

April 1, 2013

Mr. Scott Nally
Director
Ohio Environmental Protection Agency
50 West Town Street
Suite 700
Columbus, Ohio 43215

Re: Submission of Application for Variance from Classification as Waste under
OAC 3745-50-23(B) for Middletown Works Ferrous Chloride Solution

Dear Mr. Nally:

Enclosed for Ohio EPA is a variance application for your consideration as we discussed on June 27, 2012, concerning ferrous chloride solution produced at our Middletown Works facility in Middletown, Ohio.



This submittal is in follow-up of the June 27, 2012, meeting between representatives from AK Steel, AMROX, and Ohio EPA during which the movement of ferrous chloride solution from Middletown Works to the AMROX Rockport recycling facility was discussed.

As part of routine business practice, AK Steel continues to identify and evaluate other commercial recycling, regeneration and reuse options for excess FCS produced from its steel manufacturing processes. As new recycling, regeneration and reuse companies become available, the ability to choose among reliable and environmentally sound off-site facilities for the processing of FCS is an important component of maintaining profitability in the highly competitive steel industry. AK Steel is requesting that a variance from the requirement to manifest spent pickle liquor in transportation per OAC 3745-52-20 be granted by OEPA without limitation to a specific receiving company or facility location. AK Steel requests a variance from the hazardous waste manifesting requirements for FCS when transported to any legitimate recycling, regeneration or reuse process or facility location.

The costs of virgin acid and regenerated acid are listed in the variance application. Please note that AK Steel has included costs data on virgin acid and regenerated acid in the variance application. This information constitutes trade secrets under O.A.C. 3745-50-30 and O.A.C. 3745-49-03, and thus AK Steel is requesting that the information be maintained as confidential. Due to the fact that the variance application contains trade secrets, AK Steel is submitting two copies of the variance application – a confidential copy that includes a “Confidential Business Information/Trade Secret” header on each page, and a non-confidential version that has the confidential data blacked-out. In addition, in accordance with O.A.C. 3745-50-30(B) and O.A.C. 3745-49-03(B)(1), attached is a substantiation of AK Steel’s claim for Confidential Business Information/Trade Secret protection of this cost data.

AK Steel understands that AMROX is involved in on-going discussion with Ohio EPA regarding alternatives to a variance for the transportation of ferrous chloride solution from Middletown Works to the AMROX Rockport recycling facility. AK Steel remains open to considering any sustainable regulatory alternatives that may be identified in lieu of this variance.

At this time AK Steel understands that a certification statement is not required to be included with the variance application. If OEPA determines that a certification statement is needed, AK Steel will provide such a statement.

Please call or email Katie Kistler if you have any questions at (513) 425-3531, or kistler@aksteel.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'DM', with a long horizontal flourish extending to the right.

David Miracle
Corporate Manager Environmental Affairs

Attachments

cc: B. Bishop
P. Gallo
K. Kistler
P. Allen (OEPA)
A. DeHavilland (OEPA)

Application for Variance from Classification as a Waste

AK Steel Middletown Works, Middletown, OH

April 2013

Introduction

AK Steel Corporation is a manufacturer of coiled steel products at plants located in Middletown, Ohio and Rockport, Indiana. During the course of operations, the plants produce spent pickle liquor (SPL), also known as ferrous chloride solution (FCS), which is listed in Ohio Administrative Code (OAC) 3745-51-32(A) as hazardous waste K062 -Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332). AK Steel is requesting a variance from classification as a waste for the transportation of FCS from its Middletown, Ohio facility. **This request is exclusively limited to a variance from the requirement to manifest spent pickle liquor in transportation per OAC 3745-52-20.**

FCS is a valuable commodity in that it can be used directly as an effective commercial chemical substitute (such as direct use as a phosphorous precipitant and sludge conditioner in wastewater treatment). When FCS is recycled by being used as an effective commercial chemical substitute in the wastewater treatment or other industries, it is not considered a waste under OAC 3745-51-02(E) and is therefore not subject to hazardous waste regulations, including those standards applicable to its transportation to the reuse facility. When used as a commercial chemical substitute, it is transported in accordance with DOT requirements, and hazardous waste manifesting rules do not apply.

FCS also can be reclaimed via regeneration processes and returned to the steel industry for use as a feedstock in the pickling process, and used to produce useful products such as iron oxide.

AK Steel currently utilizes American Iron Oxide Company (AMROX), an independent business with facilities located in Rockport and Portage, Indiana, for off-site processing, including regeneration, of FCS produced from AK Steel manufacturing facilities. The AK Steel Rockport Works property is immediately adjacent to the AMROX Rockport regeneration facility and FCS is managed in tanks with secondary containment at both facilities. The FCS generated at AK Steel Rockport Works is directly pumped to AMROX Rockport via double walled underground piping. Regenerated acid (RA) is returned to AK Steel's Rockport Works for use as feedstock in steel pickling processes via a double walled underground pipe. RA from AMROX Rockport is also returned to other steel production facilities, including other AK Steel mills, via truck or rail.

FCS from AK Steel and other steel producers is delivered to the AMROX Portage facility via rail or truck, with RA returned to AK Steel facilities and other steel manufacturers via the same. AMROX Rockport and Portage receive FCS from steel manufacturers and use it for the production of ferrous chloride, iron

oxide, production of RA, and/or distribution as a commercial chemical substitute without regeneration or processing. In March 19, 1997 the Indiana Department of Environmental Management (IDEM), determined that the AMROX Rockport and Portage facilities are ferrous iron production facilities subject to the recycling exclusion from the hazardous waste rules at 40 CFR 261.2(e)(1)(i). Additionally, IDEM determined that the facilities are not subject to hazardous waste facility permitting requirements in accordance with 329 IAC 3.1, which adopt the federal recycling rules by reference.

In addition to transportation to the AMROX Portage facility and as part of routine business practice, AK Steel continues to identify and evaluate other commercial recycling, regeneration, and reuse options for excess FCS produced from its steel manufacturing processes. As opportunities to work with new recycling, regeneration and reuse companies become available, the ability to choose among reliable and environmentally sound off-site facilities for the processing of FCS is an important component of maintaining profitability in the highly competitive steel industry. AK Steel is requesting that a variance from the requirement to manifest spent pickle liquor in transportation per OAC 3745-52-20, be granted by OEPA without limitation to a specific receiving company or facility location. AK Steel requests a variance from the hazardous waste manifesting requirements for FCS when transported to any legitimate recycling, regeneration or reuse process or facility location.

AK Steel's Middletown Works (MW) currently manages FCS produced during its steel processes, in accordance with all applicable Ohio hazardous waste requirements including: storage in tank systems specifically designed, constructed and independently certified by a PE for this material; provision for secondary containment for storage and handling systems, including loading facilities; use of direct piping from pickling lines to the storage tank system; provisions for regular documented inspections; spill and contingency planning; employee training; and other relevant standards. FCS is used by MW in its own wastewater treatment processes and excess is disposed via permitted on-site deep well injection. The volume of FCS being disposed of by deep well injection in on-site permitted wells has been reduced, as injection capabilities have declined over time. With this variance, AK Steel intends to transport excess FCS from MW via rail and/or truck to AMROX for reclamation. The RA will be returned to AK Steel and other steel manufacturers for reuse as acid feedstock in pickling operations. Since AMROX is a production facility, and is not subject to hazardous waste permitting in Indiana, AMROX is unable to receive the FCS from MW if transported via a hazardous waste manifest. Other FCS reclamation facilities are subject to similar restrictions since they are not permitted as hazardous waste treatment, storage or disposal facilities. In accordance with OAC 3745-50-26 and 3745-50-24, AK Steel is requesting a variance from classification as a waste for the transportation of FCS generated at its Middletown, Ohio plant to AMROX and any other legitimate recycling, regeneration or reuse facilities. AK Steel intends to continue to manage and handle FCS on-site at MW in accordance with all other applicable hazardous waste rules, as is its current practice. This request is limited only to FCS when transported to legitimate recycling, regeneration or reuse facilities for reclamation and reuse, and AK Steel will transport all such shipments in full compliance with applicable DOT, PUCO and other applicable federal/state transportation requirements. Granting of this variance request will eliminate the potential barrier to recycling of FCS at AMROX and other such businesses, since the material will be shipped on a bill of lading without requirement for a manifest signature.

AK Steel has prepared this Request for Variance following the requirements of OAC 3745-50-24(B) which allows the director to grant requests for a variance from classification as a waste for materials that are reclaimed and then reused as feedstock within the original production process from which the materials were generated. **This variance request is exclusively limited to the requirement to manifest hazardous waste in transportation per OAC 3745-52-20.** Each of the criteria required for evaluation of the variance request is discussed in the following sections.

1. *Affect on Economic Viability of the Production Process*

Should AK Steel facilities be required to exclusively utilize virgin hydrochloric acid (HCl) without the economic benefit of RA, the cost of steel production will be negatively impacted. RA is composed of 18% HCl, while virgin HCl is 36%, requiring dilution in order to be used in the steel pickling process. The cost to utilize RA for steel pickling is significantly less than the cost of purchasing virgin HCl. In 2012, the average cost of regenerated acid was [REDACTED] and the cost of virgin acid averaged [REDACTED]. In 2012, AK Steel facilities purchased tens of thousands of tons of RA. Should AK have to replace a portion of this RA with fresh HCl, it will have a major impact on AK's ability to produce steel at market competitive rates. Substitution of RA for virgin acid clearly allows the plant to lean operational costs, provide a more competitive product price, and improve overall operating margins. For the steel industry, any reduction on the cost side translates directly to maintaining economic viability since they are competing on a global basis. Without such economic and environmental improvement opportunities, the industry's viability will be negatively impacted.

With the recent development of the Marcellus and Utica shale oil and gas production industry, the demand for HCl has dramatically increased. This is resulting in a supply issue for AK steel production facilities, and is expected to result in additional price increases for fresh HCl. This anticipated supply and cost issue is another factor pressing the steel industry to utilize RA to the maximum extent feasible while still operating within process limitations.

In addition to the added cost and potential supply issues with the purchase of virgin acid rather than RA, MW is required to dispose of any excess FCS at a permitted off-site hazardous waste disposal facility. MW is making every effort to utilize FCS within its operations as a wastewater treatment chemical, and control production of FCS to the extent that operational requirements allow. The anticipated volume of FCS to be shipped for recycling, regeneration or reuse will vary (approximately 500,000 to 1,500,000 gallons per month or more). Production issues related to the management of excess FCS could also interrupt operations at substantial, but unknown total cost. The added disposal cost burden, coupled with the potential cost increase for purchase of fresh acid, will have significant negative economic consequences for the facility, increasing production costs and impacting future economic viability of the steel production facilities.

2. *Extent of Material Handling Before Reclamation to Minimize Loss*

AK Steel maintains comprehensive and detailed standard operating procedures at all of its operating locations. The procedures include FCS management standards, training, and storage facilities developed, constructed and implemented in compliance with applicable Ohio Hazardous Waste regulations and industry standards. At MW, a Contingency Plan is in place which details equipment and procedures to respond to spills or releases, including FCS. Additionally, the FCS transfer, storage, and handling facilities are regularly inspected, equipped with secondary containment, alarm systems, and staffed by trained personnel.

FCS is transferred to a tank storage system at MW via hard piping which is maintained and inspected regularly. Both railcar loading and truck loading areas are constructed to control and contain any spilled material. All loading/unloading operations are manned transfers. Should any liquid be released, it is collected and returned to the FCS holding tank system.

Transporters of FCS are limited to fully and properly licensed and insured companies which meet AK Steel internal safety and business requirements. Each load is weighed and ticketed, and proper shipping papers provided to accompany the shipment. FCS managed under this variance will be delivered to AMROX in accordance with all applicable USDOT standards.

As part of standard business practices, AK Steel maintains records and documentation related to the volumes of FCS generated, used on site and transferred off-site for use as effective commercial chemical substitutes, disposal, regeneration, or other reuse/recycling. All FCS managed under this variance will be documented and records maintained in accordance with facility procedures. Records are expected to include dates and volumes/weights of FCS shipped, identification of receiving entity, dates and volumes/weights of RA received, and source of RA. Since all shipments will be completed in accordance with applicable USDOT requirements, proper shipping papers and related documentation will be prepared and maintained when required.

3. *Time Periods Between Generation, Reclamation, and Return to Production Process*

The time between FCS generation at AK Steel MW and its shipment for reclamation at AMROX is expected to average 4 days. This is based upon average residence in MW FCS storage tanks using data available from 2009, 2010, 2011, and 2012. The time period between FCS reclamation at AMROX and return to the AK Steel plants and other steel producers for use in the pickling process is estimated at approximately 5.5 days, based upon available information provided by AMROX.

AK Steel expects similar time periods between generation, reclamation, and return to the process regardless of the location or company to which the FCS is shipped. This expectation is based upon limitations in the volume of FCS which can be stored at MW, the inherent time limitations on methods of shipment used (i.e trucks and railcars must efficiently move material as a matter of business practice),

and AK Steel's business requirement to have adequate and timely return of reclaimed or regenerated acid in order to maintain production requirements.

4. Location of the Reclamation Process in Relation to the Production Process

AK Steel MW will utilize AMROX reclamation facilities located in either Rockport or Portage, Indiana, for recycling and return of RA to AK Steel or other steel producing facilities. The AMROX Rockport production plant is located approximately 230 miles from MW. RA produced at AMROX Rockport will be returned to MW and other steel producers via truck or rail. The AMROX Rockport production plant is immediately adjacent to the AK Steel Rockport Works steel manufacturing facility, allowing direct return of RA from AMROX Rockport to AK Steel Rockport Works via underground piping.

The AMROX Portage production plant is located approximately 260 miles from MW. FCS will be transported from MW to AMROX Portage by truck or rail. RA produced at AMROX Portage will be returned to AK Steel facilities and other steel producers via truck or rail.

In addition to transportation to the AMROX Portage facility and as part of routine business practice, AK Steel continues to identify and evaluate other commercial recycling, regeneration, and reuse options for excess FCS produced from its steel manufacturing processes. As new recycling and regeneration companies become available, the ability to choose among reliable and environmentally sound off-site facilities for the processing of FCS is an important component of maintaining profitability in the highly competitive steel industry. AK Steel is requesting that a variance from the requirement to manifest spent pickle liquor in transportation per OAC 3745-52-20, be granted by OEPA without limitation to a specific receiving company or facility location. AK Steel requests a variance from the hazardous waste manifesting requirements for FCS when transported to any legitimate recycling, regeneration, or reuse process or facility location.

5. Use of the Reclaimed Material for Original Purpose

FCS is generated by the steel pickling process, which is operated by AK Steel at both its Rockport and MW steel mills. FCS is reclaimed via regeneration processes by AMROX and returned as RA into the steel industry for use as a feedstock in the pickling process.

The AK Steel Rockport Works property is immediately adjacent to the AMROX Rockport regeneration facility. The RA reclaimed at AK Steel Rockport Works is returned to AK Steel's Rockport Works for use as feedstock in steel pickling processes via a double walled underground pipe. RA from AMROX Rockport is also returned to the steel pickling process at other steel production facilities, including other AK steel mills, via truck or rail.

RA reclaimed at AMROX Portage will be returned to AK Steel production plants and other steel producers, where it will be used as an effective substitute for virgin HCl in the steel pickling process. The

RA requires no further processing by AK Steel or other steel manufacturers, and is used for its original intended purpose in the pickling of steel as a direct substitute for commercially available virgin HCl.

In addition to transportation to the AMROX Portage facility and as part of routine business practice, AK Steel continues to identify and evaluate other commercial recycling, regeneration, and reuse options for excess FCS produced from its steel manufacturing processes. As new recycling and regeneration companies become available, the ability to choose among reliable and environmentally sound off-site facilities for the processing of FCS is an important component of maintaining profitability in the highly competitive steel industry. AK Steel is requesting that a variance from the requirement to manifest spent pickle liquor in transportation per OAC 3745-52-20, be granted by OEPA without limitation to a specific receiving company or facility location. Irrespective of the location where RA is reclaimed, it will be returned to AK Steel production plants and other steel producers, where it will be used as an effective substitute for virgin HCl in the steel pickling process.

6. *Reclamation Not Performed by Generator*

Reclamation of the FCS is conducted by an independent and physically separate business, AMROX, at its production facilities located in Rockport, Indiana and Portage, Indiana. Should other legitimate recyclers, regenerators or reusers of FCS be used by AK Steel, the reclamation will be performed entirely at off-site locations by separate businesses. AK Steel, the generator of the FCS, does not and will not perform reclamation of the FCS.

7. *Other Relevant Factors*

➤ Recycling of FCS is a standard practice in the steel industry

Use of FCS to produce iron oxide and regeneration of FCS and return to the steel industry as a feedstock are widely accepted and well understood practices. The first AMROX facility began providing acid recycling services in Allenport, Pennsylvania in September 1995. This AMROX facility processes over 23 million gallons of waste acid per year, resulting in the production of over 15,000 tons per year of iron oxide. Normally, 1 - 1.5 pounds of iron oxide are produced from each gallon of waste acid processed. The facility produces a very consistent quality iron oxide product from waste pickle liquor as feedstock received from steel mill sources.

The AMROX facilities in Portage, Indiana and Rockport, Indiana produce over 60,000 tons of iron oxide per year combined. The Rockport facility produces ultra-high purity iron oxide containing less than 400 PPM of combined contaminants (excluding chloride). AMROX is also developing several facilities outside the continental US. Additionally, ISSI (the parent company of AMROX) owns and operates the following acid recycling facilities: Re-Gen, Inc. (Warren, OH), MII (Burns Harbor, IN), SAMROX (Argentina), ISSI - France, and INDROX (India). ISSI also operates an acid recycling facility located in Monclova, Coahuila, Mexico.

Other FCS reclamation processes also are currently operating, such as Bailey-PVS Oxides in Delta, Ohio. The recycling of FCS is a viable and established business practice widely utilized by the steel production industry.

- The Director of Ohio EPA has previously granted similar variances to FCS processing facilities and generators in Ohio

The Director of Ohio EPA has granted a variance from waste classification to Bailey-PVS Oxides, LLC, located in Delta, Ohio, and to those covered generators included in the variance application. In these variances (1999 and 2000), FCS generated by the covered generators and transported to Bailey-PVS Oxides for regeneration is not classified as a waste or a hazardous waste by Ohio EPA, and is therefore not subject to hazardous waste manifesting requirements when transported from Ohio generators. Transportation is conducted in accordance with rules implemented by PUCO and USDOT. The storage, handling, and management of the FCS at the generator site are conducted in full conformance to applicable hazardous waste standards. These conditions and standards are identical to those requested by AK Steel in this variance application.

- Reclamation and reuse of FCS will reduce waste disposal volumes and associated costs for the facility

Should this variance request be denied, AK Steel will be required to dispose of excess FCS as a waste, rather than beneficially use or reclaim and reuse the material. This approach is inconsistent with AK Steel's internal commitment to waste minimization and is contrary to Ohio EPA's policy of encouraging and supporting recycling and beneficial reuse. Additionally, it will result in a significant negative financial impact for AK Steel, an industry that is important to Ohio and has been especially hard hit during the recent economic downturn. There is no environmental, business, or economic benefit associated with disposal of excess FCS.

- The variance request is limited only to transportation of FCS to legitimate recycling, reclamation or reuse facilities via rail or truck

AK Steel is requesting a variance solely to accommodate transportation by rail or truck to the AMROX Rockport, Indiana and Portage, Indiana, or other legitimate recycling, reclamation and reuse facilities without use of a hazardous waste manifest. Transportation will be conducted in full conformance to applicable USDOT requirements. AK Steel will continue to manage all handling, storage, and management of the FCS on AK Steel property in an environmentally sound manner and in accordance with applicable hazardous waste regulations. Transport of FCS for use as a direct and effective substitute for a commercial chemical product for wastewater treatment is regularly conducted by others and is allowable under current Ohio EPA regulation OAC 3745-51-02(E)(1)(a) without use of a hazardous waste manifest. The materials which AK Steel will ship for reclamation under this variance are identical in nature, chemical composition, and hazards to those shipped for direct use as a commercial chemical substitute.

AK Steel believes that transport of FCS for reclamation using proper USDOT standards without hazardous waste manifesting provides adequate procedures and safeguards for the management and handling of the material. It also provides a mechanism for documenting the transport activity and delivery to the proper reclamation facility. Such transport without manifesting poses no unacceptable risk to the environment or the public, and is consistent with the practice for FCS used as a commercial chemical substitute. Additionally, since the FCS is destined for reclamation and reuse, rather than disposal, it seems improper to use a manifest, which was designed to track waste to its ultimate point of disposal (cradle to grave).

Supporting Documentation on Confidential Business Information/Trade Secret Claim in AK Steel Corporation's *Application for a Variance from Classification as a Waste*, April 2013.

AK Steel Corporation's *Application for a Variance from Classification as a Waste*, includes costs for virgin acid and regenerated acid. AK Steel is claiming that information as Trade Secret/Confidential Business Information.

Following is the information required by O.A.C. 3745-50-30 and O.A.C. 3745-49-03(B)(1)(a)-(d), along with additional legal support for this request.

(a) An unredacted copy of the submission, identified as such, with each page numbered consecutively from beginning to end.

An unredacted copy is attached.

(b) A proposed public copy of the submission, identified as such, with each page numbered consecutively from beginning to end.

A proposed public copy is attached.

(c) With respect to each item of information claimed to be a trade secret, a statement that describes each item and identifies the location of each item.

The item of information claimed to be a trade secret is costs for virgin acid and regenerated acid. It is located in the *Application for a Variance from Classification as a Waste*.

(d) A sworn or affirmed statement of reasons, including the factual basis thereof, as to why each item of information redacted from the proposed public copy is a trade secret.

The term "trade secrets" for the purposes of the hazardous waste regulations is defined to mean "any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented, which is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article, trade, or service having commercial value, and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it." O.A.C. 3745-50-10(127). The definition in Ohio EPA's miscellaneous rules is consistent with this definition. O.A.C. 3745-49-02(T).

Costs for virgin acid and regenerated acid would constitute "production data" or a "compilation of information." The data is maintained confidentially by AK Steel. This cost data is not contained in any publicly available material such as the internet, publicly available databases, promotional publications, annual reports, or articles. There are no legal means by which a member of the public could obtain access to this cost data. The cost data is of a kind that AK Steel does not release to the public, because to do so could compromise its competitive position.

In addition, disclosure of the cost data could create an unfair advantage in the competitors of AK Steel by providing those competitors with information on the costs incurred by the Company as it relates to an essential raw material. By obtaining this cost data, a competitor could anticipate AK Steel's future expenditures and determine some aspects of its operating costs.

(e) Additional Legal Support

Courts uniformly hold that this type of data is generally considered confidential business information. See, *Braintree Elec. Light Dept. v. Dept. of Energy*, 494 F. Supp. 287, 290 (Dist. D.C. 1980) (information related to inventory balances, throughput, and other commercial data was confidential because it would allow a competitor to learn of a company's capacity for expansion, deprive it of its source of materials, and/or underbid the company and thus cause substantial competitive harm); *McDonnell Douglas Corp. v. NASA*, 180 F.3d 303, 306 (Dist. D.C. 1999) (if release of commercial and financial information is likely to cause substantial competitive harm, "that is the end of the matter" regarding the confidentiality analysis); *Burke Energy Corp. v. DOE*, 583 F. Supp. 507, 512 (Dist. Kan. 1984) (cost data and pricing information "is clearly the type of information a corporation would not customarily release to the public"); *Gulf & Western Indus. v. U.S.*, 615 F.2d 527, 530 (Dist. D.C. 1979) (cost data and other commercial information that would allow competitors to estimate and undercut a company's bids was the type of information "not normally released to the public and the type that would cause substantial competitive harm if released").

Based on information and belief formed after reasonable inquiry, the statements and information in Section (d) are true, accurate, and complete.



David Miracle

Corporate Manager – Environmental Affairs