To: 'Blend, Jeff'[jblend@mt.gov]; Mike Suplee[msuplee@mt.gov]
From: Laidlaw, Tina
Sent: Fri 11/28/2014 4:32:30 PM
Subject: MDEQ's review of the 2012 economic analysis
EPA memo on Secondary Metrics EPA Edits 03_10_14.docx

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Jeff,

Could you please resubmit the final version of the attached document to me as part of our review of the Montana's nutrient rule submission? I didn't see a final copy on the cd of documents that Mike included with the submission.

Thanks!

Tina

Changes to the Individual Variance made by the NCAAG[1]

The forerunner to the current Montana Nutrient Work Group was the Nutrient Criteria Affordability Advisory Group (NCAAG) which existed up until about 2009. The NCAAG revised the individual variance process found in the 1995 EPA Guidance for situations where a variance was requested based on the 'substantial and widespread' economic impacts to a community.

The NCAAG developed new socio-economic indicators of a community's well-being, the 'Secondary' criteria of the Substantial test, to replace the original six Secondary indicators found in the 1995 EPA Guidance. Two of the measures, MHI and unemployment rate remained unchanged from the original six. Four of the original six 'Secondary' indicators were dropped and replaced by three new indicators. The NCAAG-created five indicators of a community's health include the community unemployment rate compared to the state rate, the community poverty rate, a measure of low to median income (LMI), the average community MHI compared to the state value, and a measure of how much the community is now paying in various local fees and taxes.

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The reasons for changing these indicators were to tailor the indicators of a community's well-being to Montana communities. The NCAAG felt that the original six indicators did not reflect the realities of local level financing or community health. Further detail about each indicator is found in the next section as well as other changes made to the individual variance process. The following major changes were made to the public individual variance process from the 1995 EPA Guidance

Substantial Impact-Municipal Household Screener Affordability Threshold

To the Municipal Household Screener percent of Median Household Income (MHI) measure, the NCAAG added a Low to Medium Income Percentage Rate (LMI) Benchmark Comparison. In the original EPA Guidance, any town or community with a threshold under 1% on their Municipal Preliminary Screener was done with the analysis and denied a variance. Montana DEQ allowed an exception to this rule where communities with less than 1% MHI to meet new water quality standards and a high LMI could move on to the next Substantial test (the Secondary test). The reason is that a small number of communities may have income that is so skewed that a significant portion of the population would face substantial impacts from having to

[1] Some of this comes from http://deq.mt.gov/wqinfo/nutrientworkgroup/AgendasMeetingsPresentations.mcpx Sept 16, 2010 minutes

pay for additional treatment even though a community's MHI is high. An example is a resort town (e.g. Big Sky) where 60% of households are rich and the remaining 40% are relatively poor and may serve as the staff at the resort or at businesses in town.

Substantial Impacts--Secondary Indicators

The NCAAG dropped the 'Bond Rating' secondary indicator in the original EPA Guidance. Most towns in Montana do not have a bond rating. The other concern was that Montana towns that do have a bond rating can increase their rating by buying insurance on it, and thus it might be misleading as a measure of community health.

NCAAG dropped the 'Overall Net Debt as Percent of Full Market Value of Taxable Property' indicator. The NCAAG did not think that it was a good measure of a municipality's financial health, and that often the debt level had to do with either statutory requirements or other external factors not related to a town's financial health. Representatives for the City of Helena stressed the complications asscociated with this financial indicator, highlightingthat a city's debt often comes in three parts: 1) City debt; 2) Overlapping debt other than city; and 3) assessment structure debt. For these reasons, MDEQ and the Nutrient Workgroup dropped this indicator.

For the 'Unemployment' indicator, the NCAAG decided to keep that measure and use Montana's unemployment average as a benchmark rather than the U.S. unemployment rate. The reason for this is that Montana's unemployment rate is often quite different from that of the U.S., and thus using the U.S. rate might skew the results.

'Median House Income' indicator was kept as is in the original EPA Guidance and compared to the Montana average.

The 'Property Tax Collection Rate' indicator was dropped because it was considered not to be a good measure of community health. Collection rates could be affected by large companies protesting their taxes, for example, as has happened repeatedly in Montana. Also, the property tax collection rate has proved to be a near impossible piece of data to collect for smaller towns and counties.

The NCAAG added a 'Poverty Rate' indicator to Substantial Impacts. In the guidance, it was initially to be considered in Widespread Impacts, but instead, was felt to be a good measure of community health and a good Secondary indicator. DEQ created a histogram of the poverty rates of all towns in Montana to visually come up with break points for a "weak", "mid-range", and "strong" score compared to the benchmark.

The NCAAG added the 'Low to Medium Income Percentage' indicator (LMI) to Substantial Impacts-Secondary Indicators. The advisory committee felt that in addition to the other socio-economic measures including poverty rate, that LMI would be one of the best measures of community health and a good Secondary indicator. DEQ created a histogram of the LMI

percentage rates of all towns in Montana to come up with break points for a "weak", "mid-range", and "strong" score compared to the benchmark. The break points were set using one standard deviation within the histogram mean for a "mid-point" score, and outside that range constituted a "weak" or "strong" score.

The NCAAG added a 'Property Tax, fees and revenues' indicator which takes a relative total of a community's local fees and taxes divided by MHI and indexed by population. This indicator includes a summation of the following 1) General Government Activities-Program Revenues (Charges for Services): Fines, Forfeitures, including public works, safety, interest on debt and health, 2) Business Type Activities Program Revenues (Charges for Services): Hospital, water, sewer, solid waste, airport, business, and 3) local property taxes. This sum is then divided by the MHI of the given community and indexed to the community's population. A histogram is run on a sample of Montana towns to determine break points. This indicator is aimed at how much room community members have to pay additional fees for system improvements. The rationale is that if a town is already paying a high level of local fees and taxes, then they may not have to ability to take on an increase in wastewater fees as a town with lower fees and taxes.

Assessment of Substantial Impacts Matrix

For the Assessment of Substantial Impacts Matrix found in the EPA Guidance, the question marks in the Matrix became 'X's. In other words, we gave those communities falling into the X zone (the uncertainty zone for Substantial impacts), the benefit of the doubt that they might experience Substantial impacts, and that they could move on to the Widespread test.

Widespread Impacts

DEQ changed the Widespread Impacts section to meet the needs of the NCAAG and NWG. The NCAAG suggested that the widespread impacts instructions in the EPA Guidance were too vague and included too many categories. The NWG wanted the Widespread Impacts section more objective and simple. The revised Widespread impacts section starts with several questions asking the respondent to define the impact area (which may be different than the community boundaries) and the present socio-economic conditions within that area. The next set of questions describe the changes to various socio-economic indicators that may result from meeting the new water quality standard. The socio-economicindicators considered include, 1) The economy in general; 2) Employment rates/jobs; 3) Poverty rates and social services; 4) Whether population would be affected; and 5) whether there would be widespread positive benefits from meeting the standards. If there would be widespread positive benefits from meeting the water quality standard, then that answer could offset negative widespread economic impacts.

Comparing Original and New Metrics

EPA asked DEQ to compare secondary scores for a sample of Montana towns using the revised five Secondary metrics compared to EPA's original six, to make sure our five metrics did not bias the Substantial test in favor of Montana towns. DEQ has secondary scores for over 20 Montana towns using the revised five Secondary indicators from the study DEQ did for EPA on Montana public WWTPs (e.g. why they cannot afford currently to meet nutrient criteria). Unfortunately, four of the six original secondary measures in the EPA Guidance are almost impossible to collect, and such a comparison cannot be made as a result.

The data for four of the original Secondary score metrics from the EPA Guidance (1995) are nearly impossible to collect. An effort in 2008 to collect data for these four metrics turned up largely unsuccessful, so it is very hard to compare the final Secondary scores from Montana's five metrics to what the scores would have with the original six metrics. The four metrics are 1) The Bond Rating of a town (only some Montana towns have bond ratings), 2) Overall Net Debt as Percent of Full Market Value of Taxable Property (considered a poor measure of town health), 3) Property Tax Revenues as a Percent of Full Market Value of Taxable Property (considered a poor measure of town health), and 4) Property Tax Collection Rate (most towns did not have this number). Again, two of the metrics, MHI and unemployment rate are the same and easy to collect. The following tables are provided with the sample towns and available data.

Table C-3. Secondary Score Case Studies--Public WWTPs Actual Secondary Scores (2011)

	Poverty Rate	LMI	Unemployment rate	MHI	Tax Revenue	Total Average
Baker	2	2	3	3	2	2.4
Big Fork	3	3	1	2	N/A	2.25
Billings	2	2	3	2	2	2.2
Bozeman	2	2	3	2	2	2.2
Butte	2	2	2	1	3	2
Broadus	3	2	3	2	1	2.2
Circle	3	1	3	1	2	2
Columbia Falls	2	2	1	2	2	1.8
Cut Bank	1	2	1	2	2	1.6
Deer Lodge	2	2	1	2	3	2
Ekalaka	2	2	3	1	1	1.8
Ennis	2	2	2	1	2	1.8
Eureka	2	1	1	1	2	1.4
Froid	2	2	1	1	1	1.4
Fromberg	2	2	2	2	3	2.2
Glendive	2	2	3	2	2	2.2
Great Falls	2	2	2	2	2	2
Hamilton	1	2	1	1	1	1.2
Havre	2	2	2	2	2	2
Helena	2	2	3	3	2	2.4
Highwood	3	3	3	3	n/a	3
Ismay	3	3	3	1	3	2.6
Kalispell	2	2	1	2	2	1.8
Lewistown	2	2	3	1	2	2
Libby	2	2	1	1	1	1.4
Lima	2	1	3	1	2	1.8
Livingston	2	2	2	1	1	1.6
Lolo	2	2	2	2	n/a	2
Manhattan	2	2	2	3	2	2.2
Miles City	2	2	3	1	2	2
Missoula	2	2	2	1	2	1.8
Neihart	2	3	3	2	1	2.2
Phillipsburg	2	2	1	1	2	1.6
Plentywood	3	2	3	1	2	2.2
Red Lodge	2	2	2	3	2	2.2
Roundup	1	1	2	1	2	1.4
Shelby	2	2	3	2	2	2.2
Sidney	1	2	3	3	3	2.4
St. Ignatius	1	1	1	1	2	1.2
Stevensville	1	3	1	1	2	1.6
West Yellowstone	2	2	2	2	1	1.8

Table C-3. Secondary Score Case Studies--Public WWTPs Actual Secondary Scores with Original Six Metrics from EPA Guidance (2011)

	Bond Rating	Net Debt as %	Unemployment rate	MHI	Property tax	Tax rate	Total Average
Baker	NA	NA	3	3	NA		NA
Big Fork	NA		1	2	NA		
Billings	NA		3	2	NA		
Bozeman	NA		3	2	NA		
Butte	NA		2	1	NA		
Broadus	NA		3	2	NA		
Circle	NA		3	1	NA		
Columbia Falls	NA		1	2	NA		
Cut Bank	NA		1	2	NA		
Deer Lodge	NA		1	2	NA		
Ekalaka	NA		3	1	NA		
Ennis	NA		2	1	NA		
Eureka	NA		1	1	NA		
Froid	NA		1	1	NA		
Fromberg	NA		2	2	NA		
Glendive	NA		3	2	NA		
Great Falls	NA		2	2	NA		
Hamilton	NA		1	1	NA		
Havre	NA		2	2	NA		
Helena	NA		3	3	NA		
Highwood	NA		3	3	NA		
Ismay	NA		3	1	NA		
Kalispell	NA		1	2	NA		
Lewistown	NA		3	1	NA		
Libby	NA		1	1	NA		
Lima			3	1			

	NA			NA
Livingston	NA	2	1	NA
Lolo	NA	2	2	NA
Manhattan	NA	2	3	NA
Miles City	NA	3	1	NA
Missoula	NA	2	1	NA
Neihart	NA	3	2	NA
Phillipsburg	NA	1	1	NA
Plentywood	NA	3	1	NA
Red Lodge	NA	2	3	NA
Roundup	NA	2	1	NA
Shelby	NA	3	2	NA
Sidney	NA	3	3	NA
St. Ignatius	NA	1	1	NA
Stevensville	NA	1	1	NA
West Yellowstone	NA	2	2	NA