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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
PETITION OF ENSIGN BICKFORD)
COMPANY FOR AN ADJUSTED) No. AS 00-005
STANDARD FROM 35 ILL.)
ADM. CODE 237.103.)

Proceedings held on August 29, 2002 at 9:50 a.m.
at the Union County Courthouse, 309 West Market Street,
Jonesboro, Illinois, before Steven C. Langhoff, Hearing
Officer.

Volume I

Reported by: Stacy A. Wilson, CSR
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A P P E A R A N C E S

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P R O C E E D I N G S

(August 29, 2002; 9:50 a.m.)

HEARING OFFICER LANGHOFF: Good morning everyone.
My name is Steven Langhoff. I am the Pollution Control Board Hearing Officer who is handling this matter. This is AS 00-005 in the matter of Petition of the Ensign Bickford Company For An Adjusted Standard From 35 Ill.Adm. Code 237.103.

For the record, it is Thursday August 29, 2002, and we are beginning at 10:00 a.m. I want to note for the record there are no members of the public present. Members of the public are encouraged and allowed to provide public comment if they so show choose.

On August 11, 1999, Ensign Bickford Company or EBCo filed a petition for an Adjusted Standard with the Board under 35 Ill.Adm. Code 237.103. EBCo requested that the Board grant it relief from the open burning restrictions in the Board's regulations for its facility located at Wolf Lake in Union County. On September 23, 1999 EBCo refiled a petition along with a motion requesting the Board to incorporate the record from docket AS 00-003 into this docket AS 00-005. On October 21, 1999 the Board accepted the refiled petition and granted the motion to incorporate the record. On May 6, 2002 the Illinois

1 Environmental Protection Agency or Agency filed its
2 recommendation. On May 28, 2002 EBCo filed a request for a
3 hearing in this matter. On June 6, 2002 the Board granted
4 EBCo's request and ordered the hearing officer to set this
5 matter for hearing. On June 18, 2002 the hearing officer
6 filed a notice of hearing.

7 It is my duty to assess the credibility of
8 any witnesses giving testimony today, and I will do so at
9 the conclusion of the proceedings. We will begin with
10 opening statements from EBCo and the Agency, and we will
11 then proceed with EBCo's case, followed by the Agency
12 having an opportunity to put on any witnesses they wish.
13 We will conclude with any closing arguments the parties
14 wish to make. We will discuss off the record a briefing
15 schedule which will be set on the record at the conclusion
16 of the proceedings. The Board's procedural rules on the
17 Act provide members of the public be allowed to speak or
18 submit written statements at hearing. Any person offering
19 such testimony today would be subject to cross-examination
20 by both of the parties. Any such statements offered by
21 members of the public must be relevant to the case at
22 hand. I will call from any statements from members of the
23 public at the conclusion of the proceedings. This hearing
24 was noticed pursuant to the Act and the Board's rules and

1 regulations and will be conducted to pursuant to Sections
2 101.600 through 101.602 and Section 104.236 of the Board's
3 procedural rules.

4 At this time I will ask the parties to make
5 their appearances on the record beginning with EBCo.

6 MR. HARSCH: Good morning, Mr. Hearing Officer. My
7 name is Roy Harsch. I am a partner with the law firm of
8 Gardner, Carton and Douglas, and I represent Ensign
9 Bickford Company.

10 HEARING OFFICER LANGHOFF: Thank you, Mr. Harsch.
11 For the Agency?

12 MS. DOCTORS: My name is Rachel Doctors, and I am
13 representing the Illinois Environmental Protection Agency
14 in this matter.

15 HEARING OFFICER LANGHOFF: Thank you. I would like
16 to note for the record that I have personally served on the
17 parties a Hearing Officer Order this morning. In it I ask
18 the parties questions to answer today at hearing. I will
19 place a copy of my Hearing Officer Order into the record.
20 Are there any preliminary matters that we need to discuss
21 on the record this morning?

22 MR. HARSCH: No, sir.

23 MS. DOCTORS: No, sir.

24 HEARING OFFICER LANGHOFF: Thank you. Would EBCo

1 like to give a brief opening statement?

2 MR. HARSCH: Yes, I would. As you have pointed out
3 in your opening statements, EBCo has filed an Adjusted
4 Standard requesting that the Pollution Control Board
5 determine that the prohibition against open burning set
6 forth in Section 237.102 not apply to EBCo's practice of
7 burning certain production waste and flashing of
8 equipment. The Board's procedural -- the Board's rules at
9 Section 237.103 provide for the approval of variances to
10 allow for open burning where there is a hazard of
11 explosion. In a prior variance case, PCB 93-139, decided
12 on September 1, 1994, the Pollution Control Board granted
13 what was won in a series of continuations of variances to
14 EBCo to allow for open burning of this material pursuant to
15 Section 237.103. In that case the Board directed the
16 parties or directed Ensign Bickford Company to file the
17 Adjusted Standard petition should relief continue to be
18 necessary. That is what we have done in this proceeding,
19 and that is why we are here today because as the Board is
20 aware Ensign Bickford Company currently is operating its
21 unit pursuant to the variance.

22 I will present -- we will present three
23 witnesses today in support of our request for an Adjusted
24 Standard. The first is Glenn Edwards the site manager.

1 Second is Todd Buchanan who is the environment and safety
2 official at the facility, and the third is Richard Trzupsek
3 who is with the consulting firm of Huff and Huff. Thank
4 you.

5 HEARING OFFICER LANGHOFF: Thank you, Mr. Harsh.
6 Anything Ms. Doctors?

7 MS. DOCTORS: Yes. I think I have a brief opening
8 statement. Good morning. My name is Rachel Doctors. I am
9 representing the Agency in the request by EBCo for an
10 Adjusted Standard for the open of burning of waste that may
11 present a hazard of explosion. Under Illinois Law, Section
12 9 of the Illinois Environmental Protection Act, the open
13 burning of waste is prohibited in Illinois unless the
14 Pollution Control Board has adopted a regulation exempting
15 particular activity. The Board has adopted such regulation
16 at Section 237.103 of 35 Illinois Administrative Code
17 addressing the open burning of waste that creates a hazard
18 of explosion, fire or other serious harm. However, any
19 exemption from the prohibition against open burning is
20 conditioned on there being no alternative means of disposal
21 for the materials to be burned and upon the owner or
22 operator obtaining a variance from the Board. EBCo has
23 requested and received several variances so it could
24 burn -- so it could open burn off-specification product,

1 demilitarized explosives that are too contaminated to be
2 recycled, explosive and potentially explosive contaminated
3 waste including coveralls and packaging materials that
4 include plastic liners and cardboard, explosive
5 contaminated waste water treatment sludge and explosive
6 contaminated spent activated carbon from the waste water
7 treatment process as well as flashing equipment.

8 The first variance was issued by the Board to
9 EBCo in 1989 with subsequent variances issued in 1991,
10 1994, 1999 and 2002. In each of these variances, the Board
11 established conditions that required EBCo to investigate
12 alternative means of disposal and to record the amount of
13 waste that it was open burning. In this proceeding EBCo is
14 now requesting permanent relief in the form of an Adjusted
15 Standard. In May 2002 the Illinois EPA submitted its
16 recommendation that the Board deny this relief. As the
17 recommendation indicated the basis for the Agency's
18 concerns included information about the availability of
19 alternative means of disposal and the absence of sufficient
20 information to address essential factual issues regarding
21 the Adjusted Standard. The Agency was also concerned about
22 EBCo's facilities located in other states. These
23 facilities have been prohibited from open burning,
24 including flashing of equipment. Their treatment and

1 disposal alternatives include off-site incineration for
2 off-specification product and contaminated waste. For
3 example, detonating cord, desensitized secondary
4 explosives, explosive contaminated trash and (inaudible) as
5 detailed in the Agency's recommendation. Off-site
6 incineration may also be used for explosive contaminated
7 waste water treatment sludge and explosive spent activated
8 carbon from the waste water treatment process.

9 As indicated, Illinois EPA knows of two
10 incinerators. ICI located in Joplin, Missouri and Onyx
11 located in Sauget, Missouri. Whoops. Sauget, Illinois.
12 Excuse me -- that have RCRA permits to treat hazardous and
13 explosive wastes of the kind generated by EBCo at its Wolf
14 Lake facility, and that such wastes are transported to and
15 disposed of at these facilities. In addition, land fills
16 may also be used as an alternative for some types of their
17 waste. It also appears that recycling of both cardboard
18 and plastic may be possible. In addition, the Agency
19 believes that the company has requested relief for
20 quantities of waste beyond what it needs based on the
21 annual reports that it has submitted.

22 Finally, the Agency points out that since it
23 filed its recommendation, EBCo has informed the Agency that
24 the cast booster operation at its Wolf Lake facility has

1 been shut down and it has laid off 30 employees. This
2 operation generated the greatest amount of waste that are
3 open burned in the form of demilitarized contaminated
4 materials and contaminated packaging, cardboard and plastic
5 liners.

6 Frankly, the Agency has struggled with the
7 appropriate response in this case. There appears to be no
8 significant air quality impact, but the Agency believes
9 that EBCo has provided insufficient support for the costs
10 of using alternative means of compliance; and it seems that
11 these may be substantial and may affect future economic
12 opportunities for the company as well as expansion of its
13 business. The law requires though that sufficient
14 information and support be provided. As the Agency's
15 recommendation indicates, the Agency has felt that EBCo has
16 supplied an inadequate level of support for its request.
17 The Board is very pleased with the set of questions that
18 have been directed to EBCo to answer at the hearing by
19 Board personnel. The Agency is hopeful that EBCo answering
20 any questions from the Board will provide significant
21 additional information supporting its petition.
22 Accordingly, the Agency intends to reconsider its
23 recommendation in light of that additional information and
24 any other relevant information provided at this hearing and

1 will request that the Board provide the Agency with an
2 additional 30 days after hearing to make this review. At
3 that time the agents will make revisions to its
4 recommendation if appropriate.

5 HEARING OFFICER LANGHOFF: Thank you, Ms. Doctors.

6 MS. DOCTORS: I have one witness who will be
7 appearing, and that is John Justice, the Regional Manager
8 for the Southern District, Southern Region.

9 HEARING OFFICER LANGHOFF: Thank you. Mr. Harsch,
10 your first witness.

11 MR. HARSCH: At this point and time I would like to
12 call site manager, Mr. Glenn Edwards.

13 (Witness Sworn.)

14 GLENN EDWARDS

15 called as a witness, being first duly sworn, was examined
16 and testified as follows:

17 DIRECT EXAMINATION

18 BY MR. HARSCH:

19 Q. Mr. Edwards, would you please state your
20 name, your address and briefly describe for the record your
21 educational and professional background.

22 A. My name is Glenn Edwards. Address is 119
23 Lindsey Lane in Carterville, Illinois. Educational
24 background includes a Bachelor's Degree in Management from

1 Southern Illinois University. Professional career includes
2 17 years of management experience in both human resource
3 and plant operations.

4 Q. What is your current position with EBCo?

5 A. Current position with EBCo is site manager
6 for the Wolf Lake plant.

7 Q. What are your duties as site manager briefly?

8 A. As site manager, duties include overseeing
9 the plant operations and aspects of safety, quality,
10 manufacturing of non-electric detonator products,
11 distribution of finished goods to customers and overseeing
12 220 employees.

13 Q. Can you provide a brief description of what
14 the EBCo Company is?

15 A. EBCo Company is based out of Simsbury,
16 Connecticut. The company started in the 1830s. They
17 currently have four manufacturing plants in the US and have
18 several joint ventures over seas. Their primary business
19 is the manufacturing of blast initiation systems that are
20 used in a variety of industries such as coal mines, rock
21 quarries, construction, those type of businesses.

22 Q. Can you describe for the record the brief
23 historical background of the Wolf Lake plant.

24 A. The Wolf Lake plant goes back to the 1920's

1 when it was built by Atlas Company and has manufactured at
2 that site a variety of explosives including black powder,
3 dynamite, bulk explosives and most recently cast boosters
4 and non-electric detonators. The Ensign Bickford Company
5 purchased the plant in 1986 from Trojan and began making
6 non-electric detonators in addition to the cast boosters
7 that were made there in 1988.

8 Q. Did Trojan purchase the facility from Atlas
9 in 1947?

10 A. Yes, they did.

11 Q. After purchase from Atlas did they initiate a
12 nitrostarch production facility?

13 A. Yes, they did.

14 Q. What is nitrostarch production? What was it
15 used for?

16 A. Actually Roy, I am not familiar with that
17 process.

18 Q. Would Todd be a better witness for that?

19 A. Yes.

20 Q. Can you describe for the record the types of
21 investment that EBCo has made in the Wolf Lake facility
22 since its purchase in 1986?

23 A. Over the last 15 to 17 years Ensign Bickford
24 has invested literally tens of millions of dollars in the

1 site in terms of upgraded facilities, the building of a new
2 assembly building, about a 15 to 20,000 square foot
3 building for assembly of non-electric detonators.

4 Q. Was that finished in 1989?

5 A. Yes.

6 Q. Can you describe the clean up activities that
7 have occurred on the site in general terms?

8 A. In general terms EBCo has put forth a lot of
9 effort in terms of clean up of different, I guess, wastes
10 that have been on site which were generated by Trojan
11 Company, and again have spent several hundreds of thousands
12 of dollars in terms of that clean up.

13 Q. Did EBCo construct a new cast booster
14 operation in 1992 and 1993?

15 A. Yes, they did.

16 Q. Can you describe that facility?

17 A. That facility is a two story building, about
18 15 thousand square feet and included a new process which is
19 a gravity fed down-line pour process of cast boosters which
20 was safety improvement as well as an efficiency
21 improvement. That process has been operational for the
22 last ten years until June of this year and also included a
23 new centrifuge building which goes through the process of
24 centrifuging wet PETN into a dry form so it can be

1 processed into the booster.

2 Q. And was there an expansion of the detonator
3 side of the business in 1988 to 1999?

4 A. Yes. Prior to 1998, the Wolf Lake facility
5 assembled about 60 to 65 percent of the non-electric
6 detonators sold by EBCo. The remaining 35 to 40 percent
7 were assembled at Simsbury. In 1999 the company went
8 through an analysis process and decided to locate all the
9 final assembly into Wolf Lake. That saved the company
10 roughly three million dollars in terms of labor and
11 efficiency and distribution improvements. That included
12 moving about 20 assembly machines from Simsbury into Wolf
13 Lake and the hiring and training of approximately 50 to 60
14 employees.

15 Q. Can you describe the current products that
16 are produced at the Wolf Lake facility?

17 A. At the Wolf Lake facility currently we
18 assemble non-electric detonators. We have over 15 hundred
19 different SKU varieties of those products that are used in
20 a variety of industries.

21 HEARING OFFICER LANGHOFF: Off the record a second.

22 (Discussion held off the record.)

23 Q. What is else is produced at the Wolf Lake
24 facility?

1 A. Currently at the Wolf Lake facility it's only
2 non-electric detonators. In the past we have produced cast
3 boosters but do not at this time.

4 (Exhibit 1 marked for identification.)

5 Q. MR. HARSCH: If I show you what has been
6 previously marked as Exhibit 1, is this a product
7 identification guide for the products produced by Ensign
8 Bickford company?

9 A. Yes, it is.

10 Q. Are these the types of detonating equipment
11 products that you produce at the facility?

12 A. Yes, this is. This lists all the products
13 produced by Ensign Bickford. On this product
14 identification guide the non-electric products that are
15 shown on here are the products that we assemble at Wolf
16 Lake.

17 Q. And it also shows the Trojan boosters which
18 are the types of boosters that were previously produced
19 until the shut down this June?

20 A. Yes.

21 Q. Has the facility received any recognition
22 awards regarding its production?

23 A. Yes. This year as a matter of fact, the site
24 was honored with the Shingo Prize which is an award given

1 to manufacturers in North America for efforts and
2 improvements and cost efficiency, safety and quality
3 through utilizing lean [sic] manufacturing tools. The Wolf
4 Lake site was one of only 17 in America that received this
5 honor in 2002, and I believe also the only site in Illinois
6 that was awarded that prize.

7 Q. At the time that EBCo bought the Trojan
8 production facility in 1986 or bought Trojan and acquired
9 the Wolf Lake facility was the employment level 25 at the
10 facility?

11 A. Yes.

12 Q. What is the current employment level at this
13 facility?

14 A. Currently we employ 220 employees.

15 Q. And prior to the shut down of the cast
16 booster operations was the employment level 250?

17 A. Yes, it was.

18 Q. What is the approximate payroll of this
19 facility?

20 A. The approximate payroll at this point is
21 about three million dollars.

22 Q. Can you describe the importance of the EBCo
23 Wolf Lake plant to the local economy?

24 A. The EBCo Wolf Lake plant is the largest

1 manufacturing employer in Union County and in the top five
2 employers in terms of size of employment in manufacturing
3 and in the 5 county area around Union County.

4 Q. Can you describe the level of taxes that EBCo
5 pays into the local system?

6 A. I don't have that figure. Sorry.

7 Q. Is EBCo an important purchaser of goods and
8 services out of the local economy?

9 A. Yes, it is. We try and purchase as many of
10 our supplies, contract services as we can from the local
11 area.

12 Q. Can you describe for the record the level of
13 investment that the State of Illinois has made in the
14 modernization of the EBCo facility?

15 A. Within the last three years with the
16 consolidation of final assembly into Wolf Lake we have
17 received training funding in excess of 140 thousand dollars
18 to support training of new employees and retraining of
19 existing employees.

20 Q. Were there investments made by the State of
21 Illinois prior to that in the facility?

22 A. I am not aware. That may have been, but I am
23 not aware of any.

24 Q. As you have testified to, EBCo has curtailed

1 the production of cast boosters this year at the facility.

2 Can you describe the decision and why that has occurred?

3 A. The cast booster market for Ensign Bickford
4 has been one that has been flat to declining over the last
5 three to five years. There has been additional cost
6 pressures from new companies entering the booster market.
7 Many of those overseas type competitors. Recently, we had
8 some additional cost pressures as the Chinese entered into
9 the cast booster arena in the US. We currently are -- our
10 cost for a booster is around a \$1.50 per booster, and the
11 Chinese introduced a booster into the market within the
12 last two years under a dollar; so we have had tremendous
13 cost pressures in a declining market to become more and
14 more competitive. The new process that was put in place in
15 Spanish Fork, Utah offers opportunities for improved
16 efficiency and reduced cost that will hopefully get us more
17 competitive in the market place, and as that happened, we
18 also had excess capacity between the two plants. The Wolf
19 Lake plant was considered as an option, but the Utah plant
20 had engineering resources as well as a nitration system at
21 that site; and the decision was to consolidate the
22 operation into the Spanish Fork, Utah plant which resulted
23 in us closing down the Wolf Lake operation at the end of
24 June and resulted in the layoff of 30 employees.

1 Q. Did that have an impact on your Graham,
2 Kentucky facility as well?

3 A. Yes, it did. The Graham, Kentucky facility
4 which is about two and a half or three hours from Wolf Lake
5 has a nitration plant, and the PETN we use in our cast
6 boosters was manufactured at the Graham plant. The Wolf
7 Lake facility is 40 percent of the volume that the Graham
8 nitration plant produced. As a result, they went from a
9 five day schedule to about a three day schedule at the
10 Graham plant, and has resulted in ten employees at Graham
11 losing their jobs.

12 Q. You previously mentioned about the amount of
13 investment EBCo has made at the Wolf Lake facility since it
14 acquired it in 1986. Can you describe the decision that
15 lead to the relocation of that production to Utah in terms
16 of investment by EBCo and the Wolf Lake plant?

17 A. The investment -- the new process that is
18 located in Utah is about a 10 million dollar investment by
19 the company. That represented the first significant
20 investment in new processes or equipment actually outside
21 of Wolf Lake in the last three to five years. Prior to
22 that any investment of new processes or equipment had been
23 at the Wolf Lake site. There had not been any at the other
24 three manufacturing sites in the US.

1 (Exhibit 2 marked for identification.)

2 Q. MR. HARSCH: I show you what I have marked as
3 Exhibit 2. Can you describe what Exhibit 2 is?

4 A. This is a press release generated by Dyno
5 Nobel Company and Ensign Bickford Industries, and it is a
6 press release that announces a planned merger between the
7 two companies.

8 Q. Are you familiar with this merger?

9 A. Yes.

10 Q. Has this merger, announced merger, been
11 occupying a lot of your time?

12 A. Yes, it has. A significant amount.

13 Q. Can you describe briefly who Dyno Nobel is?

14 A. Dyno Nobel is a global explosives
15 manufacturing company. They are based out of Oslo,
16 Norway. They have manufacturing facilities world wide.
17 They manufacture bulk explosives as well as cast boosters,
18 detonating cord and non-electric detonators.

19 Q. Are they -- have they been a competitor to
20 EBCo?

21 A. They have been a fierce competitor for EBCo
22 for many years. They are a privately held company just
23 like EBCo and have been one of our competitors in
24 non-electric detonators, cast boosters and detonating cord

1 for many years.

2 Q. Will all of EBCo's commercial explosives be
3 merged into the new merged company?

4 A. No. The plan is for the merger to be
5 finalized in early October. The commercial products that
6 will be part of the merger from EBCo will include
7 detonating cord which is manufactured in Graham, shock
8 tube, caps that are manufactured in Simsbury, Connecticut
9 and non-electric detonators that are manufactured in Wolf
10 Lake.

11 MS. DOCTORS: Can you repeat -- could you repeat
12 that?

13 A. The commercial products that will be included
14 in this merger are detonating cord which were manufactured
15 at Graham, Kentucky, caps and shock tube which we
16 manufacture at Simsbury, Connecticut and the non-electric
17 detonator assembly at Wolf Lake.

18 MS. DOCTORS: Thank you.

19 Q. MR. HARSCH: Missing from that list is the
20 Utah plant. Is it my understanding that the Utah facility
21 will not be merged into the new company?

22 A. The Utah facility is not part of the planned
23 merger at this time. They will remain under the Ensign
24 Bickford Industries umbrella.

1 Q. So after the merger then the new company,
2 whatever its referred to as Dyno Nobel, EBCo will be in
3 direct competition with the Ensign Bickford Industries cast
4 booster production that has been recently moved to Utah?

5 A. Yes. Dyno has a cast booster process located
6 in Carthage, Missouri, and the way I understand it, the
7 boosters for this new company, merged company, will be made
8 in Missouri at this point. Although, they are exploring
9 best cost opportunities of where to make those boosters.

10 Q. What is the status of the merger?

11 A. The status of the merger and intent to merge
12 was assigned and public notified in June. Over the last
13 two months we have been going through a due diligence
14 process where both parties are going through third party
15 representation with the other company to make sure the
16 merger is a solid decision for both groups. It appears we
17 have about a 85 to 90 percent confidence level that that
18 merger will go through. It is also pending Federal Trade
19 Commission approval, and we expect all of that to be done
20 by the first of October.

21 Q. Assuming the merger is completed, what will
22 be the impact of that merger on manufacturing plants and
23 production facilities of the merged company?

24 A. Currently, with the market being soft and

1 declining in the non-electric and shock tube caps,
2 detonating cord business, there is excess capacity between
3 both companies. Both companies have plants that assemble
4 non-electric detonators. Both companies have plants that
5 make caps and shock tubes, and the current market, there is
6 excess capacity between all those plants. Part of the
7 interest, I guess, of both companies for this merger is
8 that there does present an opportunity to consolidate
9 sites, reduce duplication of overhead and take better
10 advantage of the capacities that are available at duplicate
11 plants. As a result of that, there is an analysis going on
12 right now of the best locations to make these products
13 between the two companies. The best locations identified
14 by safety, quality, labor, efficiency and cost.

15 Q. As site manager can you describe what your
16 hope is for the Wolf Lake plant as a result of this merger?

17 A. With this merger there is, I think there is
18 great opportunity for the Wolf Lake plant. There is also a
19 great risk. We would appear to be either a big winner or
20 potentially a big loser with this merger at our site. My
21 hope would be that we are the best final assembly site
22 between the two companies in terms of safety, quality,
23 efficiency and cost, and we also at some point in the
24 future, begin making cast boosters again at the site. We

1 had gone through, as the process has moved to Utah, we have
2 gone through a soft decontamination. We have been directed
3 by our company officials that we should go through a soft
4 decontamination process where the building is safe for
5 transients to walk through, but at the same time could be
6 restarted in a very short time frame, two to three weeks;
7 so my hope would be that we, in some point in the future,
8 begin making cast boosters again at Wolf Lake and absorb
9 all the final assembly for this new company at Wolf Lake as
10 well.

11 Q. What would that mean in terms of restoration
12 and increase in jobs?

13 A. Approximate increase in jobs would be about
14 80 employees if we consolidate final assembly and would
15 restart cast boosters.

16 Q. Do you have the potential on a long term
17 basis to construct additional manufacturing operations at
18 the Wolf Lake facility?

19 A. Yes, we do. We have 450 acres. We do have a
20 lot of land where we could expand the site. Long term
21 potential is there possibly for some other new processes
22 that could be started up as well.

23 Q. What kind of -- can you describe the feed
24 back you have received as a result of the ongoing due

1 process that is to the likelihood of the consolidation you
2 have just talked about?

3 A. Over the last two months our due diligence
4 process at Wolf Lake as well as other sites has included
5 three different sets of third party auditors coming on
6 site, and as part of this due diligence, since we directly
7 compete with Dyno Nobel, we cannot and they cannot share
8 information directly with each other. We have to assume
9 that the merger will not go through, and at the end of the
10 day if it doesn't, neither party is allowed or would allow
11 the other side to have pertinent information relative to
12 our business operations; so as a result we go through third
13 party consultants that are allowed to come in and gather
14 information about respective sites and put forth a report
15 that will go before a small board of directors from both
16 EBCo and Dyno Nobel. The three different visits, audits we
17 have had, fact finding visits I guess you could say, from
18 consultants as well as a retiring Dyno Nobel expert, there
19 has been great interest not only in the non-electric
20 detonator final assembly but also our cast booster
21 building. On each visit we have been requested to show
22 them the cast booster process. We have been asked
23 questions such as how quick could you restart this
24 process? What type of production capacities do we have,

1 training of employees if you did have to restart it? So
2 there appears to be a great interest from this, I guess,
3 due diligence process and folks coming in about our ability
4 to restart that business, and it appears to be a strong
5 interest from a contingency stand point to the capacities
6 and availability of that process for that site.

7 Q. Has there been any interest with respect to
8 your RCRA, R-C-R-A, burn unit?

9 A. Yes, there has. Cost is going to be a very
10 big factor in terms of where different processes land and
11 at what facilities. The fact that we are able to open burn
12 production waste and flash equipment has been a significant
13 interest to auditors that we have had come in. They are, I
14 guess, typically not accustomed to seeing that
15 availability. They understand the cost impact that that
16 has for a site, safety and security impact that that has
17 for a site to be able to do that; and that is of tremendous
18 interest. We did have a Dyno Nobel explosives expert that
19 came in, and looking at our unit and declared it the finest
20 waste process and open burn unit he has seen; and he has 25
21 years of experience world wide in the explosive industry.

22 Q. Your unit is an EBCo design unit?

23 A. Yes, it is.

24 Q. Can you explain briefly for the record based

1 on your familiarity with Southern Illinois economic
2 conditions what the importance of 30, 50 and 80 jobs would
3 be?

4 A. I guess to maybe put it in perspective when
5 you look at top employers in Union County and the
6 surrounding area, there aren't many manufacturing employers
7 that even employ 80 people; so for this site if we were
8 able to expand and grow, 80 jobs for this region would be
9 very big. It would generate about 2.2 million dollar worth
10 of payroll for this area, and 80 new jobs in the
11 manufacturing environment at \$14 an hour in this region is
12 extremely big. If I would venture to say, having watched
13 some economic development over the area, if we had a
14 Greenfield operation that was looking at moving into the
15 Union County area that would offer 80 new jobs at 14
16 dollars an hour, there would be some heavy courting going
17 on from the state as well as county and local officials.

18 Q. What is your fear for the Wolf Lake facility
19 as a result of the merger?

20 A. Well, we have tremendous opportunity. Along
21 with that comes tremendous risk. I guess our greatest fear
22 would be that we are not cost competitive in terms of the
23 manufacture of non-electric detonators, and that that
24 process would be moved to Dyno in Ewing, New York facility

1 and the Wolf Lake site would be closed down.

2 Q. From a covering of overhead and general plant
3 operation perspective, is there an importance to have the
4 cast booster operation being functioning and employing and
5 producing product?

6 A. It definitely helps out the side. We have
7 some variable overhead cost, that when that process was
8 running, made our site more profitable to be able to
9 allocate those costs between two different production
10 centers. As a result of the booster operation going out we
11 have had to look at reducing variable overhead costs
12 without that cost center functioning there at Wolf Lake.

13 Q. Mr. Buchanan will testify later that an
14 approximate cost of 300 thousand dollars that would be
15 required to ship waste materials off-site to ICI and has
16 provided a letter to the Agency with that calculation
17 recently. Assuming the Adjusted Standard relief is turned
18 down, can you explain as site manager what such an adverse
19 decision by the Board would mean?

20 A. Well, our site at the present time I guess is
21 in a unique situation. We are competing on a cost basis,
22 not only with our competitors and those competitors are
23 global competitors now, but our site is also literally
24 fighting for its life and competing on a cost basis with

1 similar Dyno manufacturing plants; and so we are, I guess,
2 have two different types of competition going on at the
3 present time. We would look at, probably about a 300
4 thousand dollars ticket, if we had to ship our waste
5 off-site. The margins are very narrow right now on the
6 products that we manufacture at Wolf Lake as well as in the
7 cast booster process. The overseas market has introduced
8 cast boosters that are around a dollar to slightly under a
9 dollar per unit. That drove us to put in the new process
10 in Utah to try and become more cost competitive. Our cost
11 per booster at Wolf Lake was about a \$1.50. If the process
12 was to be located there, we would be looking at ways to
13 take additional costs out of our boosters at Wolf Lake. If
14 we had to absorb the cost of sending our waste off-site, an
15 additional 300 thousand dollars roughly, that would be a 34
16 cent per booster cost increase; and frankly, at that point
17 prices us out of even consideration for booster start up to
18 be located back in the Wolf Lake.

19 Q. What does that 300 thousand dollars cost
20 increase relate to in terms of salary and percentage of
21 your variable product cost?

22 A. In terms of salary that would equate out to
23 about, including benefits, about 10 hourly employees. As a
24 percent of variable overhead cost that 300 thousand dollars

1 would represent about 6 percent of our current variable
2 overhead cost, so it would be a significant increase to our
3 budget; and I think would be something that would have to
4 be very strictly looked at by this new company in terms of
5 cost efficiency and where to locate processes.

6 Q. As a site manager, what level of cost savings
7 projects do you authorize to be carried out at the
8 facility?

9 A. We are looking at trying to take costs out of
10 detonator products, and in the past had looked to take
11 costs out of cast boosters. We basically will look at any
12 project that is going to save us money. We would consider
13 in some respects a 500 to 1,000 dollar cost savings to be a
14 significant cost savings. As the last five years we have
15 made very concerted efforts to take costs out of our
16 process, and that was recognized by our receiving the
17 Shingo Award for excellence in manufacturing. We also
18 cannot rest on our laurels, and we have to continue to take
19 costs out of our process to be competitive in the market
20 place. So we consider savings in the hundreds and
21 thousands actually to be significant savings for us in our
22 operation, and maybe to also put it in perspective, the
23 company was willing to invest several million dollars in
24 Utah in hopes of taking anywhere from three cents to a dime

1 out of the cost of a cast booster. So if we have to absorb
2 the 300 thousand dollars cost of shipping our waste
3 off-site, which would relate into a 34 cent per unit
4 increase in boosters, that just prices us right out of the
5 game. We are not even a factor at that point.

6 Q. Apart from these economic concerns as site
7 manager do you have concerns, safety concerns that lead you
8 to want to continue to operate your open burn unit?

9 A. Yes. Those safety concerns have been
10 recognized by our third party people that have come in and
11 evaluated our site. We feel very strongly that, and our
12 record would indicate, we have been able to operate that
13 open burn unit, the prior one and the new modified one, in
14 a very safe and secure manner for the last ten plus years
15 and are very appreciative of the variances we have been
16 granted and feel like our performance has warranted
17 continued granting of those variances. We have not had,
18 knock on wood, an explosive incident with any of our sites
19 that have operated open burn units and specifically at Wolf
20 Lake. To have to ship our waste off-site, I think opens up
21 new concerns relative to both safety and security of
22 shipping hazardous materials off-site. We feel confident
23 and have proven that we can handle those materials within
24 our site. In most cases we have probably about a half to

1 three fourths of a mile that we have to transport those
2 materials to the open burn unit. Again, we feel we do that
3 in a very safe and secure manner. To ship those off-site,
4 I think opens up a new laundry list of variables that can
5 enter in that would create additional safety and security
6 concerns we have.

7 We have also since 9/11 in the last year have
8 increased our security on site. We did have a guard
9 service that prior to 9/11/01 that worked on weekends.
10 Since that incident they now work 24/7. Our security
11 measures have been tightened up with regular patrols on
12 site, and again to ship our waste off-site, I think opens
13 up just a whole other list of variables relative list of
14 variables relative to security that we would be concerned
15 with.

16 Q. Has the plant been subject to increased
17 scrutiny by the Bureau Of Alcohol Firearms And Tobacco?

18 A. Yes, we have. We are accustomed to having
19 regular inspections and visits from ATF. With the events
20 of 9/11 those inspections have become more frequent, not
21 only for Ensign Bickford but for all explosives
22 manufacturers. They have also become more diligent in
23 their inspections when they come on site.

24 Q. You have mentioned you have not had, knock on

1 wood, any incident in operating the open burn unit. Have
2 you had any incidents at your manufacturing operations at
3 the Wolf Lake facility that led to personal injury as a
4 result of an explosion?

5 A. No. Not since Ensign Bickford has owned the
6 company, we have not had any issues of that kind.

7 Q. And you feel that is because of your close
8 scrutiny to controlling all of the variables?

9 A. Yes. We have got safety processes in place
10 for handling of materials, training of employees, safe
11 operation of assembly processes, handling of materials,
12 virtually every process on our site has safety
13 specifications that we adhere to.

14 MR. HARSCH: Unless you want to add something else,
15 that would conclude my list of questions?

16 A. Just that again, we appreciate the variances
17 we have had in the past. That certainly has helped that
18 site continue to operate in a very efficient, cost
19 effective manner; and it certainly has helped that site in
20 recent years grow and expand employment; and we would hope
21 we could continue in that same vein in the future and
22 continue to operate at Wolf Lake and continue to grow and
23 expand our business there in a safe efficient manner.

24 HEARING OFFICER LANGHOFF: Thank you, Mr. Edwards.

1 Mr. Harsch, do you intend to take care of all the exhibits
2 at one time at the end?

3 MR. HARSCH: I would be happy to offer Exhibits 1
4 and 2 into the record.

5 HEARING OFFICER LANGHOFF: Any objections?

6 MS. DOCTORS: No objections.

7 HEARING OFFICER LANGHOFF: Exhibit number 1 and
8 Exhibit number 2 are admitted, and I will allow Ms. Doctors
9 cross-examination,

10 (Exhibit 1 and 2 admitted into evidence.).

11 (Discussion held off the record.)

12 HEARING OFFICER LANGHOFF: Ms. Doctors, we are back
13 on the record, and Mr. Edwards is your witness.

14 CROSS EXAMINATION

15 BY MS. DOCTORS:

16 Q. I just have a couple of questions based on
17 the transfer of the operations from the Simsbury,
18 Connecticut facility to Wolf Lake of the non-electric
19 detonating assembly. Were there any explosive and
20 explosive contaminated waste or contaminated packaging
21 that, in addition, generated and burned on site because of
22 that transfer?

23 A. Actually, Todd would probably be a better one
24 to answer that. I would think he would have that data.

1 Q. What is the anticipated product cost to EBCo
2 to the manufacture -- to manufacture boosters in Utah
3 similar to the ones that were manufactured at the Wolf Lake
4 plant?

5 A. The goal with the new booster process in Utah
6 is to make a booster that would be at or slightly under a
7 dollar a booster, and the new process they hope to be more
8 efficient and gain those cost savings; and I might add that
9 process is still not operational. They are struggling and
10 working out some bugs with it which is why we have been
11 instructed to keep our process at the ready in case we are
12 not able to get that process functioning and want to be
13 able to start our process back up. As a comparison, our
14 cost at Wolf Lake on a booster were around a \$1.50 or
15 slightly above that.

16 Q. If you know, what is Dyno Nobel's
17 environmental and safety record?

18 A. I am not privileged to that. We have not
19 been able to share much information on that level or at my
20 level I guess I should say regarding that type of thing, so
21 I am not very familiar with their safety and environmental
22 record.

23 Q. Does the management of Dyno Nobel agree that
24 EBCo's current methods of waste handling and disposal are

1 appropriate and state of the art?

2 A. I am going off of a Dyno Nobel rep that was
3 on site and his comments relative to our handling of waste
4 at Wolf Lake was that that was the finest facility he has
5 seen in terms of handling waste. He has been with Dyno
6 Nobel for 25 years and been at their operations world wide,
7 so I am putting a lot of credibility into the comments he
8 has made. At this point of our due diligence process
9 though, the third party people are still gathering
10 information; so they have not come back and shared their
11 observations and findings regarding the other companies and
12 with each other.

13 Q. Does Dyno Nobel have any plants in the US
14 that open burn their explosive and contaminated waste
15 materials?

16 A. Not to my knowledge. However, again I don't
17 have all that information, so I wouldn't say with 100
18 percent surety, but to my knowledge they do not.

19 Q. Do you know where their wastes are disposed
20 from their production plants where they are not allowed to
21 open burn?

22 A. No, I don't.

23 Q. Now, from the non-electric detonating unit
24 there are certain kinds of wastes that are generated from

1 that unit from that assembly area. Is any of that open
2 burned currently?

3 A. The shock tube and caps would be the primary
4 hazardous wastes. Those are not open burned.

5 Q. How are they disposed of?

6 A. Shock tube waste, we would send back to our
7 plant in Simsbury, Connecticut. They manufacture shock
8 tube there, so they would handle our shock tube waste. The
9 caps are sent to Sauget, Illinois for disposal.

10 Q. Is there any contaminated cardboard or
11 plastic from that operation?

12 A. We do have contaminated cardboard, very
13 little if any plastic. As far as a break down on weight
14 and those type of things, I think Todd would be better
15 equipped to answer those questions.

16 Q. And do you know if the Simsbury facility has
17 any contaminated cardboard from their shock tube operation?

18 A. Well, I don't know. I am not sure of their
19 handling processes for their shock tube waste. I am not
20 that familiar with that operation, so I am not sure how
21 they would process shock tube waste and how that would
22 relate to cardboard.

23 Q. Okay. You testified that the annual costs
24 with the cast booster operation of sending all the waste

1 off-site, the contaminated cardboard and the explosives was
2 300 thousand. What would -- what is the cost without the
3 cast booster operation?

4 A. To send the materials off-site?

5 Q. Yes.

6 A. Well, we have only been operational without
7 cast boosters for a month, so I am not sure we have got a
8 good enough history on that to answer that unless Todd
9 might be able to provide you some data later on. We
10 operated cast boosters up until June, so we don't have
11 enough time under our belt to where we would maybe know
12 about that.

13 Q. Because the 300 thousand was an estimate
14 based on --

15 A. Past practice of cast boosters, running that
16 process at full capacity as well as non-electric detonator
17 volume as well.

18 MR. HARSCH: For the record, Mr. Buchanan will
19 testify at length for those figures.

20 Q. MS. DOCTORS: Okay. We will move on to the
21 next area. You indicated there would be some concerns with
22 shipping this material. Could you be more specific as to
23 what your particular concerns are with shipping the
24 potentially explosive contaminated cardboard?

1 A. I think two concerns would be from a safety
2 and security stand point. We just feel more confident that
3 when those materials are within our own control, that we
4 are better able to handle those. From a security stand
5 point, obviously we are not open to the public so we have
6 very few people that handle those materials; and we know
7 who those people are. It's all within secured grounds.
8 From a safety stand point, obviously we are transporting
9 those materials a very limited distance and handling a
10 limited amount of times, and in my opinion to put those out
11 over the road and transporting those anywhere from three to
12 maybe there six hours, depending on the facility we would
13 be using, introduces opportunity for mishandling of
14 materials, security issues and basically in those two areas
15 security and safety issues of more people involved in the
16 process. You now have vehicles out in the open public that
17 we don't have at this point.

18 Q. Now, some of these materials are shipped to
19 you, right?

20 A. Uh-huh.

21 Q. Have you had any problems with them being
22 shipped to you with safety? Any shipping issues to you
23 receiving these materials?

24 A. No. No. But from a risk minimization stand

1 point, obviously if you don't have to put those materials
2 out on the road, that minimizes the risk. So we are
3 looking at it from a risk minimization stand point.
4 Minimum risk would be those materials are all handled
5 within a secured private site with minimal travel distance
6 and minimal people handling the materials.

7 Q. Have you had any security problems getting
8 materials in your plant?

9 A. Into our plant, I guess the only problem we
10 have had occurred right after the 9/11 incident, and within
11 I guess the following, I should say three to four days
12 after the 9/11 incident, any of our trucks that were
13 transporting finished goods or raw materials were pulled
14 off the road and put into safe havens from a security stand
15 point. That did delay us getting some raw materials that
16 normally would have arrived on schedule.

17 Q. But you haven't had any delays since that
18 point?

19 A. No. No. Not from that stand point.

20 MS. DOCTORS: That is all the questions I have for
21 you.

22 HEARING OFFICER LANGHOFF: Thank you, Mr. Harsh.

23 MR. HARSCH: I need 30 seconds if I could.

24 HEARING OFFICER LANGHOFF: Okay. Any

1 rehabilitation Mr. Harsh?

2 MR. HARSCH: Yes, I do.

3 REDIRECT EXAMINATION

4 BY MR. HARSCH:

5 Q. Mr. Edwards, when you responded to Ms. Rachel
6 or Ms. Doctor's question regarding whether you knew if Dyno
7 open burned or were allowed to open burn, can you -- do you
8 in fact know if Dyno Nobel either open burns or doesn't
9 open burn comparable materials at its facilities?

10 A. No. I don't know with 100 percent surety.

11 Q. When you responded to her if there was an
12 inference that Dyno was not allowed, that was not correct
13 from your testimony?

14 A. Correct. That would be based purely on
15 speculation, not 100 percent accuracy.

16 Q. You also responded that the goal for a price
17 or production cost was less than a dollar. The immediate
18 cost savings that were projected was only 5 cents for the
19 booster unit from the investment that EBCo made at the Utah
20 facility; is that correct?

21 A. Yes.

22 Q. So EBCo was willing to make that level of
23 investment to save \$5 to save 5 cents off a dollar and a
24 half booster with a goal of ultimately getting it less than

1 a dollar?

2 A. Yes.

3 Q. From the questions that Ms. Doctors asked
4 while you have testified you haven't had an incident, do
5 you have any comments with respect to the inference that
6 without such a history of incidents your concerns seemed
7 unfounded?

8 A. I guess I would respond to that by saying in
9 our business one incident can be catastrophic, so to base
10 decisions on a no history may not be the right way to look
11 at it. We base decisions on risk management. What is the
12 least amount of risk that we can take in handling and
13 manufacturing and transporting our products. Seeking that
14 least amount of risk, we hope we don't have an incident.
15 Having one incident again for us could be catastrophic in
16 terms of life and facilities, so we just seek to have the
17 least amount of risk as possible. We feel the more risk we
18 would introduce, the more opportunity obviously we would
19 have for an incident.

20 MR. HARSCH: Thank you.

21 HEARING OFFICER LANGHOFF: Thank you Mr. Edwards.

22 (Witness sworn.)

23 TODD BUCHANAN

24 called as a witness, being first duly sworn, was examined

1 as follows:

2 Q. Mr. Buchanan would you please state your full
3 name address and current position for the record?

4 A. My name is Todd Buchanan. I live at rural
5 Route 2, Box 262 Golconda, Illinois. I am currently
6 employed as the safety health and environmental manager for
7 the Ensign Bickford Company, Wolf Lake facility.

8 Q. Would you briefly state your educational
9 background for the record?

10 A. Bachelor of Science Degree in Geology from
11 Murray State University. I have been practicing in the
12 environmental field for approximately 14 years in a variety
13 of capacities which include about a five year stay at the
14 Illinois Environmental Production Agency.

15 Q. What did you do at the Illinois Environmental
16 Protection Agency?

17 A. Initially, I worked in the Superfund program
18 doing site assessments for inclusion for the national
19 priorities list. The second half of my stint was in the
20 RCRA program.

21 Q. Have you participated in numerous training
22 programs since graduation from college?

23 A. Yes. I have completed quite a bit of
24 extensive continuing education in environmental management

1 environmental response as well as OSHA safety and explosive
2 safety programs.

3 Q. Would you briefly explain for the record what
4 your professional experience is at EBCo since leaving IEPA?

5 A. For the first approximately five years
6 employed for the Ensign Bickford Company I was an
7 environmental engineer and environmental manager for the
8 site. Since then I have gone to wear all the hats of
9 safety, health and environment, and I also am in charge of
10 security; and I am the compliance officer for the site. I
11 deal with all regulatory agencies which includes EPA, OSHA,
12 BATF, DOT, local officials, whoever those might be.

13 Q. Would you describe for the record the level
14 of the agencies that have over-site responsibility in
15 environmental health and safety for the Wolf Lake facility?

16 A. We deal -- currently deal or have dealt with
17 U.S. EPA, the Illinois EPA, Federal OSHA. We deal
18 specifically with the Bureau of Alcohol Tobacco and
19 Firearms on a frequent basis and also the Department of
20 Transportation, U.S. Department of Transportation.

21 Q. What is BATF's involvement?

22 A. The Bureau of Alcohol Tobacco and Firearms
23 regulates all explosives in the United States from the
24 manufacturing, processing, transport, storage. Every

1 aspect of explosives BATF is involved in.

2 Q. Is there an Illinois counter part to BATF?

3 A. In the State of Illinois the Illinois
4 Department of Natural Resources Explosives Division
5 regulates and issues explosive storage license for
6 magazines.

7 Q. That would be another agency that has
8 regulatory concern?

9 A. Correct. They are in our plant several times
10 a year.

11 Q. Given your position at EBCo, are you aware of
12 the history of variance relief that Trojan and EBCo has
13 sought and been granted by the Pollution Control Board over
14 the years?

15 A. Yes, I have. Since approximately mid-'92 I
16 have conducted the operations under all of those variances
17 at the site.

18 Q. It your site that throughout all this
19 variance process, the Illinois Environmental Protection
20 Agency has always recommended the grant of relief that was
21 sought by EBCo?

22 A. In all the direct dealings I have had and the
23 file records I have at my disposal have all been positive.

24 Q. Would you briefly describe EBCo's

1 relationship with the Illinois Environmental Protection
2 Agency over the years?

3 A. Something that I am personally and the
4 company is proud of, we have developed a great working
5 relationship across the board with the Agency in all three
6 divisions. We are proud of that. The RCRA folks, we deal
7 with them on numerous occasions at the site, and they
8 processed and sought to grant our RCRA Part-B permit for
9 the hazardous waste treatment for the explosive materials,
10 and also work positively with the water division. We
11 currently have a water discharge permit for treated
12 explosive waste waters. The air division in the past, we
13 do have a permit for the operation of an aqueous air
14 scrubber system for the cast booster process. We also have
15 a permitted test chamber for testing of non-electric
16 detonators.

17 (Reporter asked witness to slow down.)

18 Q. MR. HARSCH: Are you currently operating
19 pursuant to a variance relief granted by the Board in terms
20 of your burn facility?

21 A. Yes. We are currently operating our improved
22 burn unit according to a RCRA Part-B permit.

23 Q. Do you believe you are in compliance with the
24 Board order with respect to the variance?

1 A. Yes, I do.

2 Q. If I show you the Petition for Adjusted
3 Standard that was filed in this case, are you familiar with
4 this petition?

5 A. Yes, I am.

6 Q. Did you assist in the preparation of it?

7 A. Yes, I did.

8 Q. Are the factual statements contained in the
9 petition true and accurate to the best of your knowledge
10 and belief?

11 A. Yes, they are.

12 Q. Why did EBCo file the Adjusted Standard
13 Petition in this that gave rise to this proceeding?

14 A. Through previous processing of previous
15 variances, it was suggested to us by the Board that that
16 was the proper method to proceed on for the future.

17 Q. Prior to filing this, did EBCo have a series
18 of discussions with the Illinois EPA regarding this draft?

19 A. Yes, we did.

20 Q. And have discussions occurred and dialogue
21 continued since the filing of the Adjusted Standard
22 petition?

23 A. Yes, numerous times.

24 Q. Historically EBCo has obtained relief from

1 the Pollution Control Board, has it not, for three
2 operations at its facility, the operation of the burn unit,
3 the flashing of equipment and the decommissioning or
4 tearing down of manufacturing buildings; is that correct?

5 A. That is correct.

6 Q. What is the subject of the current Adjusted
7 Standard Petition?

8 A. It is solely for the operation of the burn
9 unit and for the flashing of contaminated equipment.

10 Q. In our petition for Adjusted Standard we have
11 sought relief for 100 pounds of materials to start fires,
12 5,000 pounds of contaminated packaging material and 12
13 hundred pounds of explosive material; is that correct?

14 A. Yes. Those are the weekly quantities that we
15 have asked for the relief.

16 Q. Why have you sought relief for those
17 quantities?

18 A. Those quantities, based on past practice and
19 generation rates and knowledge of our process, allow us the
20 flexibility to be able to treat in a timely matter those
21 said materials, because we do have to work around weather
22 issues and things like that. There are days we cannot
23 operate the unit. All of our hazardous waste, either waste
24 explosives that are treated in the burn unit all must be

1 managed in less than 90 days; so we need weekly flexibility
2 to go and start and operate the unit.

3 Q. And that 90 day requirement is the RCRA
4 on-site storage requirement so you avoid triggering and
5 regulated as a RCRA storage facility?

6 A. That is correct. Waste must be managed in
7 less than 90 days either treated on-site or moved off-site
8 for proper destruction, or you have to become a permitted
9 storage facility.

10 Q. Do you currently have a RCRA permit for such
11 a storage facility?

12 A. No. We do not, and have no anticipation or
13 desire to have one.

14 Q. The plant manager has talked about the two
15 sides of the production that historically has been carried
16 out at EBCo in which EBCo is hopeful that as a result of
17 the merger started up. That would be the cast booster side
18 of the business and the detonation site. There is a
19 difference, is there not, in the wastes that are produced
20 from those two types of operations?

21 A. Yes. Distinctly different.

22 Q. Can you describe for the record what the cast
23 booster production process is, the source of raw materials
24 that are utilized in that process and how they are

1 utilized?

2 A. The distinct difference between non-electric
3 detonator assembly and cast booster production is obviously
4 in the equipment materials process. Cast boosters we are
5 processing millions of pounds of bulk explosive powders,
6 melting them, blending them in various components or
7 percentages and casting them into cardboard molds, hence
8 the name cast boosters; so it is a very voluminous driven
9 process with millions pounds of explosives per year being
10 processed. They are a very large source or the predominant
11 source for those materials are recycled or reclaimed or
12 demilitarized explosives. They typically come in things
13 that range from flakes, similar to corn flakes, to bricks
14 or bars or combination thereof. They are very dusty and
15 like I said is a very volume driven operation with lots of
16 these raw materials are received and typically in 50 to 55
17 pound boxes or occasionally in 100 to 200 pound fiberboard
18 barrels. The detonator assembly side of the process, we
19 are assembling explosive components, devices or articles
20 that do not have explosive contamination or dusting
21 issues. They are small devices with internally contained
22 explosives, i.e., a piece of shock tube which has
23 explosives on the inside, a blasting cap which is an
24 aluminum shell with the explosives on the inside we are

1 assembling those explosives. That process does not
2 generate near the level of explosive waste due to the
3 nature of the raw materials and the process as compared to
4 cast boosters.

5 Q. How does EBCo acquire these demilitarized or
6 waste explosives as a raw material?

7 A. We procure or attempt to procure raw
8 materials for cast boosters on the world market. They are
9 typically purchased in million pound or in excess of a
10 million pound lots for contracts. Those components are
11 made up of TNT trinitrotoluene which is a secondary
12 explosive. RDX which is a secondary explosive. HMX which
13 is a secondary explosive or a combination of those
14 materials that have previously been mixed and blended and
15 utilized for an ordinance or some other factor in previous
16 history. A lot of these materials are very old and have
17 been reclaimed or recycled from as old as 50 to 60 year old
18 ordinances that have been sitting in a magazine, a 750
19 pound bombs for example.

20 Q. You might state for the record what an
21 ordinance is.

22 A. An ordinance would be a bomb or missile, a
23 weapon.

24 Q. And you might also state for the record what

1 a secondary explosive is.

2 A. Secondary explosive would be the equivalent
3 for TNT. It is a mass detonating explosive, but it is not
4 a primary explosive as opposed to the small amounts of
5 things that are in a blasting cap that are very, very
6 sensitive.

7 For the record, the procurement of these materials
8 on the world wide market is a necessity. TNT which is one
9 of the prime ingredients in a cast booster has not been
10 manufactured, nor is currently manufactured in North
11 America since the 70's to the best of my knowledge, so we
12 are limited in the sources where we procure these types of
13 materials.

14 Q. If I understand you correctly then, EBCo's
15 operations when it operated the cast booster facility, you
16 would purchase the output of say the United States efforts
17 at disposing of obsolete or out of date ordinances?

18 A. Yes. We are the home or have been the home
19 and hope to be the home of in the future the receiving end
20 of demilitarization contracts, which the effort of the
21 Department of Defense domestically as well as
22 internationally ridding the world of existing out of date
23 ordinances that contain explosives; and when you buy these
24 materials you get what you get for lack of a better term.

1 Start to finish from demilitarizing operation, when you buy
2 the contract you get everything they generate from this
3 demil process, so a significant portion of these materials
4 are less than perfect. They have contaminants in them.
5 They may be dusty, varying sizes, quality from start to
6 finish, and they are in large quantities; and that is the
7 way we are necessitated to purchase them.

8 Q. Is there from a handling stand point a
9 difference between a virgin raw material explosive and an
10 explosive that has been generated as a result of this
11 demilitarization process?

12 A. Most definitely. We love virgin explosives.
13 They are nice, neat, clean, much more easily to handle.
14 Easily to put through your production process. Their
15 quality is better, and the first and foremost factor is the
16 safety is different. When you introduce contaminants into
17 explosives, you increase the safety risk associated with
18 that material. Contaminants in an explosive typically
19 increase its sensitivity. They also can negatively effect
20 the safety in your production process. If you have a metal
21 contaminant, which is fairly typical in a demil of
22 explosives, a nut or bolt or ferrous material specifically,
23 when you are putting it in a production process when you
24 are melting this material, agitating it in the melt vessel,

1 stirring it, you are always worried about metal to metal
2 contact in an explosive contact. These materials, even in
3 virgin form, are sensitive to heat, shock, impact,
4 friction, electrostatic discharge. All those types of
5 safety issues are increased when the material is
6 contaminated or in some sort of less than perfect form.

7 Q. Do you have a safety video that you would
8 like to introduce for the record?

9 A. Yes, I do. What I have is a clip from a
10 company generated demonstration. This is something we do
11 fairly frequently on a regular basis for our employees who
12 are handling these materials on a daily basis to bring home
13 the effects of housekeeping, safety and contaminants
14 relative to their daily processes and the output and
15 function of these materials.

16 (Exhibit 3 marked for identification.)

17 MR. HARSCH: At this point and time I would like to
18 show the beginning portion of the video that shows this
19 clip that Mr. Buchanan testified to.

20 HEARING OFFICER LANGHOFF: Please do so.

21 THE WITNESS: For the record, what this video is
22 going to specifically show is how a pure secondary
23 explosive, in this case PETN, one of the components we use
24 in our cast booster production, behaves when it is in a

1 pure form when it receives an energy source, in this case a
2 dropped weight versus when it's in its contaminated and has
3 grit, sand, dirt in it and receives that exact same energy
4 force, it detonates due to the contaminant changing its
5 sensitivity and behavior.

6 (Videotape played).

7 Q. MR. HARSCH: How does that video relate to
8 the explosive, demilitarized explosives that you use for
9 raw material?

10 A. As I mentioned earlier a lot of the raw
11 materials that we get are contaminated when we receive them
12 with either debris, grit, less than desirable things. We
13 have to take those and screen them to approve them to come
14 into our process because of the safety factors when we take
15 them into production. Specifically, we are talking about
16 the TNT's, the Tritonals, the materials I spoke of
17 earlier. We screen those materials visually, physically
18 and with metal detection. The material we screen out that
19 we say we cannot safely use, we try to physically separate
20 them; so what we wind up doing in that physical separation
21 process is concentrating the contaminated materials or
22 pulling out the good and concentrating the bad. Those
23 contaminants as demonstrated in that video have increased
24 the sensitivity or the safety risk associated with the

1 processing or handling of those materials in any fashion.
2 We use PETN which is the white powder you saw demonstrated
3 in the video is the high end component of our cast
4 booster. As Glenn testified earlier that is supplied to us
5 in virgin form from our Graham, Kentucky facility, but it
6 is the most sensitive material in a cast booster. It is
7 blended with varying amounts of the other raws which we are
8 receiving from demil or other procurements. It is the
9 material that drives the sensitivity of the cast booster to
10 perform its job in the field, and we are mixing and
11 blending thousands and even millions of pounds of that
12 material in our cast booster process on an annual basis.

13 Q. Can you explain how and where you actually do
14 this processing of the explosive material prior to
15 introducing it into your cast booster production facility?

16 A. As a standard safety practice in the
17 explosive industry, specifically, the Ensign Bickford
18 Company and the Wolf Lake facility all of our processes are
19 sited and separated based on quantity distance requirements
20 which would be driven by the amount of explosives in this
21 process. How far away does the next process need to be in
22 the event of an incident with this process so the next one
23 will not be impacted. The people or the process or not
24 cause another sympathetic detonation. Due to the hazards

1 associated with this, we screen these materials in a
2 building that is removed quite a distance from the
3 production process where we are actually making the cast
4 boosters, so we segregate that.

5 The incoming raw materials that have a high hazard
6 or risk for contaminants are screened in this remote
7 process prior to taking those materials into the production
8 process.

9 Q. What happens to the materials that are
10 screened out of the incoming raw material explosives?

11 A. The materials that are deemed unsafe or
12 quality issues that cannot be utilized as raw material in
13 the cast booster process, we make a concerted effort to
14 utilize that material. That is cost and expense and that
15 is what we paid for. The material that screens out that is
16 unacceptable due to the safety risk or contamination, at
17 that point is deemed waste, appropriately tagged, labeled
18 and containerized as a hazardous waste and managed
19 appropriately according to all RCRA hazardous waste
20 regulations.

21 Q. That would be a D003 energetic waste code?

22 A. Yes. Under RCRA the waste code would be
23 D003, and those are the materials that we have historically
24 had relief to treat on site in our burn unit and we are

1 asking for in the future.

2 Q. Is the storage of those materials also
3 regulated under Bureau of Alcohol Tobacco and Firearms?

4 A. Yes. The storage of those materials, once
5 they are containerized, have to be conducted in a BATF
6 specified magazine and licensed and inspected by the
7 Illinois Department of Natural Resources as well as the
8 RCRA hazardous waste field inspectors.

9 Q. How does EBCo treat the materials that have
10 then gone through this preliminary screening if they are
11 deemed to be initially higher risk of contaminant or the
12 general demilitarized materials? Is there a separate
13 additional screening process that is followed?

14 A. Yes. In the cast booster production process
15 when we came to the point in the last six years
16 approximately that the demil explosives or the recycled
17 explosives was going to be our primary raw material for
18 cast booster production, these explosives are added to a
19 steam jacketed vessel where we heat them up to
20 approximately 100 degrees Celsius to turn them into a
21 molten form so we can blend them in different quantities
22 and pour them in a castable mold. These pots or vessels
23 are agitated. They have a stirrer in them. In those pots
24 we are adding the PETN which I discussed earlier. The PETN

1 being the most sensitive of those products. To further our
2 production process and increase the safety of utilizing
3 these potentially contaminated explosives, we added what we
4 call a premelter or an additional melt vessel in front of
5 the actual mixing pots where we add the PETN. The sole
6 purpose of that pot, that is where these demilitarized or
7 reclaimed explosives go into that pot that does not have
8 PETN in it and are melted and brought up into temperature.
9 There is a basket in that pot where we actually place these
10 materials and allow them to melt with the intent that any
11 large contaminant, metal bearing things would be caught in
12 that basket and would not get down in the vessel and come
13 in contact with the agitator; so that is all done in the
14 premelter. It passes through there in a liquid form. It
15 is transferred to the production pots where the PETN, the
16 more sensitive explosives, is then blended with it.

17 Q. Is there additional waste explosives removed
18 from the process there?

19 A. Yes.

20 Q. How is that material handled and generated
21 and handled?

22 A. In the production process, there are a number
23 of waste streams that come out generated as a result of the
24 production process, some of them specifically to the

1 handling of the incoming raws. It is possible that if
2 something got through our remote screening process and
3 wound up in the production building and as part of that
4 premelting process we discovered a contaminant, we would
5 have to deal with and that part of the material would have
6 to be removed. At that point that material would be
7 determined to be waste and appropriately labeled and
8 containerized as hazardous waste and managed accordingly.
9 Also during the production process as we are mixing,
10 blending, melting, turning this material into a molten
11 form. It is very similar to pancake batter or cookie
12 batter for example and pour it into castable molds where
13 gravity feeding it through a down line and injecting it
14 into a castable mold.

15 Q. If I show you on Exhibit 1 under Trojan
16 boosters, it shows that cardboard tube which would be the
17 types of cast boosters that were made at your facility,
18 correct?

19 A. Correct. We do, due to the mixing blending
20 operation, you do have some amount of splash or splatter,
21 some drips; and this stuff is hot like pancake batter. It
22 sticks and becomes brittle. When we get to the end of or
23 the bottom of a melt pot, we have drained that entire pot
24 for the production run, you have a small amount of material

1 left in the bottom of the pot. If there are contaminants
2 that have come through the process that is where they are
3 collected and concentrated. Those materials are cleaned up
4 and are removed from the pot. If they are contaminant
5 bearing, they are pulled out and attempted to be screened
6 in the remote process or in the building. If they are a
7 small amount, put back in the production. If they are
8 deemed unsafe to do so, they would then become a hazardous
9 waste. Also, if we were to have a reject finished product
10 or a reject booster for a cosmetic problem or quality
11 problem which is a big issue in the field to the end user,
12 that material is attempted to be reclaimed in the building
13 fairly successfully. John saw us develop a new process for
14 that a while back to reclaim some boosters to get back in
15 the melt. They would be managed basically the same way as
16 our incoming raw materials. They would be put back in a
17 basket and put in the production pot. As we do that, we
18 are moving the cardboards. Those cardboards are
19 impregnated with the explosives due to the direct contact
20 with the hot explosives. Those would be become a
21 contaminated waste material that would eventually migrate
22 its way to the on-site treatment unit because it is heavily
23 explosive contaminate. If a booster had a quality or a
24 safety problem that caused it not to be able to be

1 reclaimed, it could then become a waste explosive. We had
2 Mr. Edwards testified earlier about the construction of the
3 cast booster process that we have at Wolf Lake. When it
4 was constructed and built, it was a one of a kind
5 semi-automated process. We went through about three
6 engineering generations of that building to get to where we
7 are today with the commercially viable production operation
8 that we have. One of the driving factors in those three
9 engineering processes was waste minimizing, waste handling
10 and safety which resulted in the waste water system and the
11 aqueous scrubber being placed in that building. We
12 recognized early on that drips, crumbling or these
13 materials falling from the processes on the conveyor, one
14 of the engineering fixes we did what we call a continuous
15 improvement with the operator is to reduce waste was we
16 engineered hitch bins and trays and different ways and
17 procedures and devices to capture all that material and
18 keep it from hitting the floor. We saw in the video when
19 explosives hit the floor and became contaminated, that
20 there are increased safety issues with it, so we
21 re-engineered and done a lot of effort to catch everything
22 we could to not allow it to hit the floor or become
23 contaminated. If that is the case and catch it above the
24 floor, it goes back into the production process. If it

1 does hit the floor, it has to come out and get screened
2 through our remote process and metal detector to determine
3 if it can be safely used. More times than not,
4 unfortunately, once it hits the floor, it is not going to
5 be safely reclaimed.

6 Q. How do you handle the materials that are
7 generated in this production process in terms of waste
8 material?

9 A. It will be packaged up front as a raw
10 material until it can pass through the screening process.
11 Once it passes through the screening process and is either
12 determined to be usable, it is still raw material and
13 managed as any other explosive raw material coming in the
14 site. Albeit it has to be stored in a licensed explosive
15 storage magazine and proper container and accounted for.
16 The waste material would be managed exactly the same way.
17 It is an explosive waste material still subject to RCRA,
18 BATF, IDNR. It's going to be properly packaged, weighed,
19 accounted for, maintained and placed in temporary storage,
20 and until it can be processed and treated on-site in the
21 hazardous waste treatment unit in less than 90 days. Also
22 explosive waste coming from the cast booster production
23 process, I mentioned the waste water treatment aqueous
24 scrubber, wet scrubber and waste water treatment system.

1 Due to the introduction of the wet scrubber system, water
2 is how it functioned, it scrubs out particulate in melting
3 of the explosives process. It also scrubs acid gases and
4 nitrous oxide fumes. That water is recycled through that
5 process to a point to where it would have to be purged. It
6 is then passed through a waste water treatment system which
7 consists of particulate removal, activated carbon treatment
8 to remove contaminants and possibly PH adjust. That
9 process and the collection systems generate an explosive
10 sludge that is being removed from that water. That
11 explosive sludge is a RCRA regulated listed hazardous waste
12 K044. That is an explosive. That is a waste material that
13 we currently and have historically treated on site in the
14 burn unit. Also, when the carbon is spent, reached the end
15 of its service life, it is a RCRA listed hazardous waste
16 K045, also an explosive or reactive waste. It is managed
17 as a hazardous waste and treated on-site accordingly.

18 Q. You have mentioned you received and processed
19 historically millions of pounds of this material. What
20 type of containers is it received in?

21 A. The predominant container is a fiberboard
22 box, but we do receive a wide variety of containers from a
23 wide variety of world wide sources whether it be domestic
24 or overseas. I have some exhibits or some photos of

1 different containers that I would like to present to give
2 an example of the different types of containers. The bulk
3 of the containers are a fiberboard configuration of one
4 type or another.

5 (Discussion held off the record).

6 (Exhibit 4a marked for identification.)

7 MR. HARSCH: What we have marked Exhibit 4a, would
8 you describe what this is?

9 A. This is a fiberboard box that contained a
10 demilitarized TNT that we -- that came from the Iowa Army
11 ammunition plant. It is an -- what we would call an older
12 style box. It is a very heavy box. Empty that box weighs
13 four pounds without inner packaging. As I mentioned
14 earlier, the explosives come in a variety of fiberboard
15 containers. Occasionally they come in a metal container
16 with an inner liner.

17 (Reporter requested that witness slow down.)

18 THE WITNESS: All of the incoming raw materials
19 have an inner liner. Typically that inner liner is a
20 paper, a brown paper, which you will see in one of these
21 exhibits.

22 (Exhibit 4b marked for identification.)

23 Q. MR. HARSCH: I show you what has been marked
24 as Exhibit 4b?

1 A. Exhibit 4b is the container that we would
2 hope for. It is a newer style more modern box, well
3 marked. You can see the explosive markings on it, and it
4 is light weight and easy to handle. That box empty only
5 weighs about two pounds, and we are pretty successful in
6 being able to keep that particular container out of the
7 need to be open burned. Not always, and I will speak to
8 the inner liner you see in that as well shortly. The next
9 picture which is Exhibit --

10 (Exhibit 4c marked for identification.)

11 Q. MR. HARSCH: 4c. Marked as Exhibit 4c.

12 A. It is an example of the inner liner of that
13 same box which housed Tritonal which is TNT and aluminum
14 from a reclamation process. I believe this one actually
15 came from Sweden. If you will note, you see the paper, the
16 brown paper liner which is placed on top of the box for
17 picture purposes. That brown paper liner, if you will see
18 the grayish material in the upper right corner of that
19 material corner, that is explosive contamination that was
20 stuck to the inner liner from housing the explosive. It
21 was in direct contact with the explosive. That is a very
22 small amount of the material, probably a half a gram; but
23 the equivalent of that material is the quantity that is in
24 a blasting cap for example. That is the amounts that we

1 are concerned about over the safety risk and want to be
2 able to manage these materials on site. That inner liner
3 would be an example of a contaminated material that we are
4 asking for the relief to treat on site. We don't have much
5 control over what these containers look like on the inside
6 or outside or their composition. Some are good and some
7 are bad. That material cannot effectively be safely
8 removed to give you a clean product in the production
9 process.

10 Q. Is that same material also present in the box
11 in the background?

12 A. Yes. You will see a small amount of that
13 Tritonal on the outer package there. The next exhibit or
14 photo is an example of a different type of fiberboard
15 container or a fiber drum.

16 (Exhibit 4d marked for identification.)

17 Q. MR. HARSCH: I have marked that as Exhibit
18 4d?

19 A. These containers, again, that we do not have
20 control over what the supplier of the explosives put these
21 materials in. Those are fiberboard containers with metal
22 lids, and they add additionally to the safety concern in
23 the handling of these materials due to the presence of the
24 metal lid and holding ring. These containers empty,

1 respectively the smaller one on the left weighs
2 approximately 8 pounds. The one on the right weighs
3 approximately 10 pounds empty, and we do occasionally
4 receive one that looks like that that weighs 12 pounds
5 empty. These do not lend themselves to any kind of
6 recycling or pulping. They are not acceptable for that
7 process, and due to the nature that these containers when
8 they contain explosives, can weigh in excess of 200 pounds;
9 so they are very difficult for us to manage on site in a
10 safe manner and not hurt an employee through lifting and
11 moving processes. We actually have to take this container
12 to our remote process, and typically these are demil stuff
13 that are going to be need to be screened and manage them in
14 that fashion.

15 The next exhibit is another example of a fiberboard
16 container. This is a small, what we would call, a hat
17 box. This is an over pack of another container which you
18 will see in a subsequent photo.

19 (Exhibit 4e marked for identification.)

20 Q. MR. HARSCH: I have marked that as Exhibit
21 4e?

22 A. The condition of the outer package is in
23 pretty good shape, but as you will see in the following
24 photo, it contains another container that is not in good

1 shape and has had to be overpacked to allow this to be
2 material shipped as per DOT regulations.

3 MS. DOCTORS: Would you repeat what you just said?

4 A. You are going to see the outer one, and you
5 will see another container. That had to be overpacked to
6 meet DOT requirements.

7 (Exhibit 4f marked for identification.)

8 Q. MR. HARSCH: I have marked that next
9 photograph as Exhibit 4f?

10 A. As you can see this, the inner container that
11 was overpacked, had to be over packed for DOT reasons as
12 well as safety reasons. It's stained. It's been
13 impregnated with the explosives inside of it. Obviously,
14 it's been around for a while. That is an example of the
15 packaging of the raw materials we receive, which drives the
16 materials we are asking for relief to treat on site. We
17 don't have a lot of control over what these containers look
18 like or their condition. The next picture you will see is
19 another example of an outer container.

20 (Exhibit 4g marked for identification.)

21 Q. MR. HARSCH: I will mark this Exhibit 4g.

22 A. This is a metal drum similar in size to the
23 fiberboard drums you saw on an earlier picture. Definitely
24 it complicates the safety of managing these materials

1 because you have explosives and metals of sparking material
2 that have crimped crevasses in the container by design
3 where these materials can migrate in how they are confined
4 between two pieces of metal. This would be an example of
5 something that we would currently flash on-site to remove
6 the explosive hazard and be able to safely dispose of the
7 remaining container steel drum.

8 Q. Can you again -- does EBCo have any control
9 over the containers your suppliers or vendors of your raw
10 demilitarized explosives ship in?

11 A. Effectively no. Whether it be domestic or
12 international, except for Ensign Bickford manufactured
13 products. There again, it's driven by Department of
14 Transportation requirements.

15 Q. And do I understand correctly some of these
16 materials may have been in the boxes for since before World
17 War II?

18 A. That is correct. Sitting in a magazine
19 somewhere.

20 Q. You have shown pictures of the outside of the
21 packages, and you have shown one picture, Exhibit 4c, that
22 is a paper inner liner. Do all of these packagings come
23 with inner liners?

24 A. Yes.

1 Q. And those inner liners would be in direct
2 contact with the explosive material that are contained in
3 it?

4 A. Absolutely.

5 Q. And would you explain how you manage this
6 packaging material that your 5 million pounds of explosives
7 come in?

8 A. They are received into the site. Obviously,
9 they have to be properly stored in a licensed magazine and
10 then manually moved for the most part into the production
11 process. They either go to the remote screening process if
12 it is a good material or virgin material, it is able to go
13 to straight to the production floor. Through our safe work
14 practices and procedures, we do our best to remove the
15 explosive from inside the package without contaminating the
16 outer package. If it has not already been contaminated,
17 sometimes the inner liners are not in tact, so the inside
18 of the container is contaminated. If we can segregate and
19 the example of the first -- well, the second picture of the
20 newer looking box with a lot of explosive markings, that is
21 an example of the type of container we are able to keep out
22 of the safety issues and be able to recycle that box
23 through a cardboard recycler. Unfortunately, a large
24 majority of the other containers, in the way that we have

1 to manage them, does not allow that to happen.

2 Q. Do I understand then that the materials, the
3 packaging material, the outer packaging material and the
4 inner packaging material either arrive at your facility in
5 such a condition that you deem them to be contaminated or
6 potentially contaminated so as to avoid the possibility of
7 their being reclaimed or reused?

8 A. Yes. In many cases the inner liner may or
9 may not be breached, but during the filling or process when
10 they put that explosive in the liner, they got some amount
11 of explosives between the inner liner and the outer
12 package; and folded built cardboard boxes have flaps and
13 sometimes adhesive and tape; and those explosive materials
14 some of which are very fine dusts, are able to migrate into
15 those cracks and crevasses and stick to the adhesives; and
16 you cannot effectively remove it from the package; so it is
17 contaminated with explosives.

18 (Exhibit 5 marked for identification.)

19 Q. You mentioned the handling of the drums,
20 potentially causing a problem. If I mark this photograph
21 as Exhibit 5, would you explain what this photograph is?

22 A. Yes. You saw the fiberboard drums in an
23 earlier exhibit, and I mentioned they are very heavy and
24 they contain very dust generating explosives. It is very

1 difficult to move those materials around physically for our
2 employees, and typically those type of materials have to go
3 through our prescreening process prior to going through the
4 production building. Unfortunately, when you are trying to
5 remove the explosives from these containers, you do
6 generate explosive dust. So we looked at materials,
7 handling equipment, barrel lifts, things like that off the
8 shelf do not work in an explosive dust environment; so
9 specifically to handle those larger drums materials for our
10 employees, we in-house and designed and built what we call
11 a barrel lift. It is made entirely out of non-sparking
12 materials. It is an air over hydraulic operated unit, so
13 we don't have to deal with scissors, metal to metal
14 contact, hinges and things like that. It is in our remote
15 screening building which you will see in this photo. The
16 silver device, which is a plastic lined aluminum for the
17 most part built machine. We are able to bring those
18 barrels in and drop them into the cylinder and activate the
19 black button you see in the foreground of the picture; and
20 it will invert that drum a slight angle; and the screening
21 employee will use that tool that you see there on top of
22 that screening table which is a non-sparking tool to reach
23 inside that barrel and actually physically rake or drag the
24 explosive out on to the screening able. The screening

1 table is where they will start their physical observation
2 to inspect for contaminants and push it through the holes
3 which are sized. So we are catching any large contaminants
4 inside that that to go into the production process. That
5 is a very dust generating process, and a lot of times the
6 inner liner, if it wasn't previously damaged is. You wind
7 up with a contaminated outer package and is managed as
8 explosive contaminated, and then it will be processed in
9 our on-site treatment unit.

10 Q. If I refer back to Exhibit 4d, the photograph
11 of the drums, does that photograph depict this
12 contamination on the outside?

13 A. Yes. You will see the larger drum to the
14 right and slight grayish coating on the lower portion on
15 that drum. That is an explosive contamination that came
16 from the actual material from that process.

17 Q. That is also on the smaller drum over the
18 label?

19 A. Yes. A small amount of material. And
20 cardboard you cannot decontaminate because of its porous
21 nature.

22 MS. DOCTORS: Excuse me?

23 A. Cardboard you cannot decontaminate because of
24 its porous nature.

1 Q. MR. HARSCH: These would be examples of
2 packaging that inadvertently became contaminated during
3 your unpacking or manufacturing, or first step in your
4 manufacturing process?

5 A. Yes.

6 Q. How does Ensign Bickford manage this
7 contaminated packaging material?

8 A. They are segregated, typically placed in an
9 overpack, which we would use a fiberboard barrel, for
10 example, that you saw, place these contaminating materials
11 in, segregate them, or place them in other containers,
12 segregate them and store them on site temporarily until we
13 can process them through the treatment unit, the on-site
14 burn unit to remove the explosive hazard.

15 Q. In Illinois are these contaminated packaging
16 materials deemed to be a RCRA hazardous waste?

17 A. No. In Illinois we have concurrence from the
18 Agency that those materials are not RCRA regulated
19 materials. They are production derived waste and they are
20 managed in that manner.

21 Q. They still have to be managed according to
22 BATF requirement?

23 A. They still must be managed according to
24 safety protocols.

1 Q. In other states are these materials managed
2 as RCRA wastes?

3 A. Yes, they are.

4 Q. The uncontaminated outer packaging materials,
5 how are they dealt with?

6 A. They are segregated, totally removed from
7 explosive production areas by our on-site employees. They
8 are screened and typically by my hazardous waste
9 technicians, and they are taken to a baler where they are
10 given a visual before going into the baler prior to be
11 putting into a baler. They are then bailed and managed
12 through a recycled broker who then targets those materials
13 into a pulping or repulping waste process and, that is the
14 current management practice of those materials today.

15 Q. What other types of waste streams are
16 generated in the booster production operation?

17 A. The other contaminated materials with
18 explosive hazards would be PPE or the Tyvek coveralls the
19 employees wear. In the production process they become
20 contaminated with fumes and sometimes splash from the
21 molten product and dust of explosives and copper gloves and
22 other things of that nature.

23 Q. From a -- has EBCo made a determination as to
24 the appropriateness of the use of Tyvek protective

1 clothing?

2 A. Yes. Following OSHA and NIOSH guidance for
3 industrial hygiene and personal protection, it was
4 determined that for the nature of the process and the
5 contaminants of concern for these production processes that
6 the Tyvek coverall was the best material for those folks to
7 use.

8 Q. How are these Tyvek coveralls managed?

9 A. At the end of their work shift they are
10 contaminated coveralls and would be placed in an explosive
11 contaminated materials container and managed accordingly
12 being processed in the burn unit as explosive materials.

13 Q. Would you -- does that complete the
14 description of the waste streams that are generated from
15 the booster operation?

16 A. I believe so, yes.

17 Q. Would you please describe the waste streams
18 that are generated in the detonator side of the business?

19 A. As I mentioned earlier, the manufacturing
20 processes and the raw materials are distinctly different.
21 We do not have dust generative bulk powder explosives in
22 the detonator assembly process. They are contained in
23 articles or components. If you were to see the production
24 floor, it is a fairly typical assembly type looking

1 operation other than they are assembling energetic
2 components. The outer packaging, inner packaging of all
3 the raw materials that come in, specifically the caps are
4 detonators that are shipped to us from Connecticut; and
5 they are contained in a plastic block which has an
6 individual slot for each cap; and it has a cardboard sleeve
7 over the top inside of an inner container which is
8 cardboard which has cushioning inside of an outer DOT
9 specified container. 100 percent of the inner containers
10 are recycled and reused because they do not have explosive
11 contaminated issues on a normal basis. That would be an
12 abnormal situation that would cause that to happen, and I
13 don't know if that ever happens. The outer box and once
14 you open it up and remove the closures and tape, it can no
15 longer be used as per DOT regulations. There is a waste
16 that comes from there. That is a recycled cardboard
17 container. 99.99 percent of that has always been recycled
18 and is currently recycled shipped to an off-site.

19 The spools to which the shock tube comes to us on
20 are wooden. Shock tube it doesn't have explosive dusting
21 issues. That is a company supplied material. Once that
22 spool is empty, it is returned to our facility in
23 Connecticut, and it's reused and stays in the company.
24 Around the cells and machines where they are assembling

1 materials, they are cutting the shock tube or cutting the
2 detonating cord, and in that vicinity you will have a
3 slight explosive dust build up from that process. Multiple
4 times during the day they are wiping that material up
5 basically with a cotton wipe. That would be an explosive
6 material that we manage similar to those in the cast
7 booster. It's segregated, containerized, labeled and
8 managed in our on-site open burn unit as an explosive
9 contaminated waste.

10 Also the detonating cord itself which is a PETN,
11 same PETN we saw in the video and I spoke to in our cast
12 booster process as well. We do have some reject trimmings,
13 pieces, parts of that material. It is an explosive waste,
14 and we treat that on site as PETN or explosive waste in our
15 burn unit.

16 Waste caps, the detonator itself. Occasionally,
17 there is some sort of malfunction or the deviant that is
18 caused on the floor, whether it be cosmetic or actual
19 functionality of the cap itself, those are containerized in
20 the hazardous waste satellite accumulation container. When
21 it is full, they are marked, labeled, removed, managed as a
22 D003 among a variety of other waste codes containerized and
23 moved to an explosive storage magazine and managed
24 according to RCRA and BATF, IDNR requirements and

1 eventually shipped off-site in less than 90 days to the
2 Onyx Sauget, Illinois incinerator for destruction. Any
3 finished product from the non-electric detonator process
4 which would now be a non-electric detonator assembly, which
5 now has the cap, shock tube and various components on it,
6 if that for whatever reason typically a quality or a
7 function issue, sometimes a safety issue is deemed to be a
8 waste. It again is containerized labeled, marked as a
9 hazardous waste, moved to an on-site BATF licensed
10 explosive storage magazine and shipped off-site to the Onyx
11 Sauget facility for proper destruction. That is also a
12 D003 explosive waste.

13 The other materials are typical manufacturing
14 waste, typically some waste solvents, waste solvent
15 contaminated rags. We do have a small amount of solvent
16 and explosive contaminated rags due to the maintenance of
17 the equipment. Those are containerized and satellite
18 accumulation as per RCRA guidelines and managed as a F001,
19 2 or 3 depending on the solvent waste, containerized,
20 shipped off-site to the Onyx incinerator for destruction
21 per RCRA requirements; and it's very slight explosive
22 contamination on those.

23 Then we have standard solvent waste, maintenance
24 type derived waste that are managed accordingly. Solvent,

1 a greasy -- those types of things, pretty standard waste,
2 and they are all managed to all rules and regulations and
3 shipped to the Onyx facility for destruction.

4 Q. What are the wastes that EBCo currently is
5 burning in its open burn unit pursuant to the existing
6 variance for which you are seeking an Adjusted Standard in
7 this proceeding?

8 A. We currently are treating all explosives,
9 powders, wastes predominantly from the cast booster
10 production operation on-site has been under the current
11 variance. We still have a supply of raw materials on-site
12 that we are screening demil, less than perfect material.
13 We are utilizing our screening process on-site to pull out
14 the good and remove the bad. If it is deemed unusable,
15 those explosives are being treated in our on-site unit.
16 The contaminated packaging materials, the PPE from the
17 employees processed in these materials, the contaminated
18 wipes from clean up or housekeeping either from cast
19 boosters or non-electric detonator assembly. All those
20 contaminated materials are being treated on-site. We still
21 are running our scrubber process, doing our decontamination
22 of the buildings; so we are still generating some amounts
23 of water treatment sludge and spent carbon which are
24 explosive wastes that are being treated on the on-site unit

1 of the current variance.

2 Q. You referred to PPE?

3 A. Personal Protective Equipment.

4 Q. So if I understand it then, despite the fact
5 that the booster production was shut down in July, you were
6 still generating the bulk of the waste materials that you
7 formerly generated when you were operating the cast booster
8 operation?

9 A. That's correct.

10 Q. And that would include all of the
11 contaminated outer packaging and inner packaging?

12 A. Yes.

13 (Discussion held off the record)

14 (Lunch recess taken.)

15 Q. MR. HARSCH: Mr. Buchanan, now that you have
16 described the waste that you generate, perhaps you could
17 describe for the record how open burning was conducted at
18 that site historically and through the existing RCRA
19 permitted open burn unit?

20 A. The open burning or thermalsanitization of
21 our explosive contaminated materials and explosive
22 contaminated equipment are very documented, regimented
23 practices controlled with state of the art work practices.
24 I want to be clear to differentiate it is not -- I don't

1 want this to be in any anybody's mind that it resembles
2 something that a farmer would do in a field where they push
3 up a big pile of stuff, throw diesel fuel on it and burn
4 it. It is a very controlled, contained and neat and
5 orderly operation. I have some exhibits of the unit I
6 would like to show, and what is that is going to show, we
7 do not burn on the ground. We are burning on a contained
8 unit, two of three which have removable roofs to control
9 any run on or precip, so we don't have to deal with any
10 possibly contaminated waters from the process. They are
11 cleaned up promptly as soon as it is safe to get back in
12 the unit. Those operating procedures that we live by in
13 the treatment unit are part of the RCRA Part-B permit, and
14 those are the procedures we would follow. With that I
15 would like to introduce some exhibits.

16 Q. Sure. I would refer these to these as Group
17 Exhibit 6.

18 A. When I say the unit I am thinking of the
19 entire burn facility which is a quarantined designated area
20 that has a fence around its perimeter for security and
21 operational reasons. Inside of the unit we have three
22 distinct pads or treatment containers where the materials
23 are processed. The first exhibit that we are going to
24 show --

1 (Exhibit 6a marked for identification.)

2 Q. MR. HARSCH: I have marked it as Exhibit 6a.

3 A. This is what is referred to as the burn
4 cage. This is where we treat explosive contaminated
5 materials. The materials you have seen pictures of
6 earlier, the contaminated packaging, inner packaging, the
7 coveralls, those materials.

8 It is a concrete pad with a raised or elevated
9 burn, approximately two feet tall that is lined with a
10 refractory heat retarding material to protect the concrete
11 and redirect the heat back into the materials to treat it.
12 It has a rather large beefy steel structure around it,
13 complete with fencing to minimize the potential for
14 anything to escape the unit during the burn process.

15 The next photo is what we refer to commonly as the
16 explosives pad.

17 (Exhibit 6b marked for identification.)

18 Q. MR. HARSCH: I have marked that as Exhibit
19 6b.

20 A. That would be the part of the unit where we
21 treat the explosives powders. It is a concrete pad, sloped
22 and drained with collection sumps just in case there is any
23 precip or water or fluids that could wind up on the unit.
24 To date we have had none. You will see a remotely

1 controlled removable roof that when we come in to do set up
2 we are able to roll that back inside the concrete pad. You
3 will see sand. We place the sand over the top of the
4 concrete. It retards the heat, and it helps us safely
5 operate and lay the powders out of the burn unit; and in
6 that you will see two rows separated by a pretty
7 significant concrete barrier in between where you are able
8 to lay out a very thin layer of 100 pounds of explosives on
9 each side for a total of 200 pounds treated in that one
10 pound.

11 (Exhibit 6c marked for identification.)

12 Q. Is what I have marked as Exhibit 6c, a
13 photograph of the burn unit with the roof rolled back?

14 A. And you will be able to see the sand.

15 MS. DOCTORS: We have two 6b's. Is this 6c?

16 A. Sorry about that. You can see this unit has
17 processed several thousand pounds of explosives to date.
18 It still looks practically brand new. The point I am
19 illustrating is this is a neat, orderly, clean, operation,
20 very regimented. Trained hazardous Hazmat techs do the
21 operation supervised by myself.

22 (Exhibit 6d marked for identification.)

23 Q. MR. HARSCH: If I show you what is marked as
24 Exhibit 6d, is this a more close up view that shows the

1 sand you just testified to?

2 A. Yes, it is, and it would be -- it was taken
3 this week after a clean up of the previous burn.

4 Q. Would you describe for the record how you
5 placed the waste explosives in the unit depicted in
6 Exhibits 6b, c and d?

7 A. In the explosive unit we were bringing the
8 explosive powders into the unit in 50 pound containers that
9 has been -- came out of the screening process or deemed as
10 a hazardous waste and been temporarily stored as RCRA
11 hazardous waste in an on-site licensed explosive storage.
12 In less than 90 days it will be manually moved in the box
13 via intraplant truck by our hazardous waste technicians,
14 trained burn unit operators that will be brought to the
15 unit, physically opened up. We will take a very thin layer
16 of cardboard, lay it on the sand, spread the powder, the
17 explosives out in a very thin layer. That is one of our
18 safety practices, do it in a thin layer on the cardboard.
19 We will initiate -- we initiate this remotely by a piece of
20 fuse which is a controlled initiation device that burns at
21 a prescribed rate, wrap it around the blivet at the
22 beginning of the explosives train; and we would initiate
23 that; and that would initiate the burn.

24 Q. What is the blivet?

1 A. It is basically a piece of combustible we are
2 able to wrap the fuse around, and the fuse generates enough
3 output to ignite the blivet or piece of paper which would
4 in turn ignite the explosive. This unit is very secure.
5 After we do a set up, the perimeter fence around this
6 specific unit is locked and closed by the operators. They
7 run their fuse to the fence. The fuse burns at a
8 prescribed rate, 'X' minutes per foot. They know how much
9 time they have from when they initiate the fuse before it
10 could ever reach the explosive or explosive contaminated
11 material. They will retire to the outside of their
12 exclusion zone which is a safe distance we require for our
13 operators to observe the burn, and from there they will
14 observe the burn and monitor for any problems until
15 completion of the burn or until there is no longer a risk
16 of a fire hazard. As you will see in one of the earlier
17 pictures, specifically 6a, if you note in the background
18 you will see some disked up bare dirt. We maintain a fire
19 break around this facility in case there is something
20 moving around, there is no chance for a fire to spread from
21 this unit to any place else in the environment or
22 facility. We also close off the unit for a very large
23 distance so that none of our on plant personnel can get
24 anywhere near close proximity to the unit during an active

1 hazardous waste treatment.

2 Q. Is the waste explosives when you burn the
3 powder a self-sustaining fire?

4 A. Yes. It's very active, a lot of energy being
5 released for a pretty short duration. That 100 pound train
6 burns at a very short time, very active and does a good job
7 of removing the hazard, leaving little residue, if any, at
8 the burn. As an additional exhibit I have some photos of
9 an active burn.

10 (Exhibit 7a marked for identification.)

11 Q. MR. HARSCH: I would like to mark these as
12 Group Exhibit 7. Explain what Exhibit 7a is.

13 A. You will see in 7a is the burn cage you saw
14 earlier. During an active treatment of contaminated
15 materials, specifically some of those larger drums,
16 fiberboard drums that were contaminated we showed in an
17 earlier packaging photo. You can see there is about 12
18 hundred pounds of material being treated in that unit
19 during this burn. As you can see, not a lot going on
20 there, not much smoke, very nice neat orderly burn, and
21 that is what we are looking for.

22 Q. When was this photograph taken?

23 A. This was taken on Wednesday of this week.

24 (Exhibit 7b marked for identification.)

1 Q. MR. HARSCH: I show you what has been marked
2 as Exhibit 7b. Would you explain what this photograph is?

3 A. Yes. In Exhibit 7b you are going to see the
4 explosives pad that I showed you earlier during an active
5 burn, approximately 200 pounds of explosive material. As
6 you can see there again, this is pretty much in the early
7 stages of a burn of 100 pounds. When it reaches
8 combustion, you can see it's a very violent but a -- not
9 violent but a very energetic flight of energy being removed
10 during the burning process. This is the worst case
11 scenario in the explosives treatment unit.

12 Q. Why is that?

13 A. As far as the wisp of smoke. Tritonal seems
14 to have a more of a wisp of smoke to it relative to any of
15 the other powders that we burn.

16 (Exhibit 8a marked for identification.)

17 Q. MR. HARSCH: I show you what I have marked as
18 exhibit group Exhibit 8a. Would you please explain what
19 this is?

20 A. This is the burn cage where we are burning
21 that package of materials I showed you in the previous
22 exhibit. This is the rescue the next day following the
23 burn of that packaging material. This is approximately 24
24 hours following the burn. As soon as it's safe to get back

1 in the unit that material would be removed and properly
2 handled as non-hazardous waste.

3 Q. What that does that depict?

4 A. The lids and metal rings that you saw in a
5 previous picture after the explosive hazards had been
6 removed via the thermal treatment.

7 (Exhibit 8b marked for identification.)

8 Q. If I show you what had been marked as Exhibit
9 8b would you explain what that is?

10 A. Exhibit 8b we are back to the explosives
11 treatment pad. This would be what that unit looked like
12 the following morning after a burn of the Tritonal material
13 you were showed in a previous photo which is exactly what
14 we want to see, a small amount of residue no longer an
15 explosive hazard. These are inspected daily during the
16 operation following a burn by the operators for any hot
17 spots or any remaining hazards and documented.

18 Q. When were these photographs taken?

19 A. These would have been taken yesterday.

20 (Exhibit 9 marked for identification.)

21 Q. You have mentioned that you have a RCRA
22 Part-B permit for this facility. If I show you what has
23 been marked as Exhibit 9.

24 For the record I am marking the envelope, I guess,

1 that contains a RCRA Part-B permit as Exhibit 9. It's not
2 stapled, so to keep it in tact, I am going to put it in an
3 envelope.

4 HEARING OFFICER LANGHOFF: That is fine. Thank
5 you.

6 Q. MR. HARSCH: Would you please explain what
7 Exhibit 9 is?

8 A. Exhibit 9 is our current RCRA Part-B
9 operating permit granted to us by the Illinois
10 Environmental Protection Agency for the construction and
11 operation of our hazardous waste explosive open burn
12 treatment unit.

13 Q. This was issued in April of 2001, the revised
14 permit?

15 A. The revised permit dated here October 22,
16 2001.

17 Q. The initial permit was April 2001?

18 A. Correct. A very comprehensive documented
19 permit addressing all issues or concerns from the RCRA Land
20 Division. It touches on water, any issues and concerns and
21 current operating procedures for the permit and our
22 requirements to do so.

23 Q. How long did it take EBCo to obtain such a
24 permit?

1 A. Approximately ten years from the initial
2 filing for interim status rating, interim status unit and
3 moving the Part-B permitting process for it until the
4 ultimate granting of the RCRA Part-B permit.

5 Q. What approximate cost was this permit
6 obtained?

7 A. The permitting process and all of the things
8 required to be done was approximately 750 thousand dollars
9 during that ten year period of expenditures as well as
10 approximately 200 thousand dollars in cost to construct the
11 unit you see in these exhibits to be in compliance with the
12 permit.

13 Q. When did you commence construction of the
14 current RCRA facility?

15 A. It would have been in 2001 as soon as we
16 received the permit accepting the design of the unit in its
17 current state.

18 Q. Where did EBCo -- how did EBCo get rid of
19 these same materials prior to the construction of the
20 present unit?

21 A. The interim status waste treatment unit sat
22 on this exact same foot print of the current day. We went
23 through what is known as clean closed, the previous interim
24 status unit with concurrence from the Agency and

1 constructed the new unit right back in the same foot print.

2 Q. Did EBCo construct a unit that ultimately
3 obtained interim status after its purchase of the facility
4 from Trojan in the late 1980s?

5 A. Yes, they did.

6 Q. And you said that was constructed at the same
7 location?

8 A. Yes.

9 Q. And were the -- was the operation of the
10 interim unit similar to that of the present unit?

11 A. Yes. With the exception of the remote
12 controlled covers and the operating procedures, they were
13 essentially the same.

14 Q. Prior to the purchase of the facility by
15 EBCo, did Trojan conduct open burning on this site?

16 A. It is my understanding -- I had no direct
17 under observation of that, but they did have another open
18 burn located on another portion of the site.

19 Q. You have not gone through closure under the
20 RCRA regulations as a solid waste management for this open
21 burn unit?

22 A. Yes. As part of the RFI requirements of the
23 RCRA permit we have dealt with that unit and sought closure
24 and are waiting from concurrence from the Agency. That is

1 in fact closed. No further action.

2 Q. Again, what is the purpose of burning the
3 materials in the RCRA burn unit?

4 A. To safely and effectively treat this RCRA
5 regulated hazardous waste with an explosive reactive hazard
6 and render it no longer hazardous and remove the reactivity
7 from it so we can safely manage the residues.

8 Q. Has there ever been an injury related to an
9 incident from an explosion or reaction at your facility in
10 treating the materials in either the interim status or this
11 facility?

12 A. No. There has never been an injury related
13 to an energetic or explosive relative to the treatment
14 on-site since Ensign has been there.

15 Q. If I refer to what has been marked as group
16 picture 7a, that shows three structures. Would you explain
17 what the third structure is on the left-hand side?

18 A. The third structure in the left hand corner
19 of Exhibit 7a is the other treatment pad. I mentioned
20 there was three distinct pads within the unit. That is the
21 unit similar in construction to the sand pads for the
22 treatment of the K044 explosive waste water treatment
23 sludge and the K045 spent explosive contaminated carbon and
24 waste water treatment. Similar construction with the

1 concrete pad over laying with a refractory with a
2 collection system with a remote control roll on roll off
3 roof to remove the potential for liquids or precip to hit
4 the pad.

5 Q. Would you explain again on the record how
6 this material is combusted?

7 A. This material is generated on-site, managed
8 the same as our explosives I explained before in packages
9 stored in an explosives licensed magazine, physically
10 brought to this unit on the day of treatment in a box
11 placed by our operators on to the pad, typically on top of
12 a clean pallet with some amount of clean straw and or clean
13 cardboard to initiate combustion. This material is a
14 little more difficult to initiate due to it does contain
15 some moisture.

16 Q. Otherwise, it would burn and produce the same
17 type of residue as shown in the group photographs?

18 A. Yes. The constituents of concern are on the
19 explosive contaminated carbon are the exact same materials
20 we are burning in the powder form and have the exact same
21 source due to the process that generates their waste called
22 K044 and 45 as called up as record guidance and
23 regulations, but they are managed the same and have the
24 same hazardous as the other materials.

1 Q. The reason we don't have any photographs?

2 A. I didn't have any to treat of late.

3 Q. What is the distance that the operators
4 retire to their remote building to observe this process?

5 A. Based on the amount of explosives, maximum
6 credible event, the maximum amount that could detonate
7 there required at a minimum to be 200 feet of this during
8 operation. Effectively we are a little more than that.
9 They have an established area where they observe the burn
10 and have communication with the rest of the plant.

11 Q. Is this practice and procedure set forth in
12 your Part-B permit just testified to, the method by which
13 you ensure that EBCo's control over the variables when this
14 material is destroyed?

15 A. Yes, it is.

16 Q. Can you explain on the record the steps that
17 EBCo has taken since you have been employed there to reduce
18 or otherwise minimize the volume of waste materials that
19 you generate?

20 A. The Ensign Bickford Company as part of its
21 world class manufacturing initiatives and way of doing,
22 standard way of doing business, continually evaluates,
23 looks at all of its processes to try to eliminate waste
24 whether that be the actual waste material, loss of raw

1 material or product or transport or labor or a variety of
2 things. So all processes are continually being looked at
3 or being improved. We construct -- we have done waste
4 minimization projects in recent days. Cast boosters I
5 spoke earlier of one of the reengineering phases during the
6 construction of the current cast boosters operation that
7 was totally targeted at waste minimization. We were
8 successful with that. If you look at the numbers of waste
9 treated in this unit over the last several years as
10 reported to the IEPA under our variance requirements, you
11 can see our production stayed level and our waste numbers
12 have turned down; so that tells us we have been successful
13 in reducing those materials. As a matter of fact, this
14 summer we were fortunate enough to be selected to
15 participate in Illinois EPA's Pollution Prevention Intern
16 Program where we had an intern provided to us on-site by
17 the IEPA Pollution Prevention Office, and that individual
18 worked in our non-electric detonator assembly production
19 areas working on waste minimization projects for reduction
20 of waste shock tube and waste detonating cord which is one
21 of the PETN materials treated in the current on-site unit.

22 (Witness asked to slow down.)

23 Q. Historically did EBCo have approval to burn
24 solvents and rags and pyrotechnic materials in its open

1 burn unit?

2 A. Historically at some of the previous
3 variances or relief had the authority to burn explosive
4 contaminated solvent, solvent explosive contaminated rags
5 and pyrotechnic materials; and the pyrotechnic materials
6 would be detonators, the caps, things relative to that
7 process.

8 Q. Because you send those materials to Onyx, you
9 have deleted those from the list from which you seek
10 approval pursuant to the variances granted and from the
11 Adjusted Standard you are seeking today?

12 A. That's correct. We are no longer seeking
13 authority or relief for those materials, and in the ten
14 plus years I have been there, we have not treated those
15 on-site.

16 Q. Would you describe how you instituted the
17 program for recycling the water that the PETN is required
18 to be shipped from Graham?

19 A. We receive our PETN from our Graham, Kentucky
20 facility. PETN is mandated to be shipped over-the-road by
21 the U.S. Department of Transportation water wet. That
22 means 25 percent by weight inside that inner package is
23 water. It is forbidden to be shipped dry because of its
24 sensitivity issues. We receive that material in 55 pound

1 boxes. The boxes are returned to the Graham site for
2 reuse. The outer container, we centrifuge this material to
3 remove that pack water, the 25 percent water wet. We
4 centrifuge it off. I mentioned earlier we have an aqueous
5 wet scrubber system. We centrifuge that pack water off,
6 bring that pack water into our scrubber for makeup water as
7 part of our waste minimization efforts. We no longer have
8 to use clean city water, for example, to do the make up
9 water in the scrubber and increase the volumes of
10 contaminated waters.

11 Q. You are not producing the waste water from
12 the PETN centrifuge process?

13 A. Currently, now we are producing almost zero
14 of that water because we are not running the cast booster
15 process.

16 Q. And the outer packaging material is reused
17 internally back to EBCo's Graham facility; is that correct?

18 A. That is correct.

19 Q. You recycle almost 100 percent, did you not
20 earlier testify, of everything except the outer packaging
21 material for the devices that you receive from the
22 Connecticut facility on the detonator site?

23 A. Yes. Normal operations we recycle or reuse
24 99.9 percent of the cardboard materials. We either reuse

1 it internally or we segregate it and ship it off-site to
2 our broker where it is repulped or recycled for the
3 cardboard.

4 Q. Early on EBCo attempted to set up a
5 relationship with a pulper to take the clean cardboard that
6 you deemed safe for release for recycling; is that correct?

7 A. That is correct.

8 Q. What happened to that relationship?

9 A. We were trying to set it up as you stated to
10 deal directly with a pulper with a wet process. As I
11 testified to earlier, that is the most desirable for
12 something that could still potentially have some
13 contamination. As we proceeded down the path and got
14 samples out and everybody was comfortable and dealing with
15 the material of that nature, that pulper got out of the
16 business, and I no longer had a contact or a way to manage
17 that material in that way.

18 Q. You testified that you currently recycle this
19 cardboard. Who do you currently have a relationship with?

20 A. The Ensign Bickford has for some time had a
21 relationship with Southern Illinois Recycling which is
22 essentially a broker in a recyclables market. We have
23 recycled a variety of materials through this individual or
24 through this company including plastics, paper, aluminum,

1 anything we possibly can. Brought that individual into our
2 site and worked with him pretty extensively and developed a
3 relationship and told him how we wanted this managed and
4 what it was and where it came from, and he now has the --
5 he can broker it out to a pulper, and that is what we were
6 doing with the clean outer packaging.

7 Q. So dealing through a broker does that mean
8 that you receive less back in terms of remuneration for the
9 cardboard?

10 A. Yes. But that was not -- the issue was to
11 get that into a recyclable program so the middle man or
12 broker is the one that gains or loses the benefit of that
13 the market.

14 Q. As part of the variance conditions that have
15 been granted by the Board, there are requirements for EBCo
16 to evaluate alternatives to its practice of that using the
17 open burn unit. Can you describe for the record
18 alternatives that you have that EBCo has evaluated?

19 A. The Ensign Bickford Company since the early
20 90's has continually been evaluating alternatives to open
21 burning of these materials which would include alternative
22 technologies as well as off-site incineration of commercial
23 type facilities. Myself, as well as our facility and our
24 corporate folks in Connecticut, have evaluated a variety of

1 things. I have personally evaluated the off-site
2 incineration. I have visited the Onyx incinerator in
3 Sauget, Illinois numerous times. I have visited ICI
4 incinerator in Joplin, Missouri numerous times.

5 I also visited a laidlaw commercial open burn
6 facility in Louisiana to evaluate its viability. That
7 particular one was scratched off the list pretty early on
8 in the evaluation process because it brought nothing to the
9 table. It was open burning a thousand miles away, so there
10 was no advantage. Also personally I have evaluated
11 solvated electron technology which myself has looked and as
12 well as the corporate folks, and that was one of the -- an
13 idea that was given to me by our previous P-2
14 representative from the Collinsville office. He sent me a
15 clipping from a trade pub and it's relativity to explosive
16 waste. I personally followed up on that and contacted the
17 company which was Teledine Commodore, I believe it is
18 Teledine Brown or some variation on that. I worked through
19 the literature, traveled to Huntsville, Alabama, met with
20 those folks at their headquarters, managed to move it along
21 far enough to start dealing with their management people
22 and actually started putting some contractual availability
23 on the table to ask them how could we make this
24 commercially or privately available to the Ensign Bickford

1 Company and its materials and asked them to draw up
2 proposals on cost and permitting issues and where all the
3 steps were to make this happen as well as there is still
4 some question on the end result if you put your explosives
5 in, explosives contaminated material through it, what is
6 the residue that comes out the treated end; and we have
7 some concerns that it was still hazardous; and I asked them
8 to provide the analytical chemistry to educate Ensign and
9 myself on the residues. At that point this was one of the
10 technologies that was being evaluated through the
11 Department of the Army's Chemical Weapons Warfare
12 Destruction Program, and at that point all contact ceased
13 from this company and this technology and no longer
14 returned my calls, and they never brought up a contract for
15 us to continue forward with it, nor did they provide the
16 chemistry, which in my opinion contained cyanides which may
17 made it hazardous.

18 Q. Are you aware of the development of that
19 technology anywhere?

20 A. The solvated electrode technology has no
21 commercial available process existing anywhere to be looked
22 at or reviewed or talked to. To my knowledge it has never
23 been permitted under RCRA anywhere to my knowledge.

24 Q. During your communications and the numerous

1 trips you have made there, you communicated the fact that
2 EBCo was willing to move forward in a commercial business
3 venture and an agreement with these folks?

4 A. Correct.

5 Q. What alternatives, if any, has EBCo
6 evaluated?

7 A. I have already spoken to off-site
8 incineration briefly. One of the other alternative
9 technologies that was extensively evaluated for quite some
10 type at a pretty high level involvement from the Ensign
11 corporate folks was Plasma Technology or Plasma Waste
12 Conversion Technology which is kind of a Star Wars
13 alternative technology that was in this Department of the
14 Armies Chemical Evaluation. It's a program by a company
15 called Star Tech. That evaluation was typically headed up
16 by our corporate folks and my counter part who was then my
17 counter part at our Connecticut facility. They did quite a
18 bit of extensive research and hand holding with those
19 folks, sharing some information and trying to move it
20 forward. It was also being evaluated by the Department of
21 the Army for the military needs to deal with similar
22 materials and Ensign Bickford as well as the Department of
23 Army. After a couple of years of trying to move it down
24 the path we decided it was not mature enough to be viable

1 or feasible from a technology or cost perspective, and to
2 my knowledge to date there still is no Plasma Technology
3 waste facility permitted operating anywhere in the United
4 States and treating waste.

5 Q. EBCo in fact lent engineering assistance to
6 these folks in developing this technology and spent had a
7 none for that assistance?

8 A. Correct. There was two things going on one
9 as I mentioned. My counter part became totally dedicated
10 to that project in trying to move it along in sharing
11 engineering and data to try to bring that process along, so
12 much to the point that he became so involved with that
13 program that he left Ensign Bickford and went to Star Tech
14 to run that project for them.

15 Q. Are you personally or EBCo aware of any other
16 alternatives to incineration that currently exists?

17 A. Not to the best of my knowledge at this time.

18 Q. Do you continue to attend trade meetings,
19 trade shows as well as other members of EBCo in a similar
20 position so that you would be aware of that new
21 development?

22 A. Yes, we do. As a matter of fact myself and
23 my counterpart from Connecticut attended the Department of
24 Defense Safety board Conference solely geared to the safety

1 work practice, safe handling of waste material, always
2 looking to the vendors and suppliers and the government
3 contractors to see if there is any new technology or device
4 or process available to us to manage our materials, and
5 there was nothing new at the one this month.

6 Q. What is the relationship between EBCo and the
7 Department Of Defense in terms of sharing information back
8 and forth on the use of demilitarized explosive materials
9 and treatment of waste from the explosive industry?

10 A. The Department Of Defense currently and has
11 always been a very large source of information on the
12 handling of energetic materials, obviously because of their
13 experience and large capacities for doing that in the
14 past. A lot of the guidance documents, a lot of safety
15 protocols are developed and have come out of the Department
16 Of Defense aren't fairly readily shared in the explosive
17 industry.

18 Q. And do you have access to that knowledge and
19 experience EBCo does?

20 A. Yes. We do manufacture some products, the
21 company does, for the military; so we have some ties to
22 them as well as the guidance documents that we follow are
23 Department of Defense generated guidance documents of which
24 I have been to training sessions on, and I operate within

1 those on a daily basis.

2 Q. Did the Ensign Bickford company evaluate the
3 possibility of constructing its own on-site incineration
4 facilities?

5 A. Yes. They did in a couple different venues,
6 one from our involvement from a previous variance
7 proceeding. We entertained that as well as the corporate
8 folks entertained it and actually contracted a third party
9 engineering company Eldorado Engineering Inc. to further
10 that process and do a detailed engineering and cost
11 evaluation on the viability of having our own rotary kiln
12 process.

13 Q. What were the results of that evaluation?

14 A. The third party's pretty detailed evaluation
15 operating requirements show that the cost, the time to
16 permit and the long duration to construct and bring to
17 operation, being five plus years at best given my
18 experience in the RCRA programs, and a 10 million dollar
19 cost, the size of the unit and the required feed rates and
20 type of operation where you have to run a rotary, you want
21 to bring it up to temperature and keep it running. You do
22 not want to start, stop; and they are kind of a one size
23 fits all. You can't down size it well. Typical feed rates
24 are 250 to 300 pounds an hour given those quantities the

1 Connecticut facility evaluated specifically for their waste
2 streams. They would have to run this thing 20 days a
3 year. If you add in the Wolf Lake waste compared to that,
4 we might have to run 40 days out of the year. It's support
5 generated based on the production processes, it was not
6 economically feasible for us to pursue a rotary kiln in our
7 own.

8 Q. You would have problems for storing the
9 material for greater than 90 days?

10 A. Correct. All these materials, unless we burn
11 have to be managed less than 90 days. That is not a very
12 good fit with running a rotary.

13 Q. Do you remember the approximate cost
14 associated with that?

15 A. The consultant came up with -- Eldorado
16 Engineering brought forward a minimum of five years of lag
17 time to do the engineering design permitting trial burns,
18 trial runs bring it to actual fruition and an approximate
19 10 million dollar cost to do so.

20 Q. If EBCo were to construct such a unit at Wolf
21 Lake, it would need an air construction and an air
22 operating permit?

23 A. To the best of my knowledge that is correct.

24 Q. It would be a RCRA Part-B permit?

1 A. Yes.

2 Q. How long did it take you to obtain your RCRA
3 Part-B permit for your existing open burning unit?

4 A. Approximately 10 years.

5 Q. Were these alternatives of the plasma, the
6 solvated electron and the on-site incineration, the subject
7 of the June 19, 2000 letter sent by then former associate
8 Richard Saines to Debra Williams, and I direct your
9 attention to EPA Exhibit number 2 to the recommendation
10 that was filed in this proceeding?

11 A. Yes, it is or was.

12 Q. You have had discussions with the Agency and
13 addressed questions regarding this evaluation in the past?

14 A. Yes, I have.

15 Q. Is it your testimony then that it is not
16 economically feasible and technically feasible for EBCo to
17 construct its own on-site rotary kiln for the reasons you
18 testified?

19 A. Yes.

20 Q. What was the results of your evaluation of
21 the Onyx facility? What conclusions and determinations did
22 you reach?

23 A. The Onyx facility is a fairly typical
24 commercial hazardous waste incineration facility, meaning

1 they take a wide variety of commercially available
2 hazardous waste and treat it for a fee. We do currently
3 use them for certain energetic materials, specifically
4 non-dust generative component particles, detonators,
5 detonator assemblies. They have a very limited licensed
6 explosive storage capability. As I mentioned earlier,
7 storage of explosives are regulated by the Bureau of
8 Alcohol Tobacco and Firearms and the Illinois Department of
9 Natural Resources Explosives Division. Due to QD
10 constraints or quantity distance requirements, they are
11 limited on storage, and they cannot store 1.1 as a DOT at
12 all to my knowledge. All of these materials that we have
13 been discussing today are 1.1 explosives, and the powders
14 the TNT's, PETN, the cast booster derived processes and the
15 non-electric detonator assembly waste cannot be transported
16 together; and they cannot be stored together. Legally they
17 cannot be processed through the incinerator at the same
18 time. Onyx as well, when they are going to run explosives,
19 they stop running everything else through their rotary kiln
20 and process only explosives. The scheduling requirements
21 in the trucking and the transport are therefore complicated
22 because we have to schedule much in advance with Onyx on
23 when they are going to run our explosives and have our
24 materials there at 6 a.m. in the morning. They convert

1 from running other waste material as I understand and run
2 nothing but the explosives because they cannot store it.

3 Q. So you ship one -- the maximum of one day's
4 production?

5 A. We can ship a maximum quantity of 2000 pounds
6 gross weight to Onyx at one time of the energetic. Gross
7 weight meaning outer package, inner package, plus the
8 waste. That is how we are billed. We pay on gross weight
9 volume.

10 Q. Do they also have a minimum charge to
11 accomplish this shut down?

12 A. Yes, they do. They have a minimum fee for
13 those types of waste streams of \$1,500.

14 Q. Have you ever had any difficulty with Onyx in
15 terms of their ability to receive waste that complicated
16 your ability to comply with the RCRA storage requirement?

17 A. Yes. As I said earlier in testimony that we
18 manage all these materials in 90 days under RCRA
19 requirements and must have them treated on-site or off-site
20 treatment in less than 90 days, and we have to schedule the
21 treatment windows with Onyx in advance; and I schedule
22 those based on my production rates and the 90 day
23 quantity. Just as recent as this month, we had a treatment
24 date scheduled in advance; and two weeks prior to, Onyx

1 contacted me and said they had to take their unit down for
2 maintenance or whatever their reason was; and we had to
3 reschedule the window; and of course it wasn't an earlier
4 window. It was a later window. So those are issues to
5 address to stay within our 90 day requirements.

6 Q. Have you also evaluated the ICI facility in
7 Joplin, Missouri?

8 A. Yes. I have personally. The facility in
9 Joplin, Missouri which is 405 miles from our site is a
10 dedicated commercial explosives waste destruction
11 facility. Utilizing a rotary kiln for one method of
12 destruction as well as a tank car bottom furnace [sic.] is
13 one other method of destruction.

14 Q. What conclusions have you drawn regarding
15 that facility?

16 A. They have greater capability in Onyx to put
17 it in relativity relative to storage and processing. They
18 have had significant safety issues in the past for their
19 processes relative to processing our types of material, and
20 they are 8 hours away via truck; and there again the cost
21 associated with that is fairly steep.

22 Q. Safety issues and processing your type of
23 materials is that a nice way to say they have had
24 detonations and explosions during the process of material?

1 A. I believe in '98, I am not sure on the date.
2 They actually had an incident and a fatality in their waste
3 prep and processing area.

4 Q. EBCo currently utilizes ICI from materials
5 shipped from Connecticut and Kentucky facilities; is that
6 not correct?

7 A. That is correct.

8 Q. Have you had the opportunity to put together
9 an evaluation of what it would cost to send the types of
10 materials you have historically burned on your site to
11 either ICI or Onyx?

12 A. Yes. And in response to a letter from John
13 Justice as per variance requirements earlier this month, I
14 put together some cost estimates to that effect.

15 (Exhibit 10 marked for identification.)

16 Q. Specifically, if I show you what has been
17 marked as Exhibit 10, is that a copy of your letter?

18 MS. DOCTORS: What was 9?

19 MR. HARSCH: The RCRA permit.

20 Q. Is that a copy of your letter?

21 A. Yes, it is.

22 Q. Is it a true -- are the facts stated true and
23 accurate to the best your knowledge and belief?

24 A. Yes.

1 Q. Can you explain the findings, summarize for
2 the record what you stated in that letter?

3 A. As per PCB variance 02159, we were asked to
4 evaluate off-site alternatives to the open burn as per the
5 request of John Justice. He identified the two off-site
6 facilities that he would like for us to evaluate, and I
7 looked specifically at the ICI Joplin facility and the Onyx
8 Sauget facility on their viability, economics, managing
9 waste based on average annual quantities that we have
10 previously processed in our on-site unit. Unfortunately, I
11 was not able to get official actual cost quotes in writing
12 from Onyx in a timely manner. That is a fairly difficult
13 thing to do, so I had to estimate some of these costs based
14 on conversations with my other two facilities that are
15 currently doing business with ICI; and that is how I have
16 came up with the price per pound of these materials. That
17 would be passed on to us from ICI and some actual cost
18 quotes from the Onyx facility for some materials that I
19 have had costs quoted directly from the Onyx facility and
20 shipping costs and packaging and labeling costs, and base
21 on those numbers on a four year average of the explosive
22 contaminated materials and secondary explosives that have
23 gone through our on-site open burn unit at past production
24 rates.

1 Q. And what was the total you arrived at?

2 A. Based on the information that I had at the
3 time I generated this letter, the annual estimated total
4 was \$284,325.

5 Q. Since the preparation of this letter, have
6 you had a chance to continue to refine your cost estimates?

7 A. Yes. I have continued to evaluate issues,
8 concerns and costs with managing these materials in
9 different ways, specifically to prepping and packaging and
10 preparing for shipment.

11 (Exhibit 11a marked for identification.)

12 Q. MR. HARSCH: I would start a group exhibit
13 11. Would you please explain what I marked as Exhibit 11a?

14 A. Exhibit 11a is a cost estimate that I have
15 developed based on additional information from requirements
16 from the ICI facility on how they would have to receive our
17 materials. Specifically, how it would have to be prepped
18 and packaged and the raw materials needed to complete that
19 successfully, the labor hours required to do that and how
20 that would have to work; so what you see in this exhibit is
21 12 hundred -- based on 12 hundred pounds of explosive. I
22 put these in weekly quantities so we could compare them to
23 the same numbers of relief that we asked for in the
24 Adjusted Standard.

1 MS. DOCTORS: This is weekly?

2 A. If you note at the very top, 12 hundred
3 pounds, that is our weekly units in the open burn unit that
4 we are asking for in the future and we currently have. The
5 packaging is fairly complicated how we would have to prep
6 this material to go off-site. Secondary explosives which
7 would be the TNT's, RDX's, PETN's we spoke to earlier, for
8 those to go to ICI they have to shipped 25 percent water
9 wet. The outer container, which would be a DOT certified
10 cardboard box with an inner anti-static liner, which then
11 inside that anti-static liner would be subpacks containing
12 two pounds of explosives each 25 percent water wet. So
13 there would be two pounds of explosive and half a pound of
14 water in each of these subpacks which would be a double
15 bag, anti-static bag, two of those. What that amounts to
16 is to get 40 pounds gross weight of explosives in a
17 container -- 40 pounds net explosive weight in the
18 container. The gross weight would be 53 pounds. There is
19 13 pounds of additional packaging that we have added to
20 that we will be charged for by the incinerator because they
21 charge on a gross weight basis, and they destroy the entire
22 container. This DOT box set up and labeling, we looked at
23 man hours to do that. It's a couple man hours to prep that
24 many boxes and do the labels. We did a weigh wet and

1 packaged the explosives in subpacks. We are looking at 20
2 man hours to process 12 hundred pounds of that material.
3 To generate the manifest, the land disposal restriction
4 notification per EPA requirements as well as DOT
5 requirements, you are looking at two man hours to load the
6 truck. You are looking at significant cost in supplies.
7 The DOT certified box is \$2. Larger anti-static liners are
8 \$1.18 a piece. The anti-static subpacks, which there are
9 40 of those in a box, are 38 cents a piece. Label stock is
10 \$1.85 for a grand total for us just to prep on-site of 12
11 hundred pounds of explosives at a cost of \$972.90 just to
12 prepare it for shipment. This is before it ever leaves our
13 facility.

14 (Exhibit 11b marked for identification.)

15 Q. I show you what I have marked as Exhibit
16 11b. Would you please explain for the record what this
17 document is?

18 A. Exhibit 11b is a cost estimate that I
19 prepared as more of this additional information that became
20 available on how I would have to prepare this material to
21 be received by ICI. What we are looking at here on this
22 estimate is for the contaminated materials, and I have
23 based this on 45 hundred pounds. That is effectively the
24 amount of materials we can treat in a one week's time

1 on-site by our own internal protocols. We have authority
2 to treat 5,000 effectively. The most we can treat is 4,500
3 given our own internal limitations. The process of 45
4 pounds of explosive contaminated waste that would be
5 contaminated cardboard, paper, coveralls, etcetera that we
6 talked through earlier. It again has quite a lengthy
7 requirement on how it is packaged and shipped to ICI, and
8 depending on how the analytical and their actual approvals
9 that the ICI come out, it is possible this material would
10 have to be shipped 5 percent water wet. The container
11 would consist of an outer DOT certified cardboard box,
12 typically a gaylord. A large box with in inner anti-static
13 liner which would then contain subpacks which would contain
14 20 pounds of contaminated materials in these subpacks.
15 These subpacks would be double bagged anti-static bags each
16 secured with a plastic tie, each one of them closed. Best
17 estimate based on the volume, I assume I can get
18 approximately 500 pounds of explosive contaminated
19 materials configured in those types of bags inside of a
20 gaylord. If it is dry and does not have to be -- does not
21 require to be shipped water wet, the gross weight of that
22 container becomes 565 pounds because we are separating the
23 weight of the gaylord and the bags. So for 500 pounds of
24 actual waste material, I would be paying for 565 pounds of

1 gross weight container. Same chronology that I had
2 before. DOT box set up, labeling and putting the liner in
3 it, weigh and close the subpacks, generate the manifest and
4 land disposal restrictions, the supplies. Pretty expensive
5 pretty quick with the boxes and larger subpacks and the
6 number of them. So for us, the estimate for us to
7 pre-package explosive contaminated materials to go off-site
8 to the ICI incinerator, the cost is \$1,167.55 before it
9 leaves our site. These costs do not include the truck or
10 ICI's charge to us for the destruction of that material.

11 (Exhibit 11c marked for identification.)

12 Q. MR. HARSCH: I will show you what has been
13 marked as Exhibit 11c?

14 A. One of the things of obvious interest to us
15 as well as we were asked for, I believe by the Board and
16 the Agency, was develop on-site treatment costs for the
17 operation of our currently permitted open burn unit. What
18 I have done here is based on weekly quantities and
19 annualized the cost relative to run our open burn unit for
20 materials we have discussed here today. So based on one
21 week's operation of our on-site treatment unit, which we
22 would process 12 hundred pounds of explosive waste and 45
23 hundred pounds of explosive contaminated waste.

24 (Reporter asked witness to slow down.)

1 A. This would include labor, supplies, set up
2 and to conduct our burns via normal operating procedures as
3 given to us in our RCRA Part-B permit and under the current
4 Pollution Control Board variance. You will see line items
5 for staging and set up. As I have shown you the pictures
6 earlier to talked to you how we set up a burn and how we
7 conduct a burn. We are going to initiate the burn and
8 conduct a fire watch and how many hours that takes for the
9 week inspection of the treatment unit, removal of the
10 residues and proper management of that material, the
11 supplies we need to do those burns for the week. A weekly
12 total to safely treat 12 hundred pounds of explosives, 45
13 hundred pounds of explosive contaminated materials comes
14 out to \$860.50. If you annualized that into the estimated
15 annual quantities as put forth in the letter to John
16 Justice that we showed you earlier as an exhibit, it would
17 take us approximately 14 burns of those weekly duration at
18 those quantities. Our annualized cost for the burn unit is
19 \$13,545, and I did throw in \$1,500 for maintenance of the
20 unit like weed control and things like that.

21 (Exhibit 11d marked for identification.)

22 Q. If I show you what has been marked as Exhibit
23 11d --

24 A. To put those previous numbers in perspective

1 and obviously for my planning and going forward to
2 understand the difference in cost, I did an estimate on
3 cost comparison between treating on-site versus shipping
4 those materials to ICI based on those numbers we just
5 talked about. 12 hundred pounds, a week's worth of
6 material, we currently have authority to treat on-site. 12
7 hundred pounds of explosive waste, 45 hundred pounds of
8 explosive contaminated materials, so what you are going to
9 see is on-site costs versus off-site costs. For one week's
10 worth of material that we currently treat in the burn unit
11 it costs us \$860.45. To go off-site with the same amount
12 of material is going to cost us \$31,440.45. For a cost
13 increase for one week's burn unit treatment of \$30,579.95.

14 Q. Do the results of this comparison just refine
15 your prior cost estimate of approximately 280 thousand
16 dollars?

17 A. It's going to bump it up by about 10 percent
18 due to the additional packaging cost and how we would have
19 to pack the materials that I have been able to gather from
20 ICI in my previous letter to John Justice.

21 Q. Is that why the cost estimate of 300 thousand
22 dollars came from that I referenced in my questions to Mr.
23 Edwards earlier this morning?

24 A. Yes, it is.

1 Q. You believe that for ball park cost estimate
2 purposes that is a good estimate to utilize?

3 A. Yes, I do.

4 Q. Putting all this stuff in double bags and
5 anti-static bags, do you have any opinion as to the
6 practicality of complying with these requirements to ship
7 the materials?

8 A. Yes, I do. And I sat down as I was
9 developing these numbers with my burn unit operators, my
10 hazardous waste technicians who are the folks that do this
11 every day and asked them to walk through with me what the
12 complications were to help develop these costs and what do
13 they see as potential safety concerns as well as
14 operational limits to be able to do this. The exhibits
15 that I showed earlier that show the variety and sizes of
16 the containers that we are talking about that would
17 potentially be contaminated materials as well as the boxes,
18 the fiberboard drums, etcetera are not going to lend
19 themselves very easily to being packaged in this manner due
20 to their size, due to sharp edges and corners which will
21 rip and cut the anti-static bags which they are required to
22 be placed in and their physical -- they are cumbersome to
23 be able to do that with.

24 I have another exhibit to show you that I deem and

1 my operators deem as the best scenario for trying to bag
2 outer contaminated packaging.

3 (Exhibit 12 marked for identification.)

4 Q. MR. HARSCH: That is Exhibit 12.

5 A. What you will see in this photo is two of
6 those anti-static bags that I referenced which I think are
7 \$1.18 a piece. With ten boxes of a box that you saw in an
8 earlier picture that I said that is the best container we
9 could hope for. That box weighs two pounds. Ten of those
10 in there, that is the maximum quantity we can put in a
11 subpack for explosive contaminated materials. That doesn't
12 look too bad. If you look at those other containers you
13 saw in previous exhibits, specifically those large
14 fiberboard drums, you are going to get one of those maybe
15 in an anti-static bag; and you might get 10 or 15 of those
16 into a gave Lord for shipment. So it's going to be very
17 cumbersome. A lot of these materials have sharp corners
18 and edges, a certain type of box; and they are going to
19 really be hard on the anti-static liners and cause them to
20 rip which would cause us to repack. These are requirements
21 from the receiving facility. They have the flexibility to
22 refuse loads for any reason if they are not happy with how
23 it's packaged or how it's received. They could cause it to
24 be returned to us to be repackaged once again.

1 Q. Every time its returned for repackaging would
2 be more cost?

3 A. More cost, more handling, increased risk.

4 Q. What happens to a DOT approved box if one of
5 these packages that have to be shipped water weight leaks?

6 A. Department of Transportation Hazmat packaging
7 requirements are very strict. If I am shipping explosive
8 powders, for example, that have to be 25 percent water wet,
9 if it were to leak out into the outer package where it was
10 visible and that happened to be the load that the Hazmat
11 officer decided to look at, that is a citable DOT violation
12 on the spot. Those do happen, and they have happened, and
13 they are not any fun.

14 Q. And in fact, if that were to occur, you would
15 have to take the load apart repack it, and the outer
16 packaging would then become waste material?

17 A. They could basically stop the vehicle
18 wherever it was at, cause it not to move again until we
19 have rectified the specific issue. Past experience, any
20 time they are going to write a violation like that, they
21 ask for money as well as rectification of the problem.

22 MR. HARSCH: Can we stop for a second and go off
23 the record?

24 (Discussion held off the record.)

1 MR. HARSCH: None of these alternatives that you
2 have dealt with discuss the issue of flashing that we are
3 also seeking relief for. Can you explain what you mean by
4 the term flashing and why it's necessary?

5 A. Flashing is an industry term for the thermal
6 sanitization or the thermal treatment of explosive
7 contaminated equipment typically. If you have a part, a
8 vessel, a device that has existed in an explosives
9 production environment for any amount of time, it has a
10 high risk of having hidden and confined explosive
11 contamination. An example would be a vessel, a mixed
12 vessel that I have spoken to earlier. They have cracks
13 crevasses, aluminum or stainless steel because what you use
14 is typically a non-sparking material. Any time there is a
15 weld or joint or flange, connection to where there is
16 potential for explosives to migrate into that crevasse you
17 cannot effectively remove that explosive hazard through
18 conventional cleaning methods whether it be steaming,
19 etcetera. So you have to go to some other level of
20 treatment or clean to alleviate that hazard. Why is that a
21 hazard? Explosives unconfined perform one way. Explosives
22 confined perform much more violently. That is how they do
23 their best work is when they are confined. For example, if
24 you had a crack in an I-beam from an explosive process,

1 typically an aluminum beam, explosives migrated into that
2 crack and you weren't able to successfully clean it and it
3 were to be cut up for scrap for example, the energy from
4 the cutting torch or throwing it in a smelter could cause
5 that to detonate. So flashing of equipment is something
6 that is important to us from a safety perspective. We have
7 very strict internal procedures on how we manage any
8 equipment or parts that come out of an explosive production
9 process. This is relief we have had in the past. It
10 allows us to do this.

11 Q. Would you show the second clip of the video
12 that is contained as Exhibit 3 which shows this flashing
13 operation?

14 A. It has about four minutes or a condensed
15 version of a thermal treatment or flashing operation that
16 was conducted at our facility a number of years ago. When
17 Ensign Bickford was in the process excess and obsolete
18 explosive production processes. What I will show you is a
19 controlled flashing operation and a unit that is designed
20 for that that we have spoken to in our all of our variance
21 relief and in the Adjusted Standard. You are going to see
22 we are using combustibles, clean pallets, clean straw to
23 bring it up to temperature. These are fairly large pieces
24 of equipment so we can decompose either actually burn or

1 decompose the explosives. The explosives if you get them
2 up to a operating temperature will decompose if they don't
3 burn. We do this because we are concerned about these
4 confined explosives in minute cracks and crevasses or
5 internal voids of equipment that we can not physically
6 clean. This video will depict one of these vessels, one of
7 these pieces of equipment, detonating during a burn process
8 which is if it's going to happen. This is where we want it
9 to happen on our site in a controlled environment inside a
10 unit designed for this particular process. Please note
11 probably the center right part of the burn is kind of a
12 square configuration. You will hear some jetting going on,
13 hear some noise, followed by seeing a flame a little
14 different from the rest, and you will hear a couple of
15 smaller detonations followed by one of a very large
16 detonation

17 (Video Exhibit 3 played).

18 Q. MR. HARSCH: Again, that is an edited version
19 only by cutting out some of the times that depicted the
20 burns from the initiation and then the burns that occurred
21 after the explosion; is that correct?

22 A. Yes. All we did was edit the tape to take
23 out some of the boring part, watching it ramp up. The
24 actual final detonation you saw there at the end was

1 several minutes into the burn before we heard the final
2 detonation. That was probably in my best estimate based on
3 working with explosives it was probably approximate to one
4 pound of our materials under confinement. I believe the
5 vessel that detonated at the end and totally obliterated
6 the burn was a double wall steam jacketed vessel where it
7 had some sort of stress fracture in that wall. During the
8 years of mixing and melting explosives, it had migrated
9 into that area and was confined. You saw the small flame
10 jumping up prior to the detonation. It was those gases
11 building up and trying to get out as those explosives were
12 starting to react and reached a critical temperature and
13 pressure and the contents were detonated.

14 Q. Can you explain how EBCo cleaned that
15 equipment prior to the flashing?

16 A. That equipment and as we do today are
17 physically cleaned to the best of our ability. They will
18 be wiped down, scrubbed down, steam cleaned, pressure
19 washed with water inside where we have the capability to
20 manage that water. It's the places you can't clean that we
21 are worried about, and that is an example of what can
22 happen with those materials if you add an initiation
23 source.

24 Q. That initiation source could be friction,

1 fire, compaction?

2 A. Impact.

3 Q. What materials does EBCo use when it flashes
4 materials, materials used to reach the elevated critical
5 temperature?

6 A. We will use clean hardwood pallets and clean
7 cardboard, straw.

8 Q. What is the function of those materials?

9 A. It's to bring the material being treated, the
10 equipment or devices and pieces or parts, up to a minimum
11 temperature that the explosives will degrade at. We want
12 to -- we like to see 12 hundred and above temperature,
13 which we can in a burn like you just saw, so those
14 explosives minute quantities of explosives unable to be
15 cleaned places either actually react by burning; or if you
16 get those types of explosives we process in the plant up to
17 that temperature, they will actually decompose into
18 non-reactive materials.

19 Q. How is the straw utilized?

20 A. The straw is typically strategically placed
21 throughout the burn to facilitate the initiation of the
22 burn and get the fire to start propagating to the set up
23 and to all the equipment.

24 Q. Why do you use cardboard and pallets?

1 A. Cardboard and pallets actually help us get to
2 the temperature and sustain it for an acceptable duration,
3 so we are ensured we will remove the explosive hazard.

4 Q. When you refer to clean cardboard, what are
5 you referring to?

6 A. Historically, we have utilized the
7 contaminated cardboard on-site the cleanest variety of that
8 that has a slight explosive dusting on that that would
9 otherwise be treated in our on-site burn unit. We have
10 used that as a combustible source to flash materials in an
11 effort to reduce the total amounts to be burned as a whole.

12 Q. Have you discussed that practice with a your
13 waste minimization current P2 representative?

14 A. Yes, I have.

15 Q. What was his conclusions?

16 A. That was a good practice.

17 Q. For waste minimization purposes?

18 A. Yes.

19 Q. Is your cardboard packaging material plastic
20 coated or otherwise impregnated?

21 A. No plastic involved with those cardboards to
22 my knowledge.

23 Q. When you are talking about burning clean
24 cardboard, you are talking about burning cardboard, not

1 cardboard impregnated with plastic or other materials?

2 A. Correct.

3 Q. Has the Agency -- have representatives of the
4 Agency observed the operation of flashing materials in the
5 past?

6 A. Yes.

7 Q. Have representatives of the Agency observed
8 your, the use of your open burn unit?

9 A. Yes.

10 Q. Has EBCo ever received any complaint
11 regarding the operation of its burn unit or flashing from
12 anyone that you are aware of?

13 A. No.

14 Q. Are you required to give notice to the
15 general public regarding the initiation of your open burn
16 unit and the flashing?

17 A. Yes. It is a typical requirement through the
18 variance processes we have in the past that we do a local
19 community and notification and document that prior to doing
20 the first burn under that authority.

21 Q. Did you do so under the last variance?

22 A. Yes.

23 Q. Did you receive -- how did you give that
24 notice?

1 A. We did an actual mailing to every resident
2 with the Wolf Lake zip code which would be the entire
3 surrounding community, rural and in the small town of Wolf
4 Lake.

5 Q. Did you receive any response?

6 A. None.

7 Q. That was a pretty violent explosion. Is that
8 a typical flashing that is observed there?

9 A. No.

10 Q. How far did that explosion send pieces of
11 that part that blew up?

12 A. There was a fairly significant chunk of
13 stainless steel that was found approximately 1,600 feet
14 from that unit following that detonation. When I said it
15 was not a typical flashing, it was not typical flashing in
16 the violent result of an energetic material detonating.
17 The rest of that flash is something fairly typical as far
18 as how it's set up, staged and controlled.

19 Q. The two pops you heard prior would be
20 detonations. There were additional pops on the original
21 tape that the Agency has seen in Springfield?

22 A. Correct.

23 Q. That is what you would typically hear?

24 A. Yes.

1 Q. That film was taken at a time when EBCo had
2 essentially just completed the construction of that open
3 burn unit; is that correct?

4 A. That's correct.

5 Q. Is it your understanding that the land
6 division that the Illinois EPA required EBCo to move the
7 material off-site that had been accumulated through the
8 operation of Atlas and Trojan, the excess building
9 equipment that had been stored?

10 A. The process equipment and etcetera was the
11 initiative taken by Ensign Bickford to do that as part of
12 their clean up and renovation of the site.

13 Q. What do you do with the materials after they
14 have been flashed?

15 A. We have a written procedure and protocol on
16 how we set up, conduct and do follow up to a flash.
17 Currently, I will personally along with my Hazmat techs who
18 are long term trained employees, will physically inspect it
19 as soon as it's safe to return to that unit, and we
20 typically have heat sensitive materials throughout the
21 burn, so we know we saw the adequate temperature to react
22 to explosives. If it is clean -- when we clean the
23 explosives residues is removed, we have a special waste
24 permit for the residues and the burned debris, metals,

1 etcetera, and we will place it in a container and ship it
2 off to a land fill, non-Haz.

3 Q. While that video shows a car in the immediate
4 vicinity that that burn is, is that practice currently
5 allowed?

6 A. No.

7 Q. How do you control access now?

8 A. We have that on a very remote area of our
9 plant quite some distance from any operating building. We
10 have access to the road which we block off that entire area
11 of the burn. We remotely initiate it similar to how we
12 initiate the burns in our open burn unit via fuse and
13 retire outside the controlled area which is approximately
14 1,600 feet away.

15 Q. You previously testified and the site manager
16 testified that there have been no incidents regarding any
17 explosion at the Wolf Lake facility. Have there been any
18 incidents that you are aware of that you could share with
19 us of the attempted reuse materials that you would flash on
20 the Wolf Lake site?

21 A. Not at the Wolf Lake facility.

22 Q. I understand, but you would typically flash
23 at the Wolf Lake facility?

24 A. Other than small pops we anticipate and

1 expect in a controlled burn.

2 Q. Has EBCo personnel at another locations ever
3 been injured by the attempt to reutilize stainless steel
4 piping?

5 A. Yes.

6 Q. Would you please explain how that occurred?

7 A. A maintenance employee at another one of our
8 domestic operations gained access to or had access to a
9 explosive contaminated pipe that he was attempting to reuse
10 for some specific application he was working on. He needed
11 to cut that pipe, and using a cutting torch he initiated
12 the torching of that pipe. The material that was
13 contaminated on the inside of the pipe shot and removed his
14 hand.

15 Q. Is that the type of concern that leads you
16 personally as the on-site safety manager to want to flash
17 materials and move them off-site rapidly?

18 A. Yes. In a timely manner so they are not
19 sitting around and not available so their risk does not
20 increase.

21 Q. Do you know any technically available
22 alternative for the types of equipment that you need to
23 flash other than flashing that would be applicable?

24 A. The majority of the pieces that we are

1 flashing are large as we saw in the video, and I know of no
2 other alternative.

3 Q. If you are required to ultimately tear out
4 the cast booster equipment from that building, will you
5 have to flash that equipment?

6 A. Yes. If the business decision is made to
7 where it is permanently shut down, I will be tasked to
8 decontaminate the building from top to bottom to get it in
9 a clean condition so it can be used for other operations in
10 the future. All the equipment would have to be safely
11 removed from the building and decontaminated. It would
12 have to be flashed due to the explosive hazards present.

13 Q. At this point I would -- can we go off the
14 record a second?

15 (Discussion held off the record.)

16 (Witness sworn).

17 RICHARD TRZUPEK

18 called as a witness, being first duly sworn, was examined
19 and testified as follows:

20 DIRECT EXAMINATION

21 BY MR. HARSCH:

22 Q. Mr. Trzupsek, would you please state your name
23 for the record and where you are employed?

24 A. My name is Rich Trzupsek, and I am employed as

1 Air Quality Manager at Huff and Huff Incorporated in
2 LaGrange, Illinois.

3 Q. What are your duties at Huff and Huff?

4 A. I manage the air quality division for Huff
5 and Huff which is an environmental consulting company. All
6 air related matters involving permitting, regulatory
7 compliance, air quality modeling, control. I manage those
8 activities for other employees and for clients.

9 Q. How long have you been engaged in this
10 practice at Huff and Huff?

11 A. At Huff and Huff I have been employed a
12 little over two years.

13 Q. Prior to that?

14 A. I have been employed for different consulting
15 companies for the previous 18 years.

16 Q. In the same capacity that you previously
17 testified to?

18 A. That's correct.

19 Q. You previously testified as an expert
20 witness?

21 A. I have.

22 Q. Were you engaged by our law firm to assist
23 EBCo with respect to obtaining variance and then the
24 Adjusted Standard relief?

1 A. I was so engaged.

2 Q. What was the task you were given?

3 A. I was asked to model emissions from their
4 open burning to determine off-site impacts of air
5 pollutants.

6 Q. How many times did you conduct that work?

7 A. We conducted it using two different modes.

8 Q. Would you describe -- did you prepare a
9 report as a result of your work?

10 A. Yes, I did.

11 (Exhibit 14 marked for identification.)

12 Q. I show you what has been previously marked as
13 Exhibit 14. Is that a copy of your report?

14 A. That is a copy.

15 Q. I am sure it's accurate to the best of your
16 knowledge?

17 A. Yes, it is.

18 Q. Can you briefly explain the modeling that you
19 carried out and the results you found?

20 A. This is the second model, second round of
21 modeling that we conducted using the open burning, open
22 detonation model which took three different scenarios of
23 burning that might be conducted at Ensign Bickford. The
24 scenarios were proposed and agreed upon by the Illinois one

1 of the Illinois EPA's modeling experts, Jeff Sprague,
2 depicting three, what we proposed were worst case open
3 burning activities; and those were modeled over five years
4 of meteorological data which is typical for modeling
5 practice. We examined the impact at the fence line which
6 we agreed would be the worse case impact at 50 meter -- at
7 receptors spaced 50 meters apart around the entire
8 perimeter of Ensign Bickford's property.

9 Q. Prior to conducting this model, you did
10 testify you have worked with an Agency modeling expert?

11 A. That is correct.

12 Q. And you submitted the results to him?

13 A. That is correct.

14 Q. Are you aware of any questions or concerns
15 that the Agency's modeling expert had with the respect to
16 the work you carried out as you were carrying it out or
17 subsequent?

18 A. As we were carrying it out, there were minor
19 questions raised about the technicalities of the modes.
20 It's a very complex model that we were able to respond to,
21 and in the end product that you see before you there were
22 no questions, and he indicated full satisfaction with the
23 product.

24 Q. What are the general results set forth in

1 this modeling report that you found?

2 A. We can divide the results into two types
3 criteria pollutants versus other pollutants, some of which
4 may be classified as hazardous air pollutants or HAPS. The
5 criteria pollutants we compared to national ambient air
6 quality standards, and we found that they had no impact on
7 national ambient air quality standards; and that in no case
8 did we see a violation of NAAQ standards either from the
9 emissions from the open burning by itself or with
10 background concentrations, maximum background
11 concentrations, added in.

12 In the case of the other pollutants where there
13 were applicable OSHA standards Occupational Safety and
14 Health Administration or NIOSH standards, N-I-O-S-H, we
15 compared the modeled results to those standards where they
16 existed, and there is no established criteria; but rule of
17 thumb in the industry is you try not to go above 1 percent
18 of one of those standards where they exist, and in no case
19 did we approach one percent; so from our point of view from
20 all of the data that we gathered, it was presented no
21 significant impact in any way.

22 Q. And you discussed those results with the air
23 pollution expert that you previously identified?

24 A. That is correct.

1 Q. It's your understanding that he concluded
2 those concurred with those results?

3 A. That is correct.

4 Q. You were here this morning when Ms. Doctors
5 presented had in her opening statement the fact that this
6 was not a case where there was any ambient an air quality
7 impact with the result. That would be consistent with your
8 modeling results, would it not?

9 A. That is correct.

10 Q. Have you reviewed the Agency's recommendation
11 in this case?

12 A. I have.

13 Q. Do you concur with the statements with
14 respect to, other than criteria pollutants?

15 A. No. I do not.

16 Q. Would you explain why you do not?

17 A. As background, the model that has been used
18 OBODM or we shorten it OBOD is OBOD is a very old model
19 that takes a great deal of time to run. It's a 1970's
20 technology. The standards that we're applying in terms of
21 number of receptors and scenarios are standards developed
22 for modern models that can be manipulated very quickly.
23 The result is it takes a an enormous amount of time to run
24 each of the scenarios that we have run. We did that for

1 criteria pollutants where those factors existed. When we
2 came to the other pollutants, including hazardous
3 pollutants, we came to the conclusion with the concurrence
4 of the Agency's modeling expert that it was not worth the
5 time to take the two hours or so it takes to run each
6 scenario for each of the other pollutants. The reason
7 being, is that the model works mathematically, and the
8 concentration that shows up is proportional to the emission
9 factor put in for the type of pollutant. All gaseous
10 pollutants work the same. All particulate pollutants work
11 the same within this model, so if we found, let's say
12 theoretically, one part per billionth within that fence
13 line with an emission factor of two. If we took that
14 emission factor to four we would see two parts per
15 billionth. It's a proportional relationship, so what we
16 did rather than go through the entire modeling exercise, we
17 proportioned out the gaseous results for all the other
18 gaseous pollutants there, the particulate results for all
19 the other particulate pollutants that were there, and
20 arrived at the same numbers. However, we saved ourselves
21 several weeks of modeling time, so in my mind we have fully
22 addressed all pollutants for which emission factors exist
23 for the explosives that Ensign Bickford runs.

24 Q. And again that procedure and process for

1 doing that mathematical and proportion and calculation was
2 discussed with the Agency's modeling personnel?

3 A. Yes, it was.

4 Q. Can you describe simply for the record just
5 very briefly what the results of your modeling were, what
6 worse case you modeled and what the results was?

7 A. Yes. Worst case results for criteria
8 pollutants, it was for a scenario in which manufacturer
9 sludge was the waste category burned; and we showed
10 approximately 31 percent of the NAAQ standard. With
11 background concentrations added in was approximately 70
12 percent of the NAAQ standard, and again well below; and the
13 others were far below that.

14 Q. And the model uses very conservative
15 assumptions to arrive at those numbers?

16 A. That is correct. We essentially report the
17 worst weather day with the worst burn possible.

18 Q. And based on your modeling results and your
19 familiarity with the Wolf Lake facility do you have an
20 opinion as to whether or not the operation of the waste
21 burn unit as Mr. Buchanan testified to results in any
22 environmental measurable impact?

23 A. In my professional opinion it would have no
24 measurable environmental impact.

1 Q. Have you had an opportunity to calculate the
2 amount of pounds of emissions per ton of waste that is
3 burned and compare that with the cost that Mr. Buchanan has
4 testified to today?

5 A. Yes, I have.

6 (Exhibit 15 marked for identification.)

7 Q. MR. HARSCH: If I show you what has been
8 marked as Exhibit 15, would you describe what that is?

9 A. I did a rough calculation of the cost of
10 control per ton if the waste that Mr. Buchanan testified to
11 were to be shipped off-site.

12 Q. And what do those calculations show?

13 A. To explain, I used emission factors, the
14 highest emission factors that I think could be applied to
15 this waste for the open burning of refuse. Mr. Buchanan's
16 or Ensign Bickford's waste actually burns more cleanly than
17 refuse. It's not as moist. It has a greater BTU value.
18 Therefore, these are conservative factors. Adding those
19 together, I come up with 138 pounds of pollutants per ton
20 of waste and then applying that to the maximum amount he
21 indicated would be shipped off-site of 48,800 pounds per
22 year, I come up with maximum emissions of 1.68 tons per
23 year that would be generated at Ensign Bickford if that
24 waste were burned -- open burned at Ensign Bickford. If we

1 then say that to control those 1.68 tons it would be
2 shipped off-site at a cost of 300 thousand dollars a year,
3 we come up with a cost of over 175 thousand dollars per ton
4 for control.

5 Q. Based on your experience in the consulting
6 business how would you describe that figure?

7 A. I would characterize that as an extremely
8 high figure. Generally anything over 10 thousand dollars
9 would be considered a very excessive cost of control.

10 Q. Based upon your experience in the field,
11 would you equate the operations that are conducted at EBCo
12 to what is normally referred to as open burning?

13 A. No. I would not. I would consider it a much
14 more controlled situation, much cleaner burn than would
15 normally considered open burning.

16 MR. HARSCH: I have no further questions.

17 HEARING OFFICER LANGHOFF: Thank you. Ms.

18 Doctors.

19 CROSS EXAMINATION

20 BY MS. DOCTORS:

21 Q. Did you model for flashing of large amounts
22 of potentially contaminated equipment or buildings and the
23 necessary combustion materials as seen earlier in the
24 hearing on the video?

1 A. For the flashing operations specifically?

2 Q. Yes.

3 A. The model that we were told to use only asked
4 us to consider the explosive, so the model used the maximum
5 amount of explosives that we would expect to see at any one
6 time; so the answer is did we model for if it was
7 flashing? Specifically, no. We modeled for the maximum
8 amount of explosives burning at any one time. It is not
9 related to any one scenario, but that scenario would
10 include flashing or open burning or any other part.

11 Q. Would you anticipate higher emissions from
12 flashings as compared to clean packaging materials?

13 A. From the explosives -- from the explosive
14 part the way -- working with the Illinois EPA, the model
15 gives you the choice to choose a detonation which we have
16 seen some examinations of and the slow burn results in the
17 higher emissions over the whole period as opposed to the
18 detonation; so as far as explosive materials go, I would
19 expect the flashing to be lower if it had a detonation. If
20 you include the packaging materials, honestly I am not sure
21 how that would go because you do have some combustibles,
22 non-explosives combustibles that they have excels the
23 non-explosive paper as well. I couldn't say that would
24 involve the non-explosives which we didn't model for.

1 Q. You didn't model the burning of the
2 non-explosive material?

3 A. Correct.

4 Q. The other thing I guess it's I have this
5 which I think is the same as that on page 2 you listed the
6 types of materials that the facility burns including paper,
7 cardboard, spent carbon, powders or sludges you didn't list
8 any plastic?

9 A. Correct. My understanding that was a
10 rarity. I was told that it was rare that any plastic would
11 be included.

12 Q. Is there a difference in the composition of
13 cardboard versus fiberboard?

14 A. I couldn't speak to that. I honestly don't
15 know.

16 Q. Okay. Have you done any modeling with
17 respect to RCRA type permitting?

18 A. For RCRA permits.

19 Q. No. So do you have any -- you testified to a
20 cost figure per ton in terms of air pollution. Now, do you
21 know whether this is representative of the cost for waste
22 disposal for just general waste disposal at a company? You
23 said 10 thousand dollars a ton is the number you look at
24 for air pollution control, but did you look at the numbers

1 for waste disposal?

2 A. No. I did not.

3 MS. DOCTORS: That is all my questions, thank you.

4 REDIRECT EXAMINATION

5 BY MR. HARSCH:

6 Q. Mr. Trzupcek, in the first round of modeling
7 that was again done after consultation with the Agency.
8 Did you -- would that model have taken into consideration
9 the burning of materials other than explosive materials?

10 A. Yes, it did.

11 Q. And what -- were the results from that
12 modeling examiners size that were also given to the Agency,
13 were they not?

14 A. That is correct. That was using the Screen 3
15 model and it also showed no significant impacts, no
16 violation of national ambient air quality standards for the
17 two pollutants modeled, which if memory serves were
18 particulate and carbon monoxide.

19 Q. Those would be the two pollutants that you
20 would normally think of concerning of burning the type of
21 materials Ms. Doctors talked about?

22 A. They would be a primary concern.

23 MR. HARSCH: I have no further questions.

24 RE-CROSS EXAMINATION

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BY MS. DOCTORS:

Q. Would that screen 3 model take into account any screen 3 plastics?

A. May I consult? I have one copy of that report. May I consult it very quickly?

MS. DOCTORS: If you remind me of what the title is, I believe you furnished me a copy of that; is that correct Mr. Harsch?

A. It was dated 2/8/2001 and the subject line is labeled Refuse Burning. That round of modeling utilized as a source the open burning refuse factors that are on page 2 of Exhibit 15, I don't believe that specifically says that that mixture, that municipal mixture, includes plastics; so I can't speak with certainty; but it is my belief that municipal refuse mix that is assumed is assumed to include a certain percentage of plastics. There is a reference and we could trace that.

Q. I was looking to see if I could locate the copy. I found a letter dated -- well I found it. I found a letter dated October 3 addressed to Mr. Harsh from you Rich Trzupsek. Is that the correct letter?

A. Yes, it is.

Q. Now, we were talking about emission factors and the types, the composition of the waste that were used

1 for screen 3. Is it your testimony that the waste that was
2 modeled under the screen 3 was taken from this document
3 that is labeled Exhibit number -- what is the exhibit
4 number?

5 HEARING OFFICER LANGHOFF: 15.

6 Q. MS. DOCTORS: Exhibit 15?

7 A. Yes. On page 2 of the October 3 letter,
8 there is a reference to AP42, Chapter 2.5, Open Burning,
9 and you will see that the copy of the AP42 section that is
10 constitutes page 2 of Exhibit 15 is the open burning for
11 municipal refuse, table 2.5-1. That was used to compute
12 that emission factor.

13 Q. Okay. Now, did this screen 3 model look at
14 toxic pollutants?

15 A. It did not. It does not.

16 MS. DOCTORS: I have no further questions.

17 HEARING OFFICER LANGHOFF: Thank you. Thank you
18 Mr. Trzupsek.

19 HEARING OFFICER LANGHOFF: For the record my
20 Hearing Officer Order incorporates these questions that I
21 earlier e-mailed to both the parties, and Mr. Buchanan is
22 back on the stand; and he is still under oath.

23 MR. HARSCH: Mr. Hearing officer with respect to
24 your order and the questions presented, question 1a, I

1 think asks a legal issue as well as a factual issue; and I
2 would like to respond briefly if I might to the legal
3 point.

4 HEARING OFFICER LANGHOFF: Can you do that in your
5 brief?

6 MR. HARSCH: It might take 20 seconds.

7 MS. DOCTORS: Is it possible for him to do that on
8 the record?

9 HEARING OFFICER LANGHOFF: It is on the record.

10 MS. DOCTORS: I mean his response.

11 HEARING OFFICER LANGHOFF: Okay. Yes, sir.

12 MR. HARSCH: We believe when the Pollution Control
13 Board enacted the prohibition and open burning statement to
14 state -- enacted prohibition in open burning explosive
15 waste is inaccurate. When the Board enacted -- adopted the
16 rules governing open burning it decided to make explicit
17 that these cases should be dealt with individually on a
18 variance basis and neither grant a blanket approval or
19 prohibition, so that the statement contained in the
20 Agency's recommendation, I think, we disagree with and the
21 question based on that.

22 The Board at the time it enacted the rule in
23 question acknowledged variances had been granted on several
24 occasions upon a showing of necessity, and the Board would

1 continue to grant such variances. We believe the testimony
2 that is presented today clearly shows that -- we will get
3 into it in Mr. Buchanan's response -- that there are not
4 such alternates available, and that the direction of the
5 Board and PCB93-139 was for EBCo to pursue the Adjusted
6 Standard; and that is why we are here; and we think that at
7 the time when the Board adopted this rule it referred to
8 the statement; and I quote, "open burning has long been
9 recognized as an important and particularly excusable
10 source of air pollution." We do not believe that is the
11 case. We have demonstrated on the record today where the
12 activities that EBCo carries out and is agreed to by the
13 Agency in their opening statement that there is no
14 significant environmental result. Mr. Trzupsek has so
15 testified. So that we think that we have already satisfied
16 on the record that there are no -- that our factors are
17 substantially different than those enacted when the Board
18 considered when the Board enacted the rule.

19 I just have a couple of quick clarifying
20 questions. Mr. Buchanan, do you believe that your
21 operations in the burn unit and the flashing unit equate to
22 what is normally referred to and considered as open
23 burning?

24 A. No. I do not.

1 Q. I would like to move on to question 2a if I
2 could now. Question 2A is would you please further explain
3 how the disposal and handling of waste in Kentucky and
4 Connecticut facilities differ from the Illinois facilities
5 such that off-site disposal is more viable for these other
6 out-of-state locations but not for your Illinois facility?

7 A. In response to that question, there is two
8 distinct differences, one is the siting and location of
9 those facilities in respect to on-site management of those
10 materials. Our site being distinctly different, especially
11 from the Connecticut facility. We are in a rural, remote
12 an ag oriented. We do not have potential receptors in
13 close proximity to the operation. To an earlier testimony,
14 the manufacturing processes and the raw materials utilized
15 at the Kentucky and facility the Connecticut facility are
16 fundamentally and distinctly different than those raw
17 materials and the manufacturing operations currently
18 conducted or previously conducted at the Wolf Lake
19 facility. I have testified earlier to the raw materials
20 and large quantities that are used at the Wolf Lake
21 facility. A large portion of those being reclaimed or
22 recycled or demilitarized explosives that contain less than
23 desirable materials, contaminants, foreign matter, foreign
24 material that increase safety concerns in the handling

1 process of the raw materials and specifically the waste
2 materials.

3 I have talked about especially from production
4 derived waste from Wolf Lake we are adding the PETN, the
5 more sensitive. We have heated it up, cooled it down,
6 manipulated it further, further increasing the safety risk
7 of those materials. In the screening process where we are
8 concentrating the contamination and the incoming raws that
9 have foreign materials in it, we have further increased the
10 sensitivity and the safety handling procedures for those
11 materials. We all generate waste secondary powders, but
12 our waste the activities that generate those waste
13 secondary powders are distinctly different. The raw
14 materials those wastes are derived from are distinctly
15 different, and the hazards are different between the Wolf
16 Lake facility versus Connecticut and the Kentucky
17 facility.

18 We currently do ship off-site to an alternative to
19 open burning those materials that we feel are less of a
20 hazard and somewhat similar to those shipped from the other
21 facilities to an off-site location. We currently ship a
22 large quantity of waste detonator assemblies and waste
23 detonators to the Onyx facility. Those materials we feel
24 comfortable do not have as a high a hazard, the large

1 dusting that would be an increased safety risk in
2 processing those safety materials. Fundamentally different
3 is the volume of explosives that are received in relatively
4 small packages as compared to the volumes we are
5 processing. A 50 pound box is relative to five plus
6 million pounds of material. Neither of those other
7 facilities receive materials of that nature, and therefore
8 do not have the volume of contaminated explosives or the
9 volume of contaminated materials with which to process. Of
10 any of our facilities we are probably more comparable to
11 the Spanish Fork facility where they produce cast boosters,
12 and they do currently open burn to date.

13 We do recycle the outer packages that we deem that
14 are safe and viable to do so. Historically, much more of
15 that material was burned, so we have improved in that
16 nature. We are, as compared to the Kentucky and
17 Connecticut facility, we are the only one of those three to
18 that do receive and utilize the recycled or reclaimed
19 explosives as a raw material that has the issues on safety
20 concerns and contaminants in foreign materials. A lot of
21 these materials, some of which have been sitting in a
22 magazine or on some military site or in some foreign
23 country for years, so the inner packaging is much more
24 stressed than the raw materials utilized at the other

1 sites, therefore leaving it to be much more contaminated
2 and needing to be dealt in an open burn manner.

3 Q. If I can summarize then, it's your testimony
4 that basically the raw materials utilized in your cast
5 booster operation side of the business which gives rise to
6 the large quantity of volumes, is fundamentally different
7 than the Kentucky and Connecticut facilities?

8 A. That is correct.

9 Q. And you have testified about the practicality
10 problems associated by trying to get that packaging
11 material in the bags and shipped to ICI)?

12 A. That is correct.

13 Q. Question 2b, could you please describe if it
14 is easier to safely transport, handle and dispose of the
15 material from the Connecticut and Kentucky facilities than
16 the Illinois facility?

17 A. As I previously stated in answering the
18 previous question, due to the raw materials that we receive
19 having foreign objects in them and the fact that through
20 our screening process we increase that contaminant level,
21 therefore, increasing the potentially the sensitivity of
22 those explosives, yes it is easier to safely handle the
23 incoming raws, specifically virgin materials, than it is to
24 transport or handle waste explosives materials, more

1 sensitized material.

2 Q. So in summary the waste that you believe is
3 more sensitive coming from, that you generate in your
4 facility for the reasons that you just testified?

5 A. As general statement, yes.

6 Q. Question 2c could you please provide similar
7 estimate in dollars per pound for open burning waste at the
8 Wolf Lake RCRA Part B facility? Could you examine the
9 annual operating and maintenance costs for the RCRA part B
10 open burn facility for Wolf Lake? How do these costs
11 compare to special handling and disposal of waste materials
12 at the ICI facility? Would the law diminishing returns
13 apply such that in general, it might be less expensive to
14 dispose of large quantities at the Wolf Lake RCRA Part B
15 facility? I would ask she incorporate the questions.
16 Question 2c, would you respond to that question?

17 A. In response to combine estimated dollars for
18 it's operation of the on-site open burn unit, I previously
19 testified to and submitted an exhibit that did that
20 specifically.

21 Q. And that would be the cost estimate found in
22 Exhibit 11; is that correct?

23 A. I believe so, yes. As well as there is
24 multiple exhibits there that specifically address that

1 question in writing.

2 Q. And do you believe that the conclusions
3 presented in that exhibit in the testimony regarding that
4 exhibit adequately address this question?

5 A. Yes. That Exhibit 11 and Exhibit 10.

6 Q. Could you please provide some documentation
7 to support the stated drawbacks, perhaps in the form of
8 manufacturer's literature or an engineering report?
9 Question 2d, could you please respond to this question?

10 A. I have testified specifically earlier in
11 great detail to the viability of incineration and the
12 drawbacks to it relative to Ensign Bickford's waste
13 generation rate, required feed rates, time to permit, cost
14 to construct. I testified that those were substantiated by
15 an independent third party engineering consulting firm that
16 did those cost analysis for us.

17 Q. Did you not also testify that those
18 conclusions had been shared with the Agency several years
19 ago and were the subject of discussions with the Agency?

20 A. Yes.

21 Q. Is it my understanding that one of the
22 principal drawbacks with respect to using a rotary kiln is
23 the fact that rotary kilns come essentially in one minimal
24 size and that size rotary kiln unit you could destroy all

1 of the waste generated by EBCo's Kentucky, Connecticut and
2 Illinois in less than 60 days?

3 A. That's correct.

4 Q. If you operated it at the fire rate?

5 A. Yes.

6 Q. Question 2e. Could you please provide
7 support for EBCo's evaluation of the Onyx facility's
8 inability to handle the size of the waste stream EBCo
9 anticipates?

10 Was your earlier testimony regarding the Onyx
11 testimony sufficient to respond to this question?

12 A. Yes. I believe so. Where I spoke directly
13 to their inability to store explosives waste and the fact
14 that they do not have dedicated explosive prep and handling
15 areas and the hazards associated therewith.

16 Q. Have you had specific questions with Mr.
17 Justice regarding this issue?

18 A. Yes.

19 Q. And what is your understanding of Mr.
20 Justice's knowledge of the Onyx facility?

21 A. John is very familiar with the site, and we
22 have addressed their limitations for explosive storage as
23 it relates to our materials.

24 Q. Are you aware of any questions that the

1 Agency has with respect to the materials that we previously
2 presented to the Agency with respect to the Onyx facility?

3 A. No.

4 Q. Question 2f, could you please elaborate on
5 the safety issues associated with shipping material to the
6 EBCo facility for processing versus shipping the residual
7 material to a facility for disposal? Are transporters,
8 handlers, and receiving facilities for the EBCo plant and
9 the off-site disposal facility differently trained or
10 equipped? Does handling the material received onsite
11 simply remove the additional risk involved in transporting
12 the material a second time to an off-site facility?

13 A. I believe we spoke directly to that in an
14 earlier question in Section 2. It gets back to the safety
15 of incoming materials versus outgoing wastes and the
16 increased sensitivity of concentrated contamination and the
17 fact that we added more sensitive material to these in the
18 form of PETN as well as contamination as shown in the video
19 demonstrates how those materials do differ from pure, clean
20 or virgin materials.

21 Q. Does PETN become more sensitive if you heat
22 it and allow it to cool?

23 A. Yes. Any time you are manipulating any of
24 those types of explosives up and down and back and forth,

1 you are decreasing its stability.

2 Q. Which he equates to --

3 A. To potentially more increased sensitivity and
4 increased handling concerns.

5 Q. Question 2g, could you please provide a
6 relative context for the estimated cost of disposal at the
7 Joplin, Missouri facility either in terms of the EBCo's own
8 resources or what the explosives industry as a whole
9 generally spends?

10 A. I believe 2g we have responded to
11 specifically in the exhibits we posed for for on-site costs
12 versus off-site costs directly go to ICI.

13 Q. That would be Exhibit 10 which is the cost
14 analysis that you provided to Mr. Justice as well as group
15 Exhibit 11; is that correct?

16 A. Yes. Basically are related to the estimated
17 annual cost of 300 thousand dollars to go off-site with
18 those materials.

19 Q. And then it would be, the question also would
20 be responded to, would it not, by the site manager's
21 testimony regarding the impact that would have on the
22 product cost?

23 A. Correct.

24 Q. Question 2h, could you please explain the

1 hardship associated with seeking a variance in the event
2 that the ICI facility becomes unable to accept material
3 from the Wolf Lake facility?

4 A. In responding to the question of what would
5 be explaining a hardship associated with seeking a variance
6 if ICI became unable to accept material. That was alluded
7 to if I was not allowed or not granted the Adjusted
8 Standard relief in the future and was shipping the
9 materials to an off-site facility and they all the sudden
10 ceased to be able to manage my waste, which does happen on
11 a an infrequent basis, what would be the hardship in
12 seeking a variance at that point? It's quite complicated.
13 The unit we have on-site to currently treat this material
14 is a RCRA Part-B facility. If I cease to operate it, it
15 has been my experience in the RCRA programs that I would be
16 driven to officially close that unit and probably my Part-B
17 permit would be withdrawn, and these materials are managed
18 in a 90 day time frame or less than 90 days, the hazardous
19 materials specifically. I would be under the gun to seek a
20 variance, put together alternate procedures or someplace
21 else to go in less than a 90 day time frame. I have spoken
22 earlier that permitting, a RCRA Part-B permit is a very
23 long term commitment to see to fruition. We would not be
24 allowed to open burn our hazardous waste on-site without a

1 RCRA Part-B permit, and one of the main intentions from our
2 perspective is the safety and being able to deal with these
3 materials in a timely manner.

4 Q. What is your understanding as to the number
5 of provisional variances you could receive in a given year?

6 A. It's my understanding I can have them once in
7 a year's time.

8 Q. What would be the impact on EBCo's employment
9 of the operators if you had to shut down the unit, the RCRA
10 unit?

11 A. If I ceased to treat waste on-site, I would
12 probably at a minimum lose one employee who is a highly
13 trained and certified individual that I would have to have
14 back to be able to start the unit back up again and operate
15 it as per our standard operating procedures and permit.

16 Q. Are you aware of any other alternate sites
17 that you believe can receive the dusty materials that
18 denial of the relief would require you to send to ICI?

19 A. No.

20 Q. Question 2i, Could you please further
21 elaborate on why EBCo concluded that these processes
22 are "unknown, unproven, highly complicated processes" and
23 not "realistically feasible to EBCo for the foreseeable
24 future?"

1 A. This question asked me to elaborate
2 specifically on the alternative technologies to burning of
3 explosives. I believe we did that in earlier testimony
4 where I spoke about plasma ark [sic.] and the fact that the
5 Department of the Army, Department of Defense has gone on
6 record saying they are not mature processes. They are not
7 available at a commercial or production level. Our own
8 evaluation concurs with that. There is not any of these
9 processes actively functioning, operating anywhere to my
10 knowledge. None of these processes have been through a
11 RCRA permitting process, and I don't see that happening in
12 the foreseeable future.

13 Q. These are all points that have been discussed
14 over the years with the Agency?

15 A. That is correct.

16 Q. Nothing that is changed with EBCo's
17 preparations?

18 A. Not to my knowledge.

19 Q. And besides these two processes, is it your
20 direct testimony that you are not aware of any other
21 commercial pending practices?

22 A. Not that are available to date.

23 Q. Question 2j, could you please describe EBCo's
24 efforts to locate another pulping facility or an

1 alternative disposal option for this waste stream?

2 A. I spoke to this to my answer efforts to
3 another pulping facility we have. We have put that on the
4 on the broker, recycled broker we use, and it's his
5 responsibility to continue to find pulpers as they appear
6 and disappear to manage our recyclable cardboard.

7 Q. The problem described in the Adjusted
8 Standard petition was the problem you earlier testified to
9 with your pulper having gone out of business, and the
10 petition was drafted in the interim time period before you
11 made your arrangement with the broker; is that correct?

12 A. That is correct.

13 Q. Question 2k, please explain what it means to
14 desensitize the waste and what happens when it dries out.
15 Please explain if there is a relatively local landfill that
16 would accept this waste and why EBCo prefers not send this
17 waste to a landfill.

18 A. Responding to desensitization of waste,
19 specifically explosives, one of the comments or
20 recommendations from the Agency was the viability of
21 desensitizing explosive contaminated materials and possibly
22 sending them to a land fill. When we say desensitized
23 waste, that is a misnomer in the explosive business
24 specifically to these. We talk about wetting them for

1 transportation and handling purposes. We are not
2 eliminating the sensitivity. We are only reducing it as
3 long as that material is wet. TNT, classic example. I can
4 wet that material. It does decrease it's sensitivity a
5 small amount and cuts down on dusting, but as soon as the
6 water evaporates or dries out of that material, it is still
7 TNT with all of its sensitive and explosive properties.
8 Relatively, if I was to wet contaminated materials and send
9 them to a land fill, eventually it's going to dry out and
10 going to be subject to heat, shock, impact, friction and
11 still has explosive properties and sensitivity issues.

12 As far as the land filling option or reference, I
13 currently do not know of any land fill that would willingly
14 accept my explosive contaminated materials as they stand
15 today; nor would I want to incur the risk that would be
16 involved with doing that with such a material. It would
17 increase not only risks, liability to my company but
18 liability to the risk of the operators, the guys tipping
19 the trucks, covering the face; and in earlier exhibits I
20 showed examples of packaging, explosive packaging, they are
21 highly packed up with all sorts of explosives, demarcations
22 and warnings and labels; and I personally do not want to
23 get a phone call at midnight and say we have an explosive
24 box laying inside the land fill face and you need to fix it

1 because we think it came from you.

2 Q. For the record, I should have asked this
3 question earlier, are your products designed to function
4 and explode as their intended purpose under water?

5 A. The detonators, the detonator assemblies are
6 designed to function under water. Cast boosters
7 specifically will function when wet and will function under
8 water. One of the quality tests we do on our cast booster
9 finished goods product, we take a test piece of a cast
10 booster from each mix, the blending, mixing. We place it
11 in a pressure tank under water overnight to force water
12 into that cast booster and then open detonate it the
13 following day to ensure that that mix is correct and it
14 will function. This is to simulate a bore hole condition,
15 either in a query or mine because most bore holes are wet;
16 so relative to sensitivity and wetting, it's kind of a
17 misnomer when we say desensitize. It still will function
18 if given the proper initiation source.

19 Q. Question 3a. Off the record.

20 (Discussion held off the record.)

21 Q. MR. HARSCH: Mr. Buchanan would you respond
22 to the first question presented in 3a. Of the four waste
23 streams identified in the pollution prevention audit, which
24 one represents the largest percentage of total waste at the

1 Wolf Lake facility?

2 A. Based on a weight perspective, the explosive
3 contaminated materials would be the largest waste stream
4 that we are dealing with the open burn unit.

5 Q. That was presented in your direct testimony
6 with the weight material that you destroy on a weekly
7 basis?

8 A. Correct.

9 Q. Would you please respond to the second phase
10 of question 3a? Would you please explain the benefits or
11 drawbacks to implementing the following Agency
12 recommendations that comes from the first --

13 A. Pollution prevention assessment or
14 walk-through in 1998. In a nut shell, sure I will condense
15 my response to those recommendations. Those are very broad
16 brush, shotgun, buzz word, flavor of the month
17 recommendations that were given in a 1998 walk-through that
18 I had no requirement to respond to. It talks about total
19 quality management and employee education and employee
20 fitness, examination of were products. The Ensign Bickford
21 is an award winning, world class manufacturing association
22 with a fully powered self directed work force at the Wolf
23 Lake facility. We do all of these types of manufacturing
24 management tools and processes above and beyond any of

1 those listed here. I can say without a doubt we probably
2 have the most highly trained work force in this county if
3 not in the five county region. We continually train and
4 educate our people on a variety of things. We are an ISO
5 9,002 certified company continuing to educate and move
6 forward through those programs.

7 Q. Can you respond to the points raised in the
8 second section of the question with respect to the -- would
9 you please explain the benefits or drawbacks to
10 implementing the following Agency recommendations?

11 A. Again broad brush strokes asking us if we
12 have disposable chemical biological treatment yes, and as I
13 testified to earlier today chemical biological treatment is
14 not available. We have gone quite a ways down the path.
15 More durable packaging we are at the mercy of the United
16 States on packaging. Yes. We have looked at it. There is
17 nothing that is economically viable and safe and meets DOT
18 requirements for packaging, and as I have testified to that
19 I do not have any control overall of the explosives, raw
20 materials we purchase on the market from vendors outside
21 the Ensign Bickford Company.

22 Disposable fabric coveralls, I testified earlier
23 that through our hygiene and PP assessments relative to our
24 particular process it has been particular that Tyvek

1 coveralls is the best practice for our folks working in the
2 cast booster operation. I think they were alluding to
3 using a reusable coverall, cotton or something of that
4 nature. It sounds good. It doesn't work. We determined
5 that Tyvek is the best protection for our employees and the
6 safest method. If we take a reusable coverall, it will
7 have to be laundered before we put the employee back in
8 it. There again, I would have to have a laundry process to
9 handle explosive contaminated clothing. Therefore, I would
10 generate explosive contaminated waste water treatment
11 sludge, and whatever I use to filter that material out with
12 would be an explosive waste; so it's not a win situation to
13 do that from any perspective.

14 Q. Can you respond to question 3, point 3?

15 A. Explosive contaminated waste water treatment
16 sludge. The particular focus that generates that waste
17 (inaudible). It is for an air pollution control devise to
18 minimize any environmental impact due to scrubbing the melt
19 pots or the fumes and the vapors, and the particulate
20 coming out of our production process.

21 Use this sludge as a study aid. I have no clue
22 where that came from or why we would want to do that or how
23 that would accomplish eliminating it.

24 On-site sludge treatment to reduce explosive

1 nature. That is currently what we do in the open burn
2 unit, and I know of no other viable method to do that; and
3 we have given testimony quite at length to speak to that
4 today.

5 Q. Would you need a RCRA permit for any other
6 treatment you did of that RCRA listed material?

7 A. Yes. If I was to treat a RCRA regulated
8 hazardous waste on-site, that would require a part B permit
9 which I have for the open burn unit.

10 Number 4, was replace solvent based inks. We have
11 eliminated that. It no longer exists at the Wolf Lake
12 facility.

13 Q. Question 4a with respect to recycling, could
14 you respond to that question? Could you please clarify if
15 EBCo is planning to recycle some of the waste and how this
16 would affect the expected pounds of waste that EBCo plans
17 to open burn?

18 A. I think we spoke to that earlier relative to
19 clean out or packaging. We do recycle large volumes of
20 cardboard throughout our entire facility. We continue, I
21 spoke about putting the (inaudible) back on our broker to
22 recycle this out and find our pulpers to keep process going
23 to where we can get the materials that we designate r as
24 safe to clean out to a pulper. We are currently doing that

1 today and will continue to do that in the future, and we
2 are continually trying to improve our processes. If we can
3 eliminate or recycle any more materials, we will do so.

4 (Exhibit 13 marked for identification.)

5 Q. Question 4b, could you please identify how
6 close the burning activities would be to the forest and
7 what the environmental impact to the forest would be?
8 Petition states it will notify neighboring communities in
9 advance of burn activities. Does this include notifying
10 the forest rangers?

11 If I show you what I previously have marked as
12 Exhibit 13, would you describe for the record what this is?

13 A. Yes. This is a reference map taken from a
14 U.S. Government topographic quadrangle that contains the
15 Wolf Lake facility. As you will note in the highlighted
16 blue section, that is our highlighted boundaries showing
17 the 456 acres that it owns in Union County. You will note
18 in the center portion of it a small black square with an
19 arrow that shows you the location of the open burn unit
20 relative to property boundaries, specifically, to the
21 national forest. If you note the darkened areas with the
22 high relief which delineates rugged hilly country to the
23 east or to the right of that. That is a national forest
24 boundary relative to the unit.

1 Q. Can you describe the security fencing that
2 you have at this facility?

3 A. On the north, west, south and a little bit of
4 the east side, the entire facility is surrounded by a 7
5 foot perimeter fence topped with barbed wire, 24 hour
6 security guards, 7 days a week as we testified earlier.
7 The national forest and along the east side of the property
8 there where it is not fenced is a bluff ranging from 20 to
9 feet to 50 feet tall providing a very natural secure
10 boundary where we didn't place a fence. So I think the
11 question alluded is to do we control access? Could anybody
12 impinge upon our burn unit during treatment? It is all
13 contained and secured, blocked off demarcated, and that is
14 not going to happen.

15 Q. 50 feet. Isn't it in some places more like
16 250 feet?

17 A. At least 100 probably and the country behind
18 that is very rugged, very hilly, uninhabited, no trail
19 system and no roads.

20 Q. Where on this map exactly is the boundary
21 with the forest preserving, or the national forest boundary
22 lines?

23 A. The darkened blue line around the perimeter
24 is the site property line.

1 Q. But where is the National Forest on this
2 property?

3 A. That would be the national forest which would
4 start along the east side.

5 Q. So all along the area where there is the east
6 side of the facility where --

7 A. It shows the topographic marks. That is all
8 the national forest property.

9 Q. Would you explain -- you testified to how you
10 notified neighboring communities with respect to the
11 burning activities.

12 A. Yes. In earlier testimony. We do a
13 notification to everybody in the Wolf Lake area.

14 Q. Have you notified the forest rangers in the
15 past?

16 A. Yes. And we have an ongoing relationship
17 with the Shawnee National Forest employees. I had some of
18 their people on my site a couple weeks ago putting up
19 signs, and I have in the past -- I have invited their
20 management staff and had them on-site explaining how we do
21 business, how we would what we do, where we store
22 explosives and everything related to safety.

23 Q. How far approximately is it from the burn
24 unit to the linear distance to the national forest

1 boundary?

2 A. At the closest straight line run which would
3 be basically to the east part of the map to a bluff, about
4 a 50 foot bluff, a little over 800 feet.

5 Q. And from the area where you do the flashing,
6 how far is it?

7 A. Approximately the same.

8 Q. Has the forest service rangers ever indicated
9 any concern over your operations and the impact on the
10 forest?

11 A. No. And I believe testimony from
12 environmental impact earlier today would further
13 substantiate that.

14 Q. Do you believe you pose any risk of fire to
15 the forest?

16 A. No.

17 Q. You testified about the precautions you take
18 about maintaining a fire break and other safety precautions
19 earlier today.

20 A. Yes. It is done in a designated and
21 controlled manner and designated controlled area.

22 Q. Question 4c, given the proximity of the
23 facility to a public recreational area, could you please
24 address site security? Can you respond to the question to

1 the question in 4c about bikers, hikers wondering on to the
2 property?

3 A. As stated before the ruggedness, the
4 security, the site location and how we do business would
5 preclude that from happening and the fact that there is
6 little to no traffic in the forest properties contiguous to
7 our site.

8 Q. Are there signs as you descend from the
9 forest on to your property, signs warning the people?

10 A. Yes.

11 Q. Are those are those signs required to be
12 under the ATF requirements?

13 A. Yes.

14 Q. Are you aware of any walk-on activity from
15 that side to your property?

16 A. In the last ten years it might have happened
17 twice and was dealt with pretty swiftly.

18 Q. Pursuant to the security measures you earlier
19 talked about?

20 A. Right.

21 Q. Do you have an alarm that you sound when you
22 are doing this activity?

23 A. When we are doing the burning we do not have
24 an alarm, but we notify the plants. We have people

1 traversing the plant with radios, but we also quarantine
2 the area, so you cannot drive into the proximity to these
3 units.

4 Q. Does Wolf Lake itself provide a barrier?

5 A. Yes.

6 Q. Question 5a, Could you please delineate the
7 property lines for the Ensign Bickford facility on a map in
8 relation to the National Forest boundary lines? I think we
9 have responded to in reference to the map in your testimony
10 earlier.

11 5b, could you please quantify the distance in feet
12 from the outer edge of the burn area to the nearest
13 National Forest boundary line? The distance, I believe we
14 just responded to.

15 Question 5c, would you please indicate whether
16 Ensign Bickford's open burning activities would be subject
17 to the weight and distance limitations of 40 CFR 265.382
18 Open burning of waste explosives? Could you respond to
19 that question please?

20 A. 40 CFR 265.382. That is a RCRA regulation we
21 have satisfied through the permitting process. To
22 elaborate on that, that was a quantity distance table that
23 was taken from the Department of Defense QD calculations.
24 We actually utilized that much more detailed as it was

1 presented in 40 CFR throughout our entire facility.

2 Q. I think you testified that all of your
3 activities were governed by that quantity distance
4 limitation; is that not correct?

5 A. That is correct.

6 Q. Anything else you want to add in response to
7 these questions?

8 A. Only slightly more on responding to pollution
9 assessments. We currently have pollution prevention
10 employee from the Illinois EPA and has been on our site
11 multiple times since 1998 and currently have a good
12 relationship with them and seems to be satisfied with the
13 initiatives we are taking, and specifically, we are working
14 in the intern program sponsored with IEPA, and I think we
15 have satisfied anything he has asked for to date.

16 MR. HARSCH: At this point and time I would offer
17 Mr. Buchanan for cross-examination. Could we take care of
18 the exhibits 3 through 15?

19 I would move for the acceptance into the record of
20 exhibits 3 through 15.

21 HEARING OFFICER LANGHOFF: Any objections?

22 MS. DOCTORS: I don't have any objections. I am
23 losing track of the numbers.

24 HEARING OFFICER LANGHOFF: Okay. Exhibits 3

1 through 15 are admitted.

2 (Exhibits 3 - 15 admitted into evidence.)

3 HEARING OFFICER LANGHOFF: We are back on the
4 record, Ms. Doctors.

5 CROSS EXAMINATION

6 BY MS. DOCTORS:

7 Q. Looking at Exhibit 4c, does the outer package
8 in Exhibit 4c or is the outer package in Exhibit 4c
9 considered contaminated, and if not, where would it go from
10 here and eventually end up?

11 A. In this specific picture, yes. It would be
12 considered contaminated due to the fact that the inner
13 liner in this particular group of packaging had
14 contamination that migrated outside of it during the
15 opening process because of this on the very edge of it, so
16 it would be managed on-site. If it were not, that would be
17 a container we were -- that particular type of box, we were
18 very successful in getting that into the recycling program.

19 Q. If an inner liner is contaminated in such a
20 way where it comes in contact with the box, it's considered
21 contaminated?

22 A. When that box is in normal form, we flatten
23 it for space issues. When they open that inner container
24 this stuff being on the upper edge, it fell inside of the

1 outer package when they opened it up.

2 Q. In Kentucky and Connecticut where
3 contaminated packaging material. RCRA hazardous, are
4 companies with these wastes allowed to burn them on-site?

5 A. Currently, no.

6 Q. If not, how would they handle these types of
7 waste materials?

8 A. Typically, they deal more with inner than
9 outer due to the nature of the raw materials and the fact
10 that a lot of the raw materials were manufactured on-site.
11 They would have to package it up as I described and ship it
12 off-site.

13 Q. As you testified, there seems to be two
14 groups of rags. There is a set of rags that are shipped
15 off-site to Onyx. Then there is a set of cotton wipes that
16 are disposed of on-site, and I believe that is from the
17 detonator area?

18 A. Could be detonator and cast boosters.

19 Q. But from the detonator area, that is what is
20 operating now, and now doesn't the Connecticut facility
21 also have wipe down rags from its equipment from
22 manufacturing?

23 A. Yes.

24 Q. And how do they dispose of those wipe down

1 rags?

2 A. Off-site to my knowledge.

3 Q. At what point and time did EBCo or its
4 predecessors decide to discontinue burning the waste
5 materials now sent to Onyx and for what reason?

6 A. As they pursued moving the interim status
7 unit along and dealing with the operational issues and the
8 conversations with the RCRA folks and further hazard
9 evaluation of the slightly explosive contaminated, one of
10 the specifics was explosive and solvent rags which comes
11 from the maintenance folks, so it's after the operators
12 have done their clean up, and a maintenance person would
13 have to work on a piece of equipment. He does have some
14 small amount of explosive in a solvent wipe or clean up, so
15 the hazard is low. It doesn't even carry a D003 issue when
16 it goes to Onyx. We took the initiative that the biggest
17 hazard was a solvent issue and deal with that under
18 standard RCRA provision, and we work with Onyx to work and
19 get those to their facility safely. The pyrotechnics that
20 we previously had relief for was something as they started
21 the initial variance process, they say we want to get all
22 our explosives in here. As they move through that, they
23 identify that these materials can be managed safely in a
24 different way because of their nature. The fact that they

1 are contained devices, they don't have the dusting and
2 powder, and they have a significant metal issue which would
3 have greater environmental impact on this type of
4 operation.

5 Q. Who determined the DOT classification for all
6 the waste at your Wolf Lake production facility that your
7 Wolf Lake facility generates and more specifically the
8 contaminated packaging? Was it through DOT?

9 A. The other sites, if it was not something that
10 was already on DOT's 172 hazardous materials table and
11 their regulations, you have to seek approval directly from
12 USDOT, so we probably -- if ours doesn't qualify for
13 something that has already been approved, we will have to
14 go to DOT and seek that approval and that classification
15 and that proper shipping name.

16 Q. Please explain how these classes are
17 determined for your waste because you previously testified
18 it was all classified at 1.1.

19 A. It is based on the explosive. I know for a
20 fact that all TNT, RDX, PETN are what we commonly refer to
21 as secondary explosives in the industry are all 1.1 DOT
22 classified explosives.

23 Q. And that would include the packaging as well?

24 A. It could. That is something I am going to

1 have to go to DOT because the hazard is based on those
2 particular explosives.

3 Q. Wouldn't flashing of obsolete equipment and
4 buildings be best done under the provisional variance route
5 when the equipment and potentially explosive materials are
6 better defined?

7 A. We generate contaminated equipment sometimes
8 on a daily basis through routine maintenance even if we are
9 not obsoleting the material if we have to remove or replace
10 a valve in a production process that has been exposed to
11 the explosives. So the variance or the process does not
12 become very timely. We have testified earlier we don't
13 want these materials sitting around getting out of
14 control. I would have to store them somewhere, and the
15 ability to do this in a timely manner, weather permitting
16 and under the variance guidance is a much better option
17 from a safety and management perspective.

18 Q. Don't the Connecticut and Kentucky facilities
19 also generate valves and different pieces of equipment that
20 are contaminated?

21 A. Yes, they do. And they have gone on record
22 in both of theirs saying that is an important risk to them,
23 and they do not concur with their predicament relative to
24 not being able to flash those.

1 Q. Do you know how they are currently handling
2 that type?

3 A. My understanding is that currently in their
4 processes, most of them are small, it is possible, some of
5 the very small devices they may be able to handle this. I
6 do not know whether they can or can't. Large things, I
7 know they cannot handle, so I do not know where they are
8 going or what they are doing. I would assume they try to
9 keep as much of this stuff as they can to clean it to the
10 best of their ability where we would be able to reuse that
11 material on-site because we understand it; but they would
12 not allow it to go off-site.

13 Q. When you said that the cast booster will
14 detonate under water, what would be the initiating source?

15 A. A typical end user scenario, i.e. a blaster
16 or in a mine or the navy or whatever, it would either be
17 detonating cord which is PETN or a blasting cap typically.

18 Q. So it can't just -- it doesn't just detonate
19 itself?

20 A. It would have to have an initiation source,
21 but that initiation source could be severe impact as we
22 showed on the drop test or an electrical impulse.

23 Q. Did you model for flashing of large amounts
24 of potentially contaminated equipment or buildings and the

1 necessary combustion materials as seen in the video?
2 Scratch that. Okay. Are the detonator assemblies and
3 explosive contaminated solvents and rags and I believe also
4 the blasting caps are all incinerated at Onyx, correct?

5 A. Correct.

6 Q. And how are they prepared for shipment?

7 A. The detonator and detonator assemblies go
8 into a DOT specified box that I think I tried to explain
9 earlier, just exactly how we receive them in a DOT
10 specified container either for the finished goods style or
11 it has the tube attached to it or the raw cap box which is
12 a box that we have had to receive a variance from DOT to
13 allow us to ship that way, but it is specified in that
14 manner. They go back in that original type of container
15 and are shipped to Onyx per DOT specifications.

16 The solvent contaminated rags, they do not carry a
17 quote explosive hazard because they are so minutely
18 contaminated, they are managed as a RCRA-F listed waste and
19 meet the DOT specifications for whatever the particular
20 solvent, particularly a drum with a liner.

21 Q. You have also testified that they had
22 previously been opened burned and you switched to this
23 method and why, so I am not going to go back. For the
24 methods for meeting the shipping requirements, were they

1 known or developed by the larger headquarters in
2 Connecticut or by your personal facility?

3 A. I am not sure specifically to what material
4 you are asking me about.

5 Q. Why don't we start with the configured
6 device.

7 A. They are able to meet and ship under the same
8 description as the finished product or that raw material
9 coming in because nothing changed, so that was done and
10 developed by the company to be able to move those materials
11 around from one site to another or as a salable product. A
12 reject finished goods or a detonator assembly going to Onyx
13 meets the same DOT shipping requirement as a good product
14 that is going out to a customer, so yes. Those were
15 already established and in place when we started utilizing
16 that; and under DOT's guises and requirements, all we have
17 to do is put the word waste in front of that same shipping
18 description, and we are now compliant with DOT regulations
19 and utilize that same packaging.

20 Q. Now, with respect to the boxes, let me take a
21 look at that or there is also fiberboard, I think you
22 testified with respect to Exhibit 4e and 4f that 4f is
23 actually inside 4e?

24 A. Correct.

1 Q. Why can't materials be shipped off, the
2 cardboard, be shipped off the same way it's shipped on?
3 You testified the explosives, the waste explosives, can be
4 shipped in the same container off the facility as they get
5 shipped on, or why is not the same thing true with respect
6 to the packaging? Because in this case you don't have
7 plastic liners in order to receive the demilitarized
8 product in the contaminated cardboard?

9 A. I spoke specifically to moving those
10 materials to ICI. That is ICI's requirement. It may be
11 via their RCRA permit or their operating procedures. That
12 is their requirement for them to receive that material, and
13 that is how they want it packaged.

14 Q. And this type of packaging meets the DOT
15 requirements?

16 A. My assumption is yes, it does.

17 Q. I was curious why in one case why DOT
18 requirements for -- is this plastic ICI's requirement or
19 DOT's requirement in Exhibit 12?

20 A. Relative to a contaminated box that I assume
21 is only ICI's requirement. Now, I do know for a fact when
22 I am shipping a finished good cast booster which is made up
23 of TNT, RDX, PETN the same contaminants on that box, there
24 is an anti-static liner inside the finished goods box, and

1 that has a DOT requirement. I am thinking maybe as we
2 started talking about all of the subpacks that were
3 required in anti-static bags as I related earlier with the
4 complicated packaging, the two pound quantities water wet,
5 that is an ICI specific requirement. I assume it relates
6 to how they are going to feed that material into the
7 incinerator and the hazards associated with that..

8 MR. HARSCH: Can we go off the record for a
9 second?

10 (Discussion held off the record.)

11 Q. MS. DOCTORS: How many pounds per year
12 without that cast booster operation do you generate of
13 spent carbon K045?

14 A. To be honest I could not answer that question
15 to date, specifically, on spent carbon sludge. We are
16 still running those processes because we are doing decon
17 and washing and scrubbing, so I still am generating some.
18 I don't have enough time under my belt. I have never ran
19 it without production driving it as well. I don't know.
20 It will be somewhat smaller quantities.

21 Q. Because most of that is generated from the
22 washing?

23 A. And the particulate being consumed during the
24 production process by the scrubber, scrubbing the fumes,

1 yes. It does drive a lot of that waste.

2 Q. From the cast booster operation?

3 A. Correct. We are still affecting it and still
4 generating it, but I'm assuming it is going to be
5 depressed. At some point if I totally stop doing anything
6 in that building once we get caught up in processing, that
7 would go away.

8 Q. So there wouldn't be any of the spent carbon
9 or sludge from the non-electric detonators?

10 A. I do have one aqueous waste stream from the
11 detonators we put in that same treatment system, but I am
12 going to it assume at some point if that becomes the only
13 aqueous stream I am treating in the system, then the law
14 diminishing the return says I find another way to deal with
15 that material.

16 Q. How would the sludge and the carbon need to
17 be treated before it could be shipped off-site for
18 disposal?

19 A. The sludge specifically is going to be
20 considered a secondary explosive and will probably have to
21 be managed as I prescribed for the other explosive waste
22 because that is what it is. It is coming from a different
23 source, so it carries a different waste character. It's
24 still TNT, RDX, PETN. It does have some amount of moisture

1 in it.

2 Q. Isn't it true that you can because it's kind
3 of malleable that you can control the size package that you
4 put it in, that you have control over that rather than you
5 know the odd shape for the packaging. The sludge, you can
6 have your own containers for?

7 A. It's still going to have to be a DOT box. We
8 are not going to put it in anything that weighs more than
9 50 pounds because we can't handle it on-site, so it will go
10 into a container similar that meets the DOT spec for a
11 secondary explosive; and I am going to assume if I am going
12 to ICI with that material, it's still going to have to be
13 in two pound packages, water wet, etcetera, etcetera,
14 because that is what it is.

15 Q. How many pounds a year do you currently have?

16 A. Of sludge? Depending on the production
17 process and the types of raw materials because adverse raw
18 materials can negatively or positively impact the sludge
19 generation. We don't specifically track it different in
20 the burn unit because it is explosive; and that is how we
21 measure it; and that is how it is in our RCRA permit. We
22 just track it as an explosive. It's probably in the
23 neighborhood of 5,000 pounds a year or something like
24 that. That is included in that total explosives quantity

1 that we track in the burn unit. The carbon, I have never
2 shipped explosive contaminated carbon. It has its own
3 unique hazard because it's abrasive. Now that we have the
4 explosive contamination, I definitely know it's going to
5 have to be water wet because you can't manage it in any way
6 because it could initiate through its own abrasion.

7 Q. Do either the Connecticut or Kentucky
8 facilities have carbon or sludge?

9 A. The Connecticut facility does not have a
10 waste water treatment plant that processes the same
11 explosives I do. They generate a K-waste. I think it's
12 more lead derivative. It carries a 49 instead of a 47, and
13 I believe its non-reactive. I don't believe the Kentucky
14 facility has a K-waste similar to ours to my knowledge.

15 Q. Is it your understanding though that if at
16 least for Connecticut that they have to ship it off-site to
17 dispose of it, their sludge, K49?

18 A. Yes. But it is hazardous for lead metals not
19 hazardous for explosives.

20 Q. We are back tracking. Why doesn't -- why
21 don't the suppliers of your purchase demilitarized
22 explosives have to use a non-static liner, or do they when
23 they ship it to you?

24 A. No. They don't for specific materials. The

1 TNT's I have shown you, it's a paper liner. Again, the raw
2 materials coming in do not contain PETN in dry form. A
3 finished cast booster going out contains PETN in dry form,
4 and therefore, requires an anti-static liner in the box
5 PETN incoming is water wet in the liner. The TNT's, I know
6 for a fact do not have an anti-static liners. You see the
7 paper liners. Some do. Some don't.

8 Q. Some do have?

9 A. Some things will have an anti-static liner.
10 I believe this box here had an anti-static liner coming
11 from Iowa.

12 MR. HARSCH: You are referencing Exhibit 4a?

13 A. Yes. It depends on the specifics of the
14 material, and as I have talked earlier, some of those
15 requirements that I described on off-site packaging weren't
16 DOT requirements. They were ICI requirements. There are
17 some that do. Some don't. It is not totally driven by
18 DOT. Some of it is an internal or company policy or
19 procedure on how to receive their waste or raw materials.

20 Q. What percent of the demilitarized come with
21 this inner anti-static liner that is plastic?

22 A. I don't have that in front of me, and I rely
23 more on my production people, and my waste guys could tell
24 us that a little better. I am going to guess it's a 50/50

1 split. TNT's do not. I know for a fact all the TNT's
2 don't. Some of the other materials do. The Tritonal
3 package that I showed you did not have a plastic liner. It
4 was a paper liner.

5 Q. Okay. You have testified that the majority
6 of your -- of the waste that goes to the open burn pads and
7 unit come from the cast booster operation. What is the
8 break down without this operation? You know, how much
9 waste does your non-electric detonating operation produce
10 that is going to the open burn?

11 A. Approximately 40 to 60 pounds per week based
12 on demand, depending on what products we are running of the
13 PETN cord waste. Approximately 10 to 20 pounds of
14 contaminated rags in a weekly basis from all the cells.
15 Remember we have 29 different cells that are doing clean up
16 that would be would be contaminated with HMX, PETN, and if
17 or when we decide to not generate any more waste water
18 treatment sludge that would be derived into the unit, they
19 still would generate pieces or parts of equipment that
20 would need to be flashed from that process on a regular
21 basis.

22 Q. With respect to the plastic bags and from the
23 demilitarized explosives is it possible to wash and recycle
24 them?

1 A. The only way I could answer that is if I knew
2 in what format it would be possible to recycle. If there
3 was a place to go with them, would they even consider
4 accepting them. Even in washing, if we are following the
5 DOT guidance, they are not satisfied that they are clean
6 relative to explosives.

7 Q. Did these plastic bags -- do you know what
8 their chemical -- do you know if they contain
9 polychlorinated compounds?

10 A. I have not analyzed them or the specs on them
11 if there are any. They are a poly-plastic is all I can
12 tell you about them specifically, typically clear or
13 translucent.

14 Q. I have one short question on the RCRA permit
15 that you discussed. Isn't the RCRA permit conditioned on
16 either receiving temporary relief in the form of a variance
17 or permanent relief in the form of an Adjusted Standard?

18 A. There is a line in the statement that states
19 that that is a requirement.

20 Q. Based on the flashing of equipment shown
21 earlier today, approximately how much waste material was
22 combusted in that burn; and how long did the burn last?

23 A. I had nothing to do with that burn, so I am
24 going to go based on assumptions of other flashings that we

1 have conducted. There were several very large pieces of
2 equipment in that burn. Typically, we will size the burn
3 based on what we are attempting to flash, albeit a smaller
4 amount of equipment to be flashed, smaller amount of
5 combustibles; and I am going to estimate there was probably
6 about a ton of combustible materials involved in that
7 flash.

8 Q. And how long?

9 A. From start to finish to where you see flames
10 to where you no longer see flames is probably an hour and a
11 half.

12 Q. And to when you no longer see any smoke or
13 smoldering?

14 A. Depending on what you flashed and weather
15 conditions and all that good stuff would affect that, it
16 could be as much as four or five hours.

17 Q. Now, I know you answered this. I am just
18 going to go back here. Is the composition of cardboard the
19 same as the composition of fiberboard?

20 A. In my laymen's terminology they are one and
21 the same.

22 Q. But you don't know if there is an actual
23 difference?

24 A. I don't know that we actually have that many

1 varieties of cardboard versus fiberboard.

2 Q. Do you know anything about the glues or dyes
3 that are used in constructing or printing the boxes?

4 A. The only ones I would have knowledge of would
5 be Ensign Bickford packaging which is not typical. These
6 are -- these are the materials I receive off-site
7 domestically and internationally, no. I don't know. Other
8 that some generalities looked at historically with some of
9 the Agency's personnel on some of the variance processes.

10 Q. Just a general question concerning Exhibit
11 12, group Exhibit 11, group Exhibit 8 and 5 and 4a. Maybe
12 I will do it one at a time. Did you present the
13 information in Exhibit 4 to the Agency prior to the hearing
14 in photographic form?

15 A. Right. Agency personnel had seen these
16 materials, yes.

17 Q. And in the information in Exhibit -- let's
18 make sure that I have them the way I want them, group
19 Exhibit 11.

20 MR. HARSCH: The witness has testified those were
21 prepared since the submittal of a letter to John Justice.

22 A. On the record I have been able to gather a
23 little more specific information relative to ICI's
24 requirements for me to prep and package this package this

1 material.

2 MR. HARSCH: This was testified and prepared in
3 response to the Board questions.

4 Q. MS. DOCTORS: You testified with respect to
5 the cast booster operation that individuals wear Tyvek
6 coveralls. Do they need to wear coveralls with respect to
7 your other operations?

8 A. With respect to the non-electric detonator
9 assemblies not as a normal course, no.

10 Q. And you testified that with respect to the
11 detonator operation that the -- I am sorry if I have gotten
12 this confused, that there is a piece that comes from
13 Connecticut, and I am not using the correct terminology,
14 that comes from Connecticut and it goes back to Connecticut
15 if there is a problem, so it can be recycled again and can
16 you remember the term?

17 A. Shock tube and hollow extruded cord goes back
18 to the actual facility that makes it, and they are able to
19 reclaim and regrind large portions of that and put it back
20 into their process.

21 Q. Do you know how long the screening for the
22 cast booster operation will continue as part of your soft
23 closure?

24 A. Given that I have very limited labor and man

1 power to do that and doing other things as far as the decon
2 of floating back and forth, through the first of the year
3 at the very least. Probably three months into next year
4 until we totally complete the decon. To elaborate on it, I
5 once had 30 employees in that process to draw from. Based
6 on production demands we could float them back and forth
7 between. I now have two hazardous waste technicians that
8 are fully trained to run that operation. In between
9 floating them back and forth, operating their unit and they
10 are conducting the screening process.

11 Q. In your direct testimony, Mr. Harsh referred
12 you to a letter that had been written by Mr. Saines, his
13 associate, concerning Plasma Technology and SET. Those are
14 the two and some limited information about incineration
15 dated May 8. It's Illinois EPA exhibit number 1.

16 MR. HARSCH: It's actually Exhibit number 2.

17 Q. One was her request and two was his
18 response. In his response does he indicate how much it
19 would cost to conduct an on-site incinerator?

20 A. I don't believe he does, no.

21 Q. Does he indicate in this letter that you
22 worked with Eldorado Inc. Engineering Company -- I am
23 sorry. Eldorado Inc. as a consultant?

24 A. Specifically, no.

1 Q. With respect to the Plasma Technology, does
2 it indicate that you worked with Plasma Technology in
3 evaluating this option?

4 A. Did we specifically reference working
5 directly with the company that owns the technology, no.

6 Q. And with respect to SET, did you indicate you
7 had gotten to the point to which you were going to make a
8 contract and possibly tryout the technology?

9 A. We have in conversations with the Agency but
10 previously not in writing. I believe all those points have
11 been discussed verbally with Agency personnel.

12 Q. With respect to the Agency, I believe in its
13 last letter to you, raised the possibility of land filling
14 some of the cardboard that is considered not RCRA?

15 A. Uh-huh.

16 Q. And you indicated you did not know of any
17 land fill. Did you call any land fill, any of the land
18 fills around?

19 A. I deal with all the local land fills on a
20 regular basis. They take my special waste which is the
21 residues from the treatment of these material, and I know
22 they have raised their concerns numerous times on even
23 taking that material after it has been reactive, and I have
24 had an analysis on it showing it as hazardous; so I think I

1 have an understanding of what their concerns are as well as
2 my own concerns being in the environmental business.

3 Q. We had just asked if you contacted anybody,
4 and that was whether you investigated the alternative.
5 That was the question.

6 MR. HARSCH: Were you through with your answer to
7 the question, Mr. Buchanan?

8 MS. DOCTORS: I have completed my cross.

9 HEARING OFFICER LANGHOFF: Is there any
10 rehabilitation you need to do Mr. Harsh?

11 MR. HARSCH: Very limited.

12 REDIRECT EXAMINATION

13 BY MR. HARSCH:

14 Q. The photograph that showed the picture of the
15 contaminated inner liner, is that more than the amount of
16 material that would be in a blasting cap?

17 A. That is very similar to the amount of
18 material that is in a detonator. It has enough output to
19 remove you of your fingers or put out your eye.

20 Q. Do you have any comfort that it's technically
21 possible to wash plastic and remove the hazard associated
22 with contaminated -- being contaminated with explosives?

23 A. Not to a degree I would have a high level of
24 comfort of safety of managing that material in some way

1 other than in a controlled manner.

2 MR. HARSCH: No further questions.

3 RECROSS EXAMINATION

4 BY MS. DOCTORS:

5 Q. I have a question. Have you actually done
6 some preliminary tests of trying to wash the plastic
7 liners?

8 A. We, as a routine throughout our industry and
9 company try to decontaminate a variety of materials on a
10 regular basis, whether it be production derived plastic. A
11 lot our materials, because of metal to metal contact,
12 plastic scars and scratches. I do know grain size and the
13 chemical composition of the explosives themselves would
14 lend to migration into the scarring and crevasses and
15 cracks of any type of material like that, and it is most
16 difficult if not impossible to 100 percent remove the
17 explosives.

18 MS. DOCTORS: I am done.

19 HEARING OFFICER LANGHOFF: Thank you Mr. Buchanan.
20 Ms. Doctors?

21 MS. DOCTORS: We do have written testimony that he
22 would like to read into the record instead of me asking
23 questions, and I have a copy for all parties present if
24 that is agreeable as a way of speeding this along. How do

1 you want me to label this?

2 MR. HARSCH: I am more than happy to read the
3 testimony if it's agreeable to you.

4 (Discussion held off the record.)

5 (Witness sworn.)

6 JOHN JUSTICE

7 called as a witness being first duly sworn, was examined
8 and testified as follows:

9 My name is John B. Justice. I reside at 430
10 Cypress Creek, Collinsville, Illinois. I am employed by
11 the Illinois Environmental Protection Agency as the
12 Regional Manager for the Bureau of Air, Field Operations
13 Section. I received a Bachelor of Science degree in Civil
14 Engineering from the University of Missouri at Rolla in
15 1972. I received my license to practice as a professional
16 engineer in the State of Illinois in 1977. My license is
17 current.

18 I began my employment with IEPA/BOA/FOS in 1974 as
19 a field inspector in the Marion Regional Office. My
20 primary job responsibility was to conduct compliance
21 inspections at emission sources in the State of Illinois
22 and more specifically in what was, at that time, designated
23 as Region 5 for the Bureau of Air. Also included as my
24 responsibilities were observing stack testing and

1 conducting investigations to evaluate variance petitions in
2 Region 5. At that time, Union County was included as one
3 of the 27 counties in Region 5.

4 My first inspection at the subject source was in
5 1976 for the purpose of witness emission testing on the
6 exhaust stacks on the nitrator building. At his point in
7 time, the plant was known as Trojan Division of IMC
8 Chemical Group, Inc.

9 Since my first visit to the Wolf Lake Plant, I have
10 made a number visits. Seven of the inspections were
11 conducted as variance petition investigations, all of which
12 were pre-1985 and dealt with the open-burning of obsolete
13 explosives, obsolete explosive contaminated equipment,
14 obsolete explosive structures, contaminated off-spec
15 explosives and explosive contaminated waste materials. In
16 1985, Charles Hayduk began working for IEPA/BOA/FOS in the
17 Marion Office and was given the responsibility of
18 conducting inspections in the Union County area.

19 In 1986, I became the Regional Manager for Region 3
20 and have retained that position to this day. My
21 responsibilities as Regional Manager include oversight and
22 management of 9 inspectors within 50 counties in the
23 southern and east central portions of the State of Illinois
24 for the purpose of surveillance activities relating to Air

1 Pollution Control regulations.

2 As a result of Mr. Hayduk's extended illness and
3 due to my familiarity with the Wolf Lake site, I took over the
4 investigation and technical review for the Adjusted
5 Standard Petition.

6 By way of background in this matter, I am going to
7 summarize my investigation concerning EBCo. My initial
8 inspection was on May 4, 2001. I was met by Scott
9 Merriman, Hazmat Technical Operator for EBCo. He indicated
10 that Mr. Buchanan was not available until 11 a.m. We went
11 to the Melt Pour Building where the cast boosters are
12 manufactured. The petition stated that explosive materials
13 used in this operation are trinitrotoluene (TNT), Tritonal
14 (Aluminized TNT) pentaerythritol tetranitrate (PETN) that
15 are melted in large pots and poured into cardboard
16 cylinders. Small amounts of cyclonite (RDX) and
17 composition B (RDX & TNT) are used in the process.

18 Wastes generated at this process are primarily the
19 packaging materials from the PETN, the cardboard boxes are
20 used for the repackaging of the demilitarized explosives,
21 and contaminated explosive materials. This includes the
22 original cardboard drums that the explosive is transported
23 to the facility along with smaller cardboard boxes that are
24 used for repackaging of this explosive material, so it may

1 be more easily handled in the booster production area.
2 Some of the smaller cardboard boxes are reused a number of
3 times.

4 Smaller amounts of wash down sump, scrubber sludge
5 and contaminated charcoal filter media are generated in
6 this area. These waste streams are classified as K044 and
7 K045, and are flashed in the on-site burn area. As these
8 materials are generated, they are put in storage containers
9 and placed in their on-site storage area.

10 The booster operation had been cleaned the evening
11 before I visited in preparation for the weekend, and no
12 production was taking place at this time.

13 We went next to the centrifuge area where the
14 company receives the PETN in cardboard boxes with plastic
15 liners. The PETN is received by EBCo in a wetted state.
16 EBCo uses a centrifuge to dewater the PETN, before to
17 sending it to be processed into boosters. Waste materials
18 from this process are cardboard boxes, plastic liners and
19 explosive contaminated water. The boxes are reused until
20 they are no longer functional and then burned. The plastic
21 liners are burned. The contaminated water goes to the
22 booster building for treatment, and the resulting waste is
23 burned with the K044 and K045 waste materials.

24 We then proceeded to the Primaline manufacturing

1 building. They receive premanufactured detonation cord and
2 cut it into specific lengths based on product demands. Mr.
3 Merriman indicated that the area generates approximately 20
4 pounds per week of this waste material. It is normally
5 burned with the PETN waste.

6 We next inspected the Primadet non-electric delay
7 detonator assembly area. In this area they crimp
8 non-electric blasting caps on to shock tube or detonation
9 cord. Mr. Merriman explained that they manufacture these
10 capped cord coils as they are ordered. Mr. Merriman
11 indicated that the machines used to manufacture these coils
12 must be cleaned frequently by wiping them down with rags.
13 He said this area generates about 100 pounds per month of
14 wipe down rags and off-spec caps and detonator assemblies.
15 These materials are disposed of off-site at Onyx in Sauget,
16 Illinois.

17 We next proceeded to the break out building.
18 This is where EBCo receives and inspected decommissioned
19 explosive materials to be cleaned of contaminants. It is
20 then repackaged into smaller containers for easier handling
21 and transport to the booster operation. Waste materials
22 from this area are spills, floor sweepings, off-spec
23 explosive materials and contaminated packaging. The decon
24 explosive materials observed this day were received in

1 large cardboard cylindrical containers with metal bands
2 around the ends. These shipments are purchased under
3 contract from the military and may arrive in a variety of
4 DOT approved containers.

5 We then proceeded to the burn area. There are
6 three specific burn sites within the fenced burn unit
7 area. One burn pad handles the RCRA listed waste material
8 K044 and K045. Another burn pad handles waste explosives
9 D003, and the third is a small burn pit used to burn the
10 explosive contaminated waste materials, which based on
11 their 2000 IEPA RCRA inspection report are classified as
12 nonhazardous. The two burn pads used to burn RCRA
13 hazardous wastes were recently upgraded to add motorized
14 covers to prevent precipitation contamination from the
15 burned residues to the surrounding areas. There is a
16 cyclone fence that surrounds the two burn pads and burn
17 pit, and the burn pit for the nonhazardous waste has an
18 additional wire enclosure over its top. The enclosure
19 appears to be in good condition. No burning was taking
20 place at this time. During this inspection most of the
21 processes were not operating.

22 Since Mr. Buchanan had not returned at the
23 conclusion of my inspection, I met with him on May 17 at
24 the Collinsville regional office. He indicated that some

1 of the material generated at the EBCo Graham, Kentucky
2 facility, which in the past had been open burned is
3 currently going to ICI Explosive Environmental Company
4 located in Joplin, Missouri. He indicated that ICI had
5 received their RCRA Part-B permit from the State of
6 Missouri. He also supplied some cost information for
7 disposal of waste at this facility: \$5-7 dollars per round
8 for nonhazardous waste and \$5-15 per pound for hazardous
9 waste materials. These figures did not include packaging
10 and shipping costs. Mr. Buchanan indicated that he would
11 provide me with the phone number for Mr. Zoghby, a
12 representative of ICI, so that I could follow up.

13 Mr. Buchanan suggested that he was looking into a
14 possible disposal method for their nonhazardous wastes that
15 could reduce the amount of explosive contaminated packaging
16 materials waste by as much as 50 percent. He indicated
17 that due to the nature of this waste material the paper
18 recycling industry could use the paper and cardboard as a
19 raw material. He said that once this material comes into
20 contact with water, it is desensitized and safe for them to
21 handle and process. I asked him why this had not been
22 discussed in the petition, and he answered that he did not
23 have a customer for the material at present, but could
24 potentially have one in the near future.

1 I followed up with Mr. Buchanan by phone on June 18
2 and June 25, 2001 to obtain the phone number for ICI and
3 discuss other alternatives. On June 125, 2001 I contacted
4 Mr. Dave Zoghby, Business Director of ICI who said that ICI
5 in Joplin, Missouri could receive and treat all kinds of
6 explosive and potentially explosive contaminated waste. I
7 requested and later received information on the
8 incinerator. Mr. Zoghby also indicated that Safety Kleen
9 Inc. has a site in Louisiana that could accept and treat
10 these types of wastes. We also discussed the accident that
11 had occurred three years prior.

12 I then revisited the facility on April 9,
13 2002 to allow me the opportunity to reinspect the
14 generating points of the contaminated explosive materials.
15 During the May 4, 2001 inspection, the booster process was
16 not operating, making it difficult for me to observe the
17 points of waste generation. This inspection was a result
18 of the March 27, 2002 meeting with the company. I was met
19 by Mr. Buchanan and indicated that I was most interested in
20 where the contaminated explosive waste materials, D003 were
21 generated and how EBCo decided which cardboard could be
22 recycled and which was classified as explosive contaminated
23 packaging material. Mr. Buchanan said that sorting
24 packaging material was based on a visual inspection of

1 boxes and containers.

2 We discussed the primer cord that exceeded their 90
3 day storage limit. Mr. Buchanan said that they had shipped
4 approximately 700 pounds of primer cord to Onyx for
5 disposal. The material was shipped as class 1.1 explosive
6 materials.

7 We also discussed possible annual limits for the
8 pending variance request. Mr. Buchanan indicated that they
9 could live with annual limits of 31,200 pounds for
10 explosive waste and 65,000 pounds for potentially explosive
11 contaminated waste. I did not agree or disagree with such
12 limits.

13 We then proceeded to the booster process and
14 observed operations. I noted the various operations
15 resulting in waste materials and their handling
16 procedures. The contaminated explosive materials are sent
17 to the screening operation for inspection and possible
18 reuse. Any recyclable materials are then placed back into
19 the melting pots. We also observed a new recycling
20 activity, which removes explosive materials from obsolete
21 boosters which would otherwise be classified as off-spec
22 product. A small amount of the waste materials results
23 from this activity which are contaminated small balloons
24 and cardboard sleeves. We next went to the break out

1 area. There was no activity in this area on this day. We
2 also inspected the non-electric delay detonator assembly
3 area, the burn unit site and the cardboard baling area.

4 On August 13, 2002 I inspected the Onyx hazardous
5 waste site in Sauget, Illinois. The purpose of my visit
6 was to evaluate the company's storage capabilities and
7 capacity to store explosive and potentially explosive
8 contaminated wastes on-site and their ability to treat
9 these types of waste materials. I have met with Dennis
10 Warchol, the environmental manager. Mr. Warchol was
11 familiar with waste materials currently being shipped to
12 Onyx from EBCo for incineration and treatment, waste
13 detonators, blasting caps and waste detonator assemblies,
14 configured devices.

15 Onyx is permitted to store under their RCRA
16 permit 1.3, 1.4, 1.5 and 1.6 class explosives, but not 1.1
17 or 1.2. They are permitted storage of up to 100,000 pounds
18 of explosive waste materials. The bunker for explosives
19 storage is a 27 foot by 30 foot enclosure with the
20 capability to accommodate 180 55-gallon drums. They are
21 permitted to treat all classes of explosives. This means
22 for the waste materials currently being shipped from EBCo
23 to Onyx must be fed into the unit continuously until it is
24 gone. They are not permitted to store it on-site.

1 As I have testified, my inspection findings
2 determined that there are at least three companies that can
3 legally dispose of Petitioner's waste materials. They are
4 ICI Explosives Environmental, Onyx Environmental Services,
5 and Safety Kleen's Grant Parish Facility. Based on
6 discussions with Petitioner and employees of the IEPA, it
7 also appears that some non-incineration types of disposal
8 methods exist such as land filling of the nonhazardous
9 waste and desensitizing the hazardous waste to a
10 nonhazardous waste to open up cheaper and safer disposal
11 methods. EBCo has not presented the Agency with the facts
12 that support the conclusion that open burning is the best
13 way to go and supports their Adjusted Standard.

14 HEARING OFFICER LANGHOFF: Let the record reflect
15 that Mr. John B. Justice has read his testimony into the
16 record. Anything further from Mr. Justice?

17 MS. DOCTORS: No.

18 HEARING OFFICER LANGHOFF: Cross examination?

19 CROSS EXAMINATION

20 BY MR. HARSCH:

21 Q. Mr. Justice, has the Agency ever, to your
22 knowledge, made any complaint to EBCo for the operation of
23 their waste burn unit or flashing of obsolete equipment?

24 A. Not to my knowledge.

1 Q. Are you aware of any complaints from any
2 member of the public with respect to the operation of these
3 units?

4 A. No. I am not.

5 Q. You would be aware if the Agency had made a
6 complaint or any complaints had been made to the Agency,
7 would you, not in your position?

8 A. Would I would say yes I should.

9 Q. Do you concur with the summary in the opening
10 statement made by Ms. Doctors regarding the lack of an
11 environmental problem associated within the direct burning?

12 A. Yes, I do.

13 Q. So you have had the opportunity to thoroughly
14 inspect, as well as the inspectors on your staff have had
15 an opportunity to thoroughly inspect the EBCo facilities at
16 all times that you have made visits to the plant, correct?

17 A. Yes.

18 Q. Would you agree with the assessment that Mr.
19 Buchanan testified to as to his working relationship with
20 the Agency?

21 A. Yes, I would.

22 Q. And that extends personally to you and from
23 you back to Todd, does it not?

24 A. Yes.

1 Q. In your testimony regarding your observations
2 of the Onyx facility, it was not presented in any means to
3 contradict any of the statements that Mr. Buchanan made on
4 the record regarding his assessment of the Onyx facility
5 was it?

6 A. It was made to educate myself with their
7 storage capabilities and their firing capabilities dealing
8 with explosive wastes.

9 Q. You are in agreement with the
10 characterizations Mr. Buchanan provided on the record?

11 A. I have some questions with the packaging
12 material, but there again that goes back to how it's
13 classified, and if it deals with -- and this is something
14 that I thought about while I have been here. If it deals
15 with the type of material that the cardboard is
16 contaminated with, then yes. I would agree with that, but
17 if it deals with the waste material as a whole, then I
18 might have a question about that.

19 Q. When you reference that bunker size of 27
20 feet by 30 feet enclosure, that is a smaller volume than
21 the truck that EBCo normally uses to ship material to
22 Sauget, is it not?

23 A. That, I don't know.

24 Q. I might add it's a fairly large building.

1 Now, those are dimensions provided to me by Mr. Warchol,
2 and it's a three bay wide. I don't know if you are
3 familiar with their storage, but it's a three bay wide
4 type. It's one bay, but it's three aisles wide, and it's
5 as deep as what the normal bay would be.

6 Q. Your reference to Safety Kleen Grant Parish
7 facility, that is the Louisiana facility that Mr. Buchanan
8 testified to?

9 A. Yes.

10 Q. Have you inspected that facility?

11 A. No. I have not.

12 Q. Would it surprise you to learn that that
13 facility accepts all types of materials for open burning?

14 A. No. It would not.

15 Q. Would it surprise you to know that that site
16 is a potential Superfund site for ground contamination?

17 A. That wouldn't surprise me, no.

18 Q. You might expect that given that past
19 practice?

20 A. If I knew the kind of waste they had been
21 receiving over the past few years I might expect it.

22 Q. Do you personally believe that there is merit
23 from an environmental basis and a safety basis to land fill
24 the types of materials that Mr. Buchanan currently destroys

1 on-site?

2 A. Can you repeat that?

3 Q. From a personal standpoint, based on your
4 experience, do you believe there is any merit from an
5 environmental standpoint and or a safety standpoint in
6 landfilling the materials that are currently destroyed of
7 by Todd on-site that he has testified to?

8 A. My decision on that is based primarily on
9 talking to the people down in the Marion office that
10 inspect Ensign Bickford's site. They tell me that that
11 material can by its -- I would assume they are talking
12 about the profile for the material, the non-RCRA
13 classification -- can be stored at surrounding at the --
14 and didn't identify any one particular one, but surrounding
15 landfills or landfills permitted in the State of Illinois.
16 Anywhere beyond, I haven't gone anywhere beyond that other
17 than to learn that information. As far as personally
18 environmentally, I am not -- I don't work for the Bureau of
19 Land, but there would have to be a trade-off in burying
20 something versus burning it.

21 Q. Are you familiar with the Agency's position
22 basically that, apart from landfilling, the other available
23 alternative is to haul the material to ICI in Joplin,
24 Missouri for disposal?

1 A. Those are the alternatives that appear to be
2 within the regulations.

3 Q. Do you have any idea what the emissions would
4 be from the diesel engines and trucks to haul that amount
5 of material to Joplin, Missouri?

6 A. No. But I have thought about it.

7 Q. What has your thought been?

8 A. It would be at least an argument on your
9 part.

10 Q. Pretty good argument?

11 A. That, I couldn't say.

12 Q. You saw the pounds that were used by Mr.
13 Trzupsek in his testimony, did you not?

14 A. Yes.

15 Q. Would there be, in fact, an environmental air
16 pollution trade off by the diesel fumes from hauling it.

17 A. There could potentially be, but I don't know
18 what they would be.

19 Q. Do you know what the emission factor is for a
20 diesel engine per mile?

21 A. No, I don't.

22 Q. Do you have that available at the Agency?

23 A. Yes, we do.

24 Q. Would you provide that to me?

1 A. If it's okay it with my counsel, I would be
2 more than happy to.

3 Q. I am asking if you would be willing to
4 provide it to me, would you please?

5 A. If I get approval from my counsel I will.

6 MR. HARSCH: Counsel?

7 MS. DOCTORS: I don't know why we wouldn't provide
8 a piece of information that is already available.

9 MR. HARSCH: Thank you. Maybe we should calculate
10 what that trade off might be.

11 Q. You have not had any inquiries from the
12 forest service over EBCo's operations?

13 A. Not to my knowledge.

14 Q. During your inspection when you were
15 referring to the boxes of the PETN shipped back sent from
16 Graham to EBCo's Wolf Lake facility in return, if the box
17 had lost its functionality, is it your understanding if the
18 box was not contaminated if it no longer met DOT
19 requirements but had not been contaminated, Mr. Buchanan's
20 practice is to ship that?

21 A. That is my understanding.

22 MR. HARSCH: I have no further questions.

23 MS. DOCTORS: Is there anything you need to add?

24 A. I don't see any need.

1 HEARING OFFICER LANGHOFF: Thank you Mr. Justice.
2 Anything further Ms. Doctors?

3 MS. DOCTORS: No. I have nothing further.

4 MR. HARSCH: We have no rebuttal.

5 (Discussion held off the record.)

6 HEARING OFFICER LANGHOFF: On the record, the
7 parties have indicated that they are going to waive any
8 closing arguments and provide those in their briefs. I
9 want to read that briefing schedule in the record at this
10 time.

11 The transcript of these proceedings will be
12 available from the court reporter by September 10, 2002. I
13 want to establish a public comment period of 14 days. The
14 Agency has indicated that they may be filing another
15 amended recommendation. The Agency will file a
16 recommendation or notify the Board and EBCo that they will
17 not be filing that recommendation by October 3, 2002.
18 EBCo's brief will be due by November 7, 2002, and the mail
19 box rule will apply. The Agency's brief will be due by
20 December 12, 2002, and again the mailbox rule will apply.
21 The transcript of the proceedings here today is usually put
22 on the Board's web site within a day or two of its
23 availability. I will attempt to get it on the web site the
24 day the Board receives it. I would like to note our web

1 site address is www.ipcb.state.il.us.

2 All post hearing comments must be filed in
3 accordance with Section 101.10. Public comments must be
4 filed by September 12, 2002. The mailbox Rule 34 Ill. Adm.
5 Code 101.1072d and 101.144c will apply to any post hearing
6 filings. That means they must be postmarked by September
7 12.

8 Is there anything further from the parties before
9 we conclude?

10 MR. HARSCH: Mr. Hearing Officer, I personally on
11 behalf of EBCo and myself would like to thank you and the
12 Agency for the courtesies you have shown today in this long
13 hearing.

14 HEARING OFFICER LANGHOFF: Thank you, Mr. Harsh.

15 I want to note there are no members of the public
16 present that want to make statements on the record. I am
17 required to make a statement as to the credibility of
18 witnesses testifying during this hearing. This statement
19 is to be based on my legal judgment and experience, and
20 accordingly, I state I have found all the witnesses
21 testifying to be credible. Credibility should not be an
22 issue for the Board to consider in rendering a decision in
23 this case.

24 At this time I will conclude the proceedings. It's

1 Thursday August 29, 2002 at approximately 5:15 in the
2 evening. I thank everybody. I wish everybody a safe and
3 pleasant drive home. Thank you very much.

4 (End of proceedings.)

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

I, Stacy A. Wilson, an Certified Shorthand Reporter in the State of Illinois, do hereby certify that I reported in machine shorthand the proceedings had on the hearing in the above entitled cause; that I thereafter caused the foregoing to be transcribed into typewriting, which I hereby certify to be a true and accurate transcript of the proceedings had before the Illinois Pollution Control Board.

IN WITNESS WHEREOF, I have subscribed my name and affixed my Notarial Seal on the 10th day of September, 2002.

STACY A. WILSON, CSR
#084-003906

NOTARY PUBLIC

