

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PETITION OF BIG RIVER ZINC
CORPORATION FOR AN ADJUSTED
STANDARD UNDER 35 ILL. ADM. CODE
720.131(c)

AS 08-09
(Adjusted Standard-Land)

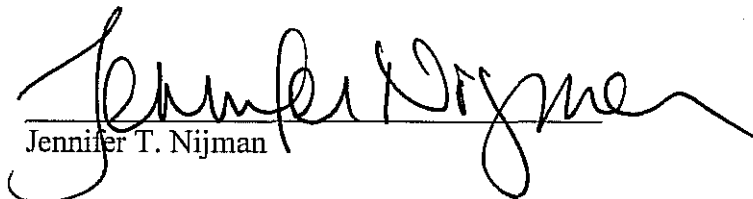
NOTICE OF FILING

Pollution Control Board
Attn: John T. Therriault
100 West Randolph Street
James R. Thompson Center, Suite 11-500
Chicago, IL 60601-3218

William D. Ingersoll
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Carol Webb, Hearing Officer
Illinois Pollution Control Board
1021 North Grand Avenue East
P.O. Box 19274
Springfield, IL 62794-9274

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the attached Amended Petition for Adjusted Standard of Big River Zinc Corporation, a copy of which is herewith served upon you.


Jennifer T. Nijman

Date: July 14, 2008
Jennifer T. Nijman
Nijman Franzetti LLP
10 S. LaSalle Street, Suite 3600
Chicago, Il 60603
(312) 251-5255

CERTIFICATE OF SERVICE

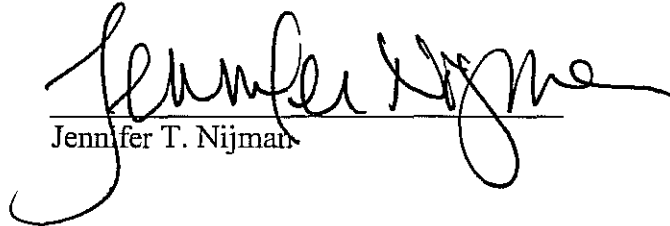
I, the undersigned, certify that I have served the attached Amended Petition for Adjusted Standard, by electronically filing with the Board and by first class mail upon IEPA and the

Hearing Officer:

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PETITION OF BIG RIVER ZINC
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AMENDED PETITION FOR ADJUSTED STANDARD

Big River Zinc Corporation (“BRZ”), by its undersigned counsel, submits this Amended Petition to respond to the Hearing Officer Order of June 26, 2008, Attachment A. BRZ is not requesting a substantive change to the requested relief in AS 08-9 and therefore need not re-notice the Amended Petition nor repeat the entire unchanged portion of the original filing. 35 Ill. Adm. Code 104.418(a) and (d). For ease of review, BRZ restates each of the Hearing Officer’s questions below and responds in turn. In addition, BRZ refers to the Findings of Fact and Discussion by the Board in In the Matter of Petition of Big River Zinc Corporation for an Adjusted Standard, AS 99-3, Opinion and Order of the Board, 4/15/99 (attached as tab C to BRZ’s Motion to Incorporate Documents by Reference).

1. Besides refining to produce zinc metal, please describe the other processes to which BRZ expects its washed material to be subjected, as well as the resulting end products and their uses.

BRZ currently expects its washed EAF zinc oxide to be processed to make zinc metal.

However, because the purpose of this modification to BRZ’s existing Adjusted Standard is to allow BRZ to wash zinc oxide for others, BRZ wants to ensure that the ultimate customer base is not limited to only processors of zinc metal given that other beneficial markets exist for washed zinc oxide. As described in the attached Affidavit of George Obeldobel in Support of Amended

Petition for Adjust Standard (“Aff.”), zinc oxide can be used to make high purity zinc sulfate, which is used in products such as fertilizer and animal feed (Aff. at para 4). In addition, high purity zinc oxide can be used in paints, ceramics and rubber products, among other products (Aff. at para 4).

2. A. Please provide information about existing or prospective contracts for BRZ’s contemplated sale or return of washed EAF zinc oxide and any other relevant information concerning the extent to which an end market for BRZ’s washed material is guaranteed.

BRZ is close to finalizing a washing agreement with Steel Dust Recycling to deliver to BRZ approximately 1500 tons per month of zinc oxide to be washed. Steel Dust Recycling is ready to ship the material as soon as BRZ receives this amendment to Condition 2.a.(1) (Aff. para 5). In addition, BRZ is in discussions with a second entity for washing, and expects also to wash zinc oxide for BRZ’s sister company by mid-2010 (Aff. at para 6, 7).

2. B. Please describe the collection and testing methodology used to gather this data and any plans BRZ has for such sampling in the future.

BRZ’s existing Adjusted Standard for washing and processing EAF zinc oxide, granted in 1999, includes a condition requiring BRZ to take monthly “representative samples of the zinc oxide material that it accepts from each supplier and composite the samples on a supplier-specific basis” as well as testing composite samples on a monthly basis for specified constituents using EPA methods (Aff. at para 8). BRZ has complied and will continue to comply with this sampling condition (Aff. at para 9). In addition, each batch of zinc oxide will be sampled and composited after the material is washed. The composite will be analyzed to ensure the quality of the washed product on a frequency of no less than once per month (Aff. at para 10).

2. C. Could a supplier or third party decline to accept a shipment of BRZ’s washed EAF zinc oxide, such as for elevated levels of inorganic salts? If so, how would rejected material be handled?

It is unlikely that a supplier or third party will decline to accept a shipment of the washed EAF zinc oxide because the material will be sampled as described above to ensure the supplier's specifications are met. Moreover, the washed material has significant market value and could either be returned to BRZ and rewashed if requested, or sold as is by the supplier for different end use or at a discount. The discounted sale of off-spec feed materials is typical in the zinc refining industry (Aff. para 11).

2. D. Please explain how BRZ plans to "return" the washed EAF zinc oxide to the "original supplier." Would the actual material received from a given supplier, after washing, be returned to that supplier?

Each supplier of EAF zinc oxide to BRZ will receive back its own material after it is washed. BRZ does not currently plan to co-mingle the EAF zinc oxide it receives (Aff. at para 12). In the future, some limited co-mingling may occur if BRZ receives a significant amount of EAF zinc oxide from more than one supplier, the material is of similar quality, and the suppliers agree to allow some co-mingling (Aff. at para 12).

3. Please provide any updated information about existing or prospective contracts for BRZ's contemplated acquisition of EAF zinc oxide, the economic value of and markets for EAF zinc oxide, and BRZ's proposed handling of incoming EAF zinc oxide from its arrival at the Sauget facility through the washing phase, including the anticipated volumes, any permitting, and the manner and duration of any storage.

BRZ's contracts and agreements (including volume) for the acquisition of EAF zinc oxide for washing are described above in the response to question 2.A. and in the attached Affidavit of George Obeldobel at paragraphs 3, 5-7. These agreements are the "market" for the washed zinc oxide as the supplier will take the material back after washing. The ultimate uses of the material, in addition to zinc metal, are described above in the response to question 1. The economic value of the washed EAF zinc oxide was described by Mr. Obeldobel in his 5/22/08 Affidavit in this

matter, attached to BRZ's Reply to Response of IEPA to Petition for Adjusted Standard. Mr.

Obeldobel stated:

The value of the washed oxide on the market is similar to the value of mined zinc concentrate. There is a standard formula for which the constants are negotiated every year for purchasing concentrates. While terms can vary year to year, the long term price is approximately 55 to 65% of the LME (London Metal Exchange) zinc price for the zinc contained in the oxide, delivered to the customer. The LME zinc price has ranged from \$800 per metric tonne to about \$4000 per metric tonne of zinc this decade. The washed oxide will contain about 65% zinc. The current LME price is about \$2200 per metric tonne zinc. See attached page from London Metals Exchange. Therefore, the approximate value of washed oxide today would be about $0.6 \times 65\% \times \$2200 = \858 per metric tonne delivered. Even if the LME zinc price falls, the difference in the washing fee and the market price leaves significant room for profit for the supplier of the crude zinc oxide.

BRZ will use the same handling methods and washing process for incoming EAF zinc oxide as it used in the past when the material would arrive for washing and then further refining by BRZ (Aff. at para 13). The material is unloaded from rail car or truck through closed pneumatic system ventilated air to silos equipped with HEPA filters, then to a washing tank, and then to a covered storage building (Aff. at para 13-14). Typically, material will be stored in the silos for 3 days or less, so as to allow a steady feed rate to the washing circuit. The unloading and washing process has not changed. Instead of washed material being transported from the covered storage building to BRZ's refining operation, however, this adjusted standard will allow BRZ the option of transportation by the supplier to a supplier-directed location (Aff. at para 14-15). An updated process flow diagram for the washing is attached to Mr. Obeldobel's Affidavit (Aff. at Exhibit B). The washed product will be stored inside and only long enough to allow for efficient transportation by the supplier (Aff. at para 14). BRZ has obtained all applicable permits for its washing operation (Aff. at para 16) and only waits approval of this modification to allow it to begin washing zinc oxide as requested herein.

4. Please provide information on how the material that is to depart from the Sauget facility would be handled after the washing phase, including the anticipated volumes, any permitting, and the manner and duration of any storage, how loss would be minimized, and how washed material would be delivered to customers.

Typically, there is about a 10% weight loss upon washing (dry basis) since certain salts are dissolved. The washed EAF zinc oxide will be in the form of wet filter cake (Aff. at para 14). The filter cake will be dropped through a chute into a truck and then transported about 200 feet to a covered storage building where it will be stored inside the building on its concrete floor. As noted above, storage will only be long enough to collect sufficient quantity for efficient transportation by the supplier, and not for more than approximately 2 months (Aff. at para 14). Because the material is damp, no spillage typically occurs and loss is minimized. BRZ also uses a sweeper to pick up minimal quantities of material that might fall during transportation or loading (Aff. at para 14). The supplier is responsible for transportation from BRZ (covered truck or rail) and meeting transportation requirements (Aff. at para 15). BRZ's process is properly permitted (Aff. at para 16). The washed material has significant value and all parties are incentivized to minimize loss (Aff. at para 18).

5. Please describe BRZ's planned expansion of the Sauget facility's washing operation and how the expansion would affect the handling of both incoming EAF zinc oxide and washed material headed either for off-site destinations or on-site refining.

BRZ's expansion is not expected to occur until the second half of 2009, when larger quantities of EAF zinc oxide would be delivered for washing. The material handling would be upgraded to allow for the additional volume, including additional silos, a more efficient unloading system, and a more efficient system (such as conveyors) for moving the larger

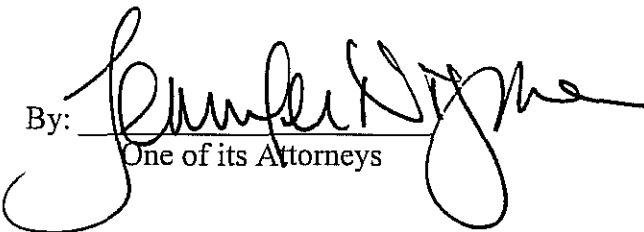
quantities of washed material to storage for ultimate refining or transportation (Aff. at para 17).

The handling process would generally remain the same.

WHEREFORE, Big River Zinc requests that the Board grant its request for an amendment to Condition 2.a (1) of its adjusted standard AS-99-3.

Respectfully submitted,

Big River Zinc Corporation

By: 
One of its Attorneys

Jennifer T. Nijman
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10 S. LaSalle St, Suite 3600
Chicago, Illinois 60603
(312) 251-5255

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PETITION OF BIG RIVER ZINC
CORPORATION FOR AN ADJUSTED
STANDARD UNDER 35 ILL. ADM. CODE
720.131(c)

AS 08-9
(Adjusted Standard – Land)

AFFIDAVIT OF GEORGE OBELDOBEL IN SUPPORT OF AMENDED PETITION FOR
ADJUSTED STANDARD

I, George Obeldobel, being first duly sworn on oath, depose and state as follows:

1. I am over the age of 18 years and am a resident of Chesterfield, Missouri.
2. The information in this Affidavit is based on my personal knowledge or belief in my capacity as President and Chief Executive Officer of Big River Zinc Corporation (“BRZ” or the “Facility”) in Sauget, Illinois, and I would testify to such matters if called as a witness.
3. I previously issued an affidavit discussing the need to wash the EAF zinc oxide. Washing the EAF zinc oxide effectively reduces chloride, fluoride, sodium and potassium and creates a more marketable product for further processing. There is a market for washed zinc oxide and the product has significant value. I am familiar with the Nyrstar zinc smelter in Tennessee which currently purchases approximately 15,000 tons per year of washed zinc oxide from sources in Europe. Zinc smelters in Europe purchase washed zinc oxide from

Handwritten signature and date: "7/14/08" and "G. Obeldobel".

Befesa Zinc Aser and others, which perform a similar washing process to that which BRZ conducts in the United States.

4. BRZ currently expects the washed EAF zinc oxide to be processed to make zinc metal; however, the market for washed EAF zinc oxide is broader than only zinc metal.

Washed EAF zinc oxide can also be used to make high purity zinc sulfate, which is used in products such as fertilizer and animal feed, and to produce high purity zinc oxide, which can be used in the composition of certain paints and ceramics. See, e.g.

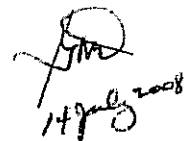
http://www.tetramicro.com/controller/home?_load=default (describing use of zinc sulfate for animal feed); <http://www.pahc.com/> (describing product phibro chem from zinc oxide);

<http://www.stallonezincoxide.com/> (describing both pharmaceutical and commercial uses for zinc oxide, including paints, ceramics, textiles, chemicals and rubber products);


<http://www.zincchemicals.umicore.com/zcProducts/zincOxide/Applications/> (describing world use of zinc oxide in 2004 at 1,000,000 tonnes, with applications such as agriculture, pharmaceutical,

ceramics and chemicals). Because the purpose of this modification to BRZ's existing Adjusted Standard is to allow BRZ to wash zinc oxide for others, BRZ does not want to limit its customers to only processors of zinc metal, given that other beneficial markets do exist for the washed zinc oxide.

5. BRZ is finalizing a washing agreement with Steel Dust Recycling ("SDR") of Millport, Alabama (www.steeldust.com). SDR creates zinc oxide and will provide the material to BRZ for washing. Once washed, SDR will pick up the washed zinc oxide and sell it to a zinc smelter. SDR expects to deliver to BRZ approximately 1500 tons per month of zinc oxide to be washed. As of July 10, 2008, SDR has informed BRZ that it is ready to begin shipping EAF zinc oxide to BRZ for washing.

Handwritten signature and date: 14 July 2008

6. BRZ is in preliminary discussions with PIZO (a joint venture between Heritage Environmental Services and Nucor Steel Corporation; www.pizotech.com) to wash zinc oxide for return to PIZO, beginning in approximately 2009. PIZO expects to deliver to BRZ approximately 1250 tons per month of material for washing. BRZ understands that PIZO expects to sell the washed material to a zinc smelter.
7. BRZ's sister company, Zinc and Iron Recycling of Ohio, Inc., is expected to be operational in mid 2010. It will produce approximately 7000 tons per month of zinc oxide to be washed by BRZ and then returned or sold in the market. The current plan is for BRZ to wash the oxide for sale to other zinc refineries. Once there is an adequate supply of zinc oxide, BRZ likely will process the washed zinc oxide itself to make zinc metal.
8. Pursuant to the Board's Order of May 6, 1999, in AS 99-3, BRZ is required to conduct specified sampling of the EAF zinc oxide it receives. The Board stated: "Each month, BRZ must take representative samples of the zinc oxide material that it accepts from each supplier and composite the samples on a supplier-specific basis. BRZ must test each composite sample on a monthly basis to determine the percentage by weight of zinc, lead, iron, total gangue materials (silica plus calcium plus magnesium), and chloride in the sample. Each sample must be collected and tested in accordance with generally accepted practices, such as those specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (Third Edition)." (5/6/99 Order of the Board, AS 99-3, attached hereto as Exhibit A).
9. BRZ conducted such sampling and provided results of the sampling to the Board in its petition in this case. (See Petition for Adjusted Standard, AS 99-08, Attachment B, Affidavit of George Obeldobel, 3/12/08, pp. 3-4). BRZ will continue to comply with this sampling


14 July 2008

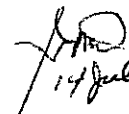
condition. Specifically, BRZ used EPA sampling method 9253 for chloride, method 9214 for fluoride, and method 7000 for iron, lead, potassium, sodium and zinc. On monthly composite samples of unwashed zinc oxide, BRZ sampled for percentages of zinc, chloride, fluoride, sodium, potassium and other materials to determine the quality of material before washing.

10. In addition to sampling the zinc oxide as it comes in to BRZ, each batch will be sampled and composited after the material is washed on a supplier-specific basis to ensure the quality of the washed product. BRZ will analyze washed samples for percentages of zinc, chloride, fluoride, sodium and potassium and other materials remaining in the washed zinc oxide, using EPA methods adapted to allow for the larger concentrations of elements being sampled. The composite will be analyzed on a frequency as required by the needs of the supplier or as required by the variability in washing efficiencies, but no less than once per month.
11. The material will be sampled as described above to ensure the supplier's specifications are met. Because of its significant market value, it is unlikely that a supplier would reject the washed zinc oxide material. It could be returned to BRZ and reworked if requested or sold as is by the supplier for a different end use or for the same use but at a discount to his contractual terms. The latter case is typical for the handling of off-spec feed materials in the zinc refining industry.
12. BRZ does not currently plan to co-mingle the EAF zinc oxide it receives, meaning that a supplier will receive back its own material after washing. In the future, if the supply of EAF zinc oxide to be washed becomes so significant and the facility is expanded, co-mingling

BRZ
14 July 2008

might take place but only with materials of similar quality and only with each supplier's approval.

13. BRZ will use the same handling methods and process for incoming EAF zinc oxide as described in its Application for Adjusted Standard Petition AS 99-3, which has been made part of the record in this case (Attachment A to BRZ's Motion to Incorporate Documents by Reference, pp. 11, 15-16) and as described in Opinion and Order of the Board, AS 99-3, April 15, 1999 (pp. 8-9, describing washing process for dry secondary zinc oxide material). The vast majority, if not all, of the EAF zinc oxide will arrive either by rail or truck. Both rail cars and trucks will be unloaded by ventilated air slides to silos, as described in the Application. BRZ has installed 2 silos (rather than 4 as noted in the Application) and one washing tank (rather than 3) because the additional equipment was not required for the actual installed capacities. An updated process flow diagram for the zinc oxide washing is attached as Exhibit B.
14. The washed EAF zinc oxide will be in the form of wet filter cake and will be transported by truck about 200 feet to a covered storage building. The washed product will be stored inside the covered storage building and on its concrete floor only long enough to collect sufficient quantity for transportation by the supplier, and not for more than approximately 2 months. The material is in a damp solid form and therefore no spillage typically occurs. In the event of any spillage during transportation or loading, BRZ uses a road sweeper to pick up material and transport it back to the storage building (roads are paved for this purpose). BRZ also has a facility-wide accident response program and trains its employees yearly on proper handling procedures.


14 July 2008

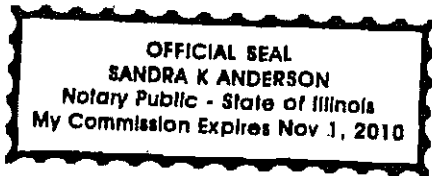
15. The washed filter cake is loaded into the shipping vehicle, fob Sauget, and the supplier is responsible for meeting any requirements for transportation by the supplier to a supplier-directed location.¹ BRZ will load trucks or rail cars for transportation, depending upon the requests of BRZ's supplier, and the vehicle will be covered before leaving the BRZ site to avoid any loss of the valuable material during shipment. The exterior of the trucks or rail cars will be inspected for any visible oxide and cleaned before they leave the plant.
16. BRZ has obtained applicable permits for its facility. In 1998, BRZ received from the Illinois Environmental Protection Agency Construction Permit no. 98070057 to construct the secondary zinc oxide receiving and washing plant, with appropriate environmental controls. In 2005, BRZ received its notice of completion for its CAAPP operating permit No. 96030107, which includes the oxide washing facility. BRZ also has a 2008-9 Wastewater Discharge permit No. 08-101 issued by American Bottoms Regional Treatment Facility which receives and regulates BRZ's waste water discharge. The permit is based upon BRZ washing zinc oxides and considers the specific composition of the washing solution.
17. Any expansion of the washing facility is not expected until approximately 2nd half 2009, when larger quantities of EAF Zinc oxide are delivered to BRZ for washing (for instance, by PIZO as described above). The handling of the material will remain the same in concept, but will simply allow for handling more volume, more efficiently. BRZ would expect to install additional silos, a more efficient pneumatic system for unloading, and a more efficient system for handling and loading large volumes of washed material. Any necessary permits for the expansion would be obtained at that time.

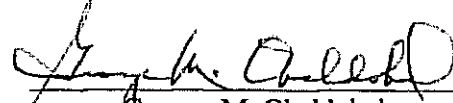
JMD
14 July 2008

¹ In the case of delivery to BRZ's related entity, Zinc and Iron Recycling of Ohio, Inc., BRZ may take responsibility for the delivery off-site and will follow all applicable transportation requirements.

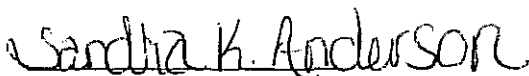
18. As described in my prior affidavit in this case, both the unwashed and the washed EAF zinc oxide have significant value on the market. BRZ is incentivized to minimize any loss and prevent any accumulation. (See Affidavit of George Obeldobel, 5/22/08, attached to BRZ Reply to Response of IEPA to Petition for Adjusted Standard).

FURTHER AFFIANT SAYETH NOT.




George M. Obeldobel
President & CEO - BRZ

Subscribed and sworn to before me
on July 14th, 2008.


Notary Public

My Commission Expires: 11/01/2010

Exhibit A to Affidavit

ILLINOIS POLLUTION CONTROL BOARD

May 6, 1999

IN THE MATTER OF:)
)
PETITION OF BIG RIVER ZINC) AS 99-3
CORPORATION FOR AN ADJUSTED) (Adjusted Standard - RCRA)
STANDARD UNDER 35 ILL. ADM. CODE)
720.131(c))

ORDER OF THE BOARD (by K.M. Hennessey):

On April 15, 1999, the Board granted petitioner Big River Zinc Corporation (BRZ) an adjusted standard, subject to certain conditions. On April 28, 1999, BRZ moved the Board to reconsider its decision. BRZ also moved the Board to decide the motion to reconsider at the Board's May 6, 1999 meeting. On May 5, 1999, the Illinois Environmental Protection Agency (IEPA) filed a response to the motion to reconsider.

The Board grants BRZ's motion to decide this matter today. The Board also grants BRZ's motion to reconsider and sets forth in this order the modified terms of BRZ's adjusted standard.

BACKGROUND

The Board's findings of fact and conclusions of law are set forth in its opinion of April 15, 1999 and are incorporated here by reference. Below, the Board highlights the facts and proceedings relevant to BRZ's motions.

BRZ operates an electrolytic zinc refinery in Sauget, St. Clair County, Illinois. BRZ uses various zinc-containing materials as feedstock for its refinery. BRZ sought an adjusted standard because it wants to use a zinc-containing material recovered from dust emitted from electric arc furnaces used to produce steel. This secondary zinc oxide material would ordinarily be considered a "solid waste" and a "hazardous waste" under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 *et seq.*, and corresponding Illinois laws and regulations. BRZ wants to use this secondary zinc oxide material without becoming subject to Illinois' hazardous waste requirements.

To that end, BRZ filed a petition for an adjusted standard under 35 Ill. Adm. Code 720.131(c). Section 720.131(c) allows the Board to determine that certain materials are not solid wastes if they meet certain criteria. The status of materials as "solid wastes" is significant because under the laws and regulations that Congress and the United States Environmental Protection Agency have established, only those materials that are "solid wastes" can be regulated as "hazardous wastes" under RCRA and corresponding Illinois laws and regulations. Those laws and regulations impose various requirements on persons who generate, treat, store, dispose, recycle, or transport hazardous waste. See 35 Ill. Adm. Code

722-726, 728. Materials that are not solid wastes are not subject to Illinois' hazardous waste regulations.

The secondary zinc oxide material for which BRZ sought an adjusted standard is recovered from electric arc furnace dust (EAF dust) by a high temperature metals recovery (HTMR) process. The Board refers to this material as "EAF zinc oxide." BRZ also proposed several conditions on the adjusted standard. IEPA recommended that the Board grant the adjusted standard, subject to the conditions that BRZ proposed.

In its April 15, 1999 opinion, the Board found that BRZ established that EAF zinc oxide is not a solid waste. The Board therefore granted BRZ's petition for an adjusted standard, but modified the conditions that BRZ had proposed.

MOTION TO EXPEDITE

BRZ moves the Board to decide the motion to reconsider at the Board's May 6, 1999 meeting. Motion to Expedite (Mot. Exp.) at 4. BRZ attached the sworn affidavit of George Obeldobel, President of BRZ (Affidavit), to both the motion to reconsider and the motion to expedite. BRZ is scheduled to begin receiving shipments of EAF zinc oxide on May 11, 1999. Affidavit at 4. BRZ states that its business relationships with its suppliers will be threatened if the Board does not modify the adjusted standard before that date. Mot. Exp. at 3.

The Board's resources permit it to address BRZ's motion to reconsider at the Board's May 6, 1999 meeting. Accordingly, the Board grants the motion to expedite and below rules on BRZ's motion to reconsider.

MOTION TO RECONSIDER

BRZ moves the Board to reconsider its April 15, 1999 decision in this matter. Motion to Reconsider (Mot. Rec.) at 1. Specifically, BRZ asks the Board to modify a condition of the adjusted standard that the Board granted to BRZ. *Id.* at 15. The adjusted standard reads as follows:

1. The Board finds that zinc oxide material produced by subjecting electric arc furnace (EAF) dust from the primary production of steel (K061 under 35 Ill. Adm. Code 721.132) to a high temperature metals recovery (HTMR) process is not a solid waste and grants Big River Zinc Corporation (BRZ) an adjusted standard under 35 Ill. Adm. Code 720.131(c).
2. The adjusted standard is subject to the following conditions:
 - a. The determination described in paragraph one of this order applies only to zinc oxide material:

- (1) that is to be processed through BRZ's electrolytic zinc refinery in Sauget, St. Clair County, Illinois;
 - (2) that is in Illinois;
 - (3) that has arrived at BRZ's Sauget, St. Clair County, Illinois facility or that is under a legally binding contract for sale to BRZ; and
 - (4) that meets the following specifications by weight:
 - (a) > 50% zinc;
 - (b) < 20% lead;
 - (c) < 5% iron (or < 7% iron in material produced by an HTMR unit during the first three months that the HTMR unit produces zinc oxide material from EAF dust from the primary production of steel (K061 under 35 Ill. Adm. Code 721.132));
 - (d) < 4% total gangue materials (silica plus calcium plus magnesium); and
 - (e) < 13% chloride;
- b. BRZ must maintain records that document the sources of all zinc oxide material that BRZ accepts under this adjusted standard;
 - c. BRZ must maintain records that demonstrate that each shipment of zinc oxide material that BRZ accepts under this adjusted standard meets the specifications set forth in paragraph 2(a)(4) of this order; for this demonstration, representative samples of each shipment of zinc oxide material must be collected, composited, and tested in accordance with generally accepted practices, such as those specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (Third Edition); and
 - d. BRZ must maintain the records required under paragraphs 2(b) and 2(c) of this order for a period of three years and must make such records available for inspection and copying at any reasonable time during normal business hours upon the Illinois Environmental Protection Agency's request.

In Re Petition of Big River Zinc Corporation (April 15, 1999), AS 99-3, slip op. at 18-19.

BRZ takes exception to the sampling requirements of paragraph 2(c) of the adjusted standard. In particular, BRZ asks the Board to amend this provision so that each shipment of EAF zinc oxide need not meet the specifications of paragraph 2(a)(4). Rather, BRZ proposes to determine compliance with the specifications based on a monthly composite of shipment samples. Mot. Rec. at 4, 15.

The Board notes that BRZ previously proposed sampling based on monthly averages. See Big River Zinc, AS 99-3, slip op. at 15. However, as the Board noted in its April 15, 1999 opinion, BRZ failed to adequately explain how its proposal would work. Specifically, BRZ failed to explain how it would composite samples and whether samples from different producers would be composited together or separately. In addition, BRZ proposed blending shipments that exceeded the specifications with other materials "such that the blended materials meet the specifications," but failed to explain how it would determine whether the blended materials meet the specifications. *Id.* at 16.

BRZ now explains that it proposes to sample each truckload, barge, railcar, or supersack of EAF zinc oxide that arrives at its facility. Mot. Rec. at 2, 5-7; Affidavit at 2-3. BRZ states that it would test a supplier-specific composite on a monthly basis for each supplier to determine compliance with the specifications. *Id.* BRZ states that it uses this sampling and testing approach for its mined zinc sulfide concentrates. Mot. Rec. at 2, 6-7; Affidavit at 2.

BRZ asserts that the requirement that each shipment of EAF zinc oxide meet the specifications is cost-prohibitive. Mot. Rec. at 8; Affidavit at 3. BRZ states that AmeriSteel, Inc. (AmeriSteel), which is expected to be a primary supplier to BRZ, and others like it would have to send samples off-site for testing. According to BRZ, these suppliers would have to hold the shipments for several days to await test results, resulting in demurrage fees. BRZ states that the off-site testing fees and demurrage fees would represent a significant portion (20-40%) of the value of the EAF zinc oxide. Mot. Rec. at 9-10; Affidavit at 3. For these reasons, BRZ concludes that the requirement that each shipment meet the specifications will prevent BRZ from purchasing EAF zinc oxide from its prospective suppliers. Mot. Rec. at 2-3, 5, 8; Affidavit at 3.

BRZ states that it can process an occasional shipment of inferior product and that it will ensure that all EAF zinc oxide received is processed. Affidavit at 3. BRZ states that if a supplier continues to provide inferior product, "BRZ will terminate its contract with its supplier and process whatever product remains." *Id.*

In its response, IEPA notes that while the Board's conditions were more strict than those that BRZ proposed, and IEPA agreed to, the Board's conditions were not without basis. IEPA Response (Resp.) at 3. IEPA believes, however, that if "process and [supplier] QA/QC [Quality Assurance/Quality Control] standards are met and consistently followed, that should

ensure a consistent product and less frequent sampling of actual content would be acceptable." *Id.* at 4. IEPA also suggests that the Board define shipment as a production cycle, or on a rolling average, rather than an individual truck or railcar. *Id.* IEPA also proposes that the Board permit BRZ to blend only within the same shipment. *Id.* IEPA further suggests that the Board allow "a reduction in the sampling frequency based on the generator's ability to use QA/QC procedures to produce consistently on-specification material." *Id.* at 5. It is not clear whether IEPA believes the material should be tested before or after it is shipped.

The Board notes that BRZ proposed the specifications as a condition of the adjusted standard. However, as noted above, the Board found that BRZ's proposed conditions, as interpreted by BRZ, were potentially unenforceable. Accordingly, the Board crafted enforceable conditions to address specifications and sampling. While BRZ now has clarified its proposal, BRZ's interpretation of its proposed conditions remains problematic.

These problems arise because BRZ continues to propose that the specifications be a condition of the adjusted standard. But BRZ will not know, until the end of the testing period, whether the material it has already received meets the required specifications on an average basis. If the material fails to meet the specifications, the adjusted standard would not apply to the material and the material would be considered a hazardous waste. In that situation, BRZ would have violated Illinois hazardous waste laws and regulations. For these reasons, BRZ's proposed condition is not workable.

Accordingly, the Board will take a different and more workable approach. The Board already has found that AmeriSteel's EAF zinc oxide meets specifications necessary for BRZ to process the material economically. See Big River Zinc, AS 99-3, slip op. at 14. Other HTMR processes are capable of producing a similar quality material. Hearing Exhibit 3 at 10, Attachment H. The Board further finds that BRZ plans to process all EAF zinc oxide that it receives and that if a supplier consistently provides an inferior product, BRZ would terminate its contract with that supplier. Affidavit at 3. Limiting the scope of the adjusted standard to EAF dust that has been processed by HTMR and that is to be processed through BRZ's electrolytic zinc refinery, as the Board did in its April 15, 1999 order, is an adequate proxy for the monthly average specifications. Accordingly, the Board will delete the condition regarding specifications from the adjusted standard. The Board also will modify the adjusted standard to clarify that it applies only to EAF zinc oxide that will undergo BRZ's electrolytic zinc refining process. The Board also will make other minor changes to the terms of the adjusted standard for clarification.

The Board took a similar approach in In re Petition of Recycle Technologies, Inc. (September 3, 1998), AS 97-9. In that case, the Board granted an adjusted standard under Section 720.131(c) to a petitioner that processed used automotive antifreeze. The Board did not impose a condition regarding specifications, but did limit the scope of the adjusted standard to used automotive antifreeze that the petitioner had processed in a specific manner and would further process in a specific manner. See Recycle Technologies, AS 97-9, slip op. at 12.

However, the Board does believe it necessary, as IEPA suggests, that BRZ sample and test the materials it receives. BRZ has already proposed that the adjusted standard require it to do so, and this information would allow IEPA to assess whether BRZ is indeed processing material that is EAF dust that has undergone HTMR processing. Accordingly, the Board will require BRZ each month to take representative samples of the material it receives from each supplier and composite the samples on a supplier-specific basis. BRZ must test each composite sample on a monthly basis, and maintain records of sampling and test results for three years and make those records available for IEPA to inspect.

The Board grants BRZ's motion to reconsider and grants BRZ the following amended adjusted standard:

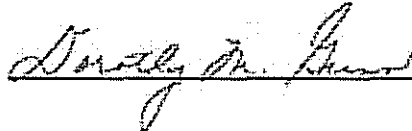
1. The Board finds that zinc oxide material produced by subjecting electric arc furnace (EAF) dust from the primary production of steel (K061 under 35 Ill. Adm. Code 721.132) to a high temperature metals recovery (HTMR) process is not a solid waste and grants Big River Zinc Corporation (BRZ) an adjusted standard under 35 Ill. Adm. Code 720.131(c).
2. The adjusted standard is subject to the following conditions:
 - a. The determination described in paragraph one of this order applies only to zinc oxide material:
 - (1) that will undergo BRZ's electrolytic zinc refining process at its facility in Sauget, St. Clair County, Illinois;
 - (2) that is in Illinois; and
 - (3) that has arrived at BRZ's Sauget, St. Clair County, Illinois facility or that is under a legally binding contract for sale to BRZ;
 - b. BRZ must maintain records identifying the suppliers of all zinc oxide material that BRZ accepts under this adjusted standard;
 - c. Each month, BRZ must take representative samples of the zinc oxide material that it accepts from each supplier and composite the samples on a supplier-specific basis. BRZ must test each composite sample on a monthly basis to determine the percentage by weight of zinc, lead, iron, total gangue materials (silica plus calcium plus magnesium), and chloride in the sample. Each sample must be collected and tested in accordance with generally accepted practices, such as those specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (Third Edition); and

- d. BRZ must maintain records of the information required in paragraphs 2(b) and 2(c) of this order for a period of three years and must make them available for the Illinois Environmental Protection Agency (IEPA) to inspect and copy at any reasonable time during normal business hours upon IEPA's request.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1996)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of service of this order. Illinois Supreme Court Rule 335 establishes such filing requirements. See 172 Ill. 2d R. 335; see also 35 Ill. Adm. Code 101.246, Motions for Reconsideration.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above order was adopted on the 6th day of May 1999 by a vote of 7-0.

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

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

Exhibit B to Affidavit

Flow diagram for EAF Zinc oxide wash plant

