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FRL-9979-41-OP; RIN 2010-AA12

ANPRM REGARDING INCREASING CONSISTENCY AND TRANSPARENCY IN CONSIDERING COSTS AND BENEFITS IN THE RULEMAKING PROCESS

SUBMITTED ELECTRONICALLY VIA WWW.REGULATIONS.GOV

Administrator Andrew Wheeler (Acting)
1200 Pennsylvania Avenue, NW
Washington, D. C. 20004
Dear Administrator Wheeler

Dear Administrator Wheeler:

Theresa Pugh Consulting, LLC respectfully submits comments on the Advance Notice of Proposed Rulemaking (ANPR) regarding Increasing Consistency and Transparency in Considering Costs and Benefits in the Rulemaking Process. U. S. Environmental Protection Agency's (EPA) call for comments focus primarily on Clean Air Act (air), GHG regulations, and some non-air environmental regulations. For example, I would urge EPA to not delay corrections in cost-benefit analysis for air pollutants and GHG substances if the water statutes necessitate a more deliberative process in a separate rulemaking to focus on cost-benefit analysis.

BACKGROUND

I have >26 years-experience before U. S. EPA on air, water, waste, and multi-media pollutant regulations representing electric utilities, pulp & paper, refineries, natural gas pipelines, major

durable goods, and general manufacturing. The comments offered are entirely my own and do not intend to represent any current or former clients.

Thank you for considering these comments.

Sincerely,

Theresa Pugh, President/Owner

Theresa Pugh, LLC

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Executive Summary

- All environmental statutes are slightly different in terms of how Congress addressed Cost Benefit Analysis (CBA). These comments attempt to respond with approaches to different statutes or media as each regulatory program addresses cost benefit slightly differently. Adopting the exact same approach for all environmental media or their statutes is not wise without significant time to file comments on each of the major statutes: Clean Air Act, Clean Water Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, National Environmental Protection Act (addressing value in lost time during procedural or permitting process delays), and Endangered Species Act.

Most of these comments address Clean Air Act's criteria pollutants and greenhouse gases (GHGs)—specifically CO_2. I believe that the Clean Water Act and Safe Drinking Water Act need considerably more time for thoughtful recommendations. These comments do not address Endangered Species Act (ESA) and I recognize that there are three other calls for comments to address improvements to ESA. The comments commend EPA for its mostly proper Cost-benefit analysis process under Clean Water Act's 316(b) rulemaking process for industrial factories and electric utilities. (See page 4-5 for details).

- **Co-benefits:** Co-benefits should never be counted twice when the pollutant(s) already are or will be regulated under existing regulations. The electric utility sector has experience with the errors in counting benefits when setting National Ambient Air Quality Standards (NAAQS), Mercury Air Toxics or Mercury MACT[1] makings and CO_2 regulations where human health benefits and secondary public welfare benefits were counted twice or where some agricultural benefits were not counted in secondary or public welfare assessments. Mercury, is indeed a neurotoxin. However, the human health benefits of reductions from the MATS Rule did not greatly exceed the benefits already reduced and sustained under the PM NAAQS standards program.
- **Transparency and Procedures**: EPA has used the ANPRM and surveys approved by Office of Management and Budget (OMB) to industries to obtain both technical, operational and economic data and then ignored the economic information provided by the industry responding to the surveys. Two examples of this affecting the electric utility sector are in the 2014 Clean Water Act Effluent Guidelines ("ELG") rulemaking on

[1] 77 FR 9304, February 16, 2012.

Steam Electric Generating Effluent Guidelines[2][3] and a survey on Toxic Weighting Factor Methodology (TWF)[4] [5] on pollutants and 2014 Pre-ANPRM Small Entity Review (SER) two-day panel on how to regulate existing EGUs under 111(d). In both cases the industry was asked for data (technical and economic) in response to surveys or meetings and the EPA did not use the data.

Flaws in EPA's "transparency" also extend to scientific review[6], peer reviewed data, and the inability for the regulated community to review scientific literature that EPA has used. Often EPA redacts the data so that it is meaningless[7] or where EPA has relied upon an ozone (smog) study based upon morbidity and death data where other health factors cannot be determined because the details of study(s) have never been available. For example, EPA has failed to provide basic data on Harvard's "Six City Study" even if the names of the patients and other confidential data has been redacted. In this case, the transparency question requires that all commenters have access to the scientific literature in order to provide useful comments on costs and benefits.

Comments filed by my firm in August, 2016 addressed the EPA's response to a request for reconsideration of the ferroalloy industry MACT rulemaking[8]. One, among many examples of flaws in EPA's cost-benefit analysis is when the CBA and other Regulatory Impact Analysis (RIA) materials do not make clear if EPA's estimated costs are averaged across (1) state, regional or even small-town impacts where factories may represent a significant employer or tax base; (2) does not include all the costs related to monitoring and analytical costs or costs in construction. A third cost analysis flaw, was EPA's failure to count in "costs" where a precedent might be set in one rulemaking for a small number of factories that has precedent for other manufacturing industries or electric utilities and where this is not clearly disclosed in the EPA proposed or final rule. EPA's 2016 MACT rule[9] applied to the entire U. S. ferroalloy industry which consists of only two factories in Ohio and West Virginia. However, EPA intended for all industries to ultimately adopt the new rooftop cameras for opacity readings to detect $PM_{2.5}$ across rooftops that they required of the ferroalloy industries. The reference to this broader application was in a footnote in the proposed MACT rule that only applied to two small companies. EPA failed to identify potential impacts on thousands of other industries clearly in either the proposed rule or in the cost-benefit analysis.

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[2] 40 C.F.R. Part 423

[3] Steam electric ELG rulemaking is both under Administrative reconsideration and under court appeal to determine many factors including Best Available Technology. See EPA-HQ-OW-2009-0819 for details.

5https://echo.epa.gov/help/facility-search/water-search-results-help

[5] EPA Office of Water, Engineering and Analysis Division, March, 20112, See EPA-820-R-12-005.

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[7] EPA's power plant and pollutant data for effluent discharges in the 2014-2015 toxic weighting factor data to regulate flue gas, fly ash, etc...

8 Docket EPA-HQ-OAR-2010-0895, August 18, 2016.

[9]42 U.S.C. Section 57401 or EPA-HQ-OAR-2010-0895.

As a result, EPA failed to conduct an accurate cost-benefit analysis for either the ferroalloy sector or the broader future rooftop camera application on other industries/electric utilities when looking at costs and benefits. In the case of the ferroalloy sector, the benefits of those additional costs did not justify the extremely expensive technology because the opacity cameras detected many false positives due to wind, cloud shadowing, and tree branch movement. Virginia's Department of Environmental Quality's Air Pollution Control Board detected false positive readings while testing the opacity cameras and placed this data in the record[10]. Regardless, EPA believed that mandating the opacity camera for one industry and expand the rooftop cameras would justify the high costs because the ferroalloy rule might work out the kinks of false positives. Instead, EPA should have realized that requiring opacity cameras did not pass any red face test—on technical accuracy, practical operational issues (avoidance of false positives) and pass cost-benefit analysis test. Additionally, by failing to make it clear that their intent was to apply the camera technology to all $PM_{2.5}$ emitters, they were not making it clear to other camera manufacturers. Without clear disclosure in the proposed rule that EPA intended to apply camera technology widely, there would be no market signals to reduce the camera technology cost as EPA presumed in its faulty cost-benefit analysis.

- **EPA's failure to consider costs, loss of non-tax benefits to cities and costs to electric consumers:** EPA's cost benefit and economic analysis is often superficial and often does not look at jobs, loss of tax revenue and other factors that it is directed to look at under law[11] and Executive Order. Similarly, for many rulemakings affecting electric power and publicly owned treatment facilities owned by public power entities (often referred to as municipal utilities), EPA has disregarded costs under the Unfunded Mandates Act and related local economic concerns clearly expressed in prior CPP (Section 111(d)) comments and during the ANPRM for CWA Steam Electric Effluent Guidelines. EPA's neglect to seriously consider the Unfunded Mandates Act costs was pervasive during ANPRM, in review of proposed rule comments, and of comments received during meetings between EPA staff, city officials and utility managers.

Comments were submitted by American Public Power Association addressing economic impacts and costs to the community-owned electric utility. Some public power (not for profit) utilities (or their associations) supplied EPA with economic data, loss of tax equivalent or "PILOT" fees[12] to local government on many rulemakings from 2002-2015 where Unfunded Mandates Act impacts and those impacts identified under Executive Order 12866 were ignored. Presumably EPA did a

[10]Memo from Mr. R. David Hartshorn, Virginia Dept. of Environmental Quality, Northern Regional Office, p1, May 31, 2012. May 31, 2012

[11] Unfunded Mandates Reform Act or PL104-4, Executive Order 12866, and Small Business Regulatory Enforcement Fairness Act (SBREFA) or PL 104-121.

[12] Payment in lieu of taxes to city government or governmental commissions and authorities allows many local governments to reduce tax revenues based upon property owned by businesses and residential customers. PILOT fees pay for a wide variety of city services including fire, police, EMT, public street lighting for safety purposes, public school bus transit, subsidies for school lunch programs, and city transit.

superficial cost-benefit analysis ignoring Unfunded Mandates Act impacts because there is no real punishment for an agency to do an incomplete cost-benefit analysis with superficial reference to Unfunded Mandates Act and Small Business Regulatory Enforcement and Fairness Act[13] (SBREFA) impacts. These statutes are not justiciable.

EPA should respond in their final rules in a meaningful way to comments submitted presenting local economic data, jobs studies or other cost information. To date, EPA merely acknowledges in final rule that it met with the public power entities to discuss the proposed rule. Analysis and the use of the cost data appears to have had marginal consideration in most rulemakings with the exception of the 2005 Clean Water Act (CWA) 316(b) or cooling water intake regulation[14]. To EPA's credit, EPA followed the Clean Water Act's directive to use cost-benefit analysis in setting national performance standards. The Supreme Court agreed that EPA had an obligation to use cost-benefit analysis and avoid a presumptive "closed cycle cooling" for all plants in its Entergy v. Riverkeeper 2009 ruling.

- EPA should, when possible, use retrospective reviews on regulations that occur within that industry's standard investment cycles. Not all industries have the same investment cycles or modification of factories and power plants. However, when an industry undertakes approximately one dozen Federal EPA environmental regulations over a decade, as the electric power sector did between 2004-2015, the cumulative costs should have been considered in a methodical manner. EPA should solicit comment from various industries about what the timeframe should be for retrospective reviews. Not all industries have the same business cycles for investments, capital outlays, and for factory modernization or implementation of regulations. This distinction may be especially true in the agriculture community.

Part II. Examples of Five Clean Air Act Regulation Examples That may be Useful for EPA and OMB in the Proposal to Correct the Flaws in EPA's Cost-Benefit Process.

1. **EPA's 2015 Clean Power Plan cost analysis was inappropriate and flawed**

The traditional methodology used for Section 111(d) NSPS is to conduct a bottom-up analysis to determine what emissions reductions are "achievable" and "adequately demonstrated" at the source. For the CPP rule[15], EPA inappropriately analyzed costs at the national level, and the regional level for renewable energy, and not for what was achievable at the source. EPA's application of "outside the fence" Best System of Emissions Reduction (BSER) to the state

[13] PL104-121
[14] 33 U.S.C. 1326(b)
[15] Repeal pending

programs has opened the door to unnecessarily high cost upgrades, power plant closings and, in the case of many states, a generally unworkable approach to regulation that is far from Congressional intent concerning Section 111(d) units. The reduction goals in the CPP appeared to be the result of pre-determined GHG reductions goals set by policy by the prior Administration, not the product of a bottom-up source specific economic and technical analysis as required by Section 111. National cost analysis ignored local impacts creating the opportunity for significant arbitrary localized outcomes that cannot be sustained as a matter of Administrative law.

In a related electric utility regulation, EPA's Section 111(b) final rule[16] for new power plants failed to identify the many costs and environmental dis-benefits in its determination that geologic sequestration was demonstrated and applicable for all locations in 48 states. In that rulemaking, EPA ignored costs of new technologies and infrastructure investments for power plants to engage in geologic sequestration in non-oil and gas recovery areas in the cost-benefit analysis. EPA chose not to include sequestration costs provided by many parties in numerous comment periods and briefing meetings. EPA's presumption that new power plants replacing the retiring coal (and nuclear) plants EPA's 111(b) rule presumed that new coal-fired power plants (to address new load or to replace coal and nuclear baseload generation)[17] would sequester 20% of their CO_2 to subsurface for an unlimited number of years without any regard to the environmental issues under the Clean Water Act, Safe Drinking Water Act, state trespass laws, and product liability laws clearly suggests that sufficient inclusion of concurrent regulatory impacts is not included in cost benefit analyses. EPA's actions in the Section 111(b) rulemaking exemplify a terrible example of a lack of transparency on cost-benefit analysis or basic economics for non-air environmental issues. EPA's 2016 Fact Sheet on New, Modified and Reconstructed Power Plants stated "Because these standards are in line with current industry investment patterns, these standards are not expected to have notable costs and are not projected to impact electricity prices or reliability."[18] That 2016 EPA statement was simply absurd. The standard presuming that there would be a 20% sequestration success was not in line with "current industry investment patterns' and it ignored what was visible in plain sight. The pilot or

[16] Docket No, EPA-HQ-OAR-2013-0495.
[17] New coal-fired power plants that commence construction after January 8, 2014
[18] https://archive.epa.gov/epa/sites/production/files/2015-11/documents/fs-cps-overview.pdf

attempted demonstration projects[19] were already having serious operational and cost overrun issues in 2016.

EPA's failure to consider cost-overruns and many operational problems of the connective technologies at Illinois' suspended FutureGen 2.0, which was used as an exemplar of CCS technology, where Department of Energy had suspended funding in December 2015 and where serious costs over-runs began to emerge in 2007 also points to a breakdown in the cost-benefit process. By 2008 DOE reduced its contributions from the earlier estimate of $1.33 billion to $800 million. Ultimately U. S. Congressional auditors determined that the FutureGen project costs had nearly doubled—although later that amount was revised by an increase of 39%[20]. While FutureGen02 wasn't claimed as a demonstration of CCS in the final rule, EPA failed to look at the patterns of cost-overruns in the FutureGen02 project when it looked at the economic issues which was a major factor in "feasibility" under Section 111(b).

Similarly, Mississippi's Kemper Project began to face operational problems with carbon separation as early as 2014 resulting in numerous operational delays. There is a wide disparity between EPA's estimates and estimates from Harvard[21] of $120-$150 per ton or nearly a doubling of the costs of coal-fired generation. EPA's conclusion that CCS technology was ready for deployment based on the demonstration of the technology or costs in the final 111(b) rule clearly demonstrates that the Cost-Benefit calculation has serious flaws. Should EPA re-propose the 111(b) and 111(d) rules, EPA pay attention to how it conducts cost-benefit analysis for presumptive efficiency and for remaining useful life of the plant.

2. EPA has repeatedly double counted co-benefits from ambient concentrations of pollutants that were below the NAAQS in its Hazardous Air Pollutant regulations

It is entirely inappropriate to count human health benefits of reductions below the NAAQS, as the NAAQS was already set to protect human health with an adequate margin of safety (required under CAA) when setting hazardous air pollutant regulations. EPA asserted benefits of reductions for PM/Ozone NAAQS and then later used the same benefits in its assertion of reducing climate related health risks under the CPP. This is one of many examples of double

[19] This statement does not intend to address the use of CO_2 as an agent to use in Enhanced Oil Recovery or Enhanced Gas Recovery Projects commonly known as EOR. The economics of EOR are entirely different than at a power plant without all the infrastructure already in place to move or inject CO_2.
[20] Ward, Matt, New York Times, "Energy Department Said to Err on Coal Project", December 12, 2012.
[21] Harvard's Belfer Center for Science and International Affairs, *Realistic Costs of Carbon Capture*, 2009.

counting the benefits and where the health benefits assessments from the regulated entity (a manufacturer, refinery or power plant) distorted the cost-benefit analysis.[22]

The "Brick MACT" (a technology-based air standard to address air toxics)[23] is a rather extraordinary example of double counting of benefits. EPA based the entire MACT rulemaking based upon the co-benefits from PM reductions that would have been reduced through the NAAQS process regardless of any additional mercury regulation[24]. Brick manufacturing companies, usually small and family-owned businesses, must meet the new Brick MACT standard which is based on health benefits that will occur regardless of the new MACT Rule.

The comments include this manufacturing sector example, although this industry is not a client, because it was such an egregious example of how EPA asserted the benefits of $75-170 million—not evenly distributed across the brick industry's 70 mostly gas-fired manufacturing plants in 38 states—that are already counted. Together these 70 plants which employed about 7,000—that had already experienced a jobs loss of about 58% from 2008--now face additional job losses due to its expensive new pollution control investments[25]. According to a U. S. Chamber of Commerce study[26], one company needed to spend $2.7 million for pollution controls on its kilns to reduce emissions of approximately four pounds of mercury per year. Another company, despite its business successes, had to wait two years before obtaining a loan due to the looming EPA regulatory costs. EPA's stringent pollution controls, based upon double counting of benefits, caused some local brick companies to close plants because they could not obtain financing for the investments –investments to reduce between 3 and 5 pounds of mercury per year.

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[22]ICI Boiler MACT Small Entity Review 2011 cost analysis provided by smaller utilities to EPA in advance of rulemaking https://www.epa.gov/sites/production/files/2015-06/documents/report-sbarpanel_steamgenunit.pdf

[23] Emission Standards for Hazardous Air Pollutants (NESHAP), for brick and clay producers including tunnel kilns. See 42 U. S. C. 57401 or EPA-HQ-OAR-2002-0054 and EPA-HQ-OAR-2013-0291.

[24] 80 Fed. Reg.65,470, 65,513 (October 26, 2015) EPA acknowledges that all of these benefits are actually "co-benefits" that comes from estimated reductions in fine particulate matter, a pollutant that is already very well controlled by other regulations.

[25] *Regulatory Indifference Hurts Vulnerable Communities*, No. 7, U. S. Chamber of Commerce Environment, Technology Regulatory Affairs Division Study, Feb. 2016; https://www.uschamber.com/sites/default/files/documents/files/022360_etra_brick_study_01_29.pdf (Copyright restricted material), page 6.

[26]Id

EPA's analysis on this Rule failed to track reality on both the cost and benefit side of the analysis. EPA's estimate of reduction costs of $92,400 per year was not only inconsistent with the industry estimate but also inconsistent with the reality after the fact. Further, the EPA's calculation of the benefits failed to point out that the mercury reductions and other metals would be reduced under $PM_{2.5}$ standard. EPA's RIA also failed to include the costs to communities where brick manufacturing would no longer be available in that Standard Metropolitan Statistical Area (SMSA) and where houses or commercial businesses in rural America might cost more because of the higher transportation costs in order to obtain bricks from brick manufacturers located 50 or 200 miles away.

Ohio's Whitacre-Great Brick company is an example of a company affected by the EPA Brick MACT rule that provides perspective on the economic costs of regulations. The company was forced to close its Waynesboro, Ohio plant in 1989. When it closed that plant in 1989 the town decreased its population by 20% from 1,160 in 1980 to 923 in 2010 according to U. S. Census. EPA does not include in its assessment of the cost of new regulations the economic impact of lost businesses or to a specific region in its cost-benefit analysis process.

EPA's RIA also failed to identify what long-term economic impact some rural communities might face if homes and commercial buildings would not be built with locally-sourced brick (or merely used for front surfaces) because of this rulemaking. While predicting secondary costs are more complicated for any agency to address in a cost-benefit analysis, EPA ignored that brick products may well provide public safety benefits, durability, and other economic benefits in communities that face frequent tornados or hurricanes[27].

Even EPA's option to allow brick manufacturers to take a "synthetic" minor source meant that those plants that took a synthetic minor would permanently stay below the rule's threshold and limit their manufacturing hours or output—and limiting presumably employee size and profits without a major breakthrough in productivity through new technologies. Until the Trump Administration later chose to address the "Once In Always In" policy—this synthetic MACT standard would have meant a permanent self-limiting business decision that would have placed some brick manufacturers who took the synthetic minor classification less suitable for additional

[27] EHS Daily Advisor, March 28, 2016, www.ehsdailyadvisor.bir.com

loans because a synthetic minor would likely limit production opportunity. EPA never seemed to consider the costs to a company when it elects to take a "synthetic minor" classification and be subject to "once in always in" synthetic minor classification. Taking a "synthetic minor" might advantage a business's competitors if that synthetic minor classification limits output. EPA ignored the Rule's practical impact of limiting economic growth of an important business class when issuing the final Rule. (The Trump Administration is to be commended for correcting the "Once In, Always In" policy).

3. **EPA's 2015 New Source (Section 111(b)) Rule for CO_2 failed to consider non-air quality health and environmental impact and energy requirements under 42 U. S. C. 111(a)(1).**

Specifically, EPA failed to consider cross-media impacts and costs for presuming that Best System of Emission Reduction (BSER) in Section 111(b) could presume geologic sequestration of CO_2 through a series of technologies that had not been adequately demonstrated. Nor were the non-air issues such as parasitic energy use, injections of acid gases into the ground (under Resource Conservation and Recovery Act), or whether there would be a cost to an industry to inject CO_2 into subsurface pore space where those states did not have statutory programs allowing injection without triggering trespass. EPA made significant errors in its presumption that Section 111(b)'s BSER failing to look at costs and benefits under Clean Air Act, Resource Conservation and Recovery Act, Safe Drinking Water Act, and other state statutes. EPA's ANPRM points out that in Michigan v. EPA 133 S. Ct. 2699, 192 L. Ed.2d 674 (2015), that Supreme Court held that EPA is required to consider costs when determining whether it is "appropriate and necessary." EPA accepted that the same provisions in non-air statutes that allow the use of CO_2 for Enhanced Oil Recovery (EOR) applied to the electric utility. In fact, EPA's Office of Air and Radiation had been informed many times that the "like/kind" waste exemption for acid gas injection and Underground Injection Control Program (UIC) treatment would not universally apply to coal-fired power plants in the same way as petroleum recovery projects.

4. **EPA's 2015 CPP could have created substantial stranded assets and those costs were not counted in EPA's cost benefit analysis**

Although presumed to be soon repealed, EPA's 2015 CPP rule put in place a policy which, prior to the stay issued by the Supreme Court, may have resulted in many substantial stranded assets by requiring Electric Generating Units (EGU) that could not meet the CPP emission reduction obligation to close. The CPP addressed issues that would have changed economic dispatch systems in most states to a dispatch system based upon the CPP's CO_2 reduction deadlines. Even older natural gas plants could have been rendered stranded assets in deference to newer natural gas plants that had better peaking preferences. And intermittent renewables may have even rendered new combined cycle natural gas plants as stranded over the 2028-2030 or 2040 timeframe. Regardless of assertions by EPA of maximum flexibility in the final (but now soon to be repealed) rule, an EGU owner that could not make reductions at the plant would be forced to seek alternative electric suppliers, putting in place a fatal economic situation that would require premature closure of existing, economically viable plants. Generation owners with limited resource flexibility would be required to prematurely close power plants and take a complete loss on assets that, but for the CPP, retained economic viability. Such a policy is at odds with the Clean Air Act statute and is clearly suggestive of a final rule that failed to meet the minimum standards under the law. But to address the call for comments in this ANPRM, it points out that the EPA did not address the cost benefit impacts of retiring coal-fired power plants (and perhaps also older coal-fired power plants that had altered burner tips to burn gas that would not have been dispatched due to newer natural gas units) were ignored when EPA did its costs assessments. EPA failed to look at how many coal-fired power plants would retire before their remaining useful life due to the CPP's distorted cost-benefit analysis. EPA's cost benefit analysis never attempted to analyze what the closed coal-fired plants that still retained debt would cost electric consumers or look at those costs by economic strata. Perhaps most sobering of all, the CPP may have made some natural gas plants (and perhaps new pipeline segments) stranded over time as the CPP approached its 2030 deadline and maintained the reductions. EPA ignored the stranded cost risks entirely in the cost-benefit analysis.

5. EPA has failed to conduct Any employment analyses under numerous Clean Air Act regulations as required in Section 321(a).

On June 29, U. S. Court of Appeals for the Fourth Circuit issued a ruling in Murray Energy Corp, el al, v. EPA that requires EPA to make continuing evaluations of potential loss or shifts of employment under Clean Air Act's Section 321 as a result of EPA's regulatory actions. While

the Court of Appeals for the Fourth Circuit[28] determined that EPA can exercise its discretionary judgment it still must consider impacts of domestic U. S. job losses when evaluating costs and benefits of a rulemaking.

Part III. Examples of Cost-Benefit Analysis under Clean Water Act:

1. **The Clean Water Act has different programs within the statute to address water quality standards, review of Maximum Contaminant Levels (MCL), fish protection, and effluent discharges from industries**.

The technology driven parts of the statute direct the EPA to move to zero pollutants whether that is feasible and regardless of costs. These observations point to Clean Water Act's separate 316(b) water intake program that allows for EPA to consider costs and benefits.

2. **As referenced in the Executive Summary, <u>EPA correctly followed the cost-benefit analysis directed in the CWA under Section 316(b) rulemaking in 2005</u>**. EPA recognized that a selection of technology "minimizing adverse environmental impact" does not necessarily mandate the greatest reduction possible. Although I recognize the appropriate final regulatory action by EPA (using cost-benefit analysis) but do want to point out one significant flaw in that rulemaking process. EPA used a survey of citizens (who were not aquatic ecosystem experts or fish specialists) soliciting responses about the person's placement of economic value on fish protection. Questioning the public via surveys as to whether the respondent would believe that protecting a single specific fish be worth $1,000 can lead to distorted public policy. While soliciting comments in the public record on proposed rules is critically important in any democracy, there is risk to over-regulation (or under-regulation) when basing regulatory decisions upon non-use values or contingent valuation surveys. This problem is relevant for Clean Water Act regulations designed to protect fish, Natural Resource Damage Assessment (under CERCLA), and perhaps under the Endangered Species Act when setting Habitat Protection plans. Opinions about saving fish are highly subjective and polling bias can distort the response. Surveys and responses should make it very clear what the

[28] June 27, 2017 decision in response to the Murray Energy case from 2014 against U. S. EPA for failure to study jobs lost in coal industry and coal-fired power plants.

cumulative costs might be for habitat protection etc. on cumulative product costs (in this case the cost of electricity).

3. EPA has used the Toxic Weighted Pound Equivalent (TWPE) in Effluent Guideline Regulations (CWA- ELG) and Overestimated Benefits

Many industry ELG regulations have been updated over the last twenty years using TWPE as a factor to determine pollution removals. Often the EPA over-estimates the benefits and under estimates the costs in this process. Example, EPA's ELG for steam electric[29] U. S. Small Business Administration's own 13-page analysis[30] points out many errors in costs, calculations about actual TWPEs and proper estimation of actual bottom ash wastewater flow. "In the past, EPA has promulgated only those rules whose cost effectiveness (cost/toxic pound-equivalents of pollutant removed) was in the $100/pound-equivalent (TWPE) and under range for direct dischargers of wastewater (facilities that discharge water directly into water bodies) … A review of EPA's data, made available only after the rule was published, reveals significant flaws. In one case, EPA used incorrect reporting units. In another instance, the agency confused the plant value for magnesium for manganese. This error is evident because the manganese value is about 100 times higher than all other manganese values at all other ELG plants.". The SBA letter includes many examples of where cost effectiveness and benefits for regulation were based upon bad data, misused data, and 1981 dollars. On page 8, SBA pointed out that industry found the costs to be in the "thousands of dollars/pound-equivalent (TWPE) for regulation of bottom ash, not the $200-$300/TWPE now estimated by EPA[31].

My own firm does not have the technical expertise to offer examples on TWPE errors for ELG revisions other industries but I have heard anecdotal problems about them.

Conclusion:

EPA is to be commended to look seriously at improving the process and results in its current cost-benefit analysis obligations. There have been significant flaws in how EPA has double counted some air benefits while ignoring some costs (including non-air costs).

The most significant improvements could be achieved by repairing the process for Clean Air Act's NAAQS and GHG regulations. The Safe Drinking Water Act and Clean Water Act should be addressed through solicitation of public comments with specific questions from EPA relevant to those statutes. Not all environmental laws and programs within the statutes address

[29] 78 Fed. Reg 34432; 34530 (June 7, 2013). See EPA's Table F-5, EPA Regulatory Impact Analysis, September 25, 2015.

[30] April 5, 2017 letter from SBA's Major Clark/Kevin Bromberg to Administrator Scott Pruitt regarding ELG for Steam Electric Power Generating Point Source Category, Docket ID No EPA-HQ-OW-2009-0819; 80 Fed. Reg. 67,838

[31] SBA letter footnote 44 states: The industry estimated varied by size of plant, varying from several thousand dollars/PE to over ten thousand dollars/TWPS. 2013 UWAG comments, Attachment 10. The [SBA] Advocacy estimates, based on new final rule data is approximately $780 to $1000/TWPE.

cost-benefit in the same way. For example, Clean Water Act is a technology driven law that drives regulations to zero pollution with the exception of Section 316(b). Thus, this ANPRM, as designed, is most suitable for air regulations.

Revisions of EPA's cost-benefit process if conducted properly should not weaken protection of public health.

Submitted by
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