

CWM Chemical Services, LLC

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November 19, 2015

Mr. David Denk
NYS Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Re: Notice of Incomplete Application SPDES Modification for RMU-2, NY0072061

Dear Mr. Denk:

In response to your letter dated October 19th, CWM Chemical Services, LLC (CWM) is providing the following responses to the completeness determination items listed.

NYSDEC Comment:

- 1. In sections 1.0, 7.0, 8.0 and 9.0 of the Antidegradation Demonstration Supplement, CWM predicts a net reduction in bioaccumulative chemicals of concern (BCC) load to the Aqueous Waste Treatment System (AWTS) after RMU-2 becomes active by initiating certain activities, e.g., shipping SLF 1-6 leachate offsite. In section 8.5, however, it is noted that the PCB load will increase by 8% and the mercury load will decrease by 93.5% under this scenario. Furthermore, in Table B, it appears that the PCB load will increase by 140% (2014 load of 22.5 lbs vs future load of 54.41 lbs) and the mercury load will decrease by 61% (2014 load of 605.5 mg vs future load of 236.1 mg). Please check this information and provide correction/clarification as necessary.*

CWM Response: Table B has been updated/corrected to include the following three scenarios:

Scenario #1) using the landfill leachate volumes from 2014

Scenario #2) future prediction one year after capping of RMU-1 using the estimated leachate volume of 1,041,925 gallons and the leachate volume with the first cell of RMU-2 operational (5,000,000 gallons), and

Scenario #3) future prediction approximately five years into the future with RMU-1 capped and five years of de-watering (257,053 gallons of leachate) and RMU-2 generating the maximum amount of leachate (4 cells open, 16,000,100 gallons).

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The predictions for leachate generation for RMU-1 after capping are based on the leachate generation rates on a per acre basis after closure for SLF12. A copy of the table predicting the annual post closure leachate quantities for RMU-1 from the CWM Post Closure Cost Estimate, (reference document to the current Part 373 Permit) is included with revised Table B. The future predicted RMU-2 maximum leachate (now incorporated in the applicable tables as 16,000,100 gallons) is based on the year of maximum leachate generation for RMU-1 (2004, 26.14 open/uncapped acres of landfill). As the landfills are of similar size and cells/areas will be capped as they reach final grade to minimize leachate generation, the maximum leachate generation for RMU-2 is expected to be similar to that of RMU-1. If the first four cells of RMU-2 were constructed and operational, and no capping had been applied, there would be 23.67 open/uncapped acres of landfill. The conceptual waste filling and final cover sequence included in the RMU-2 application shows a portion of the first three cells being capped by the time that the fourth cell is operational. A drawing from the RMU-2 Part 373 permit application and Draft RMU-2 Part 373 Permit with a conceptual cover sequence is included with revised Table B.

As shown in revised Table B, Scenarios # 2 & 3, show a reduction in both mercury and PCB loading into the AWT facility even when RMU-2 is at maximum leachate generation. A summary of the mercury and PCB loading into AWT is provided below.

REVISED MERCURY LOADING INTO AWT ESTIMATES (see revised Table B for detailed calculations):

Scenario #1- using 2014 leachate volumes

SLF 1-6	103,305 gallons	464.5 mg mercury
RMU-1	5,373,759 gallons	33.0 mg mercury
Total all landfill leachate load into AWT:		605.5 mg mercury

Scenario #3 –five years into the future, RMU-1 capped, RMU-2 maximum leachate

SLF 1-6	(pre-treated leachate shipped off-site)	0 mg mercury
RMU-1	0.257 million gallons	1.6 mg mercury
RMU-2	16.0 million gallons	98.1 mg mercury
Total all landfill leachate load into AWT:		208.0 mg mercury (65.6% reduction)

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REVISED PCB LOADING INTO AWT ESTIMATES (see revised Table B for detailed calculations):

Scenario #1 - using 2014 leachate volumes

SLF 1-6	103,305 gallons	1.65 lbs PCBs
RMU-1	5,373,759 gallons @ 54.65 ug/L (average)	2.44 lbs PCBs
Total all landfill leachate load into AWT:		13.32 lbs PCBs

Scenario #3 – five years into the future, RMU-1 capped, RMU-2 maximum leachate

The PCB concentration of 54.64 ug/L for RMU-1 is the average from samples taken from the lift station (T-160), the storage tank (T-101) and the calculated concentration based on standpipe data from 2006-2015. If the straight mathematical average concentration is calculated using the standpipe data for the past ten years, the value is skewed by the high PCB concentration of Cell 6 (L60) (see attached PCB data for individual standpipes). Leachate characteristics from Cell 6 are anomalous and would not be expected in RMU-2. This standpipe was inadvertently included in the open cell composite sample (higher flow volume), when it should have been in the closed cell composite (lower flow volume) because it is 95% capped, thus, the weighted average used in the original calculation was biased high. This has been corrected in revised Table B by doing a weighted average using 10 years of standpipe data and the leachate information for fall 2015. The average PCB concentration in the RMU-1 leachate standpipes excluding L60 is 2.90 ug/L. This value is used for RMU-2 projections.

SLF 1-6	(pre-treated leachate shipped off-site)	0 lbs PCBs
RMU-1	0.257 million gallons (closed, capped) @ 54.64ug/L	0.12 lbs PCBs
RMU-2	16.0 million gallons @ 2.90 ug/L	0.39 lbs PCBs
Total all leachate load into AWT:		9.73 lbs PCBs (27% reduction)

NYSDEC Comment:

- The southeast corner of the CWM site is believed to have been free of PCB contamination prior to construction of RMU-1 and outfall 004. Table 6 indicates that there have been five PCB Aroclor detections between 2004 and 2015 at outfall 004. Since the performance of RMU-2 is being modeled after RMU-1, it should be assumed that RMU-2 will result in a similar addition of PCBs to stormwater discharges. CWM should explain the source of PCBs in outfall 004. Please revise the document to address this matter.*

CWM Response: Outfall 004 commenced operation in 2004. There were four PCB detections at Outfall 004 in 2009 as shown on Table 6. Consequently, a source

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investigation was performed in the stormwater basin, the culvert pipes and stormwater channels on east side of RMU-1. No sources or areas of contamination were identified. No pathway from RMU-1 was identified. There were no PCB detections in 2010 or early 2011 at Outfall 004. PCBs were detected in one sampling event at Outfall 004 in November 2011 (11/9/11), however, there was a significant discrepancy in the PCB concentrations for the pair of field duplicate samples collected (226 ug/L and 58J ug/L, a 74% difference). No PCBs were detected in the samples collected one week prior at Outfall 004 and no PCB Aroclors have been detected since 2011. The most recent sample collected at Outfall 004 on 11/3/15 for PCB congener analysis showed non-detect for all PCB congeners with a reporting limit of about 0.5 nanograms per liter (ng/L).

A spreadsheet including the PCB Aroclor detections since 2004 and the calculated mass loading for each of the stormwater outfalls has been added to the Antidegradation Demonstration as new Table 7. Twelve out of sixteen samples include estimated results which are greater than the method detection limit (>MDL), but less than the minimum level (ML). On 8/14/09, a set of field duplicate samples were sent to two different labs; one lab reported PCBs not detected, the other had Aroclor identification at an estimated result <MDL. This clearly demonstrates that Aroclor identification and quantitation by method 608 can be challenging at trace levels.

An estimated total load for the stormwater outfalls for the twelve year span of 2004 to 2015 using the PCB Aroclor sample concentrations and the flow volume for each sampling period produces the following results:

<u>Outfall</u>	<u>002</u>	<u>003</u>	<u>004 (2004-2015)</u>
including estimated values	1.300	0.769	0.576 grams PCB
w/o estimated values	0.798	0.150	0.319 grams PCB

PCB detections at the stormwater outfalls are believed to be generally due to past historical contamination. However, as there was little hazardous waste activity in the area of Outfall 004 (east of RMU-1) until the construction and operation of RMU-1, one could consider RMU-1 the possible source of the PCBs in this outfall. As discussed above, no pathway could be identified during subsequent investigations. Even so, with the end of waste receiving and the intermediate cap in place, RMU-1 would no longer be a potential source of PCBs in storm water. Additionally, RMU-1 will be fully capped by the time the first cell of RMU-2 is operational. As RMU-2 is west of RMU-1, the storm water from the perimeter of RMU-2 will flow toward Outfalls 002 and 003, the PCBs “going to” Outfall 004 would be shifted to Outfalls 002 and 003. No increase in total load would be expected. Any future PCB Aroclor detections in storm water and source investigations will be tracked through the facility PCB Minimization Plan (MP). The PCB MP also requires analysis using a more sensitive PCB congener test method. The

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first set of samples taken in June 2015 found eight PCB congeners detected >MDL, but <ML for a total estimated PCB concentration of 3.15 ng/L at Outfall 002. For outfall 004, seven PCB congeners were detected >MDL, but <ML for a total estimated PCB concentration of 2.69 ng/L. These values are similar to the values for precipitation documented in the Draft TMDL Support Document for PCBs in Lake Ontario¹.

NYSDEC Comment:

3. *In section 7.0, CWM discusses a restriction on acceptance of B003 waste (petroleum oil or other liquid containing 500 ppm or greater of PCB's). CWM should quantify the impact on AWTs PCB load that such a restriction might have.*

CWM Response: Unfortunately, the impact on the restriction of B003 waste cannot be quantified with any certainty. Customers often over characterize their wastes, giving the appearance that wastewaters with >500 ppm are going directly to the AWT facility. For example, a tanker of profile VB4064 was received on 10/9/15 bearing waste codes B002 and B003. No oil layer was present. CWM's analysis identified 11.5 ug/L (ppb) of Aroclor 1254. The impact of the restriction of B003 waste going directly to AWT for processing is expected to require generators to perform more detailed characterization of their wastewaters.

NYSDEC Comment:

4. *As indicated on the current SPDES permit fact sheet, it appears that outfall 004 has not been tested for low level mercury. It is requested that CWM collect at least one grab sample at this outfall and, for comparison, updated samples should also be collected at outfalls 002 and 003 and the samples should be analyzed for mercury.*

CWM Response: Sampling for low level mercury analysis was been added to the November 2015 storm water suite of parameters. The following results were obtained:

<u>Outfall</u>	<u>mercury ng/L</u>
002 (SMP 06)	3.29
003 (SMP 07)	2.25
004 (SMP 09)	3.38

Based on the information in the October 2015 revision of DEC's TOGS 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance, these values are similar to the

¹ Draft TMDL Support Document for PCBs in Lake Ontario, prepared for USEPA Region 2 by LimnoTech, Ann Arbor, MI, July 2011

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mercury concentrations found in ambient surface water bodies statewide (range 0.2 to 5.4 ng/L, average 2.0 ng/L) and are less than the average in precipitation samples collected in New York during 2013-2014 (8.4 ng/L). This information has been added to the Antidegradation Demonstration.

NYSDEC Comment:

5. *CWM's evaluation of social, economic and environmental considerations in section 8.5 suggests that RMU-2 will have a positive impact. As a reminder, Section 2.3 of the Department's Division of Water Technical and Operational Guidance Series 1.3.9 provides that in addition to the identification of any important social and/or economic development and the benefits to the local area associated with the proposed activity, the analysis is also to identify any adverse economic impacts and whether a proposal will preclude another activity that may not affect water quality yet yield comparable social and economic benefits. The Department notes that there is opposition to the RMU-2 project among citizens, citizen groups, governments, and elected officials. This opposition suggests that at least some people believe there will be adverse social, economic and environmental impacts on the local area associated with RMU-2 and that any positive impacts will be outweighed by the negative ones. Please make any necessary revisions in the document to address this matter.*

CWM Response: During the RMU-2 Issues Conference proceedings, the Petitioners submitted a number of comments asserting that the proposed RMU-2 would cause a variety of adverse social and economic impacts. On February 27, 2015, as part of the Issues Conference proceedings, CWM submitted its Response to the Petitions for Full Party Status (the "Response"), and that Response addressed, *inter alia*, the alleged social and economic impacts identified in the Petitions for Full Party Status.

The SPDES modification application is part of the RMU-2 permit and siting certificate proceeding where the siting criteria and the SEQRA DEIS address social, economic and environmental impacts. In the context of a combined RMU-2/SPDES proceeding, CWM would rely on all of the relevant information contained in the DEIS, the Siting Certificate application, the RMU-2 Part 373 permit modification application, in addition to this SPDES modification application. Nevertheless, Section 8 of the AntiDegradation Demonstration has been revised to incorporate a discussion of purported adverse economic impacts. The conclusion of this analysis is that continued operation of the facility with the approval of RMU-2 would support social and/or economic benefits.

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NYSDEC Comment:

6. *Tables 2, 3, 6 should be revised to include monitoring information that has become available since submission of the original Antidegradation Demonstration Supplement. Table B should be revised to include available 2015 monitoring information. The body of the Antidegradation Demonstration Supplement should be updated as necessary based on evaluation of this additional monitoring information.*

CWM Response: Tables 2, 3, and 6 have been updated to include the most recent data. References in the text have been updated as well.

NYSDEC Comment:

7. *Table B indicates the future predicted RMU-2 maximum annual leachate generation rate to be 15,500,000 gallons per year. Please revise section 4.3.6 to explain how this predicted value was determined.*

CWM Response: As explained in the response to comment number 1, the future predicted RMU-2 maximum leachate is now incorporated in the applicable tables (16,000,100 million gallons). A discussion of the future predicted RMU-2 maximum annual leachate generation rate has been added to Section 4.5.1 of the Antidegradation Demonstration.

NYSDEC Comment:

8. *Table B should be updated to add 2015 information. Please clarify whether the average values reported in the table are flow-weighted or not and tabulate the data that were used to calculate the averages.*

CWM Response: Table B did include the monitoring data that was available from 2015 at the time of the ADD preparation. The ADD and its tables have been updated to include data that has been generated since the ADD submittal. The landfill leachate averages were not flow-weighted, except for the RMU-1 leachate open cell/closed cell composite samples and the value calculated from the RMU-1 standpipes. Table B of the ADD included the figures for the average calculations for SLF 1-6 and RMU-1. The average calculations for the other landfills has been added to revised Table B.

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A revised copy of CWM's Antidegradation Demonstration is attached for your review. If you have any questions concerning this report, please contact Jill Banaszak at 716/286-0246.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sincerely,

CWM CHEMICAL SERVICES, L.L.C.



Michael Mahar
District Manager

cc:	ALJ Daniel P. O'Connell	-NYSDEC/Albany, NY
	S. Mitchell	-NYSDEC/Albany, NY
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	EMD subject file	
	Q&A	