassium permanganate are necessary because of the temporary (not to exceed six months) exceedance of the color, total dissolved solids, manganese, pH, chloride, chromium, and arsenic 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 a pilot test for remediation of organic 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, nor ever reasonably expected to be so used, thus posing no threat to human health.

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

13. For the foregoing reasons, IT Corporation, Inc., has demonstrated that it is entitled to a variance from the prohibition of zones of discharge in rule 62-522.300(2)(a) for its remedial product, with the conditions below.

a. Use of the in-situ potassium permanganate at the pilot test site at Cape Canaveral must be through a Department-approved pilot study plan, or other Department-enforceable document.

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 color, total dissolved solids, manganese, pH, chloride, chromium, and arsenic shall be a 30-foot radius from the point of injection and the duration of the zone of discharge shall be six months. This will allow ample time for the temporarily exceeded parameters to return to their 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 pilot study plan shall address appropriate ground water monitoring requirements associated with the use of the in-situ potassium permanganate 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 in-situ potassium permanganate, to determine the naturally occurring

background levels of color, total dissolved solids, manganese, pH, chloride, chromium, and arsenic which are the parameters pertinent to this variance. They should also include monitoring of these parameters in ground water downgradient from the injection points for at least six months 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 IT Corporation, Inc., 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 IT Corporation, Inc., 3110 Cherry Palm Drive, Suite 355, Tampa, Florida 33619-1313 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 8th day of September 1999 in Tallahassee, Florida.

Mimi A. Drew

Mimi A. Drew
Director,
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Management

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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.

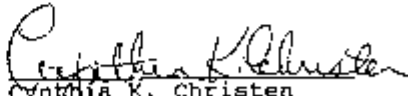

Clerk

9/8/99
Date

Copies furnished to:
Rich Deuerling, UIC Section
Mike Deliz, Bur. Waste Cleanup
Bill Neimes, Bur. Waste Cleanup
Brent Hartsfield, Bur. Waste Cleanup
Rick Ruscito, Petroleum Cleanup
Cynthia Christen, OGC

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing Final Order has been furnished to Douglas A. Rogers by facsimile at (813) 626-1663, and by U.S. Mail at International Technology Corporation, 3110 Cherry Palm Drive, Suite 355, Tampa, Florida 33619-1313, on this 8th day of September 1999.


Cynthia K. Christen
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