

ILLINOIS POLLUTION CONTROL BOARD
February 6, 1992

IN THE MATTER OF:)
)
PETITION OF KEYSTONE STEEL) AS 91-1
AND WIRE CO. FOR) (RCRA Delisting
HAZARDOUS WASTE DELISTING) Adjusted Standard)
)

LEE R. CUNNINGHAM OF GARDNER, CARTON & DOUGLAS APPEARED ON BEHALF OF PETITIONER.

TODD RETTIG APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

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

This matter comes before the Board on the filing of a petition for adjusted standard by Keystone Steel and Wire Company (Keystone). Keystone seeks an exclusion for its chemically stabilized electric arc furnace dust from the list of hazardous wastes from specific sources found at 35 Ill. Adm. Code 721.132. This is a case of first impression before the Board, as it involves the Board's first use of its full RCRA waste delisting authority.

Procedural History

On January 22, 1991, Keystone filed a petition for adjusted standard from 35 Ill. Adm. Code 721.132 for the treated electric arc furnace dust (K061) waste produced at its Peoria County facility. At the time this petition was filed, the Board was in the process of adopting adjusted standard procedural rules tailored to handle delisting petitions. On February 28, 1991, the Board continued this proceeding until after final adoption of R90-17 on the motions of the Agency and Keystone. In addition, the Board delayed Keystone's filing of proof of publication and the Agency's filing of its recommendation until after the approximate effective date of R90-17. In the Matter of: RCRA Delistings, R90-17, 119 PCB 181, February 28, 1991, effective May 9, 1991.

The Board amended 35 Ill. Adm. Code 720.120, 720.122, 721.110 and 721.111 in R90-17 on February 28, 1991, (effective May 9, 1991) to allow use of the adjusted standards procedures for delistings. These amendments were made by the Board in response to the March 1, 1990, USEPA delegation of authority to Illinois to administer several additional components of the RCRA program, including the authority to delist hazardous waste in

lieu of USEPA and pursuant to 35 Ill. Adm. Code 720.122. (55 Fed. Reg. 7320.) Several post-adoption modifications to R90-17 were made in a Board Order of April 11, 1991.

Keystone filed supplemental information on July 9, 1991. On September 26, 1991, the Board granted the Agency's motion to file recommendation instanter and its recommendation filed with the Board on September 16, 1991. The Board also granted Keystone's motion for leave to file a response to the Agency recommendation filed September 23, 1991. On October 24, 1991, the Board granted the Agency's motion to file instanter a reply to Keystone's response filed with the Board on October 21, 1991. Hearing was waived and no hearing has been held.

BACKGROUND

Keystone's facility is located on 639 acres in the southern portion of Peoria, Illinois. The Peoria facility manufactures 5-inch square billets, steel rods, fencing, welded fabric, special wire products, and nails using two electric arc furnaces for the production of the steel, a billet caster, a rod mill, and a wire mill.

The electric arc furnaces produce molten liquid steel from sized and graded scrap steel. Keystone provided seven months of scrap inventory data, including grades and usage in charge tons, with its petition. [Pet. at Appendix G.] Keystone maintains that there are minimal production variables because a fairly standard selection of scrap materials are used to feed the furnaces. [Pet. at 17 and 19.] The scrap metal and fluxes are melted at approximately 3000 degrees Fahrenheit. [Pet. at 16.] Keystone asserts that any oil, grease, or volatile substances present in the scrap metal are volatilized and destroyed in the high temperatures of the furnaces. [Pet. at 10, 17.] Specific additives are added as required to the molten steel before it is poured through the billet casting machine. The billets are cooled, reheated, and rolled or pressed into rods.

The electric arc furnaces generate gases which carry particulate matter during production of steel. The particulate matter is collected by air pollution control equipment as dust or sludge depending on the pollution control method.¹ The dust is listed as a hazardous waste in 35 Ill. Adm. Code 721.132. The dust at Keystone's facility is collected in two baghouses which are drawn down daily. [Pet. at 19.] Keystone's furnaces produce approximately 30 tons of baghouse dust per day or 10,000 tons per year. The dust is red brown, has particles which generally range

¹ Although the pertinent regulations refer to "emission control dust/sludge", only the dust is relevant to this adjusted standard.

in size between 0.1 to 14 microns, and is fairly uniform in composition. [Pet. at 17.] Present disposal of the furnace dust is to an off-site hazardous waste (Part B) landfill. [Pet. at 2.] Keystone states that if the delisting petition is approved, the dust will be sent to the stabilization process equipment via a pneumatic conveyance which will be designed to eliminate fugitive emissions and then sent to a nonhazardous landfill. [Pet. at 22, 27.]

REGULATORY FRAMEWORK

Section 22.4 of the Act requires that the identification and listing of hazardous wastes in Illinois must be identical in substance to that in the USEPA's RCRA program (40 C.F.R. 261). Regulations governing the identification and listing of hazardous wastes are found in 35 Ill. Adm. Code 721. Pertinent to this adjusted standard are the lists of hazardous wastes in 35 Ill. Adm. Code 721.Subpart D. Under 35 Ill. Adm. Code 721.132, titled "Hazardous Waste from Specific Sources", the "emission control dust/sludge from the primary production of steel in electric furnaces" is a hazardous waste from the iron and steel industry, with a EPA Hazardous Waste Number of K061 and a hazard code of "T". 35 Ill. Adm. Code 721.Appendix I contains a list of wastes which have been excluded (delisted) from the lists of hazardous wastes pursuant to 35 Ill. Adm. Code 720.

The Board's regulations for delisting of wastes are contained in 35 Ill. Adm. Code 720.Subpart C, as amended in R90-17. In the Matter of: RCRA Delistings, R90-17, 119 PCB 181, February 28, 1991, effective May 9, 1991. Section 720.122(n) provides, in part, as follows:

Section 720.122 Waste Delisting

- (n) Delistings which have not been adopted by USEPA may be proposed to the Board pursuant to a petition for adjusted standard pursuant to 35 Ill. Adm. Code 106.Subpart G. The justification for the adjusted standard is as specified in subsections (a) et seq., as applicable to the waste in question.

Section 720.122(d) provides the level of justification for wastes listed in code "T". Section (d) states:

- (d) Toxic waste. If the waste is listed in code "T" . . . :

- (1) the petitioner shall demonstrate that the waste:

- (A) Does not contain the constituent or constituents (as defined in 35 Ill. Adm. Code 721.Appendix G) that caused USEPA to list the waste, using the appropriate test methods

prescribed . . .; or

- (B) Although containing one or more of the hazardous constituents (as defined in 35 Ill. Adm. Code 721.Appendix G) that caused USEPA to list the waste, does not meet the criterion of 35 Ill. Adm. Code 721.111(a)(3) when considering the factors used in 35 Ill. Adm. Code 721.111(a)(3)(A) through (K) under which the waste was listed as hazardous; and

* * *

- (3) The petitioner shall demonstrate that the waste does not exhibit any of the characteristics, defined in 35 Ill. Adm. Code 721.121, 721.122, 721.123 or 721.124 using any applicable methods prescribed in those Sections.

In addition to the requirements of Section 720.122(n), a petition for adjusted standard must also comply with 35 Ill. Adm. Code 720.122(i). Subsection (i) contains a list of 12 additional points of information necessary to have a complete and reviewable petition. These twelve items will be discussed later in this opinion.

PROPOSED ADJUSTED STANDARD

As previously stated, Keystone requests an adjusted standard to delist its chemically stabilized electric arc furnace dust from Section 721.132. The delisting would allow Keystone to dispose of its stabilized dust at a non-RCRA landfill. Keystone's petition requests that the Board make the following determination in this adjusted standard:

Emission control dust/sludge from the primary production of steel in electric furnaces at the Keystone Steel and Wire Corporation's steel making facility located at 7000 S.W. Adams Street in Peoria, Illinois, is not a hazardous waste pursuant to 35 Ill. Adm. 721.132 after stabilization by the Super Detox process.²

Keystone's petition discussed each of the eleven factors present in Section 721.111(a)(3), as well as the requirements of Sections 720.122(d)(3), and 720.122(h) and (i). The Board has summarized the discussion below, beginning with the criteria in Section 721.111(a)(3)(A) through (K).

² The Super Detox process is a trade secret process.

A. Nature of Toxicity - Keystone states that although the constituents that make the waste hazardous are still present after treatment, the treatment renders the constituents unavailable to the environment "at concentrations sufficient to cause environmental harm."

B. Concentration of Constituents in Waste - The concentrations will be slightly lower than approximately 0.109% chromium, 1.535% lead and 0.046% cadmium after treatment.

C. Migration Potential - Keystone states that the elements of concern will not leach out in quantities exceeding six times the National Primary Drinking Water Standard (NPDWS). The VHS model predicts that water outside the landfill boundaries will meet the NPDWS.

D. and E. Persistence and Degradation and Degradation into Non Harmful Constituents - Keystone states that the constituents will persist and not degrade after stabilization treatment.

F. Bioaccumulation - Keystone asserts that the stabilization process makes the elements of concern unavailable to the environment.

G. and I. Plausible Improper Management and Improper Management Environmental Impacts - Keystone states that adverse impacts could not occur unless "the material [was] continuously left exposed and subjected to extreme acidic washes over an extended period of time" as demonstrated by multiple extraction procedure tests. Keystone asserts that landfill conditions like that cannot reasonably be anticipated.

H. Waste Quantities Generated - At normal operating capacity, approximately 30 tons of baghouse dust per day or 10,000 tons per year are generated. After stabilization, the stabilized waste is about 1.4 times the original weight of the dust. [Pet. at 7.]

J. and K. Other Governmental Activities and Other Factors - Keystone refers the Board to a USEPA delisting that is based on the same stabilization process Keystone proposes to use.

Pursuant to Section 720.122(d)(3), Keystone states that the characteristic of ignitability is not of concern since the dust has been exposed to temperatures exceeding 3000 degrees Fahrenheit and the stabilization treatment does not add materials which are ignitable. Neither are the characteristics of corrosivity or reactivity present in the stabilized waste.

Keystone does not believe that there are any factors which could cause its stabilized waste to be hazardous under this section.

Keystone's petition also discussed each of the requirements listed in Sections 720.122(h) and (i). For subsection (h), Keystone asserts that the sampling of wastes it used was representative of the uniformity of the dust. The samples were taken over a 24 day period, and were composited into six samples.

Keystone's petition also provided the additional information required by Section 720.122(i). The Board will summarize this information. For factors (1) and (2), Keystone provided the name and address of the laboratory and the names and qualifications of the personnel at the laboratory that performed the sampling and testing of the treated and untreated waste. In addition, Keystone supplied information on the laboratory's quality control and quality assurance programs. For factor (3), Keystone presented the dates of sampling and testing, as well as a letter from USEPA approving Keystone's proposed sampling and testing program with certain changes.

For factors (4), (5), (6) and (7), Keystone gave descriptions of the manufacturing processes, feed materials, and waste; estimates of the average, monthly, and annual quantities of the waste; the location of its facility; and a discussion of the criteria for listing a hazardous waste. Much of this information has already been discussed in this opinion in the Background section and in the above discussion concerning the factors in Section 721.111(a)(3).

Factors (8) and (9) require a description of the methodologies and equipment used to sample the waste. The petition states that Keystone's samples were taken daily from each baghouse before entering the storage silo, and composited as one daily sample for each of twenty four days. The samples were collected by an engineer, sealed and labeled, and forwarded to the laboratory with chain-of-custody forms. The samples were individually analyzed and afterwards the three daily composites with the highest total metal concentrations were kept separate while the remaining daily composites were placed in three test composites of seven samples each. These six composite samples were then tested and analyzed before and after Super Detox processing. [Pet. at 19-21, Appendix B.]

The untreated waste was analyzed for total constituents and the treated waste samples were tested with the Toxicity Characteristic Leaching Procedure (TCLP) followed by the Multiple Extraction Procedure (MEP). Keystone provided the results of the tests in its appendices in accord with factor (10). For factor (11), all the names and model numbers of the instruments used for testing the samples was presented in Appendix J. Appendix M contains the certification statement required by factor (12).

On July 9, 1991, Keystone filed supplemental information with the Board concerning the zinc content of the untreated dust. On page 18 of the petition, Keystone had stated the zinc content of the dust as 13.64 percent. The supplemental information corrected this amount to 19 percent. Keystone asserts that the difference results from a change in sampling and testing procedures instead of an actual change in the zinc content of the samples. Keystone states that "[t]hus, the testing data presented in the petition for the stabilized EAF dust should continue to accurately reflect the leachability of the material." Keystone contends that this supplemental information has no significant impact on the delisting petition because "even if there has been a significant increase in the zinc content of the EAF dust, CSI [laboratory] has assured Keystone that its stabilization process will produce a uniform product in terms of leachability over a wide range of zinc contents."

AGENCY RECOMMENDATION

The Agency filed its recommendation on September 16, 1991. The Agency recommended that the petition for adjusted standard be denied due to informational deficiencies that prevented the Agency "from assessing the environmental and public health impacts of the waste" in question. The alleged information deficiencies are solely related to the vertical and horizontal spread model (VHS model) relied upon by Keystone for several of its requirements. The Agency claimed that, of the numerous factors which Keystone had to respond to and which are laid out above, fourteen could not be reviewed because the Agency could not substantiate Keystone's assertions independently without the information requested on the VHS model. The Agency asserts that the VHS model predicts not only potential mobility of hazardous constituents but also characteristics of the waste.

The basis of the Agency's concern is that it must be able to perform uniform and accurate reviews of contaminant transport models to achieve reliable and accurate recommendations as required by the adjusted standard regulations. The Agency's requests for information stemmed from the Board regulations for contaminant transport model reviews found at 35 Ill. Adm. Code 811.317, 812.316, and 813.111. The Agency recognized that these regulations were not specifically applicable to delisting petitions but believed they provided guidance for achieving uniformity and accuracy in delisting matters. In its "Agency Reply to Keystone's Response", filed October 21, 1991, the Agency claimed that it was not "challenging the validity or appropriateness of the VHS model" but rather, it was seeking "information that will substantiate the VHS models [sic] appropriateness, reliability and validity."

In the event the Board granted the petition, the Agency response also contained proposed language for the adjusted

standard which would prevent the Illinois RCRA program from being less than substantially equivalent to the federal RCRA program. The language proposed therefore parallels the language used by the USEPA for delistings of electric arc furnace dust from other members of the iron and steel industry. This language is used in substantial part by the Board for this delisting and will not therefore be reproduced here.

BOARD DISCUSSION

This adjusted standard petition for delisting is the first of its kind before the Board. Prior to March 1990, only the USEPA had the authority to delist a hazardous waste in Illinois. The Board could only adopt a delisting identical in substance to the federal action taken by USEPA. The Board, therefore, did not undertake a review or analysis of the information contained in the petitions for delisting. With this docket, AS91-1, the Board and the Agency must for the first time assess the assertions, evidence, testing, and supporting documentation submitted in a petition to delist. Without doubt, this delisting under the new authority is the most difficult because of the questions and uncertainties normally associated with a matter of first impression. Although many of these problems were foreseen and resolved in the R90-17 rulemaking, others have arisen.

The Adjusted Standard Process

The pathway along which this first adjusted standard delisting request wended its way to the Board for decision strongly suggests that it would be advantageous to discuss the use of the adjusted standard procedure itself, and more specifically its use for delistings.

The adjusted standard procedure evolved from an earlier "exception procedure", developed in a cooperative effort by the Agency and the Board. It was crafted to address the special needs of a number of sewage treatment facilities needing timely facility-specific standards for their combined sewer overflows. The procedure proved to be a welcome alternative to the lengthy, resource intensive "site specific" regulatory process, the only option generally available at the time. Subsequently, the Act was amended and regulations developed to generically authorize what are now called "adjusted standards". We note that the removal of the mandatory hearing formerly required in the exception procedure gave promise of even more efficiencies. With certain adaptations to suit federal procedural expectations, it is this adjusted standards process that is intended to be followed in the delisting process.

No matter what adaptations are provided for in the adjusted standard procedural route, what is essential is that by the time the matter reaches the Board for decision, the Agency as well as

the petitioner, either together, or separately in disagreement, have identified all the issues and responded to them. Where delisting of RCRA hazardous wastes are being considered, the Agency's assessment of all the criteria and other informational matters that the USEPA expects the Board to rule upon is of particular importance.

It is intended that the entity seeking the adjusted standard and the Agency assemble and review the informational justification before a petition is filed before the Board. We have found that the potential for getting the Agency to come in as a co-petitioner is ample incentive for the petitioner to make every effort to accommodate the Agency's informational needs at that time. If the Agency approves the petition prepared by the entity, the best way to keep to a minimum any further burden on the Board's, and certainly the Agency's, resources is for it to "sign off" in agreement as a co-petitioner. Unless the Board needs some special counsel from the Agency, (such as its reaction to something new in a Federal Register), no further Agency "paper" is necessary; no separate responses are necessary. Even if a hearing is held, the Agency has no procedural obligation to prepare pre-hearing, at hearing, or post-hearing "paper". We have found that the Agency's participation at hearing as a co-petitioner usually is one of response to requests for clarification.

If the Agency does not come in as a co-petitioner, then the Agency's resource burden increases, though not to the degree as would a site-specific proceeding. The regulations provide that the Agency shall state the basis for its decision not to be a co-petitioner. That Agency decision, unappealable, allows for a honing of the issues and, potentially, a pre-filing resolution of them. Once the petition is filed, the Agency must file a response to the Board 30 days after the petition is filed. The time may seem short, but the procedure is based on the expectation that a) at this juncture all of the information has been reviewed, b) the Agency has a problem with the petition, and c) all of the areas of disagreement, including "grant only with conditions", would be articulated by the Agency, having been identified during the pre-filing interaction between the petitioner and the Agency. The procedure even provides for a last-shot "prior to hearing" opportunity for dispute resolution and adding the Agency as a co-petitioner at that time.

The essence of the adjusted standard procedure is to develop the information, the issues, and the response at the front end of the process. This proceeding went in the opposite direction, and resulted in major substantive areas not being addressed by the Agency at all. The Agency was granted over 100 days of extension beyond the 30 days to file its response, and then for the first time informed the Board that it would not consider or evaluate a major portion of the petition "due to informational deficiencies

concerning the VHS model". Additionally, the Agency stated that it would, if asked by the Board, conduct a review of any of the deficient information that Keystone might be ordered to supply, estimating that such review would take another 45 days. Because the Board is finding that there is no informational deficiency, the consequence is that, at the back end of this proceeding, the Board does not have the benefit of the Agency's input on criteria whose review is required under the state's federally derived delisting provisions.

We advise that, where a perceived deficiency exists that threatens to frustrate a full Agency response, either the Agency or the petitioner should bring the matter to the Board at the outset. The petitioner, for example, as a first step may wish to extend the Agency's response date so as to provide more information to the Agency. See, In the Matter of: Petition of the Illinois-American Water Company for an Adjusted Standard et al., AS 91-11, January 23, 1992. The Agency may wish to move to dismiss for deficiency, as it has in variance proceedings like Land & Lakes Company v. IEPA, PCB 91-215, January 23, 1992, or take other action as appropriate, so long as the matter is resolved before the Agency files its response, or alternatively comes in as a co-petitioner.

USEPA Review Methodology

In addition to following the adjusted standard procedures, the Board believes the most appropriate manner to evaluate delisting petitions, and the easiest, is to follow the format and techniques of the USEPA as detailed in Federal Register notices on this subject matter. The USEPA's approach for evaluating delisting petitions is presented in several notices of proposed and final rules in the Federal Register. Both Keystone and the Agency have provided these notices in their various filings with the Board. USEPA states:

"In making a delisting determination, the [USEPA] evaluates each petitioned waste against the listing criteria and factors listed [as in 35 Ill. Adm. Code 720]. * * * If, however, the Agency agrees with the petitioner that the waste is non-hazardous with respect to the original listing criteria, [USEPA] then will evaluate the waste with respect to other factors or criteria, if there is a reasonable basis to believe that such additional factors could cause the waste to be hazardous. * * * The Agency [uses] such information to identify plausible exposure routes for hazardous constituents present in the wastes and, [uses] a particular fate and transport model [VHS model] to predict the concentration of hazardous constituents that may be released from the petitioned wastes after disposal and to determine the potential impact of the unregulated disposal of [the] petitioned wastes on human health and the

environment."

53 Fed. Reg. 23662, Hazardous Waste Management System: Identification and Listing Proposed Exclusions (June 23, 1988).

For electric arc furnace wastes, the USEPA's general approach has been to allow a delisting if the leachate concentrations predicted by the vertical and horizontal spread (VHS) model are below the maximum concentration levels (MCL), or health based action level, for each constituent of concern in the waste. The USEPA uses the VHS model as support for a delisting petition on the assumption that the worst-case disposal scenario for the delisted hazardous waste is landfilling. Under a landfill disposal scenario, the major route of exposure for any leachate constituent of concern would be ingestion of contaminated groundwater. The VHS model is a groundwater contaminant transport (GCT) model that uses a set of parameter values (not site-specific) that represent a reasonable worst-case scenario to generate conservative predictions of the concentrations of hazardous constituents at a distance 500 ft from the source.³

The VHS model predictions are used to determine whether concentrations will be below the MCL for each constituent of concern. For a given volume of waste, the concentration of a leached hazardous constituent at the hypothetical compliance point (500 ft from the facility) can be predicted by multiplying the constituent's leachate concentration by the VHS model dilution factor. The VHS model dilution factors for any constituent of concern have been determined by USEPA for a range of annual waste volumes (475-8000 yd³). See, USEPA Memorandum, Solid Waste and Emergency Response Office, dated July 7, 1986 in Keystone's Response to Agency Recommendation, Attachment H.

An important development in USEPA's delisting review methodology occurred in 1991. On July 18, 1991, the USEPA formally proposed the use of the EPA's Composite Model for Landfills (EPACML) to replace the VHS model as the fate and transport model of choice for evaluation of delisting petitions. 56 Fed. Reg. 32993 (July 18, 1991). The proposed rule on EPACML asserts that the EPACML is a more sophisticated model than the VHS model and that USEPA hopes to replace the VHS with the EPACML model.

On December 30, 1991, the USEPA responded to comments

³ USEPA will not use site specific parameters because once a waste is delisted, the ability to predict and control the disposal of the waste is terminated.

concerning the use of the EPACML in a delisting petition for a K088 waste. 56 Fed. Reg. 67197 (December 30, 1991). Several statements made by USEPA in that delisting forewarn of a change in USEPA policy which will affect the State's delisting reviews and all future delisting petitioners. The USEPA stated:

"the [USEPA] believes that, in this case, the EPACML model is an appropriate tool to use in the evaluation . . . because, as noted in the proposal, the [USEPA] believes that disposal in a landfill is a reasonable worst-case scenario for [the] petitioned waste.

* * *

[USEPA is allowed] to use delisting models as a non-binding policy so long as the [USEPA] exercises discretion in individual delisting cases and remains open to challenges to its use.

* * *

In the future the [USEPA] may consider amending 40 CFR 260.22 to incorporate the use of the EPACML into the delisting regulations.

* * *

While the results to [sic] the EPACML and VHS are similar in some ways . . . , the EPACML yields somewhat higher DAFs [dilution attenuation factors] than the VHS model for a given volume of waste. Therefore, the Agency believes that delistings granted in the past would likely be granted if re-evaluated using the newer model. USEPA is evaluating the impact of the new model on conditional delistings (i.e., delistings that require verification testing of the waste, . . .) and will consider the need for re-evaluation on a case-by-case basis."

56 Fed. Reg. 67202-67203, Hazardous Waste Management System: Identification and Listing of Hazardous Waste; Final Exclusion (December 30, 1991).

Board Review of Keystone's Petition

Keystone's petition is properly filed pursuant to Section 720.122(n). Both the Agency and Keystone agree that Keystone cannot meet the level of justification in Section 720.122(d)(1)(A) because the treated waste still contains the constituents (lead, cadmium, and hexavalent chromium) which caused it to be listed by USEPA. (35 Ill. Adm. Code 721.Appendix G.) Therefore, Keystone must be able to meet the level of

justification in Section 720.122(d)(1)(B) and Section 720.122(d)(3) to satisfy 35 Ill. Adm. Code 106.903(b). Additionally, Keystone's petition must include the information requested in Section 720.122(i)(1) through (12) and Section 106.705(a) through (1) pursuant to 35 Ill. Adm. Code 106.705.

Keystone has provided information on all the points required in the applicable sections of Parts 720, 721, and 106. The Agency recommended a denial of the petition for adjusted standard and stated the reasons for its recommendation. The Board must determine, after consideration of the Agency's recommendation, whether Keystone has met the level of justification.

The Board's determination under Section 720.122(d)(1)(B), is made after evaluation of certain criteria listed in Section 721.111(a)(3)(A) through (K). The information provided by Keystone's petition on each of the criteria has been summarized earlier. The Agency recommendation declined to respond to Keystone's petition on criteria A-G, I, and K, citing informational deficiencies concerning the VHS model. As for criteria H, the Agency stated that it relied upon the accuracy of Keystone's petition because it had no independent verification of the amount of waste generated. For criteria J, concerning other government actions, the Agency again cited to informational deficiencies relating to the VHS model and then mentioned the USEPA's new land disposal restrictions affecting electric arc furnace dust.

Section 720.122(d)(3) requires that a petitioner demonstrate that its waste does not exhibit the characteristics of ignitability, corrosivity, reactivity, or toxicity as defined in 35 Ill. Adm. Code 721.121, 721.122, 721.123, and 721.124, respectively. Keystone's petition states that its waste does not exhibit these characteristics. The Agency declined to respond to Keystone's petition citing informational deficiencies concerning the VHS model.

In response to Section 720.122(h), governing the quantity and quality of the sampling techniques to be used, Keystone discussed its sampling program in detail. The Agency recommendation stated that the sampling techniques were acceptable in terms of quality.

With regards to the factors listed under Section 720.122(i), the Agency found the sampling methodology, equipment, handling, and preparation carried out by Keystone and the laboratory and the attached certification to be "appropriate" and/or "acceptable". [Factors 1, 8, 9, 11, and 12.] The statements describing the facility location, manufacturing process, and sampling and test dates were considered "accurate" by the Agency. [Factors 3, 4, and 5.] The Agency stated that it had no independent verification and had to rely on the accuracy of

Keystone's petition for the project members, waste production, tests performed, equipment used, and test results. [Factors 2, 6, and 10.] For factor 7, concerning the characteristics for listing a hazardous waste, the Agency declined to respond to Keystone's petition citing informational deficiencies concerning the VHS model.

Despite the alleged deficiencies concerning the VHS model, the Board cannot understand the Agency's refusal to review those criteria and factors which do not concern the VHS model. The criteria listed in Sections 720.122 and 721.111, according to federal law, must be evaluated and found acceptable before a delisting petition may be granted. A reasonable number of the criteria not addressed at all by the Agency, and required by federal law in a delisting petition, do not concern the mobility of hazardous constituents as predicted by the VHS model. For instance, the Agency did not need the VHS model to determine if the SW-846 methods Keystone used to perform the analyses on its untreated dust were proper for determining the concentration of the constituents of the waste. Neither would a contaminant transport model have helped the Agency evaluate the presence of the characteristics of ignitability, corrosivity, reactivity, and toxicity.

For those criteria which did depend on the VHS model, we suggest that the Agency did have enough information to perform a review. Such a review would not have precluded the Agency from simultaneously filing an objection to the use of the model and its alleged deficiencies. The Agency was supplied with an extensive amount of information on the VHS model from USEPA notices in the Federal Register. These notices provide detailed descriptions of the modeling objective, attributes, and parameters.⁴ Additionally, these notices show that the USEPA has used the VHS model since 1985 to evaluate delisting petitions for landfill disposal.

The effect of the Agency's challenge to Keystone's use of the VHS model was to challenge USEPA's use of the VHS model. It was reasonable for Keystone to cite to and provide copies of USEPA's detailed Federal Register notices. The basic tenet for everyone is that Illinois' delegated delisting processes must be compatible with those of the USEPA. In the same vein, where the delisting methods, tests, and procedures are already used for the same purpose by the USEPA for its own determinations, they are acceptable to the Board on this basis alone. In so saying, we

⁴ 54 Fed. Reg. 43832 (October 27, 1989); 50 FR 7882 (February 26, 1985); 50 FR 48896 (November 27, 1985), and the RCRA public docket for these notices provide a detailed description of the VHS model and its parameters. Keystone provided these Federal Register notices to the Agency in August of 1991.

emphasize that the Agency is free to challenge whether the petitioner is using the USEPA referenced test or model inaccurately or for an inappropriate purpose. Also, a petitioner would need to defend the proposed use of alternative tests or models.

The Board notes that the leachate analyses data included in Keystone's petition (Attachment K) indicates that the leachate concentrations of all the listed waste constituents when multiplied by the VHS model dilution factor will meet the MCLs or health based action levels at the compliance point. Therefore, the Board finds that Keystone has demonstrated, in accordance with Section 720.122(d), that its stabilized waste does not meet the criterion of 721.111(a)(3) for listing a hazardous waste. In addition, the Board concludes that Keystone has sufficiently addressed all items of Section 720.122(i) and Section 106.705 which were relevant prior to August 19, 1991. Keystone's petition is deficient in several areas of concern which arose after that date and will be discussed in full below.

USEPA Treatment Standards

The Board will now address the concerns raised by the USEPA's Final Rule on Land Disposal Restrictions for Electric Arc Furnace Dust (K061) providing treatment standards for K061 nonwastewaters in the high zinc subcategory (containing equal to or greater than 15% total zinc). These new regulations are relevant to the Board's decision because of the necessity of keeping the Illinois program substantially equivalent to the federal program. If a USEPA decision to delist would be based on these regulations then the Board believes that it also should base its decision on these regulations.

The history of K061 treatment standards begins on August 17, 1988, when USEPA established two subcategories for nonwastewater forms of K061; low zinc (less than 15% total zinc) and high zinc (greater than or equal to 15% total zinc) as determined at the point of initial generation. The treatment standards for low zinc K061 regulated the concentration of four metals. For high zinc K061, the USEPA instituted an interim treatment standard identical to the low zinc standard for a two year period expiring on August 8, 1990. 53 Fed. Reg. 31162-31164 (August 17, 1988). The USEPA decided to extend the interim standard for an additional year due to considerations of insufficient storage capacity. 56 Fed. Reg. 41167 (August 19, 1991).

On August 19, 1991, the USEPA published its final rule for

treatment standards of high zinc nonwastewater K061 waste.⁵ 56 Fed. Reg. 41164 (August 19, 1991). The new rule contains concentration based treatment standards for 14 metals generally present in K061 wastes. The standards were developed from treatment performance data for high temperature metal recovery (HTMR) processes. USEPA chose the HTMR process as best demonstrated available technology (BDAT) because of the resource recovery, waste minimization potential, and effective metal immobilization which occurs during treatment. The reasons why USEPA is regulating fourteen metals for high zinc K061, instead of just the four in low zinc K061, are stated at 56 Fed. Reg. 41167, 41168 (August 19, 1991). USEPA's final rule also includes generic exclusion conditions for delisting nonwastewater K061 waste treated by the HTMR process. The generic exclusion conditions include numerical exclusion levels derived from BDAT treatment standards and VHS modeling for 14 constituents except zinc, and require placement of the treated K061 waste in a RCRA Subtitle D landfill.

With regard to the ability of stabilization processes to meet the new standards, the USEPA discussed both the shortcomings and the capabilities of stabilization in the notice of final rule. According to USEPA, the stabilization process has been documented to be highly matrix dependent, prone to chemical interferences, and demonstrating variable leaching behavior. In addition, the stabilization process generally increases waste volumes. 56 Fed. Reg. 41173. Nonetheless, stabilization technologies are capable of achieving the new treatment standards. 56 Fed. Reg. 41167, 41169. Therefore, the stabilization processes are not precluded from use by the new rule as long as the residues "comply with the concentration-based standards prior to land disposal (assuming that land disposal occurs) and provided that these levels have not been achieved through the use of impermissible dilution." 56 Fed. Reg. 41170. USEPA also notes that a "generic exclusion level" for stabilized K061 residues was not proposed due to insufficient data on stabilization processes. USEPA finally states that "facility-specific delisting remains an option for stabilized K061 wastes." 56 Fed. Reg. 41173.

The USEPA's notice of final rules notes that the high zinc nonwastewater K061 waste regulations take effect in all States, regardless of their authorization status. Therefore, treated high zinc nonwastewater K061 wastes in Illinois must meet the new standards. As stated in its supplemental information, Keystone's

⁵ The Board is updating its RCRA regulations in R91-13 for those USEPA actions taken between January 1, 1991 through June 30, 1991. The next RCRA update docket the Board opens will be for USEPA actions taken between July 1, 1991 through December 31, 1991 and will include the new K061 rule.

waste is a high zinc nonwastewater K061 waste and is subject to the new standards. However, the Board notes that it is not able to ascertain whether or not Keystone's treated waste meets the treatment standards since Keystone's petition includes leachate analysis data for only 9 of the 14 constituents for which the USEPA has specified treatment standards.⁶ Instead of delaying this decision by asking for the missing information, the Board believes that it is reasonable to use the generic exclusion levels developed for the BDAT (HTMR) processes to delist Keystone's stabilized K061 waste.

Based on the following reasons, the Board has chosen to use the generic exclusion levels derived from BDAT treatment standards and VHS modeling and listed in 56 Fed. Reg. 41164 (August 19, 1991) for the purposes of delisting Keystone's waste. First, requiring that Keystone's stabilized waste meets the BDAT exclusion levels ensures that it is in compliance with the high zinc K061 waste treatment standard and therefore can be delisted. Second, USEPA has stated that stabilization technologies are capable of meeting the BDAT treatment standards. Therefore, the Board will grant the petition for adjusted standard conditioned on Keystone's meeting the new generic exclusion levels found, at this time, in 40 CFR 268 as amended in 56 Fed. Reg. 41164-41178, August 19, 1991. The adjusted standard will become effective on the date of this order provided Keystone's treated waste meets the specified exclusion levels prior to the operation of the full-scale system. The Board notes that the USEPA has recently proposed amendments to the K061 treatment standards in which the exclusion levels have been set for zinc and changed for vanadium. 57 Fed. Reg. 974-77 (January 9, 1992). The Board has not specified an exclusion level for zinc or modified the level for vanadium at this time. However, the Board cautions Keystone that upon adoption of the USEPA's amendments, it must comply with the new exclusion levels.

The adjusted standard will only apply to the processes and volumes covered by the original petition of January 22, 1991. Keystone's facility would require a new adjusted standard if it could not meet the conditions of the adjusted standard, its manufacturing or treatment processes are altered, or the percentage of each different type of scrap metal used to charge the furnace falls outside the percent range of each type of scrap metal historically used to charge the furnaces (as documented in the petition), and accordingly would need to file a new petition. Keystone must treat waste generated from changed processes as hazardous until a new adjusted standard is granted.

We agree with the Agency's assertions as to the management

⁶ Keystone has not provided leachate data for antimony, beryllium, thallium, vanadium, and zinc.

of the waste. Although management of the waste covered by this adjusted standard will not be regulated by 35 Ill. Adm. Code 703, 722 through 728, Keystone must either treat, store, or dispose of the waste in an on-site facility, or ensure that the waste is delivered to an off-site storage, treatment, or disposal facility, which is permitted, licensed, or registered by a State to manage municipal or industrial solid waste. Alternatively, the delisted waste may be delivered to a facility that beneficially uses or reuses, or legitimately recycles or reclaims the waste, or treats the waste prior to such beneficial use, reuse, recycling, or reclamation.

We strongly caution that the USEPA actions regarding the EPACML model, VHS model, and the high zinc standards may require reevaluation of this delisting. Due to the changing nature of the federal program, the need for the state's program to be substantially equivalent, and the enforceability of HSWA driven regulations before state adoption, the parties must recognize that the filing of subsequent petitions by Keystone or the Agency to reopen and revise the adjusted standard may become necessary.

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

ORDER

- A. Pursuant to the authority of Section 28.1 of the Environmental Protection Act, the Board hereby adopts the following adjusted standard. This adjusted standard becomes effective on February 6, 1992 and is applicable only to the electric arc furnace dust wastes collected in Keystone's baghouses and treated by the Super Detox process.
- B. Keystone Steel and Wire Company's fully cured and uncured chemically stabilized electric arc furnace dust ("CSEAFD") treatment residue generated by the stabilization process described in their petition filed January 22, 1991 is nonhazardous, as defined in 35 Ill. Adm. Code 721. This exclusion (for 10,000 tons of CSEAFD per year) is conditioned upon the treatment residue meeting the verification and testing requirements stated in Section C listed below to ensure that hazardous constituents are not present in the treatment residues at levels of regulatory concern. When this exclusion becomes effective both the uncured and fully cured treatment residues will no longer be subject to regulation under 35 Ill. Adm. Code, Parts 722 through 728 and the permitting standards of 35 Ill. Adm. Code 703. Such wastes shall be required to be disposed of pursuant to the Board's non-hazardous landfill regulations found at 35 Ill. Adm. Code 810 through 815.

C. Verification and Testing Requirements

1. Keystone is required to both verify that the treatment system is on-line and operating as described in the petition, and to submit a report to the Agency showing that the on-line treatment system can meet the delisting levels of Section D prior to the operation of the full-scale treatment system. These conditions are specific to the upfront exclusion petitioned for by Keystone.

2. Testing

a. Initial Testing: During the first four weeks of operation of the full-scale treatment system, Keystone must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for TCLP leachate concentrations for all the constituents listed in condition (D)(1) including cyanide (using distilled water in the cyanide extractions), and analyzed for the constituent concentrations in condition (D)(2). Analyses must be performed according to SW-846 methodologies, incorporated by reference in 35 Ill. Adm. Code 720.111. Keystone must report the analytical test data obtained during this initial period not later than 90 days after the treatment of the first full-scale batch.

b. Subsequent Testing: Keystone shall collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples to produce a weekly composite sample. The weekly composites, prior to disposal, must be analyzed for TCLP leachate concentrations for all the constituents listed in condition (D)(1) including cyanide (using distilled water in the cyanide extractions), and analyzed for the constituent concentrations in condition (D)(2). Analyses must be performed according to SW-846 methodologies, incorporated by reference in 35 Ill. Adm. Code 720.111. The analytical data must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of the State of Illinois.

D. Delisting levels: The TCLP concentrations of the CSEAFD leachate in mg/l and the concentrations in the CSEAFD waste

in mg/kg shall not exceed the concentrations listed below, otherwise such wastes shall be managed and disposed in accordance with 35 Ill. Adm. Code 703 and 722 through 728.

1.		<u>mg/l</u>
	Antimony	0.063
	Arsenic	0.055
	Barium	6.3
	Beryllium	0.0063
	Cadmium	0.032
	Chromium (Total)	0.33
	Lead	0.095
	Mercury	0.009
	Nickel	0.63
	Selenium	0.16
	Silver	0.3
	Thallium	0.013
	Vanadium	1.26
	Zinc	-. -
	Cyanide	4.42

2.		<u>mg/kg</u>
	Total Reactive Cyanide	250
	Total Reactive Sulfide	500

- E. Data submittal: All data must be submitted to the Manager of the Permits Section, Division of Land Pollution Control, Illinois Environmental Protection Agency, 2200 Churchill Road, P. O. Box 19276, Springfield, Illinois, 62794-9276, within the time period specified. At the Agency's request, Keystone must submit any other analytical data obtained through Section C within the time period specified by the Agency. Failure to submit the required data will be considered a failure to comply with the adjusted standard adopted herein and subject Keystone to an enforcement action initiated by the Agency. All data must be accompanied by the following certification statement:

Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of Illinois' Environmental Protection Act), I certify that the information contained in or accompanying this document is true, accurate and complete.

In the event that any of this information is determined by the Board in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to Keystone, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by the Board and that

Keystone will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.

(Name of Certifying Person)

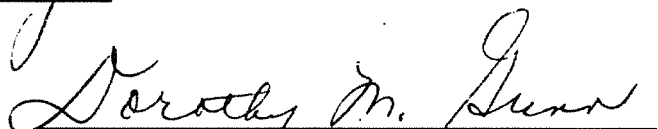
(Title of Certifying Person)

Date _____

Section 41 of the Illinois Environmental Protection Act, Ill. Rev. Stat. 1991, ch. 111 1/2, par. 1041, provides for appeal of final orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 6th day of February, 1992, by a vote of 6-0.


Dorothy M. Gunn, Clerk
Illinois Pollution Control Board