



November 2, 2011

FEDERAL EXPRESS

Ms. Susan Hedman
Regional Administrator, Region 5
U.S. Environmental Protection Agency
77 W. Jackson Street
Chicago, IL 60604

NOV 0 2011

Re: Lake Michigan Car Ferry, Inc. SS Badger Petition for Individual NPDES Permit

Dear Administrator Hedman:

In accordance with instructions from your counsel, Nicole Cantello (Attachment A), this letter is submitted pursuant to 40 C.F.R. § 122.28(b)(3) and requests that you allow Lake Michigan Car Ferry, Inc. ("LMC") to seek an individual National Permit Discharge Elimination System ("NPDES") permit for its coal ash effluent discharge from the SS Badger, a coal-fired passenger ferry, operating on Lake Michigan, between Ludington, Michigan and Manitowoc, Wisconsin.¹

LMC is also not entirely sure why it is being required to go through this petition process before it can submit a permit application. On June 1, LMC met with EPA officials in Washington (which Region 5 attended by phone). We were told at that time by Deb Nagle,

¹ It is LMC's desire that the Badger remain covered by the Vessel General Permit ("VGP") with respect to other incidental discharges since it is only the coal ash effluent discharge that will no longer be authorized after December 19, 2012. We understand that this is no different than an industrial source that is covered by an individual NPDES permit for some discharges, and by, for example, the General Permit covering stormwater discharges. However, if Region 5 would prefer that all the Badger's discharges be covered by an individual permit, LMC would not oppose that and believes that the discharge limits for those other discharges should be subject to the same standards as set forth in the VGP for those other incidental discharges, such as deck runoff.

Also, while LMC believes that the law allows us (and in fact requires it) to file a permit application without first filing this petition seeking permission from the Regional Director to do so, we are writing nonetheless in order to move this matter forward, and to avoid any further delays in this process. The filing of this petition is without waiver of LMC's rights or conceding that it is required to file this petition before filing the application.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 2 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

Chief of the Industrial Permits Branch, along with numerous other EPA officials, that LMC should seek an individual permit from Region 5 for authorization to discharge coal ash effluent after December 19, 2012. After they directed LMC to do this, we met with Region 5 on June 16. Between then and now Region 5 has been considering the issue, and we were told that we needed to ask Region 5 for permission to apply for a permit regardless of EPA Washington's direction.

The email received from your counsel (Attachment A) asked us to address the grounds for why the petition should be granted, "such as: (1) information regarding the change in propulsion of the vessel, including new technology; (2) the time line for installation of the new technology, including, if possible, independent verification of this time line from the Coast Guard and ABS; (3) the nature of the discharge from the vessel; and, (4) any other information on why the Agency should require the Badger to apply for an individual permit." Sections 1 and 2 below provide some background on the Badger, and include a number of documents and information previously submitted to the EPA and that discuss in detail the nature of the coal ash effluent discharge and the Badger's operations. Section 3 addresses the grounds for why the petition should be granted. Sections 3 through 5 address the three other categories of information referenced in your counsel's email.

1. Overview of the Problem

The Badger is believed to be the last coal-fired passenger vessel operating in regular service in the United States. It has been operating seasonally (May through October) on the Great Lakes for more than 50 years. The Badger cannot operate if it cannot use its coal-fired boilers, and it cannot use the boilers if it cannot discharge the ash generated from them. If the Badger cannot operate, the economies of Ludington, Michigan and Manitowoc, Wisconsin will be devastated. Over 200 direct and several hundred indirect jobs will be lost. The value of this is in the millions (and over years, *billions* of dollars). *See* Attachment B. Cessation of operations would harm the environment, since millions of pounds of pollutants not emitted by the thousands of vehicles that the Badger carries across Lake Michigan would be emitted because those vehicles would have to drive around the lake. *See* Attachment C.

The discharge of coal ash effluent from the Badger is incidental to the normal operations of the vessel and is how the vessel is designed to operate. Like many other routine discharges, for thirty years it was exempted from the NPDES permitting requirements by EPA regulation.² As a result of a lawsuit, the incidental discharge regulation was vacated and

² The Badger has been and remains subject to extensive Coast Guard oversight. Attachment E-1 at LMCF00182.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 3 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

EPA began developing a program for regulating these kinds of discharges from vessels.³ As we understand it, in 2008 EPA chose to use a nationwide permit (the VGP) to regulate the discharges previously covered by the “normal operation” exemption in part because it did not have adequate time or resources to develop and implement an individual permit program. During the notice and comment process for the VGP, LMC thought its coal ash effluent discharge was covered by at least one of the then-listed discharges in the proposed VGP. LMC reached out to EPA to confirm this. Through a series of communications (Attachments D, E, and F), EPA determined that this particular incidental discharge needed to be separately listed in the VGP. It also determined, as it did for the other discharges covered by the VGP, what would be best available technology (“BAT”) for this discharge.

LMC provided EPA with extensive information about the Badger and this discharge in particular (Attachments D, E, and F). We also advised EPA we were trying to develop a means of eliminating the discharge, by storing the coal ash on board and then transferring it while in port.⁴ Although it had never been done before, we thought at the time the VGP was being considered that we could engineer a solution by the end of 2012. As a result, although every other discharge covered by the VGP is authorized for the full five year term of the VGP (December 19, 2013), EPA authorized the coal ash effluent discharged until December 19, 2012, based on our belief that we could develop and implement this alternative storage option before the start of the 2013 season.

Between 2008 and the end of 2010, LMC worked hard to develop this solution. We spent over \$250,000 doing so. We finally determined that it was just not technologically or financially feasible or safe. That left us with a problem. We did not have a solution to eliminating the coal ash discharge before the beginning of the 2013 season. That meant we would need to continue to use coal and continue to discharge the coal ash effluent using the BAT that had been approved while we continue to try and develop an alternative. The current VGP as a whole does not expire until 2013, but authorization for this particular discharge ends a year earlier. So even if we wanted EPA to simply renew this provision of the VGP as it reviews the entire VGP, there would be a one year gap - the 2013 season - when LMC would not be authorized to discharge the coal ash effluent and would be forced to shut down unless it has an individual NPDES permit. Ceasing operations for one season would spell doom for the business as our workers would have to find other employment, probably outside

³ The discharge that triggered the law suit was ballast water, most notably from vessels entering the Great Lakes. The Badger never leaves Lake Michigan and its ballast water has never been a concern.

⁴ Since the Badger is in continuous operation during the season and is only in port for brief periods, engineering a way to quickly and safely remove the coal ash while passengers and equipment are embarking and disembarking is a significant challenge.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 4 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

the area, and could not afford to move back and forth. In addition, the many businesses that rely on the Badger likely would not survive being shut down for a season.

We immediately sought out other alternatives. In early 2011, we met with DTE Energy ("DTE") about the possibility of repowering the vessel with compressed or liquefied natural gas (CNG or LNG) thereby eliminating the discharge entirely. We worked with them and with engineers to see if this was feasible. We also had additional analyses done of the coal ash effluent to address potential environmental concerns raised by EPA during the development of the VGP. These efforts cost LMC tens of thousands of dollars.

We thought that CNG might be a solution, but knew that it could not be implemented before the beginning of the 2013 season. We spent several months in early 2011 investigating this. As a result, we met with EPA in Washington (your staff was present by phone) on June 1, 2011.⁵ We reviewed the situation and discussed the options. EPA said the most appropriate option is to seek an individual permit rather than be covered by the next nationwide general permit to authorize the discharge. We followed up with a June 9 letter providing additional information at EPA's request (Attachment G), and we scheduled a meeting at Region 5 two weeks later.

At that meeting, your representatives outlined the issues and steps associated with seeking an individual permit. We started gathering the information to prepare an application. We even contacted the two states that would need to certify the individual permit under section 401, and they seemed supportive. Several weeks after the meeting, we were told by your counsel that we were not allowed to apply for an individual permit until the Regional Director ordered us to, and we had to file a formal petition with Region 5 seeking that order. Since EPA in Washington had already told us to seek the permit; the law requires that we do so; and the petition process is not required by regulation, it seems unnecessary to require this additional step. Nonetheless, we spoke with your counsel (we were not allowed to talk directly to your staff) since apparently no one had ever sought an individual permit like this before or had been told to use this petition process before. We were specifically interested in understanding what had to be included in this petition. We received that information on October 6 (Attachment A), and that is what leads to this submission.

⁵ We were and remain concerned about timing. We know that EPA needs sufficient time to consider an individual permit. If LMC cannot be confident by the beginning of the 2012 season that a permit is likely to be issued for the 2013 season, the uncertainty is likely to cause its employees (and supporting businesses) to leave. That is why LMC wanted to contact EPA as soon as reasonably possible.

2. Background of the SS Badger

The Badger is believed to be the last coal-fired passenger vessel operating in regular service in the United States. The Badger has been operating on the Great Lakes for more than 50 years. At one point, dozens of other coal-fired steamships crisscrossed Lake Michigan every day. The Badger's uniqueness is recognized by a rare designation on the National Register of Historic Places by the U.S. Department of Interior and by historic site designations by the states of Michigan and Wisconsin. Its propulsion system is a mechanical engineering landmark, according to the American Society of Mechanical Engineers. For additional information and support, we are attaching and incorporating by reference the following materials:

October 10, 2008 submission to EPA regarding the Vessel General Permit (Attachment D)

October 27, 2008 submission to EPA regarding the Vessel General Permit (Attachment E)⁶

October 29, 2008 submission to EPA regarding the Vessel General Permit (Attachment F)

3. Grounds for Granting Petition

As noted above, we were advised that we needed to file a petition pursuant to 40 C.F.R. § 122.28(b)(3).⁷ While that regulation does not restrict the grounds on which the Regional Administrator may require a permit, it does list reasons why granting the petition may be appropriate. We believe there are at least two grounds for allowing the Badger to seek an individual permit. First, the law requires that a permit be sought when one intends to discharge pollutants into waters of the United States. The Badger is currently authorized to discharge coal ash into waters of the United States under section 5.3.1 of the VGP. That

⁶ This attachment refers to two additional attachments - a June 26, 2008 submission made to EPA Region 5 in response to a Clean Air Act information request, and an October 28, 2008 submission to Duane Heaton, Region 5, EPA, in response to a CWA Section 308 Information Request, both of which are attached (Attachments E-1 and E-2). Some of the information (financial) in these two documents is considered confidential business information and is redacted. Region 5 has unredacted versions. Unless otherwise indicated, all of this information remains current. Among other things, this information provides detailed data regarding the discharge of coal ash effluent from the Badger.

⁷ To our knowledge, this is the first time EPA has required an applicant to petition for an individual NPDES permit to cover a discharge after that discharge is no longer authorized by a general NPDES permit.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 6 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

authorization expires on December 19, 2012. LMC is seeking to renew that authorization under an individual permit. Deb Gibson, the Chief of the Industrial Permits Branch, told us on June 1, 2011 that we should seek an individual permit from Region V.

Second, as provided for in 40 C.F.R. § 122.28(b)(3)(E), "Circumstances have changed since the time of the request to be covered⁸ so that the discharger is no longer appropriately controlled under the general permit..." Those circumstances can be summarized as follows. First, we were advised by Ms. Nagle, as noted above, that because the EPA had determined since issuance of the VGP that the Badger was a "class of 1," as it relates to the coal ash effluent discharge, EPA now believes it would be appropriate for LMC to pursue an individual discharge permit to be applicable after the current VGP authorization expires.

In addition, when the LMC sought authorization to discharge coal ash effluent from the Badger in connection with development of the VGP, it believed that the procedures it used to manage and limit the discharge was the BAT, but that by the end of 2012 it hoped to develop and implement a different technology for retaining the ash on board and unloading it and managing it landside, thus eliminating any discharge requiring an NPDES permit.

EPA recognized that this might not be possible:

EPA acknowledges that the vessel owner/operator states that they will not be able to eliminate the discharge of Coal Ash slurry by December 18, 2008 or by May 2009. EPA agrees that there is currently not a feasible, available, or economically practicable and achievable means to eliminate the discharge by the time the permit comes into effect. However, the commenter states the owner/operator is pursuing a range of options and will eliminate the discharges by May 2012. EPA acknowledges the discussion regarding the current working proposal to store the coal ash effluent, and the discussion that the vessel may attempt to convert to diesel fuel. *EPA also acknowledges that though the commenters state they plan on eliminating the discharge by May 2012, there may be additional complications which delay their ability to eliminate the discharge.* Therefore, in addition to authorizing the discharge until May 2012, the Agency has authorized the discharge for 1 additional operating season beyond May 2012 which allows for some contingency time in case the owner/operator faces additional difficulties in eliminating the discharge type. Hence, based on this comment, EPA has authorized the discharge of Coal Ash slurry for large ferries until December 19, 2012. *If the*

⁸ We understand the phrase "request to be covered" refers to a request to be covered by a general permit. For purposes of the VGP, we understand that means the Notice of Intent provided for in § 1.5 of the VGP.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 7 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

vessel owner/operator finds that they are unable to eliminate the discharge of coal ash slurry by this time, they may seek individual permit coverage pursuant to Part 1.9 of the permit. The Agency would then evaluate whether it is appropriate to use its discretion to reauthorize this discharge under an individual permit.

EPA Response to Public Comments (Dec. 19, 2008) at 6-558 (emphasis added).

As we explained to EPA in Washington and Region 5 on June 1, between December 2008 when the VGP authorized the discharge and the end of 2010, LMC had spent over \$250,000 trying to develop that technology, only to conclude that it was not economically practicable or achievable to store hot coal ash on board, and unload it each time the Badger entered the port in Ludington or Manitowoc.

We also explained to EPA that in early 2011, LMC began pursuing other options, including possibly replacing the coal-fired boilers with CNG or LNG. As you know, we were joined in the June 1 meeting by representatives of DTE, the company that helped us develop the CNG/LNG concept. We thought that we would be able to develop and get such a system approved and installed by 2016. *See* Attachment G. There would, therefore, be a period of time that the Badger would need to continue to discharge using best available technology economically achievable (“BAT”) as set forth in the current VGP, if it is to stay in business.

As it turns out, while LMC thought it might be able to design, obtain approval for, manufacture, and install this potential future technology at an economically practical and achievable cost, which would be the first of its kind, we do not know when DTE (or another entity) will install the infrastructure necessary to support this system. While we had thought it would be done simultaneously, DTE has advised LMC that this would not happen until there were enough customers to amortize the cost of doing so (tens of million of dollars). Such infrastructure cannot be installed by LMC. Without the infrastructure, this technology is not useable and could not be BAT.

For these reasons, circumstances have changed. Neither the future technology to replace current BAT (on board storage) nor the most promising alternative technology (CNG/LNG) is or will be BAT by 2013.

4. Information Regarding the Alternative Propulsion System

In your counsel’s note to us, she said: “Until EPA receives information demonstrating the definite viability of the project proposed by the Badger, EPA will not be able to determine whether an individual NPDES can be developed consistent with the Clean Water Act (“CWA” or “the Act”) and the implementing federal regulations.” (Attachment A). It is our understanding that the CWA and implementing regulations require that we demonstrate that we are managing the discharge using BAT in order to obtain an NPDES permit for this discharge. We believe BAT remains what was approved by EPA under the VGP. We are

concerned that Region 5 is saying it will not consider granting an individual NPDES permit unless we first demonstrate something more than BAT (*i.e.*, the viability of CNG/LNG), and that it may not even accept an application for a permit until we meet that higher standard. As set forth in detail below, we respectfully believe that the standard imposed by Region 5 has never been imposed before and is not the standard mandated by the CWA, and we hope that EPA would allow us to seek a permit if we can meet the legal standard.

5. The Discharge Standards That Exist Under the VGP Remain BAT and Should Be Considered in Deciding This Request for Permission to File an NPDES Application, as Well as Considering the Application Itself

When the coal ash effluent discharge was authorized by the VGP, LMC demonstrated what we believed to be BAT, and EPA agreed. We have continued to apply that technology, and to date it remains BAT. EPA is required to conduct another BAT analysis if LMC seeks an individual permit. That is, EPA must set technology-based effluent limitations (“TBELs”) in the Badger’s permit based upon its evaluation of the factors listed at § 304(b)(2)(B) of the CWA, 33 U.S.C. § 1314(b)(2)(B), and 40 C.F.R. §§ 125.3(c) and (d). This multi-factor BAT analysis indicates that the Badger is currently using BAT with regard to coal ash discharges, just as it was in 2008. Therefore, EPA should allow LMC to seek an NPDES permit that includes TBELs based upon the Badger’s current technology, and not based on LMC’s ability to demonstrate a viability of a natural gas system that is not currently available or feasible.

- a. The CWA calls on EPA to Use Its Best Professional Judgment in Setting Effluent Limitations Based on BAT When Writing LMC’s NPDES Permit

The CWA prohibits the discharge of pollutants by any persons from any point source into the navigable waters of the United States except when authorized by an NPDES permit. *See* 33 U.S.C. §§ 1311(a) (“§ 301(a)”), 1342 (“§ 402”). The legal standard governing the issuance of NPDES permits begins with § 402 of the CWA. This section authorizes issuance of NPDES permits in two circumstances. First, a permit may be issued when a proposed discharge will comply with all applicable requirements of the Act, including effluent limitation guidelines (“ELGs”) promulgated under § 301 and 33 U.S.C. § 1314 (“§ 304”) of the Act. CWA § 402(a)(1)(A). Second, if ELGs have not been implemented, a permit may be issued based upon “such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.” CWA § 402(a)(1)(B).

EPA has interpreted this second prong of its permitting authority in its regulations at 40 C.F.R. § 125.3. *See* NPDES Permit Writer’s Manual, Chapter 5.2.3.1 at 45 (Sept. 2010). When EPA has not promulgated ELGs for a particular discharge stream, EPA must use its best professional judgment (“BPJ”) in setting TBELs on a case-by-case basis in NPDES permits. 40 C.F.R. § 125.3(c)(2); NPDES Permit Writer’s Manual at § 5.2.3.1 at 45. In

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 9 of 14

DRAFT
Privileged and Confidential
Attorney Client Communication

NRDC v. EPA, 863, F.2d 1420 (9th Cir. 1988), the court described the nature of the process that must be undertaken in writing an NPDES permit when there are no ELGs on point:

[I]n issuing permits on a case-by-case basis using its [BPJ], EPA does not have unlimited discretion in establishing permit effluent limitations. EPA's own regulations implementing [§ 402(a)(1)(B)] enumerate the statutory factors that must be considered in writing permits. *See* 40 C.F.R. § 125.3(c), (d) (1987). *See also* 51 Fed. Reg. at 24915 ("In developing the BPJ permit conditions, [the EPA] Regions are required to consider a number of factors, enumerated in [33 U.S.C. § 1314(b)]"). In addition, courts reviewing permits issued on a BPJ basis hold EPA to the same factors that must be considered in establishing the national effluent limitations. *See, e.g., Trustees for Alaska v. EPA*, 749 F.2d 549, 553 (9th Cir. 1984) (EPA must consider statutorily enumerated factors in its BPJ determination of effluent limitations); *API*, 787 F.2d at 972, 976 (applying statutory factors in reviewing effluent limitations in a BPJ permit).

Id. at 1425.

We understand the inquiry is the same whether EPA is evaluating an application for an individual or a general permit. *See* 40 C.F.R. § 125.3(c)(2) (drawing no distinction between general and individual permits when setting case-by-case effluent limitations); *Trs. for Alaska v. EPA*, 749 F.2d 549, 553 (9th Cir. 1984) (stating that the EPA Administrator must consider the factors listed at § 304(b)(1)(B) when making her case-by-case determinations under § 402(a)(1), in a case involving an individual NPDES permit). For all case-by-case permitting exercises, "[t]he permit writer shall apply the appropriate factors listed in § 125.3(d) and shall consider: (i) The appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information; and (ii) Any unique factors relating to the applicant." 40 C.F.R. §§ 125.3(c)(2)(i) and (ii).

As we understand it, which factors are appropriate for consideration turns on the type of pollutant to be discharged. With regard to non-conventional pollutants (like coal ash), limitations must reflect the "best available technology economically achievable." CWA § 301(2)(A). BAT is technology that is both (1) technologically available and (2) economically achievable. *BP Exploration & Oil, Inc. v. EPA*, 66 F.3d 784, 790 (6th Cir. 1995); *NRDC v. EPA* at 1426 (accepting EPA's determination that a particular technology was not BAT, despite its technological feasibility); VGP Fact Sheet at 42 (Dec. 18, 2008). While EPA may treat technology that is not presently in use by a given industry as available, there must be some indication in the administrative record of the reasons for concluding that such technology will be feasible and economically achievable if mandated. *Hooker Chem. & Plastics Corp. v. Train*, 537 F.2d 620, 636 (2d Cir. 1976) (setting aside EPA promulgated

ELGs because EPA failed to explain how the technology it designated as BAT could be applied by the relevant industry).

In determining what is economically achievable, consideration must be given to the impact on profitability and loss of jobs. *BP Exploration & Oil* at 796-98 (court upheld EPA's determination that an available industry practice was not BAT due to unreasonably high costs); *Waterkeeper Alliance, Inc v. EPA*, 399 F.3d 486, 515-18 (2d Cir. 2005) (EPA acted reasonably in rejecting technologies that although available would have resulted in 11% facility closures industry-wide). In developing TBELs based on BAT, the following factors must be considered: (1) the age of the equipment and facilities involved, (2) the process employed, (3) the engineering aspects of the application of various types of control techniques, (4) process changes, (5) the cost of achieving such effluent reduction, and (6) non-water quality environmental impact (including energy requirements). CWA § 304(b)(2)(B); 40 C.F.R. § 125.3(d)(3). This is precisely the BAT analysis that was followed in setting the case-by-case effluent limitations for discharges covered by the VGP, including coal ash effluent. VGP Fact Sheet at 41-49.

This is the process EPA used to set BAT in the VGP for coal ash effluent discharges and must be the process used for an individual permit application as well. Respectfully, EPA's decision to allow us to apply for the permit should not and cannot be based on a higher standard (*i.e.*, demonstrating the viability of a non-existent and unavailable technology).

b. As Applied to the Badger, BAT is the Currently Installed Coal Ash Discharge System

Despite LMC's best efforts, the BAT for the discharge of coal ash remains the system currently installed on the Badger. The possibility that the Badger would be unable to create a zero discharge system by the end of 2012 was raised by LMC in its public comments to the VGP, and was addressed by EPA in its response to LMC. *See Proposed VGP: EPA's Response to Public Comments*, at 6-558 (Dec. 19, 2008). (Attachment I). EPA correctly acknowledged that LMC might have to seek individual permit coverage after the expiration of the coal ash authorizations in the VGP. *Id.* This is exactly what is happening. LMC requests that EPA follow its standard process for setting effluent limitations via an individual NPDES permit. LMC's continued efforts to seek out and create a novel technology to eliminate coal ash discharge should not count against it in its individual NPDES permit application.

In the 2008 VGP, a similar case-by-case permitting exercise, EPA settled on a mix of numeric and narrative effluent limitations for coal ash discharges from large ferries. As noted, it is believed the Badger is the only vessel that falls in this category; it was information from LMC that formed the basis for this determination. *See VGP* at § 5.3.2.3 (requiring large ferries to minimize coal ash effluent discharge, to use low sulfur content

coal, and to discharge coal ash only when more than 5 nm from any shore and in waters of 100 feet deep).⁹ EPA imposed these TBELs because it determined that “there is currently not a feasible, available, or economically practicable and achievable means to eliminate the discharge,” *i.e.*, the Badger’s then-existing technology represented BAT. Proposed VGP: EPA’s Response to Public Comments, at 6-558. *See also* VGP Fact Sheet at 44 (“Technology-based limits in the permit represent the ... BAT (for toxic and non-conventional pollutants) level of control for the applicable pollutants.”).

The December 19, 2012 expiration date on the coal ash discharge authorization is not a mandatory effluent limitation based on BAT, as evidenced by its placement outside the VGP section that sets forth coal ash effluent limits, and EPA’s acknowledgment that LMC could seek individual permit coverage for the discharge in the future if necessary.¹⁰ *See* VGP at §§ 5.3.1.1 and 5.3.2.3; Proposed VGP: EPA’s Response to Public Comments, at 6-558. Instead, this sunset provision reflected EPA’s expectation (and ours) that the Badger would no longer need to obtain authorization under the VGP, because LMC hoped to eliminate the discharge of coal ash by 2012.

The water quality impacts posed by the Badger’s continued short-term discharge of coal ash effluent do not pose a threat to human health or the environment. We have previously provided test results regarding the coal ash, before it was converted to an effluent form, and can provide additional tests as part of the application process. In response to EPA’s comments regarding turbidity concerns, *see* Attachment I, we had an additional evaluation done on our own. The Great Lakes Environmental Center’s (“GLEC”) report on coal ash effluent discharge from the Badger found no indication that the turbidity and total suspended solids resulting from the discharge of coal ash from the Badger’s operations in the manner set forth in the VGP would be harmful to the aquatic life and environment of Lake Michigan. GLEC Evaluation of the Potential Ecological Impacts of Coal Ash Slurry Discharges from the S.S. Badger to the Open Waters of Lake Michigan, at 22 (June 3, 2011) (Attachment G-1). Thus, there is no reasonable basis for imposing limitations more stringent than the VGP standard.

Based on the foregoing, the Badger’s current system remains the best available and achievable. We believe if we are allowed to seek a permit, EPA will come to the same

⁹ As is reflected in the materials provided, LMC goes to extraordinary efforts to operate its boilers as efficiently as possible so as to reduce how much coal it uses, and how much ash is generated. *See* Attachment D at p. 57.

¹⁰ As a result, we do not think the expiration of the authorization somehow converts to a zero discharge level under the VGP, in part because zero discharge is not BAT. Rather, it seems the expiration data means that the VGP simply no longer covers this particular discharge.

conclusion now that it did in 2008 - the Badger's current technology is BAT - and develop effluent limitations in the Badger's NPDES permit accordingly. This conclusion is confirmed by conducting a multi-factor analysis mandated by 40 C.F.R. § 125.3, which is explained below. The factors should be considered in light of the Badger's unique design and history and its status as a member of a class of one - the only remaining coal-fired car ferry roaming the Great Lakes. *See* 40 C.F.R. § 125.3(c)(2).

(1) Age of the Equipment and Facilities Involved

The ash removal system, which consists of a vacuum jet and associated intricate piping built into the vessel structure, is the original 1952 design. The existing equipment cannot be feasibly and economically modified to achieve zero discharge. Attachments E, E-1 and E-2 explain the system in great detail.

(2) The Process Employed

The Badger, like all other coal-fired vessels, was designed and built to discharge its coal ash from its boiler. It is largely a unified single operation that cannot be disassembled. Steam is used to power the vessel and all of its equipment including water pumps and equipment necessary for safety and health. Steam is generated from the burning of coal. Coal combustion generates heat. Heat generates steam. The boilers need to be operating continuously for the vessel systems to operate; they cannot be taken off line. To accommodate the need to keep the boilers operating continuously, a system is built into the Badger's infrastructure to allow for the collection and removal of coal ash in its solid, dry form from the boilers without shutting them down. This system relies on vacuum created by water pressure that is pumped from a system powered by the boilers. The vacuum system draws out the dry ash, carries it in its dry state through the conveyor via the vacuum, and ultimately combines it with water flow in a 24-inch pipe so that it can then be ejected as effluent. The system is built to direct the ash to one location on each side of the Badger, in a fixed piping system constructed as part of the vessel's infrastructure when it was built. Again, Attachments D, E and F explain this in detail.

(3) Engineering Aspects of Various Control Techniques

To our knowledge, no coal-fired vessel has ever employed technology that eliminated coal ash effluent discharge. When the VGP was written in 2008, all parties involved hoped that the Badger could be fitted with a system for coal ash storage that would result in zero discharge into the Great Lakes. The Badger spent over \$250,000 in attempting to design a system for ash retention that would result in zero discharge. Unfortunately, the original ash retention system envisioned by LMC in 2008 was, after two years of effort, determined to be economically unfeasible.

(4) Potential Process Changes

LMC has investigated several alternative propulsion systems in order to achieve zero discharge: (1) installing new diesel boilers; (2) switching to No. 2 fuel oil using the current boilers; (3) substituting an alternative vessel; and (4) switching to compressed or liquefied natural gas systems. Each proposed effort was discovered to be either technologically impossible or economically infeasible on the Badger in 2012.

Most recently, we explored the possibility of converting the engines to CNG/LNG. Attachment G. While we think it might be economically and technologically feasible to install such a system on the Badger, and obtain all appropriate approvals, this concept is still in its nescient stages, and it will not be accomplished by 2012 or 2013. In fact, we understand that the Great Lakes Maritime Research Institute ("GLMRI") is going to receive a grant from the Maritime Administration early next year to conduct a feasibility study on the use of LNG for the Great Lakes maritime industry. GLMRI plans to use the Badger as a pilot project. All information derived from that study will be made available to others in the Great Lakes maritime industry. For more information about this, you can contact Carol J. Wolosz, Executive Director of GLMRI at 218.726.7446. In addition, regardless of when this pilot program begins, we do not have a date certain by which DTE or others will install the infrastructure necessary to support CNG/LNG powered vessels. LMC cannot install the equipment until installation of infrastructure is scheduled.

The Badger has been trying to drive the development of CNG/LNG technology by working with DTE on a system that could one day eliminate its coal ash discharge, but this technology does not yet exist. The GLMRI pilot project will help move this forward. Here, LMC has provided ample evidence that the compressed natural gas system being developed by LMC cannot yet be implemented.

(5) Costs

Just as in 2008, the costs of achieving zero discharge through the only known method - manually discharging ash by shutting down 2-3 days for every 12 hours of operation - is untenable, and the effects of this would be devastating. Manual removal of coal ash each time the vessel reaches port would result in an over 80% reduction in operation of the Badger. LMC could not economically bear these costs, which would result in a decision to shut down the vessel. (See Attachments D, E, and F). This option would result in the loss of almost roughly 700 direct and indirect jobs, and would cause significant economic impacts to the towns of Ludington, Michigan and Manitowoc, Wisconsin. If it continues to operate, the Badger is anticipated to provide \$867 million in economic benefits to these towns in the 20 year period ending in 2029. See Attachment B hereto. Shutting down the Badger would erase these economic benefits. Additionally, the increase in highway travel that would result from shutting down the Badger would likely cause a marked increase in fatalities. See Attachment H hereto.

Ms. Susan Hedman
Regional Administrator, Region 5
November 2, 2011
Page 14 of 14

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(6) Non-water Quality Environmental Impacts

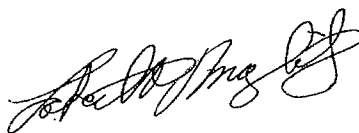
As a form of public and commercial transportation, the Badger provides ferry service to thousands of cars and trucks each year and saves an estimated 1 million gallons of gasoline and diesel fuel. These reductions equate to annual air pollution reductions of more than 4.3 tons of total hydrocarbons, 100 tons of carbon monoxide, 20 tons of nitrogen oxide, and 1000 pounds of particulate matter. *See* Attachment C hereto. Moreover, an overall cost benefit analysis reveals the substantially greater benefits if the Badger operates and the serious costs if it shuts down if EPA does not let us apply for an NPDES Permit. (Attachment J).

In sum, an evaluation of the factors listed at 40 C.F.R. § 125.3(d) affirms what was clear from the outset: EPA should set effluent limits that reflect the BAT for the discharge of coal ash - the system already on board the Badger.

Conclusion

The Badger has been operating under the VGP using BAT. The discharge of coal ash effluent is unlikely to cause harm to the aquatic life in Lake Michigan, is well below concentrations associated with adverse effects, and is far below water quality standards for turbidity. Everyone knew when the VGP was issued in 2008 that it was possible an alternative to this technology might not be available before the current authorization expires. The VGP anticipates it. Circumstances have changed and it is clear that BAT for this discharge is not a no-discharge technology. Therefore, we request that Region 5 immediately authorize LMC to seek an individual permit for its coal ash effluent discharge. If EPA declines to allow the Badger to seek an individual permit, it will destroy hundreds of jobs, increase pollution, and have no measurable environmental benefit. All LMC asks is the chance to do what everyone else in the country must do - seek an individual permit under the same standard that everyone else must meet. We look forward to hearing from you within two weeks.

Respectfully submitted,



Robert A. Manglitz
President and Chief Executive Officer