



January 21, 2011

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RE: Rule 716(17) and Technical Impracticability Demonstration Groundwater Restoration  
Little Traverse Bay CKD Release Site

Dear Elaine, Bob, Ralph, and Kevin:

As you are aware, Tip of the Mitt Watershed Council and Michigan Environmental Council (MEC) have been actively involved in the Bay Harbor remediation to ensure Little Traverse Bay is protected for future generations and we continue to do so by providing the following comments on the Technical Impracticability Demonstration Groundwater Restoration dated August 31, 2009 and Rule 716(17). Thank you for the opportunity to provide comments on behalf of the Watershed Council's 2,300 plus members and MEC's 70 member organizations.

We have the following comments:

- Page 2: CMS states that source removal is technically impracticable because “removal would leave residual CKD at the base of excavation and in bedrock fractures, which would emit mercury above the GSI criterion for an extended period.” While it is true that the residual mercury would remain for a little while, I believe the phrase “extended period” is an overstatement based upon other removal actions taken at the Site. The mercury levels at the bottleneck of the East CKD area and other removal areas at the Site continue to diminish over time and are now almost within GSI criterion (1.7 ng/L) and removal actions did not occur that long ago. Therefore, previous removals do not support justification for technical impracticability.
- Page 3: CMS states that it is impracticable to treat to the 1.3 ng/L GSI mercury criterion and that “proven, reliable water treatment technologies” may only be able to remove mercury from Site leachate to “concentrations in the 20 to 30 ng/L range” and that “technologies currently under development to reduce the mercury concentrations further are not demonstrated at full scale,” According to the Environmental Protection Agency (EPA) Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration, the demonstration does not only rely on “proven, reliable” technologies, but conventional and innovative techniques. Therefore, CMS’ emphasis on proven, reliable approaches or failure to consider innovative remedial technologies means they have not met the criteria for demonstrating technical impracticability.
- Page 9: TI Zone - According to the Guidance, the TI Zone should be limited to as small an area as possible. The TI Zone seems larger than necessary as the southern borders extend to areas where the ground water flow is not migrating to the CKD piles and is, therefore, outside the scope of the TI.
- Page 31: CMS states that if removal was conducted “some residual CKD would remain at the Site, continuing to release mercury above the GSI criterion for decades, conceivably 100 years or more.” This time estimate is speculative and, based on experience at other areas of the Site, appears high. Second, CMS used West CKD Area as an example to illustrate the concept. However, West CKD is the Seep that is most unlike and, therefore least comparable, to the other Seeps at the Site. At West CKD Area, CKD mixed with soil was present on the West CKD Area beach, possibly as a result of West CKD pile sloughing. This feature is not present at the other Seeps, so using it as an example is not appropriate. Rather, CMS should have used the removal action in the bottleneck of East CKD Area which would be a more accurate representation. At East Park, the removal action caused an initial spike in pH, but the levels improved to consistently below 9 after just 3 months and now has mercury levels close to the GSI criterion. This shows that removal may not have a significant decade or century long impact on ground and surface waters, but that removal can be done and levels can attenuate in a relatively short amount of time.
- Page 34: CMS states there are no available alternatives to discharging water during removal actions other than to the Lake and it is not feasible without a waiver. However, CMS has conducted multiple removal actions and has been able to handle

the dewatering volume in an acceptable manner. Additionally, the only area that remains that could potentially require removal would be Pine Court of which only 3% of the CKD is saturated reducing the difficult issues associated with dewatering.

- Page 40: CMS states that “these and all of the other remedial technologies reviewed, singly or in combination, would not provide restoration of the aquifer to below 1.3 ng/L. Not even complete removal, which has been demonstrated to be impractical, can be counted to achieve this criterion.” First, as stated in our comments above, CMS failed to demonstrate that partial removal is impractical. Additionally, a multifaceted approach with a multitude of technologies implemented could very well restore the aquifer, but would come at a hefty price tag. Therefore, CMS should state more clearly that the obstacles for partial removal are high with respect to short term costs and the impact upon residents and the golf course, but this does not equal technical impracticability.
- Page 40: According to the Guidance, as part of the demonstration, CMS is to provide a review of the technical literature to identify candidate technologies. This was not done. CMS did provide information on mercury treatment to address collected leachate, but there was no literature review for source control and technologies to address the contamination at the Site. This needs to be completed before the TI can be considered administratively complete.
- Furthermore CMS failed to provide any analyses of innovative technologies in 2.4.5. They simply stated innovative technologies were determined to be impracticable with no explanation or justification. According the Guidance, CMS needs to submit at least a “paper study” if not pilot testing to determine effectiveness and make a determination on technical impracticability.
- Page 66: One year of flux data is not adequate or definite enough to make final determinations. It is too preliminary and premature to approve the Technical Impracticability Demonstration based upon such limited data.
- Page 66: Cost estimates provided are based upon a 30-year period. However, CMS noted several times throughout the TI Demonstration that it is anticipated that it will be 100 years or more before the ground water is reliably restored. Therefore, the cost estimates are inaccurate and do not represent the true cost.

Based upon all of the above deficiencies, Tip of the Mitt Watershed Council and Michigan Environmental Council do not believe that CMS has met the criteria for Technical Impracticability. Additionally, we do not feel that CMS has controlled the source of groundwater contamination and has not, per the TI, demonstrated that compliance with a GSI criterion developed under Rule 716(17) is unachievable at this time.

Therefore, Tip of the Mitt Watershed Council and Michigan Environmental Council recommend that the MDNRE indicate that additional information is required to make the determination, per the law, and not grant resolution or a waiver under Rule 716(17) at this time.

Thank you for the opportunity to provide you with these comments. Please feel free contact Jennifer McKay with questions or concerns regarding the comments provided at 231.347.1181 or [jenniferm@watershedcouncil.org](mailto:jenniferm@watershedcouncil.org).

Sincerely,



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