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August 14, 2012

Pennsylvania Environmental Quality Board
Rachel Carson State Office Building, 16th Floor
400 Market Street
Harrisburg, PA 17101-2301

Ladies and Gentlemen:

**Subject: Triennial Review of Water Quality Standards
Pennsylvania Bulletin, Vol. 42, No. 27, Page 4367
Saturday, July 7, 2012**

CONSOL Energy Inc., (CONSOL) the leading diversified fuel producer in the Eastern United States, respectfully offers the following comments on the Environmental Quality Board's (Board) proposal to amend Chapter 93 relating to water quality standards. Specifically, CONSOL is opposed to the creation of new aquatic life criteria for chloride and sulfate, aquatic life and human health criteria for molybdenum, and a human health criterion for strontium.

Chloride

The Board recommends adopting the Iowa equation-based criteria for chloride that will be applied in all freshwaters of the Commonwealth for the protection of aquatic life. CONSOL takes issue with the fact that the Pennsylvania Department of Environmental Protection (PA DEP) believes statewide aquatic life criteria for chloride are necessary at this time. PA DEP, in its rationale for the development of ambient water quality criteria for chloride, identifies flow back water resulting from the gas well drilling process as demonstrating the need for chloride criteria. Although flow back water contains higher concentrations of dissolved solids, of which chloride is one component, in Pennsylvania, the oil and gas industry operates in a zero discharge mode thus achieving protection of the freshwaters of the Commonwealth through a best management practices approach. This would seem to negate the need for chloride water quality criteria based on the assumption that oil and gas industry fluids will be discharged to nearby surface waters.

From a scientific point of view, CONSOL agrees the Iowa equation-based approach for establishing chloride water quality criteria is a better choice over the current national aquatic life criteria: 4-day average (CCC) criterion = 230 mg/l; 1-hour average (CMC) criterion = 860 mg/l. This is because the Iowa research and testing demonstrates that chloride toxicity is highly dependent on water hardness, and to a lesser degree, sulfate concentrations, whereas the current national criteria do not consider hardness and sulfate as factors in determining chloride toxicity to aquatic life. Nevertheless, adopting the Iowa equations based solely on a literature review is not an acceptable method for establishing water quality criteria applicable to Pennsylvania's waters. If equation-based criteria are to be used, we encourage PA DEP to follow the path of the Iowa Department of Natural Resources and conduct adequate and

statistically valid Pennsylvania specific water quality sampling and analysis, biological surveys and acute and chronic bioassay studies.

Sulfate

The Board recommends adopting the aquatic life sulfate criteria developed by the Illinois Environmental Protection Agency that will be applied in all waters of the Commonwealth. Again, CONSOL takes issue with the fact that the Pennsylvania Department of Environmental Protection (PA DEP) believes statewide aquatic life criteria for sulfate are necessary at this time. There are currently no national ambient water quality criteria for sulfate which are designed to be protective of aquatic life. Likewise, none of Pennsylvania's surrounding states, Kentucky, Maryland, New York, Ohio, Virginia, or West Virginia, have established aquatic life criteria for sulfate, let alone the recommendation to adopt criteria developed for a Midwestern state, Illinois, and think that those criteria are directly applicable to Pennsylvania, an Eastern Appalachian state.

Pennsylvania already has an established criterion for the protection of aquatic life from the impacts of sulfate, and chloride and Total Dissolved Solids for that matter, and that criterion is Osmotic Pressure. In the sulfate rationale document, PA DEP clearly states,

"Freshwater fish and aquatic communities cannot survive in elevated concentrations of sulfates. Maintaining a proper salt-to-water balance in a freshwater environment challenges most aquatic life, and in particular, aquatic insects. Macroinvertebrates maintain an internal ionic concentration that is higher than the surrounding environment by actively transporting ions in and out of their bodies through osmoregulation (Buchwater and Luoma, 2005).

There is no question that PA DEP recognizes Osmotic Pressure as the most appropriate parameter for protecting aquatic life resources. Therefore, the adoption of aquatic life criteria for sulfate is duplicative and unnecessary.

To our knowledge, PA DEP has not completed any correlated chemical sampling and analysis, biological surveys or acute and chronic bioassays to determine if a water quality standard for sulfate, and chloride as well, is actually needed. CONSOL has reviewed PA DEP's existing chemical data found on their Southwest Regional Office website entitled, "Mon River TDS Chloride and Sulfate Sampling Results." It is our opinion that these data do not support a rationale for imposing a statewide sulfate or chloride water quality standard for the protection of aquatic life.

Molybdenum

The Board is proposing amendments to the human health and aquatic life criteria for molybdenum, Table 5 (relating to water quality criteria for toxic substances). CONSOL questions the basis for proposing these criteria. In the preamble material to the proposed rulemaking, the PA DEP indicates,

"Industries in this Commonwealth that may discharge molybdenum include specialty steel, coal mining and coal-fired power generation." 42 Pa.B. 4370.

"The Department has determined that there is a need for an aquatic life molybdenum criterion because it may be present in effluent discharged by industries in this Commonwealth, including specialty steel, coal mining and coal-fired power generation." 42 Pa.B. 4371.

CONSOL asks the question, "Does PA DEP know, i.e., has specific scientifically valid evidence through chemical analysis, that molybdenum is present in certain types of industrial effluents, or are they only acknowledging the possibility as the choice of the verb "may" connotes? We think it is the latter. To our knowledge there are no statewide data supporting the wide spread existence of molybdenum in Pennsylvania's surface waters, nor is there any specific, documented evidence of harm to aquatic organisms or human health. Currently, U.S. EPA has not developed or published national acute or chronic criteria for molybdenum for the protection of aquatic life. This is most likely due to the relative low toxicity and rare occurrence of molybdenum in most areas of the United States.

A molybdenum criterion for the protection of human health was previously published on Saturday, January 12, 2008, 38 Pa.B. 236, during the last Triennial Review proposed rulemaking. That proposal was disapproved by the Independent Regulatory Review Commission (IRRC) who found that: 1) PA DEP had not offered sufficient justification regarding the specific interest of the Commonwealth to exceed federal water quality standards; 2) the Board had not sufficiently addressed the economic and fiscal impact of imposing a new molybdenum water quality criterion on the regulated community; and, 3) the Board had not fully demonstrated the impact of the consumption of molybdenum on the public health. In the July 7, 2012, proposed rulemaking not only does PA DEP repropose the human health criterion, but they also come forth with new criteria for the protection of aquatic life. What has changed since the 2008 rulemaking effort? As best we can tell, nothing. Yet PA DEP believes they can try again using the same arguments as before. The arguments and objections of the IRRC continue to be valid and the Board should withdraw the proposed molybdenum water quality criteria.

Strontium

The Board is proposing the adoption of a strontium criterion that will be applied in all freshwaters of the Commonwealth for the protection of human health. As justification, the proposal cites requests from PA DEP engineers for in-stream criteria for strontium, "because of the known presence of strontium in the drilling fluids retrieved from frack water discharges." CONSOL takes issue with the fact that PA DEP believes a statewide human health criterion for strontium is necessary at this time. As previously noted under the chloride criteria discussion, flow back water may (emphasis added) contain strontium, and in Pennsylvania, the oil and gas industry operates in a zero discharge mode thus achieving protection of the freshwaters of the Commonwealth through a best management practices approach. This would seem to negate the need for a strontium water quality criterion based on the assumption that oil and gas industry fluids will be discharged to nearby surface waters.

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Clearly, in the very limited text of the proposed rulemaking, and the supporting rationale document, PA DEP offers no real evidence for the presence of strontium in Pennsylvania's streams and waterways, and concomitantly, there is no demonstrated risk to human health, or the environment for that matter. PA DEP is seemingly using a hap hazard approach to adding parameters to the Triennial Review without sufficient scientific data to justify such an action.

Benefits, Costs and Compliance

CONSOL recognizes the value of clean water and supports PA DEP in its efforts to provide protection to preserve the integrity of existing and designated uses of surface waters in the Commonwealth. But these protections must have a sound scientific basis, and be demonstrated through valid chemical and biological testing and analyses.

PA DEP recognizes the proposed rulemaking may impose additional compliance costs on the regulated community, and expenditures to meet new compliance requirements may exceed that which is required under existing regulations. While a cost / benefit analysis is not part of the water quality criteria process, the establishment of new criteria, or overly protective criteria, do have a real and unavoidable financial impact on the regulated community. CONSOL believes with respect to new criteria for chloride, sulfate, molybdenum, and strontium that this financial burden could be in the billions of dollars to industry.

At a time when the economy of the State and the Nation as a whole is performing poorly at best, when there is no demonstrated need to expand the current water quality criteria for the protection of aquatic life and human health, it is questionable as to why PA DEP would propose new water quality criteria that they readily admit will adversely affect the economic well-being of the regulated community.

Conclusion

CONSOL Energy Inc. appreciates the opportunity to provide comments on the proposed Triennial Review of Water Quality Standards. As stated above, CONSOL respectfully requests that the proposed criteria for chloride, sulfate, molybdenum, and strontium be eliminated from the proposed rulemaking.

Sincerely,



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