

ILLINOIS POLLUTION CONTROL BOARD  
September 20, 1985

DEPARTMENT OF THE ARMY )  
(Savanna Army Depot Activity), )  
 )  
Petitioner, )  
 )  
v. ) PCB 85-143  
 )  
ILLINOIS ENVIRONMENTAL )  
PROTECTION AGENCY, )  
 )  
Respondent. )

OPINION AND ORDER OF THE BOARD (by W.J. Nega):

This provisional variance request comes before the Board upon a September 19, 1985 Recommendation of the Illinois Environmental Protection Agency (Agency). The Agency recommends that the Board grant the Department of the Army, Savanna Army Depot Activity (SVADA), a 45-day provisional variance from the open burning prohibitions of 35 Ill. Adm. Code 237.102 to allow the destruction by burning of specified unstable explosive propellants. (Rec. 1).

The Board previously granted the Petitioner a 45-day provisional variance on August 7, 1985, retroactive to August 3, 1985 and lasting to September 16, 1985, in PCB 85-113 to allow the emergency destruction by open burning of 209,463 pounds of M6 propellant and 97,773 pounds of M15 propellant. (See: Opinion and Order of August 7, 1985 in Department of the Army, Savanna Army Depot Activity v. Illinois EPA, PCB 85-113). Section 36(c) of the Illinois Environmental Protection Act (Act) limits the duration of provisional variances granted to any one person to a total maximum of 90 days during any calendar year.

The Petitioner, which has been directed by U.S. Army headquarters to demilitarize approximately 10,367 rounds of ammunition immediately to avoid a possible explosion hazard or potentially tragic accident, has requested a provisional variance to allow the emergency destruction of the following propellants by open burning:

- |                |              |                         |
|----------------|--------------|-------------------------|
| 1. 75 MM HE    | 9,477 rounds | unknown stabilizer      |
| 2. 75 MM HE-WP | 740 rounds   | 0.25 percent stabilizer |
| 3. 105 MM HE   | 150 rounds   | 0.01 percent stabilizer |

Due to its low stabilizer content, this ammunition has been suspended from issue and use by the Army because of the inherent danger that the propellant could ignite at any time. (See: Department of Army teletype messages which are attached to the provisional variance request which "recommend destruction of the

propellant, in the lots indicated, immediately or as expeditiously as possible"; Rec. 1).

SVADA intends to burn these propellants on its inactive burn pads which are located in remote part of the army depot 3 1/2 miles away from the nearest city. The closest city is Bellevue, Iowa which has a population of 1182. Blanding, Illinois, which has a population of 150 individuals, is located about 3.8 miles from the burn area. The nearest homes are also about 3.8 miles from the Petitioner's burn area. (Rec 2). Moreover, in the vicinity of these burn pads, the population density is very sparse. Carbon monoxide, oxides of nitrogen, carbon dioxide and particulates are the pollutants which are expected to be emitted during the Petitioner's open burning activities. The Petitioner estimates that four to five burns will be required to completely destroy the propellant.

The Petitioner has noted that its explosives are inherently unstable and have been known to deteriorate in storage when there is a low stabilizer content or hazardous stabilizer loss. The Petitioner's propellant stability tests on some of the lots of unstable explosive propellants in question have indicated that an extremely dangerous situation now exists and the stabilizer content of the propellant has fallen below the safe level for continued storage.

The Agency's investigation of this situation has revealed that safety procedures are excellent and that the Petitioner has an adequate firefighting detail at the facility as well as mutual aid agreements with nearby fire departments to assure adequate fire protection. (Rec. 2). The Petitioner has agreed to conduct its open burning activities only during periods when there is less than 50% cloud cover and only between the hours of 9:00 A.M. and 4:00 P.M. (Rec. 5). Mr. Joseph Mall, the Agency's District Engineer, visited the Petitioner's site on August 3, 1985 "to review the proposed conditions with SVADA staff and observe the procedures taken with the first burn" under the earlier provisional variance. (Rec. 2). According to Mr. Mall, each burn (which takes place on a "burn pad") is propellant which is "lit with a fuse of sawdust soaked in diesel fuel allowing personnel to retreat to safe areas". (Rec. 2). The most visible emissions come from the fuse. Each burn lasts less than one minute and produces an orange flash of approximately 100 feet in diameter. (Rec. 2).

At the present time, the Petitioner has no other means available to destroy and dispose of the dangerous, unstable propellant. Although a new explosive waste incinerator is currently under construction at the site, the completion of construction has been delayed because of equipment availability problems and the necessity for technical review of the trial test burn plan. Therefore, the new explosive waste incinerator is not expected to be operational until sometime in the spring of 1986. (Rec. 3).

The Petitioner emphasizes that "because of the low stabilizer content, there is an inherent danger that the propellant could ignite at any time. SVADA personnel are trained in handling explosives and every safety precaution will be taken to ensure the safety of the personnel during the removal of the propellant and during burning operations". (See: letter dated September 13, 1985 to the Agency). Transportation of the propellant to another military installation also is not feasible, since the risk in shipping the unstable propellant would be even greater than continued storage. (Rec. 3).

The Petitioner has previously stated in PCB 85-113 that deterioration which resulted in an explosion of propellant in a storage location occurred on June 6, 1985 at the Lexington-Blue Grass Army Depot due to "auto ignition of propellant with low stabilizer content". On July 31, 1985, there was a similar explosion at a military facility in Dugway, Utah. On August 2, 1985, Mr. James Ryan of SVADA reported that "Army personnel from New Jersey investigated the problem at Savanna and determined that the danger of explosion was imminent".

The Petitioner has asserted that, at the time the Board granted SVADA a provisional variance in PCB 85-113 to open burn bulk propellant, "it was not known that fixed (assembled) rounds of ammunition had the same problem with low stabilizer content in the propellant". However, subsequent investigation of the July 31, 1985 explosion at the Army's Dugway, Utah proving grounds facility disclosed that the explosion also involved fixed rounds of ammunition. Accordingly, in light of the experience gained during the intensive Utah investigation, the Department of Army has ordered the Petitioner to remove the propellant from its fixed rounds and to immediately destroy the propellant to avoid a potentially hazardous situation. The propellant to be destroyed will total about 35,000 pounds, consisting of the following:

Nitrocellulose	98%
potassium sulfate	1%
diphenylamine	1%

The Agency believes that, with the danger of explosion "apparent", it would obviously be an arbitrary and unreasonable hardship for SVADA to wait for the normal period of time to process an ordinary variance petition. (Rec. 3). Transport of the propellants to another facility is not a practical alternative because of the inherent instability of the propellants and the risks involved, and the Petitioner's new waste incinerator will not become available until next year. Because of the serious threat of explosion, the Agency has indicated that "there is a serious danger to Illinois citizens (employees of SVADA) here because even though the odds are probably against an explosion taking place, that is a risk we should be willing to accept in light of possibly fatal consequences." (Rec. 3).

In reference to the Petitioner's handling of this situation, the Agency states that:

"If the Department of the Army has not made a complete inventory of its propellant, the Agency advises here that this inventory be taken promptly. If any more low-stabilizer propellant is found, this variance must be amended with burning to be completed by November 4, 1985 ... the Agency, and presumably the Board, do not here look kindly on this variance request. Provisional variances are an extraordinary remedy and are not to be treated so lightly. When the stabilizer problem was first discovered, prudence would have indicated a complete survey of the inventory at Petitioner's facility. Petitioner apparently did not pursue this form of action. Petitioner should be on notice that the Agency only recommends the grant of this variance to protect the safety of the citizens of Illinois. It is most assuredly not for the convenience of the Department of the Army." (Rec. 4-5).

The Agency believes that the actual environmental impact of the burning will be minimal because the burn site is near the middle of a large military facility and the area outside the SVADA facility is very sparsely populated. (Rec. 3). The Agency has calculated that there will be about 28.7 pounds of particulates emitted during each burn and that "even a much larger amount of particulates would be insignificant in such a sparsely populated area". (Rec. 3). The amount of CO and NO<sub>x</sub> released is "unquantifiable with available information" but is thought to be relatively minor. (Rec. 3).

Accordingly, the Agency has concluded that compliance on a short-term basis with the open burning provisions of 35 Ill. Adm. Code 237.102 would impose an arbitrary or unreasonable hardship upon the Petitioner in light of the serious safety problem in the instant case; the minimal environmental impact; the lack of feasible alternatives; the actual explosions under comparable conditions at similar facilities; and the fact that time is of the essence. Therefore, the Agency recommends that the Board grant the provisional variance until November 4, 1985. (Rec. 5).

Pursuant to Section 35(b) of the Illinois Environmental Protection Act, the Board hereby grants the provisional variance as recommended.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

#### ORDER

The Petitioner, the Department of the Army (Savanna Army Depot Activity) has hereby granted a provisional variance until November 4, 1985 from 35 Ill. Adm. Code 237.102 to allow the

destruction by burning of the propellants identified in the provisional variance request, subject to the following conditions:

1. The open burning shall only be conducted between the hours of 9:00 A.M. and 4:00 P.M.
2. The open burning shall only commence when the cloud cover over the burn site is no more than 50 percent.
3. The Petitioner shall notify officials of municipalities within a 5 mile radius of the burn site of the open burning.
4. The Petitioner shall cease the open burning if citizen complaints are received and only continue when weather conditions have changed sufficiently to avoid the causes of those complaints. This condition is to apply only to the extent possible while completing the destruction of the propellant by November 4, 1985.
5. The Petitioner shall conduct the open burning in full compliance with Section 725.482 of the Board's RCRA Rules. (35 Ill. Adm. Code 725.482)
6. The Petitioner shall notify the Agency when the burning is completed. Notice shall be made to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Field Operations Section  
5415 N. University  
Peoria, Illinois 61614  
Telephone: (309)691-2200

7. Within 7 days of the date of the Board's Order, the Petitioner shall execute a Certificate of Acceptance and Agreement which shall be sent to Mr. William D. Ingersoll at the following address:

Mr. William D. Ingersoll  
Illinois Environmental Protection Agency  
Enforcement Services  
2200 Churchill Road  
Springfield, Illinois 62706

This certification shall have the following form:

I, (We) \_\_\_\_\_, having read the Order of the Illinois Pollution Control Board in PCB 85-143 dated September 20, 1985, understand and accept said

Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
Department of the Army  
Savanna Army Depot Activity

\_\_\_\_\_  
By: Authorized Agent

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 20th day of September, 1985 by a vote of 7-0.

Dorothy M. Gunn  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board