Response to Comments on Economic Determination pursuant to 283.16, Wis. Stat.

Should Consider All Environmental Compliance Costs

Daniel Zitomer, CSWEA- Wisconsin Section

When considering the primary screening evaluation, would it be acceptable for utilities to use their total cost of compliance with water regulations in determining the cost burden on users?
This evaluation is focused on the cost of meeting the newly implemented phosphorus rules; however, utilities in Wisconsin are responsible for meeting all the regulations. These include several programs such as, pretreatment programs, mercury minimization programs, chloride minimization programs, collection system maintenance and CMOM programs, as well as treatment at the WWTP. Reduced ammonia and total nitrogen requirements are anticipated in upcoming years as well which will only add to the financial burden of users.

Joseph Moore, City of Fond du Lac

The State's evaluation considers the impact of the phosphorus regulations but not those of other regulations that currently or may soon impact our ratepayers. In our City's case these could include additional mercury minimization requirements, collection system maintenance programs, reduced ammonia limits based on new USEPA criteria, potential new total nitrogen limits, and more.

John Piotrowski, Packaging Corporation of America

Recently, the Tomahawk mill reconfigured its fleet of steam-generating boils to comply with EPA's industrial boiler maximum achievable control technology rule (BMACT) - the most expensive environmental expenditure in the mill's history. The sole consolation with BMACT is that it applies to all U.S. industrial boilers. PCA estimates that cost of compliance with phosphorus water quality criterion on a "per unit of production" basis using end-of-pipe control is a 1.9-2.3 cost multiple over BMACT.

Response:

The Department appreciates the concerns raised by some commenters that multiple environmental regulations may impose compounding financial burdens on industries and municipalities. However, the scope of the economic determination specified in 283.16 was specific to phosphorus and not to other pollutants. Additionally, EPA's guidance "Interim Economic guidance for Water Quality Standards: Workbook" (March 1995) recommends variance submittals to be specific for a given regulation or pollutant. Therefore, DOA in consultation with DNR has not bad substantive changes based on this comment.

Assumptions about Effluent TP Levels

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

While the proposed EIA assigns costs to each point source across the state, it falls significantly short of the type of individual permittee information that forms the basis of a credible rationale for a variance. Specifically, the blanket assumptions used that all dischargers have a current discharge of 1 mg/L, and that all dischargers would need to remove 1 mg/L for the purposes of assigning cost grossly overestimate the total costs to the state that would result from facility upgrades.

EPA

The actual phosphorus effluent concentrations of the discharge and, to the extent that those levels differ substantially from 1.0 mg/l level assumed in developing the preliminary report's cost curves, explain how that difference impacts the discharger's projected treatment costs and time needed to achieve compliance;

Jimmy Parra, Midwest Environmental Advocates
For example, an August 2008 study from Strand Associates (cited in the EIA appendix materials) apparently surveyed 39 facilities in Wisconsin to evaluate the level of phosphorus removal that is currently achieved, and found an average total phosphorus effluent limit of 0.6 mg/L "for all facilities regardless of system size, and type of treatment." Furthermore, the State has actual discharge data for each regulated facility that would provide a much more reliable basis to evaluate whether a permittee (or group of permittees) can attain the water quality standards. The State has not reasonably explained why it cannot consider such discharge data here, and we expressly call upon the State to do so.

Response:

In order to approximate compliance costs, reasonable assumptions needed to be made that would reflect the majority of facilities. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics. The Department believes the 1 mg/L assumption is representative of the vast majority of point source discharges for several reasons:

1. Most point sources have an existing technology-based effluent limitation of 1 mg/L. Therefore, this is a reasonable starting point for many facilities because a facility can discharge up to 1 mg/L at any time and can be in compliance with existing limits.
2. Point sources with existing technology-based effluent limitations likely achieve a higher effluent quality in order to ensure compliance with the 1 mg/L limit. This "compliance buffer" is also true for more restrictive phosphorus WQBELs- facilities will likely discharge well below 0.075 mg/L limit in order to ensure compliance with that limit. It is not possible to gauge the level of effluent quality that a specific facility will feel comfortable with to ensure compliance with a final WQBEL. Therefore, the Department recommended that that compliance costs be based on existing permit limits compared to future permit limits because this should be represent the range between actual effluent qualities now and in the future.
3. Individual facilities will be responsible to certify that the 1 mg/L assumption is generally representative of their current discharge level or provide site-specific compliance costs to justify the MDV proposal.

Individual facilities will be responsible to certify that the 1 mg/L assumption is generally representative of their current discharge level or provide site-specific compliance costs to justify the MDV proposal. Given the above, DOA and DNR continue to believe that the 1 mg/L starting value to be appropriate on a statewide analysis, and no changes have been made based on these comments.

Projected Compliance Costs are Overestimated for Power
Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
Undoubtedly, part of the exaggerated cost is due to the presumption that the very high volume "once-through" non-contact cooling water must be treated, in addition to the much lower volume wastewater (although DNR does not require monitoring of the phosphorus in the discharge of the non-contact cooling water). Even if the non-contact cooling water is considered, the influent phosphorus concentration would be in the range of 0.1 to 0.2 mg/L; far less than the assumed 1 mg/L in this analysis.

Jimmy Parra, Midwest Environmental Advocates
The assumptions involving actual discharge are especially problematic when it comes to power plants and non-contact cooling water (NCCW) facilities, many of which contribute little, if any, phosphorus effluent into the State's waters…. That assumption is irrational and fatal to the State's analysis, especially after EPA clarified that WDNR "could appropriately determine for some dischargers of oncethrough non-contact cooling water from power plants that water quality based effluent limitations are not necessary for phosphorus, particularly where the facility utilizes a completely 'piped' cooling system."

Steve Richter, The Nature Conservancy
It is important that the economic analysis is accepted are perceived as too high, then we are concerned that the credibility of the whole study will be called into question. Two examples of this are the costs for the Pullium Plant and Genoa Plat. Taken together, the costs to upgrade these two power plants are listed at almost $1.3 billion dollars. However, the actual costs are an order of magnitude less given their intake water concentrations are substantially less than the assumed 1 mg/L.

Response:

The comments regarding compliance costs for Power and NCCW discharges may stem from a mis-understanding of the analysis that was completed for these sectors. In the case of power, each individual outfall was evaluated to determine if phosphorus limitations may be needed for that specific outfall. The effluent flow from multiple outfalls was only combined if there was evidence to suggest that phosphorus limitations would be needed on each outfall. Most NCCW discharges only operate one outfall, so the full flow coming from that outfall was evaluated to determine if phosphorus limitations were needed for that discharge.

Effluent phosphorus limitations may be needed for power plants and/or NCCW discharges if phosphorus is concentrated during the treatment process, the effluent contains process wastewater, or intake credits cannot be granted pursuant to the restrictions in Paragraph D.3 in Procedure 5 in Appendix F to 40 C.F.R. Part 132. Assuming that all power discharges are once-through cooling water discharge absent process wastewater is not an accurate representation of effluent coming for power discharges in the state. Many power plants have on-site municipal wastewater discharges, which likely require treatment for phosphorus. Additionally, some power plants and NCCW operate cooling towers that significantly concentrate effluent phosphorus concentrations, thereby triggering phosphorus limits. The water supply also becomes an important factor in determining phosphorus limits. Many NCCW discharges and some power plants rely on municipal water supplies for water. These municipal water supplies frequently add polyphosphates for the purpose of metal sequestration, which results in effluent concentrations in the 2-5 mg/L range.

As mentioned in the report, the total compliance costs calculated for the NCCW sector are underestimated. This analysis did not cover the 100s of facilities that are covered under the general permit. In fact, additional work efforts have been completed, indicating that there are over 200 NCCW discharges currently covered under the general permit that will need more restrictive phosphorus limits. This being the case, the NCCW category underestimates the total compliance costs for the sector by millions of dollars. Given the timing of this analysis, and the limited data available for NCCW discharges, however, it was not possible to capture these additional compliance costs at this time.

The majority of compliance costs calculated for the power sector were based on a very small portion of the effluent flow leaving the plant. Given the nature of these low-volume outfalls, these compliance costs are likely representative of actual compliance costs. In cases where process and once-through cooling water are mixed, the combined effluent flow was used to estimate compliance costs. Using the total effluent flow dramatically increased the projected compliance costs for a very small number of power plants. Given the scale of this cost analysis, it was not possible to determine if a facility could divide these flows so treatment could occur on a small volume of water. If flows could be divided, compliance may be achievable at a lower cost than what is projected. Although this could not be adequately accounted for in a statewide analysis, individual MDV submittals for power will be asked to verify the effluent flows that require additional phosphorus treatment, and certify that there is no way to reduce the volume of this effluent. If the effluent flows are no longer representative due to other improvements that could be made on-site, the power plant will need to provide site-specific compliance costs to qualify for the MDV.

Projected Compliance Costs are Underestimated

Daniel Zitomer, CSWEA- Wisconsin Section

Our first comment is that we believe the report underestimates the costs necessary for compliance. Based on the presentation at the public hearing, this may be because the MDV does not consider site-specific costs. Several of our members have evaluated their site specific costs and determined that the costs in the MDV preliminary determination report are low. The cost comparison for the Fond du Lac WWTP was presented at our recent annual meeting. At that facility, they have an effluent limit of 0.04 mg/L phosphorus and relatively high soluble non-reactive phosphorus. Two-stage sand filtration may not be the best-fit technology for this location. They are considering reactive filtration or membrane filtration which both have higher capital costs. The operation and maintenance costs included in the preliminary determination are also lower than the projected costs.

Joseph Moore, City of Fond du Lac

The State's projected $24 million capital cost for Fond du Lac WPCP may be low depending on the tertiary treatment technology selected. WE are currently in the process of pilot testing and evaluating the full-scale cost of several tertiary treatment alternatives, and at least two of the options (BluePro reactive filtration and membrane filtration) have higher capital costs than shown in the Preliminary Determination. The State's projected $984,000 operation and maintenance (O&M) cost for out WPCP is very likely low. Based on a review of manufacturer's information in combination with pilot testing results, our annual O&M and replacement costs are projected to be in the range of $1.2 to $1.7 million per year, with the lower annual costs being for the higher capital cost technology and vice-versa.

Paul Kent, MEG

[T]he report significantly underestimates the costs involved for many municipal treatment plants because it does not consider site-specific costs. The report gives as an example of a site-specific cost the cost of acquiring additional land. That is one example, but there are many other site-specific conditions that may affect costs. In some cases, the site is constrained so that there is no room to add extensive filtration equipment without moving existing facilities. Filtration is the final step in the treatment process prior to discharge. Replacing or removing existing processes to allow for proper hydraulic flow within the facility may be significant. In other cases, the proposed treatment technology may be able to achieve water quality standards in theory but not in practice. Variability in loadings or high levels of non-reactive phosphorus may require additional or more costly treatment options. Several of our members

have had site-specific engineering estimates developed and those costs are far beyond what the report has indicated.

Tom Fitzwilliams, MSA
MSA is working with the City of Baraboo on their Year 2 Phosphorus Compliance Status Report. It was estimated that the mechanical treatment upgrades required to meet the proposed WQBEL of 0.1 mg/L would cost approximately $6,625,000, which would remove an additional 400 pounds of phosphorus per year. The Economic Impact Analysis report estimated the cost to be $898,142. We believe the report grossly underestimates the real cost of phosphorus compliance for the City of Baraboo.

Tom Sigmund, New Water
NEW Water believes the capital and annual operation and maintenance costs attributed to implementation of improvements at its two water reclamation facilities to meet stringent phosphorus requirements are significantly understated in the report. NEW Water commissioned the nationally recognized consulting firm CH2M HILL in 2012 to develop capital and operating cost estimates for needed improvements to meet the proposed limits. As shown in the enclosed memorandum from CH2M HILL dated May 26, 2015, the capital cost estimate of $229,500,000 in October 2014 dollars is significantly greater than the $44,700,000 projected in Appendix G of the DOA report.

Stephan Brand, City of Oshkosh
Our estimates for construction of facility improvements are based on our current phosphorus WQBEL permit number of 0.04 mg/L and are estimated at 104 million dollars. The Preliminary Determination and Economic Report estimated compliance costs with a phosphorus effluent limit of 0.1 mg/L, which is much higher than our current permit WQBEL of 0.04 mg/L. This is the reason our costs for compliance are significantly more that than the estimated costs in the Preliminary Determination and Economic Report. We also have looking at estimates for meeting a 0.1 mg/L effluent limit. Based on specific wastewater treatment plant conditions this estimates is $72 million dollars. This estimate is also significantly higher than the estimates in the Preliminary Determination and Economic Report. This difference is primarily due to treatment of peak wet weather flows that will be required to meet the WQBEL for phosphorus.

John Piotrowski, Packaging Corporation of America
PCA presumes that phosphorus-laden sludge would require landfilling instead of land application as land application of the sludge would exacerbate the widely recognized non-point phosphorus problem by merely relocating the phosphorus surface water contribution from a point to non-point source release. Due to the complex chemistry of our effluent, we are concerned that the cost sludge hauling and handling may be higher than what has been estimated in the preliminary determination.

Rich Boden, City of Plover and Wisconsin River Discharger Group
A review of the costs listed in the Addendum to Economic Impact Analysis, finds that capital costs attributed to more than 60% of our member communities appear to be underestimated. For example, Plover is anticipating costs in the $4M - $5M range in our long range plan. Appendix G lists our capital costs at $714,352. Two other member communities, Wausau and Portage, are listed as having no capital costs and no increased operating costs to meet anticipated limits, which is not realistic.

Henry Probst, The Probst Group
TPG recently participated in the publishing of an industry white paper with the Wisconsin Cheese Makers Association (WCMA) titled “Cost Implications for Compliance with Water Quality Based Effluent

Limits for Wisconsin Food Processors", reviewing the range of capital and operating cost impacts on dairy dischargers. Capital costs estimated during this review ranged from $1,442,000 to $9,342,000, with annual operating costs ranging from $28,900 to $1,122,800. Per the summary shared during the May 12th meeting, the statewide economic impact of the more stringent WQBEL would be $6.1 billion in capital costs plus over $400 million in additional operating costs. We believe the order of magnitude is appropriate and likely very conservative for the impact on the state.

Bruce Ramme, We Energies

We believe that the general process for development of the projected facility costs is accurate; however, the costs may be underestimated based on a number of factors, as detailed next. First, Table 2-4 in the EIA indicates that for Lagoon Systems, a "clarification feed pump station" and "clarifier, mechanisms, and pumps" will be included in the cost estimate; however it is not clear whether those costs are included in the capital cost estimates presented in Appendix D of the EIA. Further, site-specific costs were excluded from the scope of the assessment, as specified in the EIA. EIA at 22. Contingency costs of 35% were built into the capital cost assumptions, which may cover a portion of the site-specific conditions. Yet, for some facilities, the site-specific conditions will cause the capital and O&M cost projections to be much higher than those specified in the EIA and EIA Addendum. Also, for some of our facilities (i.e., Paris Generating Station, WPDES Permit Number 0049131, and Germantown Generating Station, WPDES Permit Number 0042757), the "mechanical" wastewater treatment technology cost curves appear to have been used to estimate the capital and O&M costs, yet these facilities do not have any wastewater treatment equipment installed except oil/water separators. Therefore, the lagoon cost curve should have been used and the cost estimates should be higher, as costs for adding clarifiers, mechanisms, and pumps must be accounted for.

Angela James, Wisconsin River Industrial Dischargers Alliance

[F]or the facilities located in the Wisconsin River basin, it is unclear what our ultimate discharge limitations will be. Those values will not be known – and can't be known – until the completion of the TMDL in 2016 or 2017. In the preliminary determination, WDNR used current permit requirements to gauge the costs for compliance of facilities on the Wisconsin River. This approach significantly undervalues the cost of compliance for the Wisconsin River facilities who could be required to severely limit discharges under the TMDL. We understand why the State was forced to take this approach for the Wisconsin River facilities, since the TMDL is currently in development. However, this approach systematically underestimates costs for facilities located in the state's largest river. While this helps underscore some of the conservative estimates the state utilized in making its assessment, it raises several questions about how these facilities may qualify for the MDV.

Response:

In order to approximate compliance costs, reasonable assumptions needed to be made that would reflect the majority of facilities. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics. As mentioned in the EIA, using cost curves is a straight-forward method to approximate compliance costs and has been widely used in other similar studies, both within and outside Wisconsin. This method has been demonstrated to be an effective way to approximate substantial and widespread impacts of compliance costs on a large scale. During the individual applicable process for the MDV, facilities will have the opportunity to provide site-specific compliance costs if the permittee, DNR, or other entities believe these costs to be under- or over-estimated. Because the scope of the EIA was a statewide analysis, however, DOA and DNR find that the cost curve method is a defensible approach to approximate compliance costs for a number of point

source discharges. DOA and DNR also find that it is appropriate to approximate the compliance costs based on projected phosphorus WQBELs available at this time. DNR agrees that final WQBELs may be different from those used in this study, especially in TMDL areas like the Wisconsin River. In these situations, projected compliance costs may need to be modified once the TMDL-derived limitations are known. It will be the responsibility of the implementation strategy to define how this analysis should be revisited in these situations.

DOA and DNR find that the methods utilized in the EIA represent a reasonable approach for approximating compliance costs based on known information available at this time. No substantive changes were made to the EIA based on these comments.

Other Treatment Technologies Should Be Considered Beyond Filtration

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

There is not enough information in the study to substantiate the assumption about the control technology costs. According to the 1995 EPA economic guidance on variances, a state must look at the lowest compliance cost options when calculating the cost impacts for a variance, but Wisconsin did not follow that guideline here. Instead, the EIA explicitly states that the analysis excluded consideration of biological phosphorus removal technology even though for a number of facilities this would be the lowest cost technology, and many of the medium-sized and larger municipal facilities have already adopted this technology. Applying the cost of chemical phosphorus removal to facilities already using biological phosphorus removal derives extra costs that don't reflect real life situations. Use of chemical phosphorus removal instead of biological phosphorus removal also results in increased O&M costs for increased volumes of sludge. The analysis must determine the lowest cost treatment options and assign costs based on that technology.

Joseph Moore, City of Fond du Lac

The overall assumption of dual-state sand filtration does not appear appropriate in our case. Our projected effluent limit is 0.04 mg/L. We are not aware of any dual-stage sand filtration systems that have met this low of a limit.

Jimmy Parra, Midwest Environmental Advocates

The State does not offer adequate data or analysis to support these assumptions, nor does it examine those assumptions against the actual data. There is nothing reflected in the Preliminary Determination, the Economic Impact Analysis, or any other aspect of the record to explain why it is reasonable for the State to rely on a model that purportedly cannot take into account site-specific facts.

Response:

As stated in the EIA, Biological phosphorus removal (BPR) and other treatment technologies were not reviewed as part of this study as it cannot consistently reduce phosphorus to levels less than 0.5 mg/L at all of the facilities. Considering these treatment technologies is inappropriate because it requires significant site-specific wastewater characteristic data that is not available for all facilities. Chemical filtration was believed to be a reasonable assumption that reflects the majority of facilities around the state. DNR and DOA acknowledge, however, that some facilities may be able to achieve compliance with phosphorus limitations through alternative treatment technologies, or may need to depending on the restrictiveness of the final phosphorus WQBEL. At this time, insufficient information is known about

package plants and other treatment approaches that have not been adequately tested to ensure compliance with restrictive phosphorus limits. Additionally, these technologies and BPR may not be cheaper compliance approaches given their operation and maintenance costs as well as the increased sludge disposal costs associated with this type of technology. Although this complexity could not be brought into the statewide analysis, the implementation strategy will help certify that the treatment technology used to develop the cost curves is the appropriate technology for the specific facility. If not, site-specific compliance costs must be provided. Site-specific costs may also be provided if a facility believes the projected costs to be underestimated.

Appropriateness of Primary Indicators for Industries

EPA

For the industrial facilities, Wisconsin should explain why "the top 75%" was chosen as the threshold for moving to the secondary indicator test.

Jimmy Parra, Midwest Environmental Advocates

It was arbitrary for the State to assume, at least on the existing record, that any industrial facility within the top three quarters of facilities in each category facing compliance costs (or within the top three quarters of counties incurring compliance costs) will experience significant financial harm simply because it may be competitively disadvantaged when compared against facilities in the bottom quartile of costs. The State's finding is completely divorced from the critical question it is supposed to address—namely, whether the water quality standards are actually *attainable* for a particular discharger or group of dischargers. The State's determination that 3 out of 4 industrial dischargers in every category will experience significant financial harm is not based on any individual facility characteristics (including its revenue, other operating costs, profits, retained cash, projected sales, creditworthiness, debt-to-equity ratio, or any other factor that might reflect ability to absorb the costs) but on the implausible and unsupported assumption that nearly all facilities in the State are likely to face above average costs.

Response:

DOA and DNR appreciate the need for additional justification to support the primary screener thresholds for industries. Additional supporting information has been provided in the final EIA based on this feedback.

EPA's Primary and Secondary Screeners in lieu of DOA Screeners

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

The DOA failed to properly use any of the secondary screeners suggested by the EPA's Workbook. The only secondary indicator used by the DOA that aligns with the EPA's guidance is median household income (MHI). The EPA states that a given region's MHI indicates economy weakness only when it falls more than 10% below the state median. The DOA, however, allows a county to pass the MHI screener when that county's MHI falls below the state median income *at all*. This is over-inclusive and a clearly improper application of the EPA screener.

Daniel Zitomer, CSWEA- Wisconsin Section

As mentioned in the EIA, using cost curves is a straight-forward method to approximate compliance costs and has been widely used in other similar studies, both within and outside Wisconsin. This method has been demonstrated to be an effective way to approximate substantial and widespread impacts of compliance costs on a large scale. Prior to generating its own cost curves and compliance costs, DOA and DNR worked closely with ARCADIS to determine what methods would be appropriate for the EIA analysis.

EPA
Most of the indicators tell fairly similar stories, so saying "and one secondary indicator" versus "plus two" isn't much of a hurdle to overcome. From EPA's perspective, the most useful indicators are those using compliance costs as a percent of wages. These indicators should get additional weight for judging county eligibility as applies to industrial dischargers in the six industry sectors.

Response:
Median Household Income speaks to families' ability to shoulder the economic burden of increased water bills, increased electricity bills, and local economic distress. Low-MHI communities have less cushion to absorb regulatory shocks. This is a point-in-time look at all household income from all sources.

Personal Current Transfer Receipts as a Share of Total Income offers insight into likely future income trajectories. Social Security and Medicare make up over 60% of personal current transfer receipts in Wisconsin. As many baby boomers leave the highest-paid years of their lives (when they're making greatest payroll contributions to these programs) and transition to being Social Security and Medicare beneficiaries (drawing money out of these programs), budgets are likely to tighten for these programs as well as other transfer payments. Baby boomers' successors are less numerous, are paid lower wages, and see slower wage growth over time, so the budget-tightening is unlikely to be mild or brief. While investment income and net earnings are seen as engines of economic activity, transfer payments are sometimes seen as economic drags. In some communities, transfer payments constitute a larger share of total income; these communities are likely to see slower future income growth than communities relying less heavily on transfer payments.

Phosphorus standards may cause job losses, delay expansion plans, or cause businesses to start up or expand or relocate outside of Wisconsin. In such cases, the Jobs per Square Mile measure highlights communities where workers may spend more time between jobs, may suffer larger pay cuts when they find replacement jobs, and may spend more time and fuel commuting to the replacement jobs.

Population change tells readers which communities may be struggling to sustain the growing headcount needed to attract employers, keep consumer-oriented businesses afloat, recruit the most sought-after workers, and pay for rising water utility and electric utility costs.

Change in Net Earnings provides historical perspective on how a community's work-related income trends (excluding transfer receipts and investment income). A community's economic health and resilience may sometimes be affected just as much by a 10-year trend in net earnings as it is by a point-in-time snapshot of total household income.

Job Growth over 10 years tells readers how each community has fared over the long term, when

compared to the national average. If an community had moderate to high job density when compared to the most rural places, but that community had below-average job growth (or had lost jobs over 10 years), the community may still be particularly sensitive to changes in phosphorus regulation.

DOA believes these indicators are appropriate for the reasons stated above. Moreover, these indicators are consistent with the thinking of indicators used in EPA guidance, while offering a clearer, more robust picture of economic impact. While EPA provides some guidance, EPA does not provide specific numeric thresholds or prohibit states from developing appropriate thresholds.

Weighing the Secondary Indicators

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

The DOA's secondary screeners for municipalities fail to paint a realistic picture of the economic health of Wisconsin's counties, and the DOA has exacerbated this problem by creating a very low threshold for passing the secondary screener test. A county must pass two screeners at the most, assuming it has already passed the primary screener. The EPA's Workbook, in contrast, recommends rating factors by "weak, mid-range, or strong," assigning a numeric value to each factor, and finding a cumulative number that represents the economic health of a county, both its weaknesses *and* strengths.

EPA

For municipal facilities with estimated compliance costs between 1 and 2% MHI seeking coverage under the MDV, the determination that compliance would result in adverse social and economic impacts should be corroborated by more than two secondary indicators. For example, Wisconsin could require three out of five secondary indicators be met; could use the gradations of indicators and require combinations of red, orange and yellow indicators; or could assign points to the red, orange and yellow indicators and set a threshold of points to qualify on the basis of secondary indicators.

Tom Sigmund, New Water

Any one secondary economic indicator should be sufficient in conjunction with the primary indicator to allow the variance to be an option. For this reason, NEW Water is requesting the DNR, DOA, and Environmental Protection Agency (EPA) reduce the number of secondary economic indicators from two to one for all municipal facilities.

Response:

DOA and DNR recognize the importance to maintain consistency with EPA guidance as much as practicable in the MDV determination. For this reason, the Departments have modified the weighing system of the secondary indicators in the final determination. Although DOA and DNR appreciate the concern of some commenters that the primary and secondary screeners are too onerous, this approach ensures that only those permittees that would qualify for an individual variance would qualify under the MDV. This is an expectation of EPA in order to be consistent with state and federal law and guidance. DOA and DNR are happy to consider alternatives methods for determining substantial impacts through the individual variance process.

Highest Attainable Use

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

Wisconsin has not shown that its variance meets this criterion. There is no support in the record for the Wisconsin multi-discharger variance regarding what the highest attainable condition is. The record does not address the highest attainable interim use and its connection to the designated use.

Jimmy Parra, Midwest Environmental Advocates
EPA defines a WQS variance as "a *time-limited* designated use and water quality criterion for a specific pollutant(s) or water quality parameter(s) that reflects the *highest attainable condition* during the term of the WQS variance." The State has not shown (or even asserted) that the interim limits and other requirements of the proposed variance program reflect the highest attainable condition, and the contemplated 20-year variances are not time-limited as EPA construes that term.

Response:
DOA and DNR recognize that a highest attainable use analysis is an important component in a variance package. The purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state. The EIA is not intended to be, nor is, the final variance package. Based on DOA's final determination, DNR is working to develop a complete variance package including a highest attainable use analysis for EPA review and approval.

Justifying the Interim Limits in 283.16

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
There is no support that the legislatively set interim limits of 0.8 mg/L, 0.6 mg/L, and 0.5 mg/L are meant to achieve the highest attainable condition. There is, however, evidence showing that an even lower interim limit may be "attainable." A 2012 WI DNR study indicates phosphorus limits down to 0.4 mg/L are achievable under current available technology and data.10 Limits of 0.4 mg/L or less may require further filtration technology. This 0.4 mg/L threshold is lower than any of the legislatively set interim limits for the multi-discharger variance, and thus calls these interim limits into question. In developing DNR's request for EPA approval of the multi-discharger variance, Wisconsin must show that the interim limits represent the "highest attainable condition" for Wisconsin waterways.

Jimmy Parra, Midwest Environmental Advocates
The State limited the scope of the "public informational hearing" and comments to the Preliminary Determination itself. It has not sought comment on any aspect of the variance process itself, including interim limits, nonpoint source controls, alternative technologies, duration, and environmental impacts. Indeed, there has been no public deliberation whatsoever on these points.

Response:
DOA and DNR recognize that a highest attainable condition analysis is an important component in a variance package. The purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state. The EIA is not intended to be, nor is, the final variance package. Based on DOA's final determination, DNR is working to develop a complete variance package including a highest attainable use analysis for EPA review and approval.

Providing Rationale for the Secondary Screeners

EPA
Wisconsin should provide rationale and explain the different thresholds used for each secondary screener. Thresholds varied from using a national statistic for comparison (e.g., MHI), national average

(e.g., Personal Current Transfer Receipts as a Share of Total Personal Income), fraction of a national statistic (e.g., population change) or a state statistic (e.g., Jobs Per Square Mile).

Response:
Professional judgment accorded national statistics a degree of substantive legitimacy in the case of Median Household Income, Personal Current Transfer Receipts as a Share of Total Income, , and Net Earnings by Place of Residence change.

In the case of Jobs per Square Mile, the numerator (jobs) is readily available at the state level and at the county level from the Wisconsin Department of Workforce Development's WORKnet www.worknet.wisconsin.gov. The U.S. Department of Labor's Bureau of Labor Statistics publishes Quarterly Census of Employment and Wages figures for each of the 50 states, but emphasizes that this is a census of employment and wages covered by each state's Unemployment Insurance laws. Because those Unemployment Insurance laws cover a different range of jobs in each state and a different share of jobs in each state, the Bureau does not encourage or facilitate cross-state comparisons or nationwide summation. Also, Wisconsin is neither as densely populated as the East Coast or West Coast nor as sparsely populated as the Great Plains – it is somewhere in the middle as a typical Midwestern state. When setting the population threshold to roughly half the national rate of population change, several factors were considered. First, much of Wisconsin population resides outside major urban centers. (The most populous city, Milwaukee, has fewer than 600,000 residents, and less than 10.4% of the state's total population.) Second, the 45-or-more-years-old group is a larger share of Wisconsin's population than it is in most states; this group tends to have higher mortality and lower fertility, thus restraining population growth. Third, after accounting for low fertility rates among the 45-and-over group, population projections completed in 2013 expected nearly 71,000 births per year between 2010 and 2020, while actual birth counts have been closer to 67,000 or 68,000 per year recently, reflecting a further drag on population growth. Together, these three factors make Wisconsin a bit of an outlier and make half the national rate of population growth a more appropriate threshold.

45-Day Hearing Notice

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
Clean Wisconsin and the Alliance for the Great Lakes (and other groups) have requested that DOA and DNR hold additional public hearings with the requisite 45 days' notice in order to comply with these public participation requirements of the federal Clean Water Act.

EPA
The Midwest Environmental Advocates and three other organizations submitted a June 3, 2015, letter to the Wisconsin Department of Administration and the Wisconsin Department of Natural Resources requesting an extension of the public comment period and that the State hold a public hearing in accordance with EPA's public participation regulation at 40 CFR Part 25. EPA agrees that, in order for EPA to approve a multi-discharger variance, Wisconsin must hold a public hearing in accordance with the requirements of 40 CFR Part 25 prior to finalizing the multi-discharger variance. This is consistent with the position EPA recently conveyed to the State of Wyoming regarding their proposed revisions to water quality standards.

Jimmy Parra, Midwest Environmental Advocates

The Department of Administration released the Preliminary Determination on May 5, 2015 and scheduled a single hearing seven days later. That is 38 days short of the 45 days notice that 40 C.F.R. § 25.5(b) requires. Given the obvious statewide interest in this proceeding and in water quality issues more generally, the State should also have considered several hearings, consistent with 40 C.F.R. § 25.5(c).

Response:
DOA and DNR find that the 45-day public hearing requirement applies to the variance package to be submitted to EPA only. This federal provision does not apply to the state-mandated economic determination completed by DOA in conjunction with DNR pursuant to s. 283.16, Wis. Adm. Code. DNR is willing to comply with the requirements of 40 CFR Part 25 once the variance package is completed and DOA submits a final determination to DNR.

Environmental Justice Impacts

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
Wisconsin's process has completely neglected any analysis of Environmental Justice impacts in the EIA for the statewide phosphorus variance. In 2014, USEPA expanded the 2010 Guidelines for Preparing Economic Analyses to include a chapter on Environmental Justice, Children's Environmental Health, and Other Distributional Considerations (Chapter 10). These Guidelines provide instructions for how to consider Environmental Justice impacts in economically significant rules (like the Wisconsin phosphorus variance).

Response:
DOA and DNR appreciate the intent of this comment, and have added some additional content to the final determination specifically addressing the need to consider environmental justice.

Considering Trading and Adaptive Management

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
While in some cases it can be difficult to assess the practicality and/or costs of watershed adaptive management or water quality trading as compliance options, in cases where costs and feasibility of these options are apparent, DNR should require point sources to consider them as compliance options before finding the need for a Major Facility Upgrade. For example, if a point source in the same watershed as other point sources has developed cost estimates for watershed adaptive management that demonstrate a compliance option at lower cost than a facility upgrade, other point sources that could participate in the project should not be allowed to qualify for the variance. If they are allowed to qualify, the variance will undermine existing compliance options that already offer cost effective and accountable water quality improvements. DNR and DOA should include this as a requirement in the determination for eligibility for the variance.

Gathering Waters
Any variance should also not undermine the decision-making process for pursuing cost-effective options already available to point sources, like trading and adaptive management. Adaptive management

provides a compelling way to ensure phosphorus reductions because its end goal is meeting water quality standards rather than point-source specific effluent limitations. This allows plans that take advantage of the low-hanging fruit for watershed phosphorus pollution reduction, making it an extremely cost-effective approach.

Jimmy Parra, Midwest Environmental Advocates
The State's Economic Impact Analysis "did not address water quality trading, adaptive management, [or] non-point sources." All that the State has said in this proceeding about its compliance programs is that although they "may be effective for some point sources, barriers prohibit implementation of one or more of these compliance options to be effective for all point sources especially when they rely on involvement and interaction with non point sources." That is not good enough.

Michael Engleson, Wisconsin Lakes
Encourage use of the other tools available to point sources prior to the use of the variance – trading and adaptive management. Adaptive management especially brings good returns on the dollar because it is targeted at reducing overall phosphorus in the give watershed, rather than concentrating solely on reducing effluent at the point source. This allows for tackling the easiest to solve problems rather than do costly upgrades, much like the variance.

Response:
DNR and DOA strongly support water quality trading and adaptive management as permit compliance options, and have dedicated significant staff resources to help implement these programs. This being said, these are optional programs. Water quality trading has been a compliance option for several decades for all non-bioaccumulating contaminant of concerns (BCCs). EPA has never required that permittees consider water quality trading prior to approving a variance for these pollutants. This is in part because there is no guidance or federal requirement that mandates water quality trading be considered prior to variance approval. Likewise, there is no state requirement to consider water quality trading or adaptive management be evaluated prior to seeking an individual variance, or MDV. In fact, 217.18 and 283.84 is clear that a permittee *may* utilize these compliance options. There are several barriers that exist that make it inappropriate to require permittees to utilize adaptive management and water quality trading as a preferred compliance option. First, the costs for water quality trading and adaptive management are unknown at this time. There is also no prescribed list of the number of farms, the types of practices, etc. that would need to be considered before a cost determination could be made. Additionally, trading and adaptive management costs will very significantly from project to project. It is also unclear if effective partnerships can be built to generate and maintain sufficient reductions to ensure point source compliance through time. Given these barriers, DNR and EPA must establish boundaries for the economic analysis of water quality trading and adaptive management for all applicable pollutants prior to requiring their evaluation prior to a variance request. DOA and DNR therefore find that the existing EIA is consistent with state and federal law, and have not made substantive changes based on these comments.

Consider Benefits in addition to Costs
Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
The DOA's REMI analysis does not account for the economic benefits of reducing phosphorus pollution, creating the misleading impression that there will be no benefits to removing phosphorus from

Wisconsin's polluted waterways. While the analysis does take into account the huge number of jobs that compliance will create –and the indirect *costs* of the phosphorus criteria—it ignores the indirect benefits cleaner water will bring to various Wisconsin industries, such as: increases in property values, improved recreational opportunities, and avoided lake cleanup/management costs. The DNR's 2012 economic impact analysis demonstrates not only that these benefits are quantifiable, but that they will likely create a *net benefit* to the Wisconsin economy. Unless Wisconsin considers the benefits of the phosphorus criteria, the state cannot truly describe the impacts of the criteria and it fails to meet the EPA's threshold requirements for the variance.

Jimmy Parra, Midwest Environmental Advocates
The State asserts that EPA guidance does "not require the completion of environmental benefits in order to justify an individual variance or MDV." If the State means to suggest that EPA's review of the variance proposal will not involve consideration of both costs and benefits, that is not accurate. Assessing both costs and benefits is a fundamental component of modern administrative decision-making. In fact, by Executive Order most agencies must assess both the costs and benefits of proposed regulatory action. EPA "considers costs and benefits in making its decisions," and indeed considers the practice a "matter of good government." As the EPA General Counsel explained in 1977, a variance is justified only if the State shows existing water quality standards "will result in substantial and widespread economic and social impact *which exceeds the positive economic and social impact of enhanced water quality*."

Matt Krueger, River Alliance of Wisconsin
How can a study of such detail and breadth not account for the negative economic impact of *inaction* on phosphorus standards implementation, particularly related to tourism? The tourism industry in Wisconsin, driven in large part by residents and nonresidents alike boating, swimming, fishing, and recreating on clean lakes and rivers, supports 187,643 jobs in Wisconsin. This figure dwarfs the 3,000 jobs projected to be impacted in the Preliminary Determination of implementation of phosphorus water quality standards.

Michael Engleson, Wisconsin Lakes
[The study must] be grounded in a robust, transparent, and economically defensible analysis that represents the costs to dischargers and communities and that includes the future economic benefits provided by higher water quality once phosphorus levels are reduced.

Response:
In EPA's "Interim Economic guidance for Water Quality Standards: Workbook" (1995) there is no specific requirement or proposed methodology for numerically quantifying environmental benefits. In fact, page 4-6 of this document clearly states, "Benefit-cost analysis is not required to demonstrate substantial and widespread effects under the Federal Water Quality Standards regulation." Furthermore, the guidance goes on to say, "since the assessment of benefits requires site-specific information, it will be up to States to determine the extent to which benefits can be considered in the economic impact analysis. As was mentioned in the comments, DNR conducted a study to consider the cost and benefits of the phosphorus rule, entitled "Phosphorus Reduction in Wisconsin Water Bodies" (August 2012). Although this study was a good first step to address cost-benefits, it was not utilize in this analysis for several reasons:

1. The cost-benefit analysis relied on gross compliance costs assumptions, which dramatically

underestimated the costs to comply with phosphorus WQBELs.

2. The cost-benefit analysis used general assumptions to approximate the number of water quality trading and adaptive management participants around the state. In fact, the cost-benefit analysis stated on page 33: "there is considerable uncertainty about the impact of the phosphorus rules because WAM [Watershed Adaptive Management] is a new option with unrealized, incompletely-understood costs and hard-to-anticipate popularity among dischargers and because environmental benefits are difficult to quantify and monetize." Based on the number of trading and adaptive management participants in the first 5 years of implementation, it appears that the cost-benefit analysis over-estimated the popularity and cost-effectiveness of these programs: http://dnr.wi.gov/topic/SurfaceWater/AmWqtMap.html.
3. The cost-benefit analysis focused on estimating the benefits of achieving compliance with phosphorus standards. This incorrectly assumes that having point sources comply with more restrictive phosphorus WQBELs will directly lead to water quality standards attainment, when in-fact reductions are needed from urban, agricultural, and wastewater sources in order to receives these water quality benefits. It should be noted that the economic costs of urban and agricultural reductions were not factored into the cost-benefit analysis.

There are a number of sources that clearly identify that Wisconsin's watersheds are agriculturally dominated, or a blend or agricultural, urban, and wastewater phosphorus loadings. This is illustrated in U.S. EPA approved TMDLs throughout Wisconsin, PRESTO, Wisconsin's Nutrient Reduction Strategy (2013), and other models and reports. The cost-benefit analysis correctly identified on page 17 that "In watersheds dominated by nonpoint source pollution, these expensive upgrades would have a small impact on water quality while equal or smaller expenditures at nonpoint sources would have a large impact." Given these facts, DOA and DNR find that the MDV provides a unique opportunity to make meaningful nutrient reductions from both wastewater and agricultural sources, which may result in equal to or greater water quality benefits than simply requiring wastewater sources to comply with restrictive phosphorus limits. For these reasons, numeric quantification of a cost-benefit analysis was determined by the State to not be necessary at this time. No significant changes were made to the EIA based on these comments.

The Proposed Variance is Not Time-Limited

Jimmy Parra, Midwest Environmental Advocates

Wisconsin's proposed variance is 20 years. That is not "time-limited," at least as under EPA's proposed regulation construing that term. Further, the State has not made any effort to show that 20 years is necessary or even reasonable. The State might argue that the triennial review process provides an opportunity to revise the variance terms if conditions change, but it has not justified the interim limits in the first instance, and there is no assurance that the State would act on any new information. The State should revise its variance program expires after no more than 10 years.

Response:

DOA and DNR respectfully disagree with the premise that the proposed MDV is a 20 year variance. Although the MDV may extend for up to four permit terms (20 years), there are several points of review that must occur in order to access the appropriateness of the MDV. Every three years, during the triennial standard review process, the department must determine whether formal review of the MDV needs to be undertaken pursuant to 283.16(2m). If a substantial review has not occurred by 2024, a full review must be conducted to justify the continuation of the MDV (283.16(3), Wis. Stat.). Additionally,

DNR has the responsibility to re-evaluate eligibility for the MDV for individual applicants each permit reissuance. Again, each of these steps needs to be completed and the MDV decisions must be affirmed in order to continue the MDV. Additional information about this process is provided in DNR's MDV implementation guidance and variance package.

Antidegradation

Jimmy Parra, Midwest Environmental Advocates

The State must explain whether the variance procedure is consistent with the state antidegradation policy. As noted above, there are facilities in the State that are currently achieving effluent limits considerably below the assumed 1 mg/L, and some are even below the first interim limit. Because it is plausible (indeed, likely) that some dischargers would be allowed to discharge more pollution under the interim limit than what they currently achieve, the State must explain why its proposed variance program does not run afoul of antidegradation principles in the Clean Water Act.

Response:

DOA and DNR recognize that antidegradation procedures must be met in order to comply with state and federal law. The purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state. The EIA is not intended to be, nor is, the final variance package. Therefore, antidegradation requirements are outside the scope of this document. No changes were made based on these comments.

Endangered Species Act

Jimmy Parra, Midwest Environmental Advocates

Section 7(a)(2) of the Endangered Species Act requires a federal agency, in consultation with the U.S. Fish and Wildlife Service, to "insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of" critical habitat.148 Often, in light of time constraints imposed on EPA's review, the agency is unable to complete the mandatory consultation before approving state water quality standards. In this instance, it would be arbitrary and capricious for EPA to wait until the State finalizes its rule before consulting with the U.S. Fish & Wildlife Service considering the notice regarding the proposed variance terms. The State should coordinate with EPA to ensure that this important requirement is fulfilled in a timely basis.

Response:

DOA and DNR recognize that the requirements of the Endangered Species Act must be met in order to comply with state and federal law. The purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state. The EIA is not intended to be, nor is, the final variance package. Therefore, ESA requirements are outside the scope of this document. No changes were made based on these comments.

Selecting Compliance Dates

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

The DOA assumes that phosphorus compliance construction will be completed within a two-year period, beginning in 2016, but does not justify this assumption. Moreover, the DOA admits that the "actual

dates will differ." It is not at all clear why the DOA assumed this shortened timeline: Wisconsin's rules allow for a seven or nine year compliance schedule. The DOA should consider a similar schedule in its economic analysis. Instead, the two-year scenario creates the illusion of a shock to Wisconsin's economy that would not appear under a more realistic and flexible timeline.

Jimmy Parra, Midwest Environmental Advocates
Permits expire on a rolling basis; and the phosphorus water quality standards are implemented only after WDNR reviews and reissues a permit. Even assuming WDNR could have reissued all of its permits on December 1, 2010, the State did not reissue any permits with new phosphorus standards until 2011, and it has done so on a staggered basis since then. In fact, permit data available on WNDR's website reveals that as of March 6, 2015, permits for at least 270 municipal facilities and 132 industrial facilities (nearly 40% of all WPDES permit holders) have not been reissued since EPA approved the numeric phosphorus criteria on December 30, 2010.

Response:

In order to approximate compliance costs, reasonable assumptions needed to be made based on best professional judgment. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics. This included when WPDES permits will be expired with phosphorus limitations, and when facilities will be expected to comply with those limits. The compliance date is a site-specific date depending on the length of the phosphorus compliance schedule, and the restrictiveness of the limit in question. There are three key drivers to approximating compliance costs using the cost curve method: the restrictiveness of the WQBEL, the projected actual/design flow at the facility, and the accumulated interest over the projected period of time. The WQBEL and actual/design flows were not influenced by the start time, so this does not seem to be a meaningful difference for those variables.

Forecasters may differ in predicting whether the Federal Reserve will raise interest sooner or later, but almost uniformly expect interest rate increases in 2016, if not earlier. Permittees who wait longer to undertake phosphorus-related capital investments will face higher borrowing costs, and cause more substantial impact. The fact that some permittees will start later than others suggests that costs may exceed original estimates. This appears to strengthen, not weaken, the case for the MDV.

Considering Site-Specific Permitting Information and Costs
Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
The EIA states: "Effluent TP for the current facilities were assumed to be at 1 mg/L. The additional treatment equipment was sized based on removing 1 mg/L of TP for all sites regardless of their new limit. The development of cost curves that can be applied to all sites did not allow for the incorporation of site specific TP discharge information." EIA, p. 16. It is unclear why the anticipated WQBEL was ignored in the methodology used, especially when the Preliminary Determination so clearly states assumptions relating to what treatment technologies were already in place for existing facilities.

Jimmy Parra, Midwest Environmental Advocates
As noted above, however, other studies evaluating compliance costs (including other studies of Wisconsin facilities) have considered facility-specific facts, and the State has not explained why it cannot do the same thing here. Considering site-specific information is the only way the State can reasonably

ensure the variance is justified for all dischargers who are eligible for it, as EPA instructs in its guidance. If the State's approach to modeling does in fact preclude the consideration of site-specific information, that is not a valid reason to ignore the data. Instead, it is a clear and inescapable signal that the State's model is a poor fit for the inquiry it is supposed to perform.

Paul Kent, MEG
Excluding site-specific costs is understandable for a report that is undertaking a statewide analysis. The report is not defective for making that assumption. However, we want to underscore the point that, for many municipal facilities, the cost of compliance is even more daunting than the report indicates. We want to clarify that when an individual community is looking at the variance that they will be able to use actual costs and not projected costs for purposes of determining the economic impact of the rule.

Tom Sigmund, New Water
Furthermore, NEW Water recommends that determination of whether individual facilities will qualify for participation in the statewide variance be evaluated based on their actual costs, if available, rather than a statistical analysis.

Response:
In order to approximate compliance costs, reasonable assumptions needed to be made that would reflect compliance costs for the majority of facilities statewide. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics; some will be lower, and some will be higher. As mentioned in the EIA, using cost curves is a straight-forward method to approximate compliance costs and has been widely used in other similar studies, both within and outside Wisconsin. This method has been demonstrated to be an effective way to approximate substantial and widespread impacts of compliance costs on a large scale. Prior to generating its own cost curves and compliance costs, DOA and DNR worked closely with ARCADIS to determine what methods would be appropriate for the EIA analysis. Other studies including Wisconsin-specific studies were also considered to determine if projected costs from these studies could be used instead of generating new ones. Unfortunately, these studies were determined insufficient for the needs of the EIA for several reasons:

- Studies conducted for other states were not specific to the range of phosphorus WQBELs and discharge types in Wisconsin;
- The "Phosphorus Reduction in Wisconsin Water Bodies" (2012) did not use site-specific discharge information to estimate compliance costs, and used too general of assumptions to be applicable for a more detailed EIA. Therefore, the costs approximated in this study were inappropriate.
- The Williams (2012) study was a good study, and was weighed heavily in this analysis. Although the Williams (2012) study had some advantages, it should be noted that the scope of work on this study was fundamentally different from the EIA. After reviewing the Williams report, some flaws were identified, which we felt needed to be addressed through our own analysis. Mainly, the WQBELs used in Williams (2012) study did not adequately reflect the site-specific WQBELs. Additionally, this study focused on BPR technology, which ARCADIS and key stakeholders did not believe to be a reasonable assumption for many municipal WWTFs.
- Studies provided by industrial groups such as the NCASI, STRAND, The Probst Group and Symbiont studies, were also weighed heavily. However, these studies used some unreferenced cost and engineering assumptions, so were inappropriate for the EIA.

DOA and DNR believe that the methods used in the EIA are defensible and reasonable to approximate costs on a statewide basis. Therefore, significant changes where not made to the EIA based on these comments. The EIA has been amended, however, to clarify that permit limits were NOT ignored in the development and use of the cost curves. In fact, they were one of the key guiding baselines to establish the cost curves. The language indicating "The additional treatment equipment was sized based on removing 1 mg/L of TP for all sites regardless of their new limit" was simply trying to say that a 1 mg/L starting effluent limitation was used for all point source discharges projected to have more restrictive phosphorus limitations.

Furthermore, DOA and DNR agree that it is important that compliance costs be reflective of actual costs for individual facilities requesting coverage under the MDV. This is why Individual facilities will be responsible to certify that the compliance costs, and key assumption used to generate these costs, are generally representative of their specific discharge. If this is not the case, an individual facility will be responsible to provide site-specific compliance costs to DNR. This information is part of the implementation strategy and is outside the scope of the EIA. Therefore, the EIA has not been amended to reflect this process.

Considering Site-Specific Financial Information

Jimmy Parra, Midwest Environmental Advocates

If the State will not consider individual financial information (or even industry-level data) concerning profitability or other factors reflecting the financial health of a particular discharger, then the State needs to explain how it can reliably assess economic impact without that information. The State's rough assumptions are not good enough, as they do not reflect reality. For example, the State assumes that all municipalities will finance 90% of their costs, and all industrial facilities will finance 100% of their costs, with 20-year debt at standardized interest rates.

Response:

If Wisconsin's legislature and the EPA wanted every single permit holder to provide site-specific financial and technical data every time it applied for variance coverage, all variances would be individual variances and the possibility of a Multi Discharge Variance would not exist. With EPA input, Wisconsin's legislature passed Act 378, codifying the Multi Discharge Variance. Implementation of the approach advocated by this comment would completely circumvent the Multi Discharge Variance and might require the repeal of Act 378. This would be well beyond the scope of the Preliminary Determination and the Economic Impact Analysis and this response to comments.

Many municipalities and many permit holders lack access to low-interest bond markets; they may have to borrow at rates considerably higher than standard interest rates. All the evidence from the Federal Reserve and the bond markets suggest that rates are more likely to rise significantly in coming years than to fall or to hold steady near historic lows. The finance professionals who reviewed the borrowing assumptions unanimously considered the borrowing costs on the low end of realistic.

Widespread Determination

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

The EIA, however, 1) fails to adequately explain what constitutes a widespread impact and 2) relies upon inadequate survey data to suggest catastrophic impacts on Wisconsin's economy.
The DOA does not adequately explain whether the predicted consequences of the phosphorus criteria constitute a "substantial and widespread impact." The EIA consistently uses raw numbers to describe the impacts of the phosphorus criteria on the Wisconsin economy, but these numbers mean little out of context.

Response:
It would not be reasonable to say "inadequate survey data" is published by the Census Bureau or the Bureau of Labor Statistics or the Bureau of Economic Analysis. Among economists and researchers, these are considered some of the most reliable, meaningful data sources available. When DOA selected Regional Economic Modeling Inc for its Economic Impact Analysis, it consulted with EPA. The approach taken was considered the best available.

The Determination's Section 6 Widespread Impact Analysis pp 63-72 address these questions. In particular, Section 6 A. Context of the Widespread Determination pp 68-72.

REMI Timeline

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

DOA also only ran REMI modeling for a period of 10 years. This is improper, considering the default financing term for bond financing is 20 years, and a rebound effect can be expected once the capital cost payoff is complete. The analysis should more properly be run out 25 years (or more) to reflect the longer-term impacts that can be expected to result from the capital investments.

Response:
REMI showed a very short-term economic boost reflecting initial capital investment; the further out the graph extends the worse the results. Capital investments to comply with phosphorus regulations are generally not expected to increase productivity, competitiveness, or product quality. When permittees spend more money filtering the water they discharge, this investment may result in very small changes to water quality, but will not help the permittees' financial health.

Implementation Expectations

Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center

At a minimum, the payments to counties must produce a phosphorus load reduction equal or greater than what otherwise would need to be controlled at the treatment plant. This load reduction needs to be achieved upstream from the discharge or for the same waterbody to avoid perpetuating water quality "hot spots." With the use of HUC 8 basins and multiple counties receiving payments for individual permittees, it will be very difficult to demonstrate payments to a county have produced any specific results. A more focused, simpler and streamlined approach is needed for this option to be accountable.

David Struhs, Domtar

In addition to this important equity issue, we remain concerned that there is no accountability that the money that would be collected under this scheme would actually deliver measurable improvements to water quality.

Gathering Waters
While 2013 Act 378, which established the framework for this variance process, leaves some unanswered questions about the effectiveness, accountability and the eligibility for the implementation of these variances, any variance must be grounded in a robust, transparent, and economically defensible analysis that accurately represents the costs to dischargers and communities. Only those facilities truly in need of a variance should be eligible, and any use of the variance by point sources must include strong provisions for accountability and effectiveness that ultimately result in our rivers, streams, and lakes meeting water quality standards.

Andrew Kurtz, Marathon City Utility Commission
[T]he Multi-discharge Phosphorus Variance has an option for a utility to pay $50 per pound of phosphorus. For Marathon City that is estimated to be $500,000 over twenty years. As we understand the proposal, the Village would remit our annual variance fee to Marathon County. Marathon County would develop and implement programs for non-point phosphorus reduction outside the Village. Our concern is accountability for these funds and quantifiable results. Based on comments made by County representatives, this would require hiring of staff to develop the programs, implement the programs and provide oversight / reporting. Assuming on an annual salary of $50,000 with a total compensation package nearing $65,000, our $500,000 would fund a single new position for less than 8 years. In this scenario it would be difficult to identify funds spent to actually reduce the phosphorus load in our watershed. Additionally, expending utility funds in areas outside the village with little accountability or impact would be difficult to justify to the residents or the Village and the customers of the utility whose rates increased as a result of this program.

Steve Richter, The Nature Conservancy
Getting the implementation steps correct will be vital to the variance working throughout the state. We therefore suggest rigorous targeting, modelling and tracking systems be implemented so that the most effective choices are made.

Duane Gau, North Central Wisconsin Stormwater Coalition
The phosphorus variance should establish metrics for evaluating funded projects. The established metrics should quantify (through measurement, modeling, or other accepted procedure): a. The amount of P prevented from entering receiving waters; b. Total project cost; c. Area of land use by the project; d. Expected lifespan of project. [The state should also] implement annual soil nutrient testing on project sits; establish an option for easements to be purchased from agricultural landowners for purposes of establishing buffer strips, prevention of plowing, or other improvements in management practices; and incorporate easements to make physical changes to lands (such as modification to drainage patterns and systems) permanent, to prevent them from being undone by landowners in the future.

Matt Krueger, River Alliance of Wisconsin
Through the MDV, municipalities will potentially be sending taxpayer dollars (via the counties) outside of municipal boundaries, which will be a hard sell in some situations, and a non-starter in others. For some municipalities, then, the taxpaying public will and should expect a return on their investment in clean water. Permanent phosphorus-reducing structures such as conservation easements, wetland restoration, and land use conversion should be given priority ranking above all others by the counties, if

the MDV is to truly facilitate projects that will "reduce the amount of phosphorus entering the waters of the state" (§ 283.16 (8) (2) (b)). Additionally, and particularly because they will be publicly financed, these transactions must be targeted, transparent, and tracked. Targeting assures that taxpayer money is spent efficiently, for the greatest return on investment in clean water. (This means targeting farms with the greatest potential for reductions in phosphorus pollution—not simply working with any interested farmer who will willingly cooperate with the county.)

Michael Engleson, Wisconsin Lakes
Provide thorough accountability on the use of the variance to ensure maximal use of the funds to meet water quality standards in regards to:

- The point source, to ensure the correct amount of fee is being paid,
- The county or third party collecting and disbursing the fee, to ensure as much of those funds go to phosphorus reduction and not other projects, undue administrative costs, or other unrelated spending
- The final recipients of the funds, to ensure they are used for the purpose granted and maximize the effort to meet water quality standards
- The point source meeting its annual reduction targets in effluent from its own source

Response:
DOA and DNR appreciate the comments provided by stakeholders regarding implementing the potential MDV. However, the purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state based on the economic impacts of complying with the phosphorus rule. The EIA is not intended to be, nor is, the final variance package. Therefore, DOA and DNR find that implementation procedures are outside the scope of the EIA, and no changes were made based on these comments.

Payment cap
Clean Wisconsin, Alliance for the Great Lakes, Great Lakes Environmental Law Center
2013 Act 378 also includes a $640,000 cap on payments a permittee must make under a variance. There are a handful of large permittees that would exceed that cap. The cap creates the possibility that smaller point source contributors in a watershed with a capped source could end up subsidizing water cleanup. The cap also improperly rewards those sources that have done the least to limit their discharge, since sources with the highest amount of reductions to achieve would reach the cap more quickly than those who acted responsibly. We suggested during the legislative debate and suggest again that the cap be removed, and that optimization be required down to a level below the cap.

Response:
The purpose of the watershed projects is not necessarily to achieve compliance with water quality standards. It is to provide meaningful water quality improvements towards improving water quality during the duration of a variance. Annual payments of $640,000 are substantial investments to help ensure that these water quality improvements are achieved. DNR and DOA do not believe that raising this cap is necessary at this time based on its highest attainable condition demonstration, as determined

in the final variance package. It is noted that this cap does not preclude counties or other entities from utilizing alternative funds in addition to MDV funds to help achieve water quality standards goals. It is also of note that the $50/lb cost range represented a midrange number for agricultural practices and at the high end of soft practices based on available information at this time.

Revised Interest Rates

EPA

The revised interest rate for municipal utilities of 4.80% is a blended rate that attempts to reflect that some phosphorus projects would receive financing at the subsidized State Revolving Fund (SRF) rate, while others would borrow at higher open market rates. EPA disagrees with the blended rate estimate of 4.80%.

Response:

For AAA rated municipal bonds the historic average MMD borrowing rate is 4.95% over the last 25 years. Since 2000, that average is 4.34% -- which includes periods of two substantial recessions (2001 and 2008-2009). Based on historic rates and ample market data suggests the Federal Reserve Board will – at some point in the near future – be suspending its policy of monetary easing, we believe a long-term borrowing cost for Wisconsin municipalities of 4.80 to 5.10% is appropriate.

Justify Variance Timeline

EPA

Wisconsin should thoroughly explain why attaining the uses for specific water bodies or segments covered by the multiple-discharger variance is not feasible before 2024 which is the maximum duration of the first variance.

Response:

DOA and DNR appreciate the need to explain why standards cannot be achieved. However, the purpose of the EIA, as specified in 283.16, Wis. Stat., is to determine if a MDV is appropriate for the state based on the economic impacts of complying with the phosphorus rule. The EIA is not intended to be, nor is, the final variance package. Therefore, DOA and DNR find that implementation procedures are outside the scope of the EIA, and no changes were made based on these comments.

Consider Gradation

EPA

The information on the gradations within indicators is useful. Compare and contrast, for instance, the following three groups of counties: Calumet, Chippewa, Eau Claire and St. Croix, with Affordability Index values from 2.0 to 2.1 and one or two secondary indicators at yellow level; Adams and Iowa, with Affordability Index values from 1.62 to 1.76, and one red, one orange and one or two yellow level secondary indicators; and Portage and Sheboygan counties with Affordability Index of 1.08 to 1.15, and no red or orange secondary indicators but three to four yellow-level indicators. The confidence that all POTWs in these counties would be eligible under a single discharger

variance is uneven across these groupings, although these counties appear to be equally eligible under the preliminary determination. For example, we have limited confidence that all POTWs in Portage and Sheboygan would be individually eligible, especially as compared to Outagamie County, which appears to not qualify for the MDV based on an Affordability Index of 1.01 and one secondary indicator at the orange level.

Response:
Different indicators are intended to address substantively different aspects of a community's economic capacity to productively cope with changes that come with tighter phosphorus regulation. If exactly the same counties were flagged by every indicator, or if flagged counties almost always ended up in the same ranges, then readers would have to ask whether multiple indicators were telling the same story in different words. The fact that one indicator can make a county look better while another county can make a county look worse is a sign that the indicators are doing their job without excessive overlap.

Potential Cost-Saving Measures Not Accounted For

EPA

To allow for meaningful review, the supporting documentation provided by permittees seeking coverage should also include the discharger has internal waste streams with elevated phosphorus concentrations and, if so, whether segregating and treating those waste streams could reduce the volume of effluent needed to be treated to comply with the phosphorus standards and thereby change the estimated treatment costs such that the assumptions underlying the variance are no longer valid for the facility; and whether there are other facility-specific conditions pertaining to phosphorus effluent concentrations, effluent flow or other factors that were not adequately accounted for under WDOA's cost curve approach that could significantly reduce the discharger's projected treatment costs.

Response:
In order to approximate compliance costs, reasonable assumptions needed to be made that would reflect compliance costs for the majority of facilities statewide. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics; some will be lower, and some will be higher. DOA and DNR believe that the methods used in the EIA are defensible and reasonable to approximate costs on a statewide basis. Furthermore, DOA and DNR agree that it is important that compliance costs be reflective of actual costs for individual facilities requesting coverage under the MDV. This is why Individual facilities will be responsible to certify that the compliance costs, and key assumption used to generate these costs, are generally representative of their specific discharge. If this is not the case, an individual facility will be responsible to provide site-specific compliance costs to DNR. This information is part of the implementation strategy and is outside the scope of the EIA. Therefore, the EIA has not been amended to reflect this process.

EPA Suggestions for Additional Information

EPA

EPA has the following additional comments about the Preliminary Determination:
a. EPA suggests Wisconsin provide some additional information including: 1) presenting the difference between the effects on the directly regulated industries and the state economy as a whole, 2) reporting

impacts on total wages and converting to the percentage of MHI, and 3) showing wage changes over time, as was done for jobs and GSP.
b. EPA suggests that in the sections with the industry specific presentations, Wisconsin provide more perspective on these industries and what makes them unique contributors to the Wisconsin economy.
c. EPA suggests that the Preliminary Determination discuss in part A of Section 6 that the jobs impacts in the indirectly affected sectors are always at least double, and up to an order of magnitude or two greater than the effects in the directly affected sectors.
d. EPA suggests including a comparison of the increasing MHI to consumer price index on page 70 of the Preliminary Determination.
e. EPA suggests adding a table analogous to 4-2 but for MHI to highlight the number of counties with county-level MHI that is below the statewide MHI which will get at uneven income distribution.
f. In using the county-level MHI, did Wisconsin consider whether there are situations where poorer communities in the county already meet the phosphorus standard, but richer communities in the counties do not? If those cases exist, the richer communities may appear to qualify for a variance on the basis of an MHI that is lower for the county than it would be for those communities, and possibly not be deserving of a variance.

Response:

The EIA supporting materials distinguished between direct impact on the regulated industries themselves and indirect impact on the wider economy (via suppliers, customers, employees, and other channels). In some instances, significant proportions of total estimated impact was indirect impact. When workers suffer foregone jobs and/or lost wages, when local economies suffer foregone output, when communities suffer population declines, the direct-versus-indirect impact is a distinction without a difference. Therefore, this report focuses on total impact rather than analyzing direct impact separately from indirect impact.

The secondary indicators refer to MHI and the EIA projects total wages foregone. At first glance, it might seem attractive to convert projected total wages foregone to MHI. This would be poor analysis for several reasons. Household income data is inflation-adjusted for the Census Bureau's 2009-2013 American Community Survey; it would not be reasonable to apply the same inflation adjustment factors to the EIA's forward-looking projections of total wages foregone. Median household income figures include non-wage income sources (investment income and transfer receipts) that are well outside the scope of the EIA's wage forecasts. The MHI denominator, the household, often contains people who earn wages and people who don't; the EIA projection for total wages foregone only applies to people earning wages. Household sizes (persons per household) and the labor force participation rate (share of the working-age population that works or looks for work) will not remain constant over time, further muddying the comparison between MHI at a point in time and EIA projections for total wages forgone.

Wage growth over time can be seen in Figure 13, Neat Earnings by Place of Residence 2003-3013 Change.

In the sections with the industry specific presentations, the final determination will provide more perspective on these industries and what makes them unique contributors to the Wisconsin economy

The determination's Section 6, part A has been amended to address EPA concerns relating to direct versus indirect job loss impacts.

The Census Bureau's American Community Survey (ACS) reports Median Household Income using survey data gathered over a 5-year period and adjusting the data for inflation. The Census Bureau intends this as a snapshot encapsulating the 5-year period in question (ACS 2009-2013, at the time the preliminary determination was drafted). The Census Bureau discourages the use of overlapping 5-year periods. For example, ACS 2005-2009 and ACS 2009-2013 would each include roughly one-fifth of the same data. ACS 2005-2009 is the earliest draft available, so this data source did not allow non-overlapping time periods at the time the preliminary determination was drafted. Moreover, the preliminary determination uses the Median Household Income measure as a point-in-time snapshot, using other measures to gauge change over time (see Figure 12. Population Change, Figure 13. Net Earnings by Place of Residence Change, and Figure 14. Jog Growth).

For more detailed MHI data, see Section 5, part B.(2)(a), Figure 9, Median Household Income, and see Appendix C. Secondary Indicators Analysis by County.

For more detailed discussion of the community-by-community treatment of MHI, please see the determination's Section 5 part A.(1) Primary Screener for Municipal WWTFs. In theory, it would be technically possible for a low-MHI municipality to already be in compliance with the stricter phosphorus standards. Generally, higher MHI municipalities are more likely to have (a) population density that affords greater economies of scale for upgrades and (b) more frequent maintenance and upgrades to their system. When fashioning general guidelines for the MDV, it is not possible to optimally address every conceivable exceptional case. Exhaustive case-by-case analysis would amount to a landslide of individual variance applications rather than an appropriate implementation of a *Multi* Discharger Variance.

MDV Option Not Equitable

David Struhs, Domtar

While we support the development of more pathways to compliance with Wisconsin's water quality regulations for phosphorous, and appreciate the fact that Act 378 moves in this direction as stated in our previous letters, we also want to be clear that the specifics of the variance option as currently presented are neither practical nor equitable.

Response:

The MDV is a compliance option that is being explored at this time. If approved, the MDV will become a voluntary program for qualifying point sources to participate. Point sources are encouraged to consider all of their compliance options, including the MDV, when going through the facility planning effort for phosphorus.

Rulemaking to Implement the MDV

Duane Gau, North Central Wisconsin Stormwater Coalition

Encourage the Department of Agriculture, Trace and Consumer Protection to establish administrative code ensuring that recipients of MDV funds achieve measurable and permanent reductions in phosphorus discharges.

Response:
DNR and DOA do not believe that additional rule making is necessary to implement the MDV at this time. The legal framework for implementation are provided in s. 283.16. Additionally, these funds can help implement key pieces of existing state law such as ch. NR 151, which require cost share for agricultural and non-permitted urban best management practices. No changes were made to the EIA based on this comment.

Timeline to Request the MDV

Andrew Kurtz, Marathon City Utility Commission

We would request that an extension of our current permit be issued until the TMDL is complete and that a modification be made to our compliance maintenance schedule to allow for a single path of planning and implementation which may include a Multi-discharger Variance request.

Response:
In accordance with state and federal law, a WPDES permit may not extend beyond 5-years. There are several opportunities as part of permit reissuance or during the permit term [s. 283.16(4)(b)] for point sources to potentially request the MDV. Prior to request the MDV, however, the point source is responsible for complying with the dates and timelines in their effective WPDES permit. Although DNR and DOA appreciate the timing concern, there is no additional legal flexibility that can be offered at this time. Additionally, this issue is an implementation issue and not a direct comment on the EIA. No changes were made to the EIA based on this comment.

Alternative to $50/lb Watershed Option

Andrew Kurtz, Marathon City Utility Commission

Our recommendation would be that the $50 per pound be assessed to the Utility, but retained by the Utility in a fund set aside for use only for P reduction projects. These projects may include facilities planning, physical facilities upgrade, and watershed projects within the Village to actually reduce the phosphorus load, which we are still required to do under the variance. By allocating the variance fee to the Utility, it would result in more than half a million dollar reduction in borrowing for the Village. The end result is direct application to phosphorus reduction with direct accountability of the funds within the corporate boundaries of the Village.

Response:
The MDV implementation strategy must comply with state and federal law. Section 283.16(8), Wis. Stat., is very clear that payments made under the "$50/lb option" must be made to County Land and Water Conservation Departments for the purposes of cost share for nonpoint source practices. That being said, there is no legal requirement for point sources interested in the MDV to select the $50/lb watershed plan option. Pursuant to s. 283.16(8m), the city may work independently or through a third party to implement its own watershed project upon DNR approval. The City of Marathon may wish to consider their proposal under one of these other watershed plan options. Since this issue is an implementation issue, and not a direct comment on the EIA, no changes were made to the EIA based on this comment.

Providing a List of Eligible Point Sources

Steve Richter, The Nature Conservancy
[It] is important that the appropriate municipal and industrial point sources are allowed to use the variance option. We recommend providing an accessible list of those point sources determined to be eligible for the variance and those not eligible.

Response:
Site-specific information is necessary in order to determine whether or not an individual point source would qualify for the multi-discharger variance. This information may include a demonstration that a major facility upgrade is needed to comply with TP limits, the assumptions used in the MDV to approximate compliance costs are valid for the specific applicant, and the applicant can comply with interim limits, among other things. It is not appropriate to pre-define eligibility absent these site-specific data. For these reasons, DNR and DOA do not have sufficient information to generate an eligibility list at this time. No changes were made to the EIA based on these comments.

Using MHI Sets Too High of a Bar

Paul Kent, MEG
The second issue is the methodology used in developing screening criteria for municipal facilities. The report requires a municipality to meet a primary screener based on median household income (MHI) and then a secondary screener based on the economic status of the county. Municipalities, whose costs are 1-2% of the MHI, must be in a county with at least two secondary economic indicators. There are six counties with only one secondary economic indicator: Brown, Outagamie, Waukesha, Washington, Green and St. Croix. The result is that for these counties, the variance will not be available for many communities. Any one secondary economic indicator should be sufficient in conjunction with the primary indicator to allow the variance to be an option. For this reason, we are requesting that DNR and EPA reduce the number of secondary factors required from two to one for all municipal facilities.

Tom Fitzwilliams, MSA
We evaluated 2013 sewer rates and MHI data from 128 communities that have WPDES Permits issued with compliance schedules for meeting new WQBEL phosphorus limits and provide the following analysis:

a. Data was evaluated from 23 communities in counties that were identified as having to increase sewer rates to 2% of the MHI to qualify for the variance. On average, these communities will need to increase sewer rates by $713 per year, or 228%. Sewer rate increases for these communities would range from $347 to $1,125 per year. 20 out of 23 of these communities would need to double their current rates in order to qualify. See attached data chart for the 2% communities.
b. Data was evaluated from 105 communities in counties that were identified as having to increase sewer rates to 1% of the MHI to qualify for the variance. On average, these communities will need to increase sewer rates by $154 per year, or 66%. Sewer rate increases for these communities would range from $4 to $691 per year in order to qualify for the variance. 62 out of 105 of these communities would need to double their current rates in order to qualify. See attached data chart for the 1% communities.

Our data evaluation from 128 communities including the City of Baraboo suggests that many communities will have difficulties qualifying for the Act 378 variance. We believe setting the sewer rate thresholds at 1% and 2% of the MHI are too restrictive, and will preclude many communities from

pursuing the variance. Using these MHI thresholds will not alleviate the negative economic impact that phosphorus compliance projects will have on many communities in Wisconsin.

Tom Sigmund, New Water
The report requires a municipality to meet primary screening conditions based on median household income (MHI) for the county in which the facility is operated, and then meet a secondary economic indicator screener based on the economic status of the county. Municipalities whose annual sewer service costs are 1-2% of the MHI must be in a county with at least two secondary economic indicators. Brown County and Outagamie County have only one secondary economic indicator. The result is that for these counties the variance will not be available.

Response:
DNR and DOA appreciate the time and energy spent to approximate community MHI values. As mentioned in the EIA, DNR and DOA strove to be as consistent with EPA's guidance "Interim Economic guidance for Water Quality Standards: Workbook" (March 1995) as practicable. Utilizing MHI values to make a substantial determination is a key recommendation of EPA's in this guidance. DNR and DOA did not think providing the state with MHI values was an onerous activity for the municipal WWTFs as well. Relying on using the MHI also ensures that only those facilities that could qualify under and individual variance would qualify under the MDV. For these reasons, DOA and DNR feel it is appropriate to continue to use the MHIs as the basis for the primary screener in the substantial test. If a facility would like to demonstrate that the phosphorus rule through alternative means, DNR would be happy to consider this site-specific substantial demonstration as part of an individual variance request. Based on the information provided, DNR and DOA agree that the county MHI calculations provided in the consulting reports may not be reflective of community-specific MHI values. Therefore, the EIA report has been modified to clarify this potential discrepancy and its impact on individual eligibility.

Use of MSA's "Cost of Clean- Wisconsin Sewer User Charge Survey"
Tom Fitzwilliams, MSA
Data charts from MSA's 2103 report, *Cost of Clean – Wisconsin Sewer User Charge Survey* were used on pages 72, 73 and 78 of the DOA Report. We request that MSA be properly acknowledged in the DOA report bibliography.

Response:
Thank you for bringing this oversight to DOA's and DNR's attention. The EIA report has been updated to properly reference MSA's report, *Cost of Clean – Wisconsin Sewer User Charge Survey.*

Eligibility for Point Sources Not Projected to Have Compliance Costs
Bruce Ramme, We Energies
[I]t appears that the cost curve technology was assessed based on the current limit in the existing WPDES permit or the impending phosphorus WQBEL anticipated to be placed in the next reissued WPDES permit. For our facilities that discharge to Lake Michigan (Pleasant Prairie Power Plant, WPDES Permit Number 0043583, Oak Creek Power Plant, WPDES Permit Number 0000914, and Port Washington Generating Station, WPDES Permit Number 0000922), our assumption is that the interim limit of 0.6 mg/L (based on s. NR 217.13(4), Wis. Adm. Code) was used to estimate Capital and O&M

costs. For both Oak Creek Power Plant and Port Washington Generating Station, the compliance cost estimate was $0, which we surmise indicates that no technology needs to be installed because our discharges are below the 0.6 mg/L interim limit. However, this is an interim limit. The final WQBEL will be determined based on the whole lake model for Lake Michigan, consistent with s. NR 217.13(4), Wis. Adm. Code. The Lake Michigan phosphorus criterion is 7 µg/L, which is considerably lower than the criterion for rivers (100 µg/L) and streams (75 µg/L). While we cannot predict what the final WQBEL will be for Lake Michigan dischargers, it is possible that the limit could be <0.1 mg/L (< 100 µg/L). If this is the case, then the cost curves for the TP < 0.1 mg/L technology would be used to approximate the costs, which would be significantly larger than the costs provided on Attachment 7 of the EIA Addendum.

Angela James, Wisconsin River Industrial Dischargers Alliance

It's our understanding that the state has proposed two screeners to identify whether facilities qualify for the MDV. One of these involves ranking individual facility costs against the costs of other facilities in its industrial category. The other ranks the costs of counties impacted by the costs of facility compliance. In both of these approaches, the underestimation of costs may impact a facility's ability to qualify for the variance, even if their treatment obligations are as burdensome – or more burdensome – than facilities located outside of the Wisconsin River. These facilities should not be disadvantaged by the fact that they are located in a developing TMDL, and should be eligible for the variance when their ultimate compliance obligations are determined in the final, approved TMDL.

Response:

DOA and DNR appreciate the concerns raised by commenters that some point sources may be excluded from the MDV based on assumptions made in the EIA report. There are several situations where a facility may incur compliance cost that was not estimated in the EIA, such as:

- Point sources in areas where a total maximum daily load (TMDL) is in development and TMDL-derived limitations are more restrictive than projected WQBELs used in this study;
- Point sources where final phosphorus WQBELs are more restrictive than projected WQBELs used in this study;
- Point sources, like lagoons, that need to add treatment even though the projected WQBEL is above 1 mg/L; and
- Point sources that cannot receive intake credits, but were projected to in this analysis.

Unfortunately, site-specific information necessary to revise the EIA is not yet available for these situations. However, it is not the intention of DOA or DNR to preclude facilities in these situations from the MDV. The implementation strategy will provide flexibility that facilities may be able to provide site-specific compliance costs in order to qualify for the MDV. This implementation approach is outside the scope of the EIA, so no direct changes were made to the EIA based on these comments.

Technology Unreliable to Meet Final Limits

Joseph Moore, City of Fond du Lac

Furthermore, these costs were based on the assumption that our effluent soluble nonreactive phosphorus levels were around 0.02 mg/L in the effluent, as they were during 2014 pilot testing. Our soluble nonreactive phosphorus concentrations currently average around 0.09 mg/L. This level will require significantly higher chemical dosages, assuming the 0.04 mg/L effluent limit is even achievable.

John Piotrowski, Packaging Corporation of America

Chemical precipitation testing demonstrated that even at chemical precipitant dosage rate twenty (20) times greater than the stoichiometric demand the technology-based target effluent phosphorus discharge limit of 1.0 mg/L could not be reliably achieved. Combining chemical precipitation with sand filtration was also evaluated but this technology was also deemed inadequate to achieve the prescribed results. The principal reason why chemical precipitation of phosphorus is difficult and expensive is due to the complex chemistry of our paper mill effluent. Specifically, our effluent has a high anionic charge that exerts a significant chemical demand for cationic chemical precipitants, such as iron chloride. As a result inordinately large quantities of cationic chemical precipitants are necessary to first overcome the anionic demand; it is only after the anionic demand is satisfied that phosphorus precipitation can occur which results in the unusually high stoichiometric chemical application rates.

Rich Boden, City of Plover and Wisconsin River Discharger Group
Meeting the proposed limits involves more than just "turning up" the removal process. The costs will involve purchasing and installing technologies that have not been implemented on a full scale basis. There is a great deal of uncertainty as to whether the technologies can meet the proposed limits on a dependable and continuing basis. The stepped reduction of the limits over a 20 year period will allow the time to determine which technologies are effective, dependable, and cost effective.

Response:
In order to approximate compliance costs, reasonable assumptions needed to be made that would reflect the majority of facilities. DNR and DOA acknowledge that some of these assumptions may not be representative of site-specific concerns or unique facility characteristics. DNR also recognizes that, in some cases, technology may not be sufficient to reliably comply with ultra-low phosphorus limitations in the variance package. Although this is acknowledged, it is outside of the scope of a statewide analysis to account for it. Therefore, no significant changes have been made to the final determination based on these comments.

Indirect Cost Burden
Joseph Moore, City of Fond du Lac
Some consideration should be given to the impact of the increased cost on industrial customers. We have several industrial customers that will have a significant cost burden associated with tertiary treatment through their surcharges rates.

Response:
When evaluating substantial and widespread impact, the determination attempts to capture different aspects of social and economic impact. The determination directly addresses Municipal Waste Water Treatment Facilities and the impacts on their customers. See Section 5. Part A. (1). Primary Screener for Municipal WWTFs.

$50/lb is Insufficient Dollar Value
Joseph Furia, The Freshwater Trust
The Freshwater Trust's primary concern is that the proposed $50/lb credit price limit applicable to the county payment option in Act 378 likely does not leave enough funding for the costs of all "credit cycle"

components necessary to build and maintain a durable compliance grade credit market. Federal and state guidance suggest that credit price should include the costs of accounting for the delivery of promised water quality improvements.

Response:
There is a range of costs for nonpoint projects. Soft projects such as nutrient management and tillage practices can cost between $25 and $50 per pound. Hard practices can cost more. In the two adaptive management pilots in Dane County the range of nonpoint practices was between $25 to $85 per pound. Since funds generated by this program will not be bonded money as is the case with Clean Water Fund loans, they can be used for soft practices where the largest reductions in nonpoint can be reached. Therefore $50 per pound, which is a midrange number and at the high end of soft practices, is appropriate.

Potential Toxicity

Henry J. Probst, The Probst Group

There is also concern regarding the unknown environmental impact due to the potential toxicity of the significant increase in metal salts needed to meet the WQBEL – including ferric chloride, aluminum sulfate, aluminum chlorohydrate, sodium aluminate, and cerium chloride. We're also not fully aware of the impact of the accumulation of these metal salts in the waste solids, which are ultimately land applied.

Response:
DNR recognizes that there is a potential to have WET toxicity violations if facilities add substantial chemicals in order to treat phosphorus in the variance package. There is insufficient information available at this time to quantify these impacts at this time. Given this lack of available data, no changes were made to the final determination. However, DNR is working with partners to gather these data so this decision can be re-evaluated later on.

Secondary Indicators for Power

Bruce Ramme, We Energies

The power sector should have the same opportunity as other sectors to satisfy a two-step test to show that the determination applies. Other affected entities in the state will approach phosphorus compliance in a more cost-effective manner and will generate more environmentally effective outcomes. Utility sources should have the same opportunity. The misalignment of the public sector analytical factors with the utility cost recovery structure serves to mask the significant costs that utility ratepayers will bear, even at the county level. The average consumer may be affected by changes in non-discretionary energy costs as much or more than by increases in the costs of discretionary products from smaller industries. Moreover, ratepayers within a single county will bear some share of the aggregate costs from *all* affected utility facilities. Nearly all of the counties within the We Energies electric service territory are the same as those identified using the secondary indicators in the Preliminary Determination as having particular susceptibility to the costs imposed by the phosphorus standards. *See* Preliminary Determination at 78-80. This is evident from the We Energies Service Territory Map attached to these comments as Exhibit A. In short, utility variance coverage should not be conditioned on a demonstration on an individual county basis. Instead, DOA and DNR should examine

the utility's service territory to determine whether rate increases would be burdensome to local households.

Response: **DOA is sensitive to the concerns of the utility industry and agrees consumers will ultimately bear costs passed on by the utility industry in the form of rate increases. DOA and DNR attempted several different models to demonstrate the impact utilities will have on service areas if held to the current timeline. The challenge continues to be demonstrating how the costs are applied to utility service area boundaries compared to the 72 county boundaries of WI using the secondary indicator requirement. Ultimately all costs borne by industry in Wisconsin will directly or indirectly impact** commercial, industrial, and industrial ratepayers. **Capturing those affected through the initial requirements will help manage the process if an MVD is granted, but the option to individually demonstrate a facilities need for a variance will still be possible.**

Letters with in General Concerns about the MDV

DOA and DNR received 100s of emails and correspondence raising general concerns about implementation and the EIA. The Departments appreciate the time and energy invested to provide these comments to us. We believe that the specific responses provided above address these general concerns, so no additional responses are provided at this time.

Letters in General Support or Opposition of the MDV

DOA and DNR received several emails and correspondence in general support or opposition of the MDV. DOA and DNR appreciate the time and energy invested to provide these comments to us. As state agencies, it is our responsibility to implement the requirements of Act 378 to the best of our ability, which we believe we have done. Additionally, we believe that the specific responses provided above address these general concerns, so no additional responses are provided at this time.