AK Steel Corporation
Environmental Affairs
9227 Centre Pointe Drive
West Chester, Ohio 45069

February 11, 2010

2806

Pennsylvania Environmental Quality Board
Rachel Carson State Office Building, 16th Floor
400 Market Street
Harrisburg, Pennsylvania 17101

Re: AK Steel Corporation, Butler Works, Butler PA
Comments Regarding: 25 Pennsylvania Code, Chapter 25 Pennsylvania Bulletin, Vol. 39, No. 45, November 7, 2009 - Wastewater Treatment Requirements for Wastewaters Containing High Concentrations of Total Dissolved Solids (TDS)

We appreciate the opportunity to submit the following comments on the Environmental Quality Board's proposed regulation regarding wastewater treatment requirements for wastewater discharges containing high concentrations of total dissolved solids (TDS).

In short, the proposed TDS regulations would have a negative financial impact on our Butler Works, which ultimately could jeopardize future investment and employment at the facility. Information about AK Steel – Butler Works is provided below followed by general, and then specific comments regarding the proposed rule's impacts and our recommended approach for addressing TDS issues in Pennsylvania waters.

AK Steel and the Butler Works

AK Steel is a leading producer of flat-rolled carbon, stainless and electrical steels, primarily for automotive, infrastructure and manufacturing, distributors and converters, and electrical power generation and distribution markets. The company is headquartered in West Chester, Ohio, and operates facilities in Ohio, Kentucky, Indiana and Pennsylvania.

AK Steel operates an electric furnace steel mill in Butler, PA (the Butler Works) for production of electrical, stainless and carbon steels. Operations include melting of steel scrap in electric furnaces, metallurgical refining, continuous casting, hot rolling and several steel finishing operations including combination acid pickling, annealing and surface coating. The Butler Works produces approximately 1,000,000 tons of steel annually. Much of the steel made is further processed and finished at the Butler Works. AK Steel and its predecessor companies have operated from this location since the early 1900s.

AK Steel currently employs approximately 1,400 men and women at the Butler Works with an annual payroll of more than $135 million.

The steel finishing operations at the Butler Works, as at all other similar steel mills, generate total dissolved solids (TDS) in process wastewaters as part of the manufacturing processes, principally from surface cleaning and coating operations. This

is a necessary and unavoidable consequence of steel processing and finishing operations. Hydrochloric, hydrofluoric and sulfuric acids are used for surface cleaning at the Butler Works. These solutions are high in TDS. The wastewaters generated during the surface cleaning and coating carry TDS from the process. AK Steel's Butler Works uses the best available process wastewater treatment technologies as required by the USEPA's regulations. However, these technologies do not remove TDS from process wastewaters. Therefore, achieving the proposed discharge limitations on new or modified existing sources at the facility would result in the implementation of control technologies far beyond those currently required.

General Comments

We find it difficult to comprehend that the Department can propose such a broad brush, far reaching regulation that will have such a significant impact to the entire manufacturing community and economic viability of the Commonwealth without involving the regulated community more in the initial development process. This failure to involve the regulated community is inconsistent with the mandate in the Commonwealth's regulatory review and promulgation regulations that requires that regulations "shall be drafted and promulgated with early and meaningful input from the regulated community." 4 Pa. Code § 1.371(8). AK Steel questions if this proposed rulemaking was fully reviewed and vetted, as there are numerous deficiencies from an environmental, technical, and economic perspective, as well as apparent noncompliance by the Commonwealth with its regulatory review and promulgation regulation:

- The proposed TDS regulation would impose ambient water quality standard concentrations for TDS, chloride and sulfate as *NPDES permit effluent limits* for certain categories of high TDS dischargers. This is in direct conflict with 25 Pa. Code § 96.3(d) which provides that the ambient water quality standards for TDS, chloride and sulfate must be met at least 99% of the time and applied at the point surface potable water supply withdrawals. This section of the water quality regulations was adopted by the Board in December 2002 to allow for reasonable implementation of the secondary maximum contaminant level drinking water quality standards throughout Pennsylvania. The proposed TDS regulation would, in essences, all but vacate § 96.3(d).

- The only technologies available to achieve compliance with this proposed rule for a large manufacturer such as AK Steel will require the use of a substantial amount of energy. This will result in the corresponding increases in all of the combustion related air pollution contaminants, including greenhouse gasses. The incremental energy required at the Butler Works to comply with the proposed regulation would be significant. Has the Department developed this type of analysis on a statewide basis? If so, is the document available for review?

- It appears much of the ambient TDS water quality data relied on by the Board for its proposed regulation has been derived using analytical methods that may overstate actual TDS concentrations, thus calling into question some of the determinations of attainment status for receiving streams. These methods are not consistent with 40 CFR Part 136, which is the federal regulation that sets out federally approved analytical methods for water quality programs.

- A regulatory framework granting the PaDEP authority to address impaired waters already exists. These existing regulations call for states to identify impaired waters and develop total maximum daily loads (TMDLs) for pollutants causing the impairment based on the site specific circumstances for each watershed. This is the approach required by the Clean Water Act as well as the Pennsylvania water quality regulations. The proposed TDS regulation is overreaching and would cause massive unnecessary capital investments in many cases. The existing regulatory framework provides PaDEP with all of the tools necessary to address TDS issues in Pennsylvania waters. And, the Commonwealth is obligated to adopt nonregulatory approaches when they exist, instead of promulgating new regulations. 4 Pa. Code § 1.371(7).

- A relevant question to the Board is: Will this be the first in a series of proposed regulations that would bypass the established regulatory framework by applying ambient water quality criteria as NPDES permit effluent limits? We believe this approach is ill-advised and contrary to sound reasoning and common sense.

- The proposed regulation is a blanket state-wide approach that would require massive capital expenditures and substantial increases in operating costs and energy consumption at many manufacturing facilities and electric utilities. In many cases, the proposed regulation would require these costs where the receiving streams are in attainment status and there would be little or no environmental benefit.

- The proposed regulation would put manufacturing facilities such as our Butler Works at a significant business disadvantage with both our domestic and global competitors outside of Pennsylvania who do not have to incur the cost of compliance with such stringent regulations. This is in direct conflict with the requirement that "regulations may not hamper the Commonwealth's ability to compete effectively with other states." 4 Pa. Code § 1.371(9).

- In fact, the regulations would put the Butler Works at a disadvantage within AK Steel itself. The steel industry is very capital intensive and decisions on how and where to invest capital must be made very wisely. The additional costs imposed on the Butler Works by the TDS regulations (estimated to be at least $50,000,000 in initial capital investment and $7,200,000 in increased annual operating costs if they are enacted as proposed) will make it more expensive to produce and finish steel there. As a consequence, in the future AK Steel may be more likely to focus its capital investments to expand or modernize facilities on its plants outside of Pennsylvania. And, of immediate concern, a pending $130,000,000 capital upgrade project for the Butler Works will be adversely affected. The implementation of this project would be the immediate trigger for the application of the TDS regulations, thereby requiring substantial additional capital investment and increased annual operating costs at Butler Works without any corresponding benefit in production or quality. Yet, despite this massive investment for TDS control, there would be no significant environmental benefit because the receiving waters at the next downstream public water supply are in full attainment status for TDS. In fact, had the cost of the proposed regulation been known prior to the start of this project, it is

possible that it would not have been initiated, or would have been completed at another AK Steel plant located outside Pennsylvania. Certainly, the increased costs imposed on the Butler Works by the new TDS controls, if enacted, will be a factor considered by the Company when deciding how and where to invest its capital in the future. Given the lack of any significant environmental benefit from TDS regulation as it relates to the Butler Works, coupled with the extreme cost involved, the regulation again runs afoul of the Commonwealth's regulatory review and promulgation mandates, which requires that "the costs of regulation may not outweigh their benefits." 4 Pa. Code § 1.371(2).

- Increased costs at affected electric utilities would be passed on to large private sector consumers of electricity such as AK Steel as well as commercial and residential consumers.

- The proposed TDS regulation would not be consistent with the obligation that, when Federal regulations exist, "regulations of the Commonwealth may not exceed Federal standards unless justified by a compelling and articuable Pennsylvania interest of required by State law." 4 Pa. Code § 1.371(5). This mandate is consistent with Federal law which regulates TDS through the Total Maximum Daily Load (TMDL) program. As discussed in more detail in this comment letter, the proposed regulation results in limits that are significantly more stringent than limits that would be established through the TMDL program. In addition, Federal regulation expressly exists for discharges from the iron and steel industry through detailed regulation under the categorical effluent limitations standards (40 CFR Part 420). TDS is not included in the limitations provided by this iron and steel regulation. Thus, regulation of TDS by the Commonwealth results in more stringent regulation than Federal standards. The Commonwealth therefore must provide a "compelling and articuable Pennsylvania interest" in order to support the regulation. The Commonwealth has not done so, and based on the information contained in this comment letter, any compelling interest identified by the Commonwealth would be unsupportable.

Specific Comments

A. Pennsylvania's Proposed Approach to Regulating TDS

In short, the proposed regulation for total dissolved solids (TDS), chloride and sulfate (the proposed TDS regulation) defines existing and new "high TDS discharges" as those that discharge or would discharge TDS in mass quantities of 100,000 lbs/day or more; or, that discharge or would discharge TDS in concentrations of 2,000 mg/L or greater. The proposed TDS regulation would limit new high TDS discharges to the following NPDES permit effluent limits:

TDS	500 mg/L	Monthly average
Chloride	250 mg/L	Monthly average
Sulfate	250 mg/L	Monthly average

The proposed TDS regulation would also limit existing high TDS discharges to the same NPDES permit effluent limits if the existing TDS discharge was to be increased over pre-

regulation levels. The above concentrations for TDS, chloride and sulfate are the same as the Pennsylvania ambient water quality standards for these substances that are set out at Title 25 § 93.7, except that the sulfate and chloride water quality criteria are "maximum" criteria.

This is, in effect, a short-cut, blanket approach that would regulate TDS, chloride and sulfate regardless of the site-specific circumstances of each water body. As described below, that approach is contrary to the regulatory framework of the Clean Water Act and the implementing water quality, effluent guidelines and standards and NPDES permit regulations.

Section 303(d) of the Clean Water Act requires that states establish ambient water quality standards, identify uses for each water body and adopt scientific criteria for substances of concern to support the designated uses. The Clean Water Act and the federal water quality regulations at 40 CFR Part 130 require States to:

- Develop lists of impaired waters for which existing controls on point or non-point sources are not adequate to meet water quality standards. The lists are used to determine the streams or stream segments for which total maximum daily load (TMDL) analyses should be performed;

- Establish priority ranking of impaired waters based on the severity of the pollution and designated uses of the water bodies; identify those waters for which TMDLs are required and establish a schedule for completing the TMDLs;

- Update and submit the list of impaired waters to EPA every two years and;

- Develop TMDLs that specify a pollutant budget (segment by segment mass loadings of pollutants of concern) that meets the ambient water quality standards and an allocation of the budget among existing and potential future pollutant sources in the watershed (i.e., existing point and non-point sources and margin of safety).

The basic steps for completing a TMDL are as follows and take into account the site-specific circumstances of each stream, stream segment or watershed:

1. Collect, summarize and evaluate pre-existing data (watershed characterization, inventory of pollutant sources, background water quality, assessments of point source and non-point source pollutant loads).

2. Calculate TMDL for the water body based on ambient water quality standards, appropriate water quality design flows using EPA-approved methods and models, where necessary.

3. Allocate pollutant loads to point sources, non-point sources, future growth, including, where appropriate, margins of safety.

4. Determine whether there are seasonal critical conditions.

5. Provide for public review and comment on draft TMDL.

6. Submit final draft TMDL to EPA for review and approval.

7. EPA approval of the TMDL.

A TMDL for a given pollutant comprises the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources and natural background levels. Also, the TMDLs must include an implicit or explicit margin of safety (MOS) to account for uncertainty in the relationship between pollutant loads and the quality of the receiving water body. The TMDL components are shown with the following equation:

$$TMDL = \sum WLAs + \sum LAs + MOS$$

The proposed TDS regulation would bypass the TMDL process in lieu of application of ambient water quality standards as NPDES permit effluent limits for TDS, chloride and sulfate for high TDS discharges, regardless of the attainment status of the receiving waters and without regard for costs or non-water quality environmental impacts including energy consumption.

As described below, TDS, chloride and sulfate should be regulated within the existing, in place water quality and NPDES regulatory framework, which provides all of the tools necessary to address TDS issues where warranted.

Furthermore, there is a fundamental problem with the definition of a "high TDS discharger". The definition does not distinguish between TDS taken in and returned to a water body and TDS generated by a manufacturing process or utility operation. For example, consider a once-through non-contact cooling water discharge of 50 million gallons per day (mgd) at a facility where the typical TDS concentration in the source water is 240 mg/L. The mass TDS discharge would be approximately 100,000 lbs/day, making the facility a "high TDS discharger". Any increase in the TDS discharge from a new process or a utility operation that would otherwise not be significant would subject the entire facility to the proposed TDS regulation.

The proposed TDS regulation would appear to apply to large POTWs where the combination of discharge flow and effluent TDS concentrations would result in TDS discharges greater than 100,000 lbs/day. It would not be practical for municipal authorities to control TDS in a manner that would be required by the proposed

regulation. The unintended consequences of this proposed regulation is significant and costly. The consequences must be better understood before any control strategy beyond the existing regulatory framework is adopted.

The proposed TDS regulation does not contain, and neither the Board nor PaDEP have provided any standards or guidance to define statistically what constitutes a "high TDS discharge". The concentration and mass thresholds of 2,000 mg/L and 100,000 lbs/day, respectfully, should have been defined as monthly averages, annual averages, daily maximums, or some other discrete measure.

B. Potential Impact of Proposed Regulation on AK Steel's Butler Works

1. Connoquenessing Creek and Downstream Public Water Supply

Connoquenessing Creek is the receiving water for the AK Butler Works located in Butler, PA. Connoquenessing Creek flows into the Beaver River near Ellwood City, PA. The nearest downstream public water supply from the Butler Works is at Beaver Falls, PA on the Beaver River, approximately 30 miles downstream from the Butler Works. The United States Geological Survey (USGS) monitors the Beaver River at Beaver Falls for stream flow, specific conductance, TDS (105°C), chloride and sulfate. Table 1 presents a summary of available TDS (105°C), chloride and sulfate data for the period January 2003 to September 2009:

Table 1
TDS, Chloride and Sulfate
Beaver River at Beaver Falls, PA
USGS Monitoring Data (USGS Station 03107500)

	TDS (105°C) (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
PA WQS			
Monthly Average	500		
Maximum	750	250	250
Number of Data (Jan 2003 to Sept 2009)	40	5	40
Maximum	486	83	83
99th Percentile	467	82	80
95th Percentile	421	78	71
75th Percentile	338	62	60
Median	296	57	54
Average	296	61	53
Minimum	136	50	31

These data show the Beaver River near the Beaver Falls potable water intake is not impaired for TDS, chloride or sulfate. The maximum daily TDS concentration recorded was less than the monthly average TDS standard and well less than the maximum TDS

standard. The concentrations of chloride and sulfate were well below the respective daily maximum water quality standards of 250 mg/L.

PaDEP's document *Assessment and Listing Methodology for Integrated Water Quality Monitoring and Assessment Reporting, March 2009*, translates the conceptual regulatory language of "shall be achieved 99% of the time" into a practical statistical methodology for water quality data that can be used to assess whether or not a water body is attaining its use.

The document states that water quality data collected within the past five years over a 12 to 24 month period are generally considered a complete data set. The document further states that at least eight data points must be available and that the data must cover at least one year and be collected quarterly, at minimum, to be used in the attainment decision process.

Applying these criteria to the most recent 24 month period for TDS and sulfate data collected at USGS Station 03107500 (Beaver River at Beaver Falls, PA) gives 12 samples each for TDS and sulfate. When the data set contains between 8 and 23 samples, the methodology calls for use of a "binomial method" followed by use of a "10% rule". The binomial method specifies the number of samples, for a given number of samples collected, that can be above the criterion, and still consider the water body as "meeting the criteria" (this is the equivalent to the 95% lower confidence level on the 90th percentile of the data for data treated as either "pass" or "fail"). Under the 10% rule, if less than 10% of the data points are above the criterion, the water body is considered to be "meeting the criteria". If the binomial method indicates attainment, the 10% rule is used. If both the binomial method and the 10% rule indicate attainment, the water body is considered to be "meeting the criteria". If the binominal method indicates non-attainment, the water body is considered "not to be meeting the criteria". If the binomial method indicates attainment but the 10% rule indicates not attainment, further study is needed.

In this instance, for both TDS and sulfate since January 2003, no data are above the monthly average or maximum TDS criteria and no data are above the maximum chloride or sulfate criteria. Therefore, the Beaver River at Beaver Falls is considered to be "meeting the criteria" for both TDS and sulfate. Based on the limited data available for chloride, it also appears the Beaver River at Beaver Falls is in attainment for chloride. Thus, there are no TDS-related attainment issues for the Beaver River at Beaver Falls. In this case, even though the Beaver River is well within attainment status, the proposed regulation would require a massive capital investment at the Butler Works. This is simply unreasonable.

2. AK Steel's Butler Works Operations

As mentioned earlier, the steel finishing operations at the Butler Works generate total dissolved solids (TDS) in process wastewaters as part of the manufacturing processes. This is a necessary and unavoidable consequence of steel processing and finishing operations. The Butler Works uses the best available process wastewater treatment technologies, as required by the USEPA's regulations. However, these technologies do not remove TDS from process wastewaters. In fact, TDS is not regulated by the

categorical effluent limitations guidelines applicable to the iron and steel industry (40 CFR Part 420), or by any other federal categorical effluent limitations guideline for other industrial categories in the United States. There are no conventional, cost-effective treatment technologies for TDS.

2. Application of Proposed TDS Regulation to AK Steel Butler Works

Following PaDEP's interpretation of the proposed regulation, (see Attachment 1: January 7, 2010 e-mail from Ronald Furlan, P.E., Division Manager, Planning and Permits Division, PaDEP to David Miracle, Environmental Affairs, AK Steel Corporation), the main process wastewater discharge from the Butler Works from Outfall 005 would become subject to the regulation. This is because the Butler Works has pending modernization and upgrade projects that would incrementally add to the overall TDS discharge from the facility. Our preliminary, order-of-magnitude cost estimates (i.e., cost estimates prepared without site-specific engineering) to comply with the proposed regulation under these circumstances are presented below:

Investment Costs	Annual O&M Costs
$50,000,000	$7,200,000

These estimates are the best currently available, but likely will increase as more-detailed information is generated as a result of the site-specific project engineering. The investment and annual operating and maintenance costs represent the polishing treatment of the BAT-treated process water effluent and further treatment by reverse osmosis, followed by evaporative technologies for disposal of the reverse osmosis reject stream. (Another alternative for disposal of the reverse osmosis reject stream would be deep well injection. However, we understand there are few, if any, approved deep wells for disposal of industrial process wastewaters in Pennsylvania; and, we have not determined whether it is technically feasible to install a deep disposal well at the Butler Works. Thus, we have little confidence that a deep well disposal alternative is a realistic one.)

To put these costs into perspective, the Butler Works is in the process of replacing the capacity of two older electric arc steelmaking furnaces with a single modern electric arc furnace. The investment cost for this project is approximately $130,000,000. This is the largest capital investment made at the Butler Works in the last 30 years. The proposed TDS regulation would likely require a capital investment of well more than $50,000,000 and would increase annual operating costs by approximately $7,200,00, but would not change the attainment status of the Beaver River near Beaver Falls at the nearest downstream public water supply intake.

The Butler Works competes with other mills located in the United States and in the global marketplace. The proposed regulation, if adopted as written, would put the Butler Works at a significant competitive disadvantage with those other mills.

The assessment of Beaver River TDS data above support our comments that regulation of TDS in Pennsylvania should follow the regulatory structure set out by the Clean Water Act and the federal water quality and NPDES permit regulations. All of the necessary regulatory mechanisms are in place. Blanket application of the ambient water quality standards for TDS, chloride and sulfate as effluent limits for "high TDS" dischargers is the wrong approach. As demonstrated above by the Butler Works example, the proposed regulation could lead to massive capital expenditures and substantial increases in energy consumption and operating costs with little or no commensurate environmental benefits.

If the TDS regulation is adopted as proposed, we believe it will prove to be a strong disincentive for manufacturing and other enterprises with operations in Pennsylvania to expand or modernize where such expansions and modernizations would incrementally add to TDS discharges, even if such incremental TDS discharges would not be significant.

C. Analytical Methods for TDS

We find it inconceivable that the Department can propose such a broad brush, far reaching regulation that will have a significant impact to the entire manufacturing community and economic viability of the Commonwealth. It is further confounding that the Department can take such a drastic direction based on sampling and analytical methods that are not accepted or fully vetted in other environmental regulations.

As described below, it appears that much, if not most of the TDS data considered by PaDEP for Pennsylvania streams have been generated by PaDEP and USGS using an analytical method that specifies a sample drying temperature of 105°C, as opposed to the EPA-approved 40 CFR Part 136 analytical method that specifies a sample drying temperature of 180°C. The impact of the difference is analytical methods for TDS needs to be fully understood because the consequences of using a laboratory method that over reports TDS are great.

The significance of potential difference between TDS analytical results obtained from drying at 105°C (USGS Method I-1749-85) and drying at 180°C (USGS Method I-1750-85 or Standard Method 2540 C) is provided in Standard Methods (Method 2540). The following is an excerpt from Standard Methods (20th Edition) containing the explanation:

> "The temperature at which the residue is dried has an important bearing on results, because weight losses due to volatilization of organic matter, mechanically occluded water, water of crystallization, and gases from heat-induced chemical decomposition, as well as weight gains due to oxidation, depend on temperature and time of heating. Each sample requires close attention to desiccation after drying. Minimize opening desiccator because moist

> air enters. Some samples may be stronger desiccants than those used in the desiccator and may take on water.
>
> Residues dried at 103 to 105°C may retain not only water of crystallization but also some mechanically occluded water. Loss of CO_2 will result in conversion of bicarbonate to carbonate. Loss of organic matter by volatilization usually will be very slight. Because removal of occluded water is marginal at this temperature, attainment of constant weight may be very slow.
>
> Residues dried at 180 +- 2°C will lose almost all mechanically occluded water. Some water of crystallization may remain, especially if sulfates are present. Organic matter may be lost by volatilization, but not completely destroyed. Loss of CO_2 results from conversion of bicarbonates to carbonates and carbonates may be decomposed partially to oxides or basic salts. Some chloride and nitrate salts may be lost. In general, evaporating and drying water samples at 180°C yields values for dissolved solids closer to those obtained through summation of individually determined mineral species than the dissolved solids values secured through drying at the lower temperature."

The excerpt above clearly states that the temperature at which the residue is dried can impact the results and further states that residue dried at 103°C to 105°C can retain more water than residue dried at 180°C. This indicates that drying at 105°C may produce higher TDS analytical results than drying at 180°C.

USGS Method I-1749-85 calls for drying at 105°C for two hours, cooling the residue, weighing the residue, and calculating the result. USGS Method I-1750-85 calls for drying the sample at 180°C for two hours, cooling the residue, weighing the residue and calculating the result. Standard Method 2540 C calls for drying at 180°C for at least one hour, cooling the residue, weighing the residue and repeating the drying, cooling and weighing procedure until a constant weight is obtained, and then calculating the result.

The excerpt above states that attaining a constant weight at 105°C may be slow, implying that a result obtained from USGS Method I-1749-85 may change if the drying, cooling and weighing procedure were repeated, as instructed by Standard Method 2540 C.

We also note that PADEP's laboratory standard operating procedure for USGS Method I-1749-85 (Document BOL 3000, Rev 04, 08/31/08) does not include drying the sample over a steam bath, as listed in USGS Method I-1749-85; and, states that the sample is to be dried overnight at 105°C, as opposed to the two hours at 105°C specified in USGS Method I-1749-85.

In any event, as noted above, the difference between results obtained from non-approved analytical methods and those obtained from approved analytical methods needs to be fully understood because the consequences of using a laboratory method that over-reports TDS are great.

Regulatory Review

We have not found any regulation or guidance document that provides for the use of USGS Method I-1749-85 (TDS determined at 105°C) in the context of assessing compliance with, or attainment of, TDS water quality criteria or the secondary drinking water standard for TDS.

- 40 CFR 143.4(b) states that "Analysis of ...TDS... to determine compliance under 143.3 [secondary maximum contaminant levels] may be conducted with ... Standard Method 2540 C..." USGS Method I-1749-85 (TDS determined at 105°C) is not listed for determining compliance with the TDS secondary drinking water standard.

- USEPA's table *Analytical Methods Recommended for Drinking Water Monitoring of Secondary Contaminants, Revised June 2008,* lists Standard Method 2540 C as the recommended method for TDS. USGS Method I-1749-85 (TDS determined at 105°C) is not listed as a method recommended for drinking water monitoring of secondary contaminants.

- PaDEP's document *Assessment and Listing Methodology for Integrated Water Quality Monitoring and Reporting, March 2007,* states that for potable water supply use attainment decisions, *"use attainment evaluations are conducted through the review of raw (intake) water quality data provided through self-monitoring efforts at drinking water facilities."* As stated above, the method listed at 40 CFR 143.3(b) (secondary drinking water standards) which "may be used" to determine compliance with the secondary drinking water standards is Standard Method 2540 C. Accordingly, if PaDEP based an attainment decision on TDS data from drinking water facilities, as stated in its assessment document, it should be based upon Standard Method 2540 C (180°C) because that is the method specified for drinking water facilities under the secondary drinking water regulations.

- 40 CFR Part 136 lists Standard Method 2540 C (180°C) and USGS Method I-1750-85 (180°C) as approved methods for NPDES compliance determinations. USGS I-1749-85 (105°C) is not approved for NPDES compliance determinations.

- PaDEP's guidance document for background water quality determinations for NPDES permitting[1] states under Section 1.6 Site Specific Data Collection and Evaluation that *"Analytical methods promulgated under 40 CFR Part 136, or other DEP approved test methods must be used where applicable."*

- PA Code Title 25 Article II Water Resources Chapter 91.42 Analysis of Wastes states that "In analyzing sewage, industrial wastes and other substances to determine whether their characteristics meet the requirements of this article, the methods and procedures described in the current edition of Standard Methods for the Examination of Water and Wastewater, Public Health Association, Inc, shall be used."

All information above supports the use of either Standard Method 2540 C or USGS I-1750-85 for evaluating attainment of TDS water quality criteria or the secondary TDS drinking water standard. Both of these methods require sample drying at 180°C and both are consistent with 40 CFR Part 136.

[1] Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, Revised March 6, 2003.

D. Recommended Approach to Managing TDS in Pennsylvania

In lieu of the proposed TDS regulation, we recommend the following approach be considered by the Board for managing TDS in Pennsylvania waters:

- Assess the attainment status of TDS, chloride and sulfate on a watershed basis with priority assigned to those watersheds where available data indicate actual or likely non-attainment at public water supply intakes. For those watersheds where attainment is indicated or demonstrated using existing PaDEP protocols, no further regulatory action under this program would be warranted.

- Conduct screening monitoring in other watersheds where attainment status may be in doubt because of potential sources and lack of sufficient ambient water quality data to assess attainment status in accord with established PaDEP procedures.

- For those watersheds where non-attainment is indicated, develop inventories of TDS to include background levels, conventional municipal and industrial point sources, oil and gas operations, active coal mining operations, abandoned mine lands and others.

- With participation by watershed stakeholders, develop TDS management plans that take into account site-specific circumstances within the watershed. In essence, follow the TMDL process and establish equitable allocations based on cost-effective means to achieve attainment status and consideration of financial impacts.

- Modify as necessary existing water quality regulations to allow for pollutant trading, managed TDS discharges under acceptable stream flow conditions and other regulatory flexibility mechanisms.

- Public review and comment on the identified watershed TDS management plan.

Summary

AK Steel appreciates the opportunity to comment on the proposed regulation. We urge the Board to consider the impact that this regulation would have on the Butler Works and Pennsylvania industry in general. As noted above, AK Steel employs approximately 1,400 men and women at Butler Works with an annual payroll of more than $135 million. This regulation, in its current form, would significantly add to the cost of making and finishing steel at the Butler Works, thereby, jeopardizing future investment and employment at the facility, and place Pennsylvania at both a global and domestic

disadvantage. If you have any questions regarding this submittal, please contact David Miracle at (513) 425-5329.

Respectively Submitted,

David Miracle
Environmental Affairs Manager

2806

From: Dave_Miracle@aksteel.com
Sent: Friday, February 12, 2010 1:05 PM
To: EP, RegComments
Subject: AK Steel Corporation Comments on Proposed Regulation: "Wastewater Treatment Requirements for Wastewater Containing High Concentrations of Total Dissovled Solids (TDS)" - From David Miracle, AK Steel Corporation, 9227 Centre Pointe Drive, West Chester, ...
Attachments: PA TDS Comments Scanned.pdf

Please find AK Steel Corporation's comments attached regarding the following proposed regulation: "Wastewater Treatment Requirements for Wastewater Containing High Concentrations of Total Dissolved Solids (TDS)"

The original should have arrived at your office this morning.

Thanks you,

David Miracle
Environmental Affairs Manager

AK Steel Corporation
9227 Centre Pointe Drive
West Chester, OH 45069