

ILLINOIS POLLUTION CONTROL BOARD  
August 10, 1989

THE ENSIGN-BICKFORD COMPANY	)	
AND TROJAN CORPORATION,	)	
	)	
Petitioners,	)	
v.	)	PCB 88-156 and
	)	PCB 88-168
	)	consolidated
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY,	)	
	)	
Respondent.	)	

ROY M. HARSCH, ESQ., OF GARDNER, CARTON AND DOUGLAS, APPEARED ON BEHALF OF THE PETITIONERS.

JAMES O'DONNELL, ESQ., OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, APPEARED ON BEHALF OF THE RESPONDENT.

OPINION AND ORDER OF THE BOARD (by M. Nardulli):

This matter comes before the Board from separate petitions for variance filed on behalf of the petitioners, Ensign-Bickford Company ("EBC") and Trojan Corporation ("Trojan") on September 20, 1988. Amended petitions were accepted by the Board from both petitioners on March 15, 1989. On March 15, 1989, the attorney for both of the petitioners filed motions to consolidate the cases. These motions were granted and the cases were consolidated by a Board order of April 6, 1989. The joint petitioners filed a second amended petition for variance on June 21, 1989.

EBC and Trojan are seeking authorization to open burn explosive waste and explosives contaminated waste as permitted by 35 Ill. Adm. Code 237.103. In their petition for variance, the petitioners request permanent relief if Section 237.103 is to be read to allow permanent relief or until April 1, 1991 if permanent relief cannot be granted. However, in their post-hearing comments, the petitioners state that they "desire variance for as long a period of time as the Board finds justified and within authority."

Hearing was held in this matter on June 22, 1989 in Anna, Union County. Two witnesses testified on behalf of the petitioners. The Illinois Environmental Protection Agency ("Agency") did not call a witness. There were no members of the public present at the hearing. On June 22, 1989, the Agency filed a variance recommendation. This recommendation was amended

on June 29, 1989. In the amended recommendation, the Agency recommended grant of the variance until April 1, 1991 subject to conditions. The petitioners filed their post-hearing comments on July 7, 1989 stating that they were willing to accept the Agency's recommended conditions except for the recommended time period of the variance. Based on the record, the Board finds that the request for variance should be granted for a period of five years, from the date of this order, subject to the conditions recommended by the Agency. Compliance with the rule would impose an arbitrary or unreasonable hardship on the petitioners.

#### BACKGROUND

EBC and Trojan are explosives manufacturers with operations at a facility located outside of the town of Wolf Lake, Union County. Trojan is the owner of the facility and EBC rents space from Trojan. Both are wholly-owned subsidiaries of Ensign-Bickford Industries ("EBI"). The explosives manufacturing facility is located thirty minutes equi-distant between Carbondale, Illinois and Cape Girardeau, Missouri on approximately a 450-acre site. The facility is bordered by Shawnee National Forest on the North and East, Wolf Lake on the West and Illinois Route 3 and farmland on the South. The nearest residence is approximately one-quarter mile from the facility. Wolf Lake has a population of approximately 250 people. Both Union County and all of its neighboring counties are attainment areas for all criteria pollutants. The petitioners note that the nearest air monitoring station is located in Carbondale, approximately twenty miles away. There have been no violations of particulate standards at this station in the last three years.

EBC manufactures explosive devices with non-electric blasting caps in an assembly-line process at the plant. The process also includes packaging and storage activities. Currently, EBC employs 38 people at the facility, with the number of employees expected to rise to approximately 150 by 1991.

EBC generates small quantities of waste creating a potential risk of explosion in the course of manufacturing the Nonel Primadet Assemblies. This waste takes the form of off-specification product, packaging materials, and explosive contaminated laboratory waste. Explosive-contaminated solvents and waste water result from EBC's routine cleaning, repair and maintenance functions. The waste water contains explosive HMX aluminum particles.

Trojan manufactures cast boosters. These boosters are manufactured by melting and mixing TNT and PETN. This mixture is subsequently poured into cardboard molds, necessitating related packaging and storage activities. Explosive waste, including TNT, PETN, and pentolite, and explosive-contaminated waste are generated through the manufacture of these cast boosters. This

waste takes the form of off-specification product, packaging materials, and explosive-contaminated laboratory waste. Currently, Trojan employs approximately 50 people at Wolf Lake. The number of people employed by Trojan is not expected to increase appreciably.

Under present conditions, EBC plans to open burn the following types and quantities of explosive waste:

Explosive-contaminated solvent	130 lbs./week
Materials to start fires	25 lbs./week
Explosive-contaminated materials (e.g. boxes, bags, rags, paper, etc.)	100 lbs./week

Additionally, although EBC presently ships its waste water to Simsbury, it proposes to evaporate this waste water and to burn the remaining small amount of precipitated material.

If EBC shifts some of its blasting cap operations to the Wolf Lake facility in 1991, it is anticipated the the waste will include 2,885 pounds/week of elemental lead, which will melt during burns, resolidify and be sold as scrap, and 35 pounds/week of pyrotechnic material including:

- 3.7 lbs Molybdenum;
- 15.3 lbs Red Lead;
- 1.0 lbs Tungsten;
- 7.5 lbs Silicon;
- 4.5 lbs Barium Chromate;
- 1.5 lbs Lead Chromate; and
- 1.5 lbs Potassium Perchlorate.

The total amount of waste generated by EBC's operations will then be the present 255 lbs/wk plus the 35 lbs/wk from the blasting cap operations, or 290 lbs/wk.

In the second amended petition, the petitioners listed the following types and quantities of waste that would be produced by Trojan:

TNT Waste	10 lbs/wk
PETN Waste	10 lbs/wk
Pentolite Waste	810 lbs/wk
Composition B Waste	21 lbs/wk
Materials to start fire	50 lbs/wk
Explosive contaminated Materials (e.g. boxes, bags, rags, paper, etc.)	460 lbs/wk

Thus, a total of 1361 pounds/week of waste to be burned is anticipated by Trojan.

The petitioners anticipate that open burning at the facility will be done once per day on weekdays for a maximum of four hours per day. The petitioners have proposed a number of procedures that should be followed when open burning in order to ensure the safety of employees and to meet all potentially applicable RCRA requirements. Many of these procedures have been adopted by the Agency as conditions to the grant of variance and are part of the Board's order.

#### PETITIONER'S COMPLIANCE PLAN

In the petitions of March 15, 1989, EBC and Trojan state that they are unaware of any alternative to open burning that is safer or less detrimental to the environment than open burning. In the past, Trojan and EBC have disposed of their explosive waste and explosive-contaminated waste by transporting the waste to hazardous material operators or to facilities outside the State of Illinois where these materials are either incinerated or open burned. However, the potential hazards associated with the transportation of these materials and the reluctance of material transporters to handle explosive waste effectively eliminate this alternative to open burning.

The petitioners maintain that operational changes, such as increased volume and modified explosives handling procedures can only be accommodated by utilizing open burning disposal. At hearing, the Director of Regulatory Compliance for EBI noted an Institute of Makers of Explosive guidance manual for preparing Part B RCRA applications for open burning and open detonation. The manual was prepared with the assistance of comments from the USEPA (R. 11). In the manual, open burning and open detonation are the recommended ways for disposing of explosives contaminated waste and explosive waste as well as all of the packaging materials (R. 12).

In effect, the petitioners' compliance plan is to investigate possible methods of disposal during the variance period. If a technically feasible and economically reasonable disposal method is identified, the petitioners will devise a timetable to come into compliance. If an alternative to open burning is not found, the petitioners will pursue an adjusted standard or a site-specific rule change. The agency noted in its recommendation that explosives incinerators are used by the explosives industry to render waste inert. However, the petitioners failed to consider the installation and operation of an explosives incinerator as an alternate compliance plan. The installation of an incinerator should be investigated during the variance period.

HARDSHIP AND ENVIRONMENTAL IMPACT

In their petitions for variance, EBC and Trojan maintain that compliance with Section 237.102 would result in an arbitrary or unreasonable hardship by forcing EBC and Trojan to dispose of their explosive waste in a manner which is less environmentally sound and more costly than the open burning of those wastes. Trojan and EBC are presently complying with all applicable rules and regulations. However, they believe that their current practices regarding the handling, storage, transportation and disposal of their waste materials are potentially more hazardous and imply that this increased potential hazard results in an arbitrary or unreasonable hardship to transporters or people in close proximity to the storage areas for the waste. EBC and Trojan also argue that this payment of higher costs to dispose of waste in a more dangerous manner results in an arbitrary or unreasonable hardship.

Contrasting with the issue of hardship is the issue of environmental impact. Trojan calculated the total weekly air emissions from its burning of explosive waste to be:

Particulate	1.4 lbs.
Sulfur Oxides	0.1 lbs.
Carbon Monoxide	7.7 lbs.
VOC-Methane	1.2 lbs.
VOC-Nonmethane	2.7 lbs.
Nitrogen Oxides	0.5 lbs.

EBC also supplied this information from its anticipated open burning:

Particulate	2.0 lbs.
Sulfur Oxides	0.1 lbs.
Carbon Monoxide	10.9 lbs.
VOC-Methane	1.7 lbs.
VOC-Nonmethane	3.8 lbs.
Nitrogen Oxides	0.8 lbs.

Both petitioners maintain that these projected emissions are so small that the impact on ambient air quality could not be measured at the boundaries of the site. The Agency states in its recommendation that the open burning of the waste will have some unquantified environmental impact but should not cause any violations of the NAAQS.

AGENCY RECOMMENDATION

In its amended recommendation of June 29, 1989, the Agency recommended that the petitioners be granted a variance under Section 237.103 until April 1, 1991 subject to the conditions adopted in the Order. The Agency is willing to allow the petitioners time to investigate various alternative compliance plans, including the installation of a permitted explosives

incinerator, or to seek an adjusted standard or a site-specific rule change. The Agency states that the grant of the variance would not be inconsistent with federal law.

The Agency did express opposition to the grant of a permanent variance stating that permanent variances do not exist in Illinois. The Agency maintains that because the Board developed regulations to allow open burning through the variance procedure, it is logical to assume the relief was meant to be short term.

#### CONCLUSION

The Board finds that EBC and Trojan have presented adequate proof that immediate compliance with the regulations would impose an arbitrary or unreasonable hardship. Further the environmental impact of granting the variance is considered to be minimal. Accordingly, the variance will be granted subject to conditions.

The remaining issue to be addressed is the time period of the variance. The Board rejects the petitioners' request for a permanent variance because Section 36(b) of the Illinois Environmental Protection Act does not allow for the grant of a variance for a period exceeding five years. However, the Board is of the opinion that a grant of variance until April of 1991, as recommended by the Agency, may not allow the petitioners sufficient time to investigate the available alternative compliance measures. The petitioners stated that the size of this operations would be increasing by 1991. It seems premature to expect the petitioners to commit to a compliance plan before they can determine the impact that expansion will have on their requirements for open burning. The Board is convinced that the environmental impact of this open burning is minimal and will not lead to violations of the NAAQS in this attainment area. Therefore, the Board is willing to grant the petitioners a variance for the maximum allowable time of five years to investigate possible alternative methods of disposal. If a technically feasible, economically reasonable disposal method is discovered during the variance period, the petitioners will be required to devise a timetable to come in to compliance.

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

#### ORDER

The Ensign-Bickford Company and Trojan Corporation are hereby granted variance from 35 Ill. Adm. Code Section 237.102 and authorization to open burn explosive waste and explosive contaminated wastes as permitted by 35 Ill. Adm. Code 237.103, for a period of five years from the date of this order, subject to the following conditions:

- a. Petitioners shall maintain records with weekly totals, by type of waste burned, (i.e. TNT waste, PETN waste, etc.). A compilation of these records shall be submitted on a quarterly basis to the Agency. These records shall be available for Agency inspection at anytime when petitioners are in operation.
- b. Petitioners shall submit progress reports on a quarterly basis to the Agency. The report shall detail compliance developments, a list of companies and individuals contacted regarding alternative methods of disposal with documentation, to include copies of correspondences, and any test results of alternative methods of disposal, a list of any trade associations contacted regarding possible alternative methods of disposal and a list of trade publications and reviews consulted regarding possible alternative methods of disposal.
- c. The reports in paragraphs (a.) and (b.) should be addressed to:

Mr. John Justice, Regional Manager  
Division of Air Pollution Control  
Illinois Environmental Protection Agency  
2009 Mall Street  
Collinsville, Illinois 62234
- d. Petitioners shall conduct open burning no more than once a day, Monday through Friday, for a maximum of four hours per burn.
- e. Open burning shall only take place on calm clear days on which wind speed is 10 miles per hour or less.
- f. Petitioners shall use cages to burn explosives-contaminated papers so that the disbursement of any ash is nominal at best.
- g. Petitioners shall burn TNT waste, PETN waste, Pentolite waste and Composition B waste upon a sand bed of at least 4 inches.
- h. Petitioners shall use a concrete pad to prevent residual waste and waste constituents from contacting surface soils (except as noted in Condition (g) above).
- i. Petitioners shall promptly clean up any ash after every burn.
- j. Petitioners shall have fire prevention plans and equipment, as described in the petition, ready and in place at the facility prior to the first burn.
- k. Petitioners shall fence off the enter burn area prior to the first burn.

- l. Petitioners shall notify the surrounding community, prior to the first burn, that there will be periodic open burning. A copy of the notification shall be sent to the Agency.
- m. The above mentioned notification shall include a phone number for nearby residents to call in the event of any complaints.
- n. Any complaints shall be forwarded to the Regional Office in Collinsville within 24 hours.
- o. Petitioners shall not burn more than the following:

Ensign

Explosive-contaminated solvent	130 lbs/week
Materials to start fires	25 lbs/week
Explosive-contaminated materials	100 lbs/week
Pryotechnic materials	35 lbs/week

Trojan

TNT waste	10 lbs/week
PETN waste	10 lbs/week
Pentolite waste	810 lbs/week
Composition B waste	21 lbs/week
Materials to start fires	50 lbs/week
Explosive-contaminated materials	460 lbs/week

- p. Compliance with Condition (o.) shall be on a quarterly basis. The weekly average over the quarter shall be equal to or less than the listed quantities.
- q. Within 45 days of the date of this Order, petitioner shall execute and forward to William D. Ingersoll, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, P.O. Box 19276, Springfield, Illinois 62794-9276, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. The 45-day period shall be held in abeyance during any period that this matter is being appealed. Failure to execute and forward the Certificate within 45 days renders this variance void. The form of said Certification shall be as follows:

CERTIFICATION

I, We, \_\_\_\_\_,  
having read the Order of the Pollution Control Board, in PCB 88-156 and PCB 88-168, dated August 10, 1989, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
Petitioner

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1985 ch. 111½ par. 1041, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

I, Dorothy M Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 10th day of August, 1988, by a vote of 7-0.

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