

ILLINOIS POLLUTION CONTROL BOARD

March 20, 2003

IN THE MATTER OF:)
)
PETITION OF THE) AS 00-5
ENSIGN-BICKFORD COMPANY) (Adjusted Standard – Air)
FOR AN ADJUSTED STANDARD)
FROM 35 ILL. ADM. CODE 237.102)

ROY M. HARSCH AND SHEILA H. DEELEY OF GARDNER CARTON AND DOUGLAS
APPEARED ON BEHALF OF ENSIGN-BICKFORD COMPANY; and

RACHEL DOCTORS APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by W.A. Marovitz):

This matter comes before the Board upon a “Petition for Adjusted Standard” (Pet.) filed on September 23, 1999, by the Ensign-Bickford Company (EBCo). EBCo requests an adjusted standard to lawfully open burn certain explosive waste, potentially explosive-contaminated waste, and to flash equipment containing residues of potentially explosive-contaminated materials at EBCo’s Wolf Lake facility in Union County.

The Board’s responsibility in this matter arises from the Environmental Protection Act (Act) (415 ILCS 5/1 *et seq.* (2002)). The Board is charged to “determine, define and implement the environmental control standards applicable in the State of Illinois” (415 ILCS 5/5(b) (2002)), and to “grant . . . an adjusted standard for persons who can justify such an adjustment” (415 ILCS 5/28/1(a) (2002)).

The Act also provides that “the Agency shall participate in [adjusted standard] proceedings.” 415 ILCS 5/28.1(d)(3) (2002). On May 6, 2002, the Environmental Protection Agency (Agency) filed a recommendation opposing EBCo’s request. On October 9, 2002, the Agency filed an amended recommendation. On December 23, 2002, the Agency filed a post-hearing brief. The Agency now recommends the Board grant the adjusted standard with the exception that plastic liners, non-contaminated cardboard, shock tubes, caps, wipe rags and detonator cord be disposed of off-site. The Agency further recommends that open burning only occur under certain conditions, and with weekly limits on the open burning of Resource Conservation and Recovery Act (RCRA) and non-RCRA waste. The Agency also recommends that the adjusted standard end in 10 years.

Based upon the record before it and upon review of the statutory factors for consideration of adjusted standards, the Board grants EBCo an adjusted standard from 35 Ill. Adm. Code 237.102, subject to conditions for a term of 10 years.

BACKGROUND

The Facility

EBCo operates a 456-acre explosive products manufacturing facility, located near Wolf Lake, Union County, Illinois. Pet. at 1, EBCo Br. at 2.¹ The Wolf Lake facility (facility) is bordered by the Shawnee National Forest, Wolf Lake, and farmland. EBCo Br. at 2. The facility is situated approximately one-half hour equidistant from Carbondale, Illinois and Cape Girardeau, Missouri. EBCo Br. at 2. The town of Wolf Lake has a population of approximately 250 persons, and the nearest residence is approximately one-half mile from the EBCo facility. EBCo Br. at 2. EBCo is the largest manufacturing employer in Union County and has 220 employees. EBCo Br. at 2-3. Besides the Wolf Lake facility, EBCo has three other manufacturing plants in Graham, Kentucky; Simsbury, Connecticut; and Spanish Fork, Utah. Rec. at Exh. 9.²

The facility makes cast boosters (which are charges of explosive materials), non-electric detonator assemblies (which provide initiation systems for explosives) and cast primers. EBCo Br. at 3-4. The cast booster operation produces the greatest volume of potentially explosive waste to be destroyed by open burning. EBCo Br. at 3. The operation involves a large volume of raw materials from reclaimed and virgin sources of explosives. Tr. at 54, 59; EBCo Br. at 3. The raw materials include trinitrotoluene (TNT), or tritonal (Aluminized TNT), pentaerythritol tetranitrate (PETN), cyclonite (RDX), and Composite B (RDX and TNT). Pet. at 3. EBCo has received the materials in cardboard boxes and fiberboard barrels from worldwide sources in various conditions, some dating back before World War II. EBCo Br. at 3; Tr. at 67, 70, 73. The non-electric detonator assembly operation includes assembling explosive components, devices or articles. EBCo Br. at 3.

EBCO also manufactures cast primers in an automated process using various portions of different explosives. Pet. at 4. The process involves an aqueous scrubber system to treat fumes emitted from melting pots and floor wash water. Pet. at 4.

Wastes containing explosives from the manufacturing of the products include off-specification product, cardboard outer packaging, paper and plastic liners, Tyvek coveralls, wastewater treatment sludge, spent activated carbon, spent solvent, shock tubes, caps, wipe rags, and detonating cord. Pet. at 4; Tr. at 81-84; Am. Rec. at 2; EBCo Br. at 12.

¹ The adjusted standard petition will be cited as “Pet. at ___.”; the Agency’s amended recommendation will be cited as “Am. Rec. at ___.” The transcript from the hearing will be cited as “Tr. at ___.” EBCo’s post-hearing brief will be cited as “EBCo Br. at ___.”; the Agency’s post-hearing brief will be cited as “Agency Br. at ___.” EBCo’s post-hearing reply brief will be cited as “EBCo Reply Br. at ___.”

² Although the Agency filed an amended recommendation, the Board will rely on exhibits submitted with the original recommendation where necessary. The original recommendation will be cited as “Rec. at ___.”

EBCo seeks relief to open burn some of these wastes and flash equipment containing explosive residue as EBCo has sought in previous variances. EBCo instituted procedures to control fires at the facility including:

1. access to internal communications or alarm systems;
2. a convenient telephone or hand-held radio to summon emergency assistance;
3. portable fire extinguishers;
4. readily accessible fire truck; and
5. access to water via Wolf Lake and a 32,000 gallon water tower. Pet. at 9.

EBCo's precautionary measures are more fully explained in the contingency plan of EBCo's RCRA Part B permit, included in the record at hearing as Exhibit 9.

Currently, the facility is not making cast boosters, as EBCo intends to begin making cast boosters at a new facility in Utah to try to improve efficiency and reduce cost. EBCo Br. at 3. However, EBCo's Wolf Lake facility is maintaining its cast booster operation to allow for immediate startup. EBCo Br. at 3, citing Tr. 20-22, 31. EBCo is also going through a soft decontamination process at the cast booster facility to make the building safe for anyone to walk through. Tr. at 27. This process may extend beyond 2003. EBCo Br. at 9.

Although EBCo is not currently manufacturing cast boosters, EBCo wants the adjusted standard to include the cast booster operation because EBCo continues to process raw materials, perform physical screening and separation, conduct decontamination, and continue with the non-electric detonator assembly operation. EBCo Br. at 9.

EBCo anticipated merging with Dyno Nobel, a Norwegian global explosives manufacturing company and EBCo competitor, in October, 2002. EBCo Br. at 3; Tr. at 24. However, the date was delayed to December 2002, pending approval from the Federal Trade Commission. EBCo Br. at 3. To date, the merger is still pending. EBCo Reply Br. at 4. EBCO's Utah facility is not included in the merger. EBCo Br. at 4. EBCo hopes that the Dyno Nobel merger will cause the resumption of its cast booster operations at Wolf Lake. EBCo Br. at 4. EBCo wants adjusted standard relief that would also apply to the new entity created by the merger. EBCo Reply Br. at 4.³

The facility currently employs 220 employees. Tr. at 19. Before the facility stopped manufacturing cast boosters, the facility employed 250 employees. Tr. at 19.

³ The Board notes that on March 19, 2003, EBCo filed a motion to transfer the variance in PCB 02-159 (June 20, 2002) to Dyno Nobel, Inc.. In the motion, EBCO states that the pending transaction, which is expected to occur on May 3, 2003, is not a merger, but rather a "purchase of certain assets by Dyno Nobel Inc."

Prior Variances

The Board has previously granted EBCo several variances. In 1989, the Board first granted EBCo and the Trojan Corporation (both wholly-owned subsidiaries of Ensign-Bickford Industries) a five-year variance authorizing them to open burn explosive waste. The Ensign-Bickford Company and the Trojan Corporation v. IEPA, PCB 88-156 and PCB 88-168 (Aug. 10, 1989). In August 1991, the Board modified the 1989 variance, thereby allowing EBCo and Trojan Corporation to combine their open burning limitations and also allowing a greater amount of explosive waste to be burned. The Ensign-Bickford Company and the Trojan Corporation v. IEPA, PCB 90-242 (Aug. 22, 1991). In September 1991, the Board again modified the 1989 variance, allowing EBCo to flash metallic process equipment and open burn wooden process equipment for one year. The Ensign-Bickford Company v. IEPA, PCB 91-96 (Sept. 26, 1991).

The Board granted EBCo another variance in 1994, which allowed an increase in the total amount of wastes to be burned over the previous variances, and it also combined limits on burning certain types of materials. The Ensign-Bickford Company v. IEPA, PCB 93-139 (Sept. 1, 1994). On November 18, 1999, the Board allowed EBCo to extend the 1994 variance. The Ensign-Bickford Company v. IEPA, PCB 00-24 (Nov. 18, 1999).

The Board has also granted provisional variances to EBCo. In 1990, the Board granted EBCo a 45-day provisional variance to allow the open burning of two wooden buildings contaminated with explosive material that were decommissioned as the facility was modernized. The Ensign-Bickford Company v. IEPA, PCB 90-83 (Apr. 26, 1990). On November 4, 1999, the Board granted EBCo a provisional variance to allow open burning pursuant to the terms set forth in PCB 93-139 with the exception of flash burning equipment potentially contaminated with explosive waste. Ensign-Bickford Company v. IEPA, PCB 00-78 (Nov. 4, 1999). On March 7, 2002, the Board granted EBCo a provisional variance to allow open burning pursuant to the terms set forth in PCB 00-24 with the exception of flash burning equipment potentially contaminated with explosive waste. Ensign-Bickford Company EBCO v. IEPA, PCB 02-118 (Mar. 7, 2002). This provisional variance expired on April 22, 2002.

On June 20, 2002, the Board granted EBCo its most recent variance from Section 237.102, subject to certain conditions. The Ensign-Bickford Company v. IEPA, PCB 02-159 (June 20, 2002). The variance will expire on June 20, 2003, or six months after the Board's final decision in this adjusted standard case, whichever occurs first.

PROCEDURAL HISTORY

EBCo filed the petition for adjusted standard on August 11, 1999. The case was assigned docket number AS 00-3. However, on September 23, 1999, the Board dismissed the petition because EBCo failed to publish notice of the petition in a newspaper of general circulation, which caused the Board to lack jurisdiction. In re Petition of the Ensign-Bickford Company for an Adjusted Standard from 35 Ill. Adm. Code 237.103, AS 00-3 (Sept. 23, 1999). Also on September 23, 1999, EBCo re-filed the adjusted standard. The Board granted EBCo's motion to incorporate the record of AS 00-3 into this case.

On May 6, 2002, the Agency filed a recommendation. The Agency recommended that the Board deny EBCo's petition for an adjusted standard. On August 29, 2002, a hearing was held before Board Hearing Officer Steven Langhoff in Jonesboro, Union County. EBCo called three witnesses: Glenn Edwards, the site manager; Todd Buchanan, the environment and safety official at the site; and Richard Trzupsek, a consultant with Huff & Huff, Inc.. The Agency presented the written testimony of one witness: John Justice who is the Agency's regional manager for the for the Bureau of Air, Field Operations Section.

On October 9, 2002, the Agency filed an amended recommendation. The Agency recommended granting the adjusted standard in part and denying it in part. On November 15, 2002, EBCo filed a post-hearing brief. On December 23, 2002, the Agency filed a post-hearing brief. On January 24, 2003, EBCo filed a reply brief.

On January 24, 2003, EBCo filed a motion to file a post-hearing reply brief and the brief. The Agency did not file a response to the motion. EBCo states that it wants to file the reply brief to address misstatements of law by the Agency and update the Board on a pending merger involving EBCo. Mot. at 1. Board regulations provide that "the moving person will not have the right to reply, except as permitted by the Board or hearing officer to prevent material prejudice." 35 Ill. Adm. Code 101.500(e). Although not specifically alleging that material prejudice will occur if the reply is not accepted, EBCo does assert that the reply is necessary to clarify misleading statements. The Board infers that to deny the reply would result in material prejudice. Accordingly, the motion is granted.

STATUTORY AND REGULATORY FRAMEWORK

To determine whether to grant an adjusted standard, Section 28.1 of the Act (415 ILCS 5/28.1 (2002)) requires that the Board determine whether a EBCo has presented adequate proof that:

- 1) factors relating to the EBCo are substantially and significantly different from the factors relied upon by the Board in adopting the general regulations applicable to that petition;
- 2) the existence of these factors justifies an adjusted standard;
- 3) the requested standard will not result in environmental or health effects substantially more adverse than the effects considered by the Board in adopting the rule of general applicability; and
- 4) the adjusted standard is consistent with federal law. 415 ILCS 5/28.1(c) (2002). In granting an adjusted standard, the Board may impose such conditions as may be necessary to accomplish the purposes of the Act. 415 ILCS 5/28.1(a) (2002).

EBCo states in both its petition (Pet. at 1) and post-hearing brief (EBCo Br. at 1) that it seeks an adjusted standard pursuant to 35 Ill. Adm. Code 237.103, which states:

Open burning of wastes creating a hazard of explosion, fire or other serious harm, unless authorized by other provisions in this Part, shall be permitted only upon application for the grant of a variance as provided by the Environmental Protection Act (Act) (Ill. Rev. Stat. 1981, ch. 111 1/2, pars. 1001 *et seq.*) and by the Pollution Control Board's (Board) Procedural Rules (35 Ill. Adm. Code: Subtitle A, Chapter I).

EBCo also states, however, that it seeks an adjusted standard from 35 Ill. Adm. Code 237.102. Pet. at 2, 11; EBCo Br. at 1. Section 237.102 states:

- a) No person shall cause or allow open burning, except as provided in this Part.
- b) No person shall cause or allow the burning of any refuse in any chamber or apparatus, unless such chamber or apparatus is designed for the purpose of disposing of the class of refuse being burned.

EBCo never clarifies whether it wants relief from both Sections 237.102 and Section 237.103, or just one or the other. The Board interprets EBCo's pleadings as requesting relief from Section 237.102. Section 237.102 is the more general rule that prohibits open burning. Also, Section 237.103 addresses when a variance may be granted, and EBCo seeks an adjusted standard, not a variance.

ARGUMENTS

Substantially Different Factors

EBCo argues that the factors relating to EBCo are substantially and significantly different than those factors the Board relied on when the Board adopted the regulations prohibiting open burning of explosive waste. EBCo Br. at 4; Pet. at 9-10. EBCo observes that in adopting the rules governing open burning, the Board explicitly stated that the Board would continue to grant variances *upon a showing of necessity*. EBCo Br. at 4 (emphasis supplied). EBCo asserts that the Board was concerned that open burning cases often involve significant quantities of waste, and the technology for alternative means of disposal was advancing quickly. EBCo Br. at 4. However, EBCo argues, the technology has not advanced to allow a safer alternative with less environmental impact than open burning in a regulated and permitted facility. EBCo Br. at 4.

EBCo quotes the Board's opinion regulating open burning when the Board stated "open burning has long been recognized as an important and particularly inexcusable source of air pollution." EBCo Br. at 4, citing *In re Open Burning Regulations*, R70-11, at 6 (Sept. 2, 1971). EBCo argues that air pollution is not a concern in this case because it is not disputed that there are no adverse environmental impacts from the operations. EBCo Br. at 4. EBCo states that Section 237.102 reflects the concern that open burning in populated areas would both cause a nuisance and degrade the air quality. Pet. at 10. EBCo observes, however, that the facility is not located in a populated area, but in a rural, remote area. Pet. at 10; Tr. at 156.

The Agency does not address this factor in its amended recommendation. In the Agency's original recommendation, the Agency stated that EBCo had not demonstrated that factors existed that were substantially and significantly different from those relied upon by the Board when it adopted the regulation prohibiting open burning. Rec. at 7-8. However, the Agency's amended recommendation and post-hearing hearing brief advise granting EBCo's requested adjusted standard in part and denying it in part.

Justification

EBCo arguments

EBCo argues an adjusted standard is necessary because of the economic benefits of conducting the operations at the facility, and the facility's on-site RCRA Part B burn unit is the safest and most economically feasible alternative for disposing of the waste. EBCo Br. at 7, 11, 14.⁴ EBCo also argues that technology has not advanced to allow an economically reasonable and technologically feasible alternative that is as safe, with less environmental impact than open burning in a regulated and permitted facility. EBCo Br. at 4.

Regarding the economic benefits of an adjusted standard, EBCo notes that there is competition in the market share with other producers. EBCo Br. at 7. If EBCo cannot compete for cost effectiveness, an alternate result would be that the facility closes. EBCo Br. at 8. EBCo notes that having an adjusted standard will make the facility more attractive to potential buyers, noting the pending Dyno Nobel merger. EBCo Br. at 8. EBCo also states that if the non-electric detonator assembly was consolidated and the cast booster operation was restarted, jobs at the facility would increase by 80 positions. EBCo Br. at 8.

EBCo describes methods EBCo uses to advance waste minimization and alternative methods of handling waste materials. EBCo Br. at 6. EBCo recycles pack water from delivery of PETN, and uses the water in its scrubber as makeup water. EBCo Br. at 6. EBCo recycles the clean cardboard from the cast booster production and reuses the outer cardboard packaging from PETN. EBCo Br. at 6. EBCo recycles or reuses 99.9% of its cardboard and shipping materials from the detonator assembly operation. EBCo Br. at 6; Tr. at 120-30.

At hearing, EBCo addressed what alternatives to open burning and flashing⁵ EBCo had investigated, and why those alternatives justify granting an adjusted standard. Tr. at 104. Todd Buchanan, the facility's safety, health and environmental manager, testified that EBCo investigated off-site incineration, on-site rotary kiln incineration, solvated electron technology, and plasma waste conversion technology. Tr. at 104-8, 110; EBCo Br. at 6, Exh. 11. EBCo asserts that none of these methods led to a sufficiently advanced, economically feasible, or technically appropriate method of destroying the materials that are currently destroyed at EBCo's RCRA Part B facility. EBCo Br. at 6, citing Tr. at 104-13.

⁴ EBCO currently has a RCRA Part B permit for the existing open burning unit. Tr. at 112.

⁵ Flashing involves the removal of explosive residue from ammunition components, contaminated processing equipment and structures by open burning.

Among the alternatives to open burning and flashing, Buchanan stated that the solvated electron technology has no commercially available process existing anywhere to be studied and discussed. Tr. at 106. EBCo investigated the plasma waste conversion technology for a couple of years and then concluded that the technology was not mature enough to be viable or feasible from a technology or cost perspective. Tr. at 108.

Off-site incinerators are not a viable option for some of the waste because under the RCRA requirements, EBCo must treat the waste or have it treated off-site in 90 days. Tr. at 114. If the incinerator cancels the appointment to accept EBCo's waste, EBCo could be in violation of the RCRA provisions. Tr. at 115.

EBCo investigated the Onyx incinerator in Sauget, Illinois and the ICI incinerator in Joplin, Missouri. Tr. at 83, 105. Comparing the two incinerators, Buchanan stated that ICI had greater capability than Onyx, but ICI had significant safety issues. Tr. at 115-116. Buchanan also summarized the cost estimates for what EBCo currently spends to burn material on site compared to what it would cost to send materials to Onyx or ICI, off-site incinerators. Tr. at 116; Exh. 10. EBCo can practically burn about 1200 pounds of explosive waste and 4500 pounds of explosive-contaminated waste in a week in the on-site burn unit at a cost of \$860.45. Tr. at 119-123. Estimating 14 weeks of burning those quantities over a year's time, plus costs for maintenance, Buchanan calculated an annual cost of \$13,545 to burn the material on site. Tr. at 123

In comparison, the annual cost to go off-site with the same amount of material would be \$300,000. Tr. at 31, 41, 124. This amount considers the additional packaging, preparation, labor, transportation, and destruction costs. Tr. at 118-124; Exh. 11a-d.

Buchanan further testified about EBCo's evaluation of constructing its own on-site incinerator. Buchanan explained that rotary kiln incinerators are not suited to start and stop operation; once the incinerator is brought up to temperature, it is best kept running. Tr. at 110. With typical feed rates of 250 to 300 pounds per hour, a year's waste at the Wolf Lake facility could be processed in 40 days. Tr. at 110-11. However, since EBCo must manage wastes in less than 90 days, storing the waste could be a problem, and the schedule would not be a good fit for a rotary kiln incinerator. Tr. at 111. It would cost EBCo \$10 million to develop an on-site incinerator by using a rotary kiln, and would require RCRA permitting. Tr. at 110-11.

EBCo currently sends some material off-site as an alternative to open burning. Tr. at 157. EBCo currently ships a large quantity of waste detonators and waste detonator assemblies to the Onyx facility because EBCo believes those items are not as hazardous as others. Tr. at 157. But, the shock tube waste from the non-electric detonating assembly is shipped to EBCo's Simsbury, Connecticut facility. Tr. at 40. The caps waste from the non-electric detonator assembly are sent to the Onyx facility for disposal. Tr. at 40. EBCo argues that the wipe rags and detonating cord from the non-electric detonator assembly contain PETN, which is the most explosive material that EBCo handles. EBCo Br. at 10. EBCo asserts that on-site destruction is the safest method for handling these materials. EBCo Br. at 10.

EBCo explained that it should be permitted to use non-contaminated cardboard during flashing, because the Agency's speculation that the cardboard might cause environmental harm is unfounded. EBCo Br. at 13, 15.

EBCo's current variance sets the following limits on the amount of material to be burned:

Materials to start fires	100 lbs/week
Explosive-contaminated materials	5,000 lbs/week
Non-metallic explosive wastes	1,200 lbs/week
Equipment flashing	as needed

EBCo requests that the Board include the same limits in the adjusted standard. Pet. at 7. EBCo argues that although the Agency advocates reducing the limits, the Board rejected these same arguments in the most recent variance granted in PCB 02-159. EBCo Br. at 10-11. EBCo's requested limits are based on past practice and generation rates. Tr. at 51. The limits allow EBCo the flexibility to timely treat the materials and recognize that EBCo has to consider weather issues before conducting a burning and cannot operate the unit every day. Tr. at 51.

EBCo states that it would accept the Board limiting the adjusted standard to 10 years. EBCo Br. at 11.

Agency Recommendation

Cast Booster Operation

The Agency recommends that if the cast booster operation starts again, then an adjusted standard to allow open burning of the waste would be appropriate. Am. Rec. at 2. The Agency states that it considered in its recommendation both the significant and substantial costs weighed with the modeling results that show no significant air quality concerns, in addition to other information in the record. Am. Rec. at 2. However, the Agency declined to recommend the open burning of plastic liners from the operation. Am. Rec. at 2. The Agency states that EBCo failed to present any testimony regarding any issues with repackaging the used plastic liners for off-site disposal. Am. Rec. at 2.

The Agency originally recommended no open burning occur at the facility if the cast booster operation is not restarted. Am. Rec. at 4. However, in its post-hearing brief, the Agency modified its recommendation to grant an adjusted standard to allow:

1. for open burning of wastes from possible expansion of processing recycled munitions;
2. an extension, if needed, for decommissioning of the cast booster operation, and;
3. wastes from the actual production of cast boosters, should that operation be restarted. Agency Br. at 2

These recommendations are made with the exception that the adjusted standard exclude plastic liners. Agency Br. at 2.

The Agency also recommends that if the cast-booster operation starts again, that the operation should only occur under the conditions the Board described in the EBCo's current variance (PCB 02-159). Agency Br. at 2. The Agency further recommends that the Board change the weekly and annual limits that are contained in PCB 02-159. The Agency recommends that the weekly limit for the open burning of explosive-contaminated materials (non-RCRA waste cardboard packaging) should be limited to 700 pounds per week and 40,000 pounds per year, because of the amount of smoke that this open burning generates. Am. Rec. at 2, citing Exh. 2. The Agency believes that the currently allowed limits of 5,000 pounds per week and 260,000 pounds per year for explosive-contaminated materials under PCB 02-159 are excessive. Am. Rec. at 2-3. The Agency recommends that the open burning of non-metallic explosive wastes (RCRA waste) be limited to 15,000 pounds per year, as the Agency recommended in PCB 02-159. Am. Rec. at 3. The Agency requests that the Agency's Collinsville Regional Office be notified if the cast-booster operation is restarted. Am. Rec. at 3.

Non-Electric Detonator Assembly

Regarding the non-electric detonator assembly, the Agency recommends that some waste be open burned and other waste be shipped off-site. Specifically, if the cast booster operation is restarted, EBCo should be permitted to open burn explosive contaminated wastewater treatment sludge and explosive contaminated spent activated carbon from the wastewater treatment process. Am. Rec. at 4. However, the shock tubes, caps, wipe rags and detonator cord should be disposed of off-site because it would be economically reasonable and technically feasible to do so. Am. Rec. at 4; Agency Br. at 2.

Flashing

The Agency recommends non-electric detonator components and equipment associated with the cast-booster operation may be flashed, but only potentially explosive-contaminated cardboard may be used to flash not "clean" cardboard. Am Rec. at 4. The Agency explains that the cardboard's composition is unknown, as is that of the dyes and glues used in its production. Agency Br. at 4.

The Agency requests its Collinsville office be notified at least 48 hours in advance of flashing and EBCo investigate methods to lower emissions generated by flashing. Am. Rec. at 5.

Other Matters

The Agency recommends the adjusted standard be granted for 10 years. Agency Br. at 3. During that time, EBCo must provide to the Collinsville office an annual report of its efforts to locate and develop alternatives, and costs associated with those alternatives. Am. Rec. at 3.

The Agency responds that EBCo's claim that an adjusted standard would be justified because EBCo has to compete with other manufactures does not fit within the exception for open burning explosive waste or justifying pollution. Agency Br. at 4.

Environmental Impact

EBCo argues that the environmental impacts of granting the requested adjusted standard would be minimal and insignificant, if any at all. EBCo Br. at 14. EBCo states that its expert, Rick Trzupke of Huff & Huff, Inc., conducted two modeling exercises. EBCo Br. at 14. The expert testified that the exercises addressed all pollutants for which emission factors exist for EBCo's explosives. Tr. at 145. Specifically, the modeling results of one of the exercises showed that, for criteria pollutants, open burning had no impact on National Ambient Air Quality Standards (NAAQS). EBCo Br. at 14. Additionally, open burning had no significant impact on hazardous air pollutants (HAPS). EBCo Br. at 14, citing Tr. at 142-43. The modeling was conducted for the worst-case scenarios. Exh. 14 at 1.

EBCo states that the Agency's nearest air monitoring station is located approximately 20 miles northeast of the facility. EBCo Br. at 15. EBCo believes that there have been no exceedences of ambient air quality standards for total suspended particulates and/or PM-10 (particulate matter with an aerodynamic diameter less than or equal to nominal 10 micrometers) in Union County. EBCo Br. at 15.

EBCo also states that burning will only occur on calm and clear days, when wind speed is not more than 10 m.p.h., and during daylight hours. EBCo Br. at 15. EBCo contends that the risk of environmental harm appears inconsequential. EBCo Br. at 15.

The Agency agrees that the modeling shows that the proposed open burning will not cause or contribute to any NAAQS violations. Rec. at 21. However, the Agency believes that the effect of open burning cannot be determined with respect to other possible air quality impacts of non-criteria pollutants. Rec. at 21. The Agency agrees with EBCo that there have been no exceedences of the particulate matter standard for PM-10 in the last three years at the nearest monitor in Jackson County, Carbondale. Rec. at 19.

Consistency with Federal Law

EBCo asserts that the adjusted standard may be granted consistent with federal law. Pet. at 10. EBCo states that Louisiana and Texas permit open burning, which supports EBCo's conclusion that open burning is consistent with federal law. Pet. at 10.

The Agency agrees that federal law does not prohibit open burning, but notes that states either prohibit or severely limit open burning. Rec. at 22.

FINDINGS

Based on its review of the record in this matter, and the showings requisite for grant of an adjusted standard, the Board finds that grant of an adjusted standard in the instant case is warranted subject to certain conditions. However, the adjusted standard does not apply to any entity with which EBCo may merge.

Substantially Different Factors

When the Board adopted the regulations prohibiting open burning, the Board specifically addressed explosive wastes. The Board stated:

We have on several occasions received variance requests regarding open burning of explosive wastes, and we have granted them upon a showing of necessity. We shall continue to do so. However, these cases sometimes involve rather significant quantities of wastes, and the technology for alternative means of disposal is rapidly advancing. These cases are sufficiently important and sufficiently infrequent that we shall continue to deal with them individually on a variance basis. *In re Open Burning Regulations*, R70-11, at 6 (Sept. 2, 1971).

The Board acknowledged that technology was advancing, but as the Board discusses below, the technology has not advanced sufficiently such that EBCo has other feasible options for treating the waste generated at the site.

The Board finds that EBCo has shown that the factors relating to the site are substantially and significantly different from those factors relied upon by the Board in adopting 35 Ill. Adm. Code 237.102.

Justification

The Board finds that EBCo has sufficiently shown there are currently no viable alternatives to open burning and flashing of the explosive wastes. Although the Agency argues that the shock tubes, caps, wipe rags, detonator cord, plastic liners and uncontaminated cardboard should be disposed of off-site, the Board finds that the shock tubes and caps are already shipped off-site. Tr. at 40. The Board also finds that some of the uncontaminated cardboard is recycled through a broker when pulpers are available. Tr. at 174. Regarding the wipe rags and detonator cord and plastic liners, the Board is persuaded that on-site destruction is the safest method for disposing of these explosive-containing materials.

The Board further finds that EBCo has justified the adjusted standard regardless of the status of the cast booster operation. EBCo is maintaining its cast booster operation for immediate startup. EBCo is also going through a soft decontamination process, and continues to process raw materials.

The Board also finds that the limits the Board established in the PCB 02-159 variance regarding the amount of waste to be burned are justified in this adjusted standard. In PCB 02-159 the Board allowed the same limits that EBCo is currently requesting:

Materials to start fires	100 lbs/week
Explosive-contaminated materials	5,000 lbs/week
Non-metallic explosive wastes	1,200 lbs/week
Equipment flashing	as needed

Contrary to the Agency's assertion, the Board did not set annual limits in PCB 02-159. At hearing, Buchanan testified that the requested limits are based on past practice and generation rates. Tr. at 51. As, in PCB 02-159, the Board finds the Agency's arguments for limiting the amount of waste insufficient to support limiting the waste on an annual basis.

Environmental Impact

The Board finds that the environmental impact of granting the adjusted standard would be minimal. In this regard, the Board finds EBCo's air quality modeling demonstrates that even in the worst case scenario, the open burning and flashing will not affect the NAAQS. Exh.14 at 1.

Consistency with Federal Law

The Board finds that granting an adjusted standard from 237.102 would be consistent with federal law.

Scope of Relief

The specific relief the Board will grant is similar to that which the Board granted in variance PCB 02-159 and described in the order below. The adjusted standard will only apply to waste from EBCo's cast booster, cast primer and non-electric detonator assembly operations at the Wolf Lake facility. The adjusted standard only applies to EBCo and not to any successor in interest. The adjusted standard will expire in ten years, as the Agency suggests.

SUMMARY

For the reasons detailed above, the Board grants EBCo an adjusted standard for ten years from 35 Ill. Adm. Code 237.102 for operations at the Wolf Lake facility, subject to conditions. The adjusted standard will begin on June 20, 2003, consistent with the Board's opinion and order in the Ensign-Bickford Company v. IEPA, PCB 02-159 (June 20, 2002).

This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

The Board hereby grants Ensign-Bickford Company (EBCo) an adjusted standard from 35 Ill. Adm. Code 237.102, subject to the following conditions:

1. The adjusted standard applies to EBCO's explosive products manufacturing facility located near Wolf Lake, Union County, Illinois.

2. Duration.
 - a. This adjusted standard shall begin on June 20, 2003, when the current variance expires.
 - b. The adjusted standard shall expire on June 20, 2013.
3. Explosive waste and explosive-contaminated waste.
 - a. EBCo must diligently pursue an alternative to open burning its explosive waste and explosive-contaminated waste and submit an annual report to the Agency describing its efforts to locate and develop alternatives and their associated costs.
 - b. At any time during the adjusted standard duration, the Agency may identify new alternatives to open burning for EBCo to evaluate for technological feasibility and economic reasonableness. The evaluation shall be completed and a report shall be submitted to the Agency as soon as practical after EBCo receives notice of such new alternatives.
 - c. EBCo, upon ascertaining to a reasonable degree of certainty that there exists an alternative to open burning which is technologically and economically feasible, shall implement this alternative to dispose of its explosive waste and explosive-contaminated waste.
 - d. EBCo must take reasonable measures to minimize the contamination of materials during manufacturing operations.
 - e. EBCo must weigh and record each category of waste materials to be burned. Those categories are materials to start fires, explosive-contaminated materials, and non-metallic explosive wastes including tritonal (aluminized TNT).
 - f. EBCo must maintain records with weekly totals, by specific type and weight of waste burned. A compilation of these records must be submitted on a quarterly basis to the Agency. These records must be available for Agency inspection at all times when EBCo is in operation.
 - g. The reports in paragraphs 3(a), 3(b) and 3(f) must be addressed to:

Mr. John Justice, Regional Manager
Bureau of Air
Illinois Environmental Protection Agency
2009 Mall Street
Collinsville, IL 62234

- h. Open burning must take place on calm, clear days during daylight hours on which wind velocity is greater than two miles per hour but less than ten miles per hour.
- i. EBCo must use cages to burn explosive-contaminated materials so that the dispersment of ash is minimal. EBCo must maintain the cages so that the design function and efficiency of the cages are not substantially altered from the cages as built.
- j. EBCo must promptly clean up and dispose of any ash after every burn in accordance with all RCRA requirements.
- k. EBCo must use a concrete pad for open burning of K044 and K045 sludges to prevent residual waste and waste constituents from contacting surface soils.
- l. EBCo must comply with all applicable RCRA and Occupational Health and Safety (OSHA) requirements.
- m. EBCo must have fire prevention plans and equipment ready and in place at the facility prior to the first burn.
- n. Open burning must at all times be supervised. EBCo must train its employees in the proper procedures to be followed regarding the open burning. Additionally, training manuals delineating the procedures must be readily available to employees and Agency inspectors.
- o. EBCo must fence off the entire burn area prior to the first burn and the fencing must remain throughout the adjusted standard, when burning or flashing occurs.
- p. EBCo must notify the surrounding community, prior to the first burn, that there will be periodic open burning. A copy of the notification must be sent to the Agency at the address in paragraph 2(g).

- q. The above-mentioned notification must include a telephone number indicating that nearby residents or other persons may call in the event of any complaints.
- r. Any complaints must be forwarded to the Agency’s Office at the address in paragraph 2(g) within twenty-four hours.
- s. If a complaint is received, EBCo and the Agency must evaluate the complaint to determine whether any action can and should be taken by EBCo to minimize the effect complained of in subsequent burns.
- t. EBCo must not burn more than the following:

Materials to start fires	100 lbs/week
Explosive-contaminated materials	5,000 lbs/week
Non-metallic explosive wastes	1,200 lbs/week
Equipment flashing	as needed
- u. EBCo must notify the Agency, the local fire department, and the county forestry service of the date and time when the proposed burning will occur, at least three business days in advance of when it is intended to occur.
- v. EBCo is prohibited from accepting waste from other EBCo facilities at its Wolf Lake plant for purposes of open burning and flashing.

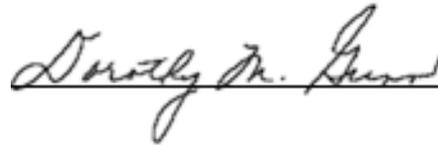
4. Flashing of Contaminated Equipment

- a. The open burning site must be limited to the smallest necessary space, including areas designated for safety reasons.
- b. EBCo must limit the amount of clean fuels to that necessary to be flashed to ensure temperature control.
- c. Heat-sensitive devices must be placed in the equipment to be flashed to ensure temperature control.
- d. EBCo must comply with requirements 3-h, 3-j, 3-l, 3-m, 3-n, 3-p, 3-q, 3-r and 3-u whenever flashing is conducted.
- e. In EBCo’s annual report on alternatives required in 3(a), EBCo must include an evaluation of methods it has investigated to lower emissions generated by flashing.

IT IS SO ORDERED.

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2000); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on March 20, 2003, by a vote of 7-0.

A handwritten signature in cursive script, reading "Dorothy M. Gunn", written over a horizontal line.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board