

ILLINOIS POLLUTION CONTROL BOARD
October 14, 1982

TROJAN CORPORATION (Wolf Lake),)
)
) Petitioner,)
)
) v.) PCB 82-23
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
) Respondent.)

PATRICK O. BOYLE, ATTORNEY AT LAW, APPEARED ON BEHALF OF PETITIONER;

HEIDI E. HANSON, ATTORNEY AT LAW, APPEARED ON BEHALF OF RESPONDENT.

OPINION OF THE BOARD (by D. Anderson):

This matter comes before the Board upon a petition for variance originally filed on March 3, 1982 by Trojan Corporation (Trojan). The petition requests a variance pursuant to Rule 505 of Chapter 2: Air Pollution to allow open burning of explosive waste and explosive contaminated buildings at Wolf Lake, Union County. The Illinois Environmental Protection Agency (Agency) recommended that the variance be denied. A public hearing was held on September 3, 1982 at Jonesboro. Members of the press and public attended, but did not comment.

Because the procedural history has become somewhat confused, the essential pleadings will be set forth in detail:

March 3, 1982	Petition for variance
April 5, 1982	First amended petition ("Memorandum"), which added an affidavit pursuant to Procedural Rule 401(b) (35 Ill. Adm. Code 104.124).
April 19, 1982	Second Amended Petition (Letter from plant manager to Agency).
June 8, 1982	Recommendation to deny
June 17, 1982	Objection and request for hearing by Trojan

In its recommendation the Agency took the position that the burning would cause air quality levels in excess of the

standards of Rules 307 and 310 of Chapter 2, and would thus have to be submitted as a SIP revision. At a prehearing conference the Agency agreed to give notice of hearing in accordance with Clean Air Act requirements and Trojan waived the decision period for a sufficient length of time to allow for such notice.

FACILITY DESCRIPTION

Trojan Corporation is presently the owner of an explosive manufacturing facility at Wolf Lake. It is largely situated within the E 1/2, Sec. 33, T11S, R3W, 3rd P.M., Union County. The facility was more completely described in PCB 80-133. The exact boundary became an issue in this matter, as is discussed below.

The facility has been the subject of many explosive waste burning variances. When it first came before the Board it was owned by Trojan-U.S. Powder Division. It then came into possession of International Minerals and Chemical Corporation (IMC). The following cases related to this facility:

PCB 71-58	June 14, 1971
PCB 74-32	July 18, 1974
PCB 76-259	January 6, 1977
PCB 77-229	December 8, 1977 March 2, 1978
PCB 79-150	September 6, 1979 September 20, 1979
PCB 79-176	February 7, 1980
PCB 80-133	January 8, 1981

IMC has now spun-off Trojan Corporation, an independent entity which is partially controlled by present and former IMC officers and employees (R. 86). Trojan acquired from IMC an explosives plant in Utah, the Wolf Lake plant, and IMC's former plant in the Crab Orchard National Wildlife Refuge near Marion. Trojan intends to continue operating the Utah plant; retain some production facilities at Wolf Lake, those which duplicate those in Utah; and to continue Wolf Lake only as a storage and distribution area and for standby production in case of accident in Utah.

The spin-off was a three-way transaction which also involved Nitrochem Energy Corporation, which acquired the

right to make and sell nitrostarch dynamite, a major product of Wolf Lake. A part of the waste involved in this variance is the final day's production which has not yet been made into sticks (R. 84).

MATERIAL TO BE BURNED

Trojan proposes to burn about 1.1 million pounds of explosive waste and 21 buildings. The following summarizes the explosive waste:

	<u>Quantity (pounds)</u>
Seismic Cans	600,000
Obsolete Powder	24,000
Nitrostarch	55,000
Washdown Sludge	156,000
Ball Powder	300,000

Seismic cans, each consisting of one pound of explosive in a metal container with a detonator, are used in oil exploration. These are a recalled product from a batch which failed to detonate reliably in the field. IMC had tried to recycle them into new products, but was unable to devise a method of safely opening the cans. Trojan believes it has solved the problem of opening the cans for burning; however, recycling of the powder is no longer feasible because of deterioration and because of the plant shut down (R. 81). The steel in the cans will be recycled if possible or, alternatively, landfilled (R. 58, 77).

Nitrostarch is in powder form, representing the last day's production at the plant. It has not yet been made into sticks. It is apparently still usable, but Trojan purchased neither the equipment nor rights to manufacture nitrostarch dynamite. It is stored in a building and can ignite if exposed to sunlight (R. 56, 83).

Washdown sludge was produced from dredging the lagoons which received wastewater from daily washdown of buildings and equipment. During operation the sludge was recovered and recycled into product. After shutdown, there is no product to mix it into. The sludge is in steel drums stored in one of the buildings (R. 48, 86). Obsolete powder is reclaimed washdown sludge which was not usable in explosives (R. 89).

Ball powder is an artillery propellant described as a mixture of gunpowder and nitroglycerin. It has been stored in ponds on the Wolf Lake facility for many years. The liner has decomposed, allowing it to become mixed with mud. It is no longer usable because of the mud and because of deterioration (R. 52, 82).

Trojan proposes to burn the explosive waste, except for the ball powder, in the remote burning area described in PCB 80-133. Burns will take place in 1000 pound lots, up to 8000 pounds per day.

Trojan proposes to burn the ball powder in place in the ponds. Water will be pumped from one pond into another until 8000 pounds is exposed. This will be burned. Then enough water will be drawn off to expose another 8000 pounds to be burned. This will be repeated until all powder is destroyed.

Trojan proposes to burn 21 buildings in place (Ex. 4). These are listed in detail in the Order. These represent most of the production buildings at Wolf Lake. They are wooden frame buildings weighing from 8000 to 40,000 pounds each. They are contaminated with explosive residues left from years of daily washdowns. Trojan estimates that each contains less than 100 pounds of explosives. However, there is a danger of fire or explosion which could be initiated by friction or exposure to sunlight during demolition. Trojan therefore proposes to burn the buildings in place with proper precautions.

NECESSITY FOR VARIANCE

Trojan requested a variance from Rules 104 and 402(a) of Chapter 2, pursuant to Rule 505. During the pendency of this matter it became clear that the proposed burning was also subject to the "RCRA rules" adopted by the Board in order that Illinois might obtain Phase I interim authorization pursuant to the federal Resource Conservation and Recovery Act (R81-22; February 24, 1981; 6 Ill. Reg. 4828, April 23, 1982). Interim authorization was granted by the United States Environmental Protection Agency (USEPA) on May 17, 1982 (47 Fed. Reg. 21,043). In that this was fully addressed at the hearing, the Board deems the petition amended to conform to the proof on RCRA issues. The following summarizes the provisions of Chapter 2 and the RCRA rules which are involved:

<u>Chapter</u>	<u>35 Ill.</u>	<u>Summary</u>
<u>2</u>	<u>Adm. Code</u>	
104	---	Compliance Programs and Project Completion Schedules
502(a)	---	Prohibition of open burning
505	---	Provision for open burning of explosive waste pursuant to variance
---	700.105	Requirement that existing hazardous waste management facilities obtain "interim status" or cease operating

<u>Chapter</u> <u>2</u>	<u>35 Ill.</u> <u>Adm. Code</u>	<u>Summary</u>
---	720.110	Definition of "facility"
---	721.103	Definition of "hazardous waste"
---	721.121	Hazardous waste characteristic of ignitability
---	721.123	Hazardous waste characteristic of reactivity
---	725.482	Operating standards for open burning of explosive waste: minimum distances from property line

Rule 104 of Chapter 2 requires compliance programs for certain stationary sources subject to Part II. Open burning is not regulated under Part II. The requested variance from Rule 104 is therefore denied as unnecessary.

At the hearings Trojan claimed it was able to meet the property line distance requirements set by 35 Ill. Adm. Code 725.482. However, there is considerable uncertainty as to what should count toward the weight for application of Section 725.482, and as to the location of the property line. The Board therefore finds that a variance from Section 725.482 is also necessary.

CLEAN AIR ACT AND SIP REVISION

For the purpose of this case federal air pollution regulations manifest themselves in the form of the State Implementation Plan (SIP). Revision of the SIP requires a public hearing with certain notice requirements and approval by the United States Environmental Protection Agency (USEPA). The Agency has taken the position that the open burning rules of Part V are not a part of the SIP and that a variance from them does not require a SIP revision. However, the Agency contends that the petitioner must also show that no violation of air quality standards will be caused. The air quality standards of Part III are a part of the SIP. In the absence of such a showing, the Agency contends that a Clean Air Act hearing must be held and the variance submitted as a SIP revision.

As noted above, a public hearing has been held pursuant to notice required under federal law. However, the Board disagrees with the Agency's reasoning: Trojan has not requested a variance from the air quality standards. In the absence of such a variance, Trojan will be expected not to cause such a

violation. No SIP revision is therefore required. Of course, the air quality impact enters into the determination of arbitrary or unreasonable hardship.

ENVIRONMENTAL IMPACT

At the hearing Trojan presented air quality modeling data (Ex. 35). The Agency conceded that air quality violations would not result from explosive waste burning. Argument centered on the buildings. These posed difficulties for petitioner in that they could not be moved or partially dismantled to allow for a better location or a smaller burn.

Carbon monoxide (CO) and particulates (TSP) were the pollutants of concern. With respect to CO, the argument centered on the correct emission factor. Trojan cited references to measurements of CO near "prescription burns", intentional fires set under ideal conditions. These show a ten-fold reduction from 85 to 8.3 pounds CO per ton from emissions expected from burning ordinary refuse. Trojan's expert, Dr. Howard Hesketh, contended that burning of these open, light, wood frame buildings would be prescription burning with ideal combustion. The Agency disputed this, but did not present comparable expert testimony to the contrary.

Trojan's modeling of particulates, and the discussion at the hearing, proceeded on the assumption that air quality standards had to be met only at the nearest residences. In its brief the Agency pointed out that there is no such limitation in the Board's rules. However, as noted above, the issue is environmental impact as it weighs on determination of hardship rather than a question of whether the burning will cause a violation of air quality standards. Excessive contaminant levels over residences are of greater concern in weighing environmental damage. The effort to avoid excessive levels over residences has made wind direction the primary factor with respect to burning of the buildings.

Trojan's modeling shows that for the smaller buildings no TSP air quality violations will occur over residences unless the wind is blowing from east, towards the town of Wolf Lake. With respect to the six largest buildings, violations could result with other wind directions. Burning of these buildings must take place with a westerly wind.

HARDSHIP

The Agency opposed the variance on the grounds of inadequate showing of hardship and self-imposed hardship.

In PCB 80-133 the Board criticized IMC for accumulating explosive contaminated waste knowing that it had no lawful method of disposing of the waste. The Board rejected as self-imposed hardship IMC's arguments that the dangers attendant from the size of the piles justified a variance. This case is distinguishable in that there is no longer an ongoing operation. These wastes resulted from the shutdown of the factory and from unique situations such as rejected and spoiled products.

The Agency has also argued self-imposed hardship with respect to the purchase of the facility and wastes by Trojan. There is a suggestion that Trojan undertook the clean-up of Wolf Lake as a part of the price for the productive assets it purchased. Abandonment of the site in its present condition would be environmentally unacceptable. The Board will not construe such a voluntary undertaking to clean it up as self-imposed hardship. (The Board does not mean to infer that the sale absolved IMC of its obligation to clean up the site.)

The Agency has not offered any alternative for cleaning up the site. It suggests that it could be abandoned in its present condition. However, the explosive wastes could be ignited accidentally or through spontaneous combustion. This would likely result in worse environmental damage than prescription burning.

The Board finds that Trojan has demonstrated arbitrary or unreasonable hardship, considering the necessity of properly cleaning up the site, the lack of alternatives and the minimal environmental damage of the open burning. The Board will grant the variance with conditions.

CONDITIONS

Trojan did not request any specific time period for this variance. The proposed burning will take about 160 days, or 32 work weeks, to complete under favorable conditions. The Board has allowed nearly three years in order to give adequate time for unfavorable burning conditions. Trojan will be required to notify the Agency upon completion of the burning. This will trigger early expiration. Monthly reports of burning activities will also be required.

The Board has not required strict adherence to the proposed burning method for ball powder in ponds. The Board has doubts as to the practicality of partial burns (R. 92). Furthermore, the attempt to keep the burns within the artificial weight constraint may have adverse environmental consequences from incomplete combustion and excessive contamination of the remaining water in the ponds. The Board has allowed two

alternatives: removal of the ball powder from the ponds or burning in larger quantities than that requested. Trojan may exercise its own judgment as to the safest and most environmentally sound disposal method within the range of options allowed under the Order.

The water in the ponds is probably contaminated from exposure to the explosives. Trojan has indicated that it will pump water between the ponds rather than into Wolf Lake, or the equivalent alternative of pumping onto the ground near the lake (R. 90). Trojan has not otherwise presented any details on final closure of the ponds. The Board will not attempt to dictate details in this variance, but will allow the Agency to handle this through the RCRA or NPDES permit programs. However, Trojan will be prohibited under the variance from discharging to waters of the State.

The Board will require Trojan to utilize the burning area identified in PCB 80-133. Trojan offered to move the site in order to avoid violation of Section 725.482 with respect to the explosive waste. This is not necessary since the Board has granted a variance from Section 725.482. Furthermore, it would be less desirable environmentally to open a new burning site.

The Board has ordered the burning conducted under the wind conditions suggested by Trojan. Otherwise, the operating conditions are similar to those imposed in PCB 80-133.

Trojan will generally be ordered to comply with the RCRA rules of 35 Ill. Adm. Code: Subtitle G. Specifically, it will have to file an amended Part A application with the Agency reflecting the current ownership and activities at Wolf Lake, comply with the closure plan and financial responsibility provisions, and utilize the manifest system for movement of waste from Marion to Wolf Lake for disposal.

This Opinion, supporting the Board's Order of October 5, 1982, constitutes the Board's findings of fact and conclusions of law in this matter.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 14th day of October, 1982 by a vote of 5-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board