

Pennsylvania Chamber of Business and Industry
Statement for Pennsylvania Environmental Quality Board Hearings
Concerning Proposed Amendments to Chapter 95 Rules –
Discharge Standards for Total Dissolved Solids

December 17, 2009

I am Stephanie Catarino Wissman, Director of Government Affairs for the Pennsylvania Chamber of Business & Industry. On behalf of the Pennsylvania Chamber's 24,000 members and customers, we appreciate the opportunity to provide this testimony concerning the Department of Environmental Protection's proposal to amend Ch. 95 to establish an across-the-board treatment standard for Total Dissolved Solids (TDS) applicable to new or increased TDS dischargers, irrespective of watershed, location, impact or need.

Since April of this year, the Chamber and its Water Work Group has worked in a task force with our members and a number of other industry organizations, including the Electric Generation Association, Pennsylvania Coal Association, Pennsylvania Chemical Industry Council, Pennsylvania Waste Industry Association, and others, in attempting to evaluate the potential applicability and impact of this proposal. Based on the inputs we received in June, we prepared and presented to the Water Resources Advisory Committee a lengthy "working paper" which identified in some detail the concerns and questions from a broad spectrum of the regulated community concerning the Department's TDS Strategy and the "one size fits all" treatment standard approach embodied in the Ch. 95 proposal now before the EQB.

Since that time, we have continued to work with that task force to gather additional information from various impacted sectors. Concurrently, our representatives have participated in the Department's TDS Stakeholders Group process in an effort to better understand the potential TDS concerns and challenges that may arise in various watersheds, the impacts of this proposal, and potential alternative approaches to addressing possible TDS concerns. Those efforts have served to confirm many of the concerns that we expressed back in June regarding this particular regulatory proposal, and emphasized that we must, indeed, find another path.

The Department's TDS Strategy and these proposed Ch. 95 regulations have broad, substantial, and far reaching impacts upon a broad spectrum of Pennsylvania manufacturing and

commercial operations, but those consequences and effects appear not to have been accorded appropriate assessment, consideration and balancing. We believe that irrespective of the worthiness of its objectives, these Ch. 95 standards, coupled with its fast-track deadlines, are ill-advised and unworkable, generating what will become an impending crisis in wastewater management that threatens the ongoing viability of a number of key sectors and enterprises. As we stated in June, it is essential that the Department work with all affected sectors and stakeholders to: (1) develop a better understanding of the real TDS challenges, in terms of affected streams and conditions, constituents, and related causes; (2) evaluate the options for addressing those TDS challenges; (3) carefully evaluate the technical and economic feasibility and effectiveness of each of the treatment technologies that might be used for various types of TDS constituents, including key issues regarding management and disposition of their resulting residuals; and (4) reframe a strategy and approach to more effectively address the real TDS challenges in a common sense and cost-effective manner.

In the near future, we will be submitting detailed comments to the Environmental Quality Board on this Chapter 95 proposal. However, let me briefly note the six (6) key points of the Chamber's comments:

1. To be effective, Pennsylvania's strategy must be developed with a much more focused and accurate understanding of the specific streams evidencing TDS challenges, the specific constituents and hydrologic conditions that lead to TDS issues, and the primary sources of those constituents and loadings. The primary rationale for the new statewide end-of-pipe treatment standard proposed in Ch. 95 appears to be the observation of TDS challenges in a limited number of streams (such as the Monongahela River) many of which are predominantly impacted by drainage from abandoned mines, and the observations of elevated TDS conditions were limited to extreme and extended low flow conditions. The studies and surveys cited in the TDS Strategy and shared with the TDS Stakeholders Group do not evidence that we face a statewide TDS "*problem*," but rather suggest an issue that affects specific streams and stream reaches under certain hydrologic conditions. A close examination of those studies further indicates that the sources and challenges in each watershed are different, and one across-the-board "solution" will not be efficient or effective.

2. Before adopting and implementing the type of treatment limits as set forth in the proposed Ch. 95, DEP must develop an accurate understanding of the numerous sectors affected by the limits, and evaluate the technical and economic feasibility of implementing the proposed TDS limits in each of those sectors. The proposed definition of “High-TDS sources” sweeps in a wide range of industrial enterprises, far beyond those mentioned in the TDS Strategy, including electric power generation, petroleum refining, chemicals manufacturing, iron and steel manufacturing, pharmaceuticals, meat packing, food processing, and others.
3. In each of these affected sectors, the technologies available to address high-TDS wastewaters are limited, subject to varying capabilities depending on the matrix of constituents in individual wastewaters, and pose significant technical and economic feasibility issues. As detailed in the Pennsylvania Chamber’s June 2009 Working Paper, the primary technologies proffered to meet the limits mandated by this proposal – reverse osmosis (RO), evaporation, and crystallization – are energy intensive, very expensive from both a capital and operating cost standpoint, and leave a significant volume of residuals (concentrated brine or salt cake) which pose unresolved management and disposal challenges. Moreover, none of these technologies can be engineered, pilot tested, permitted and installed in anything like the 18-month timeframe envisioned by the TDS Strategy.

As just one example, an evaporation/crystallization facility designed to handle 1,000,000 gallons per day of brines would require some 87 million kilowatt hours of electricity annually (the equivalent electric demand of some 11,300 households); plus 262,800,000 cubic feet of natural gas annually, and would generate nearly 60,000 tons of greenhouse gas CO₂ emissions per year.

As another example, for just one power plant, the estimated cost of a brine concentrator and crystallizer to handle air scrubber wastewater is \$62 million in capital, plus \$4.5 million per year for O&M. Multiplied across the fleet of electric generating stations with current and planned scrubber units, the proposed Chapter 95 rule would engender a demand for *several billion* dollars in investment.

4. All potentially available TDS treatment technologies present a substantial, unresolved challenge concerning management of resulting treatment residuals – whether they be concentrated brines in RO reject water or the salt cake/sludges from crystallization units. The sheer volume of residuals associated with implementing these proposed rules – which equates to literally thousands of tons of salt cake per year – should alone be cause for careful review and reconsideration.
5. The 18-month timeframe for implementation of TDS treatment is wholly unrealistic and unachievable. Given the design, pilot-testing, permitting, equipment lead time, and construction steps outlined both in the Chamber’s comments and in presentations from various sectors provided to the TDS Stakeholders Group, a minimum of a 36-month timeframe is involved in development of high-TDS treatment facilities – and that assumes that all design and testing prove that the technology is feasible and that the residuals challenge can be met.
6. The draft Ch. 95 leaves a number of serious and unresolved questions in terms of applicability and implementation, including (a) how the rules apply to facilities with multiple existing sources and outfalls; (b) situations involving high-TDS source water; (c) the impacts of the strategy on water conservations; and (d) the process for determining baselines and increases in TDS concentrations and loadings.

As a bottom line, the Chamber believes that water quality management should realistically address the instream needs and requirements of Pennsylvania streams, based on the best scientific information available. Given the unique TDS challenges for some streams, we believe the Department should adopt a more flexible approach to regulating TDS and its constituents in discharges, considering assimilative capacity under differing flow conditions. Every effort must be made to explore, without preconceptions, every creative alternative and opportunity for addressing TDS concerns that is capable of protecting our environment and also preserves our industry. Indeed, we believe that some of the options discussed at the TDS Stakeholders Group offer a more realistic and rationale approach to addressing those TDS challenges that may affect some streams – with actions that can be implemented well before we confront the prospect of impaired instream quality. We look forward to continuing to work with the Department in examining and pursuing such better approaches.