NIJMAN · FRANZETTI LLP

10 South LaSalle Street · Suite 3600 · Chicago, Illinois 60603
312.251.5250 · fax 312.251.4610 · www.nijmanfranzetti.com

ennifer T. Nijman
t@nijmanfranzetti.com

Susan M. Franzetti
sf@nijmanfranzetti.com

July 27, 2012

VIA OVERNIGHT MAIL

Illinois EPA
Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. Box 19276
Springfield, IL 62794-9276

Re: Violation Notice: Midwest Generation, LLC, Powerton Generating Station
Identification No.: 6282
Violation Notice No.: W-2012-00057

Dear Ms. Rhodes:

In response to the above-referenced June 11, 2012 Violation Notice ("VN"), received on June 14, 2012, this written response is timely submitted on behalf of the Midwest Generation, LLC ("MWG"), Powerton Generating Station ("Powerton"). MWG also requests a meeting with the Illinois Environmental Protection Agency ("Illinois EPA" or the "Agency") to discuss the VN and information provided in this response.

MWG regrets that the Illinois EPA decided to issue the VN because MWG has tried to work cooperatively with the Agency concerning the hydrogeologic assessment of the coal ash ponds at Powerton even though it had significant concerns and objections to how the VN has proceeded in this matter.[1] Nevertheless, MWG complied with the Agency's request that it conduct a hydrogeologic assessment of the area around the coal ash ponds and followed its requirements and comments for how the hydrogeologic assessment should be conducted, even though it was under no legal obligation to do so.[2] At no time however did MWG agree that the scope and nature of the hydrological assessment the Agency required it to perform would provide any basis for concluding that the ash ponds were impacting groundwater. The alleged

[1] *See, e.g.*, MWG (B. Constantelos) letter to Illinois EPA (A. Keller) dated July 15, 2009. MWG is also working cooperatively with the USEPA with regards to the Coal Combustion Residuals Proposed Rules, EPA-HQ-RCRA-2009-0640, and is trying to coordinate the responses and requirements of both Agencies. USEPA first issued the proposed rules on June 21, 2010, and requested additional comments and information on Oct. 12, 2011. The additional information comment period closed on November 14, 2011, and MWG is now waiting for the USEPA to issue the final rule.

[2] MWG continues to reserve its objection that the Illinois EPA did not have the legal authority to require the hydrological assessments of the ash ponds under Sections 4 or 12 of the Illinois Environmental Protection Act (the "Act") or the Groundwater Quality Regulations, 35 Ill. Adm. Code Part 620.

COMP.EX.98

violations in the VN are based solely on the results of the hydrogeologic assessment MWG performed at the Agency's request. The results of the hydrogeologic assessment do not show that the coal ash ponds at the Powerton Station are impacting the groundwater and do not provide the necessary evidence to support the alleged violations contained in the VN.

Well prior to the issuance of this VN, MWG met with the Agency to discuss the groundwater monitoring results and to discuss cooperatively how to proceed based on those results, including what additional actions, if any, the Agency believed were necessary. The Agency told MWG that it had not yet decided how to proceed. The next development was the issuance of the VN. The VN itself provides no information concerning the basis for the Agency's apparent conclusion that the ash impoundments are the cause of the alleged groundwater impacts, other than the conclusory statement that "[o]perations at ash impoundments [sic] have resulted in violations of the Groundwater Quality Standards." The VN also provides no information concerning the nature or type of corrective action which the Agency may deem acceptable to address the alleged violations. The Agency is not pursuing this matter in a way that allows MWG to prepare an effective response or a Compliance Commitment Agreement.

This letter provides a detailed response to each of the alleged violations in Attachment A of the VN to the extent possible given the lack of information provided in the VN. It also advances MWG's general objection to the legal sufficiency of the notice of the alleged violations contained in the VN. MWG maintains that the Illinois EPA cannot prove the alleged violations in the VN, and does not, by submitting this response, make any admissions of fact or law, or waive any of its defenses to those alleged violations.

I. General Objection to the Legal Sufficiency of the Violation Notice

The VN does not comply with the requirements of Section 31 of the Act. Section 31(a)(1)(B) of the Act requires the Illinois EPA to provide a detailed explanation of the violations alleged. 415 ILCS 5/31(a)(1)(B). Under the Act, MWG is entitled to notice of the specific violation charged against it and notice of the specific conduct constituting the violation.[3] The VN fails to provide adequate notice to MWG of either the alleged violations or the activities which the Agency believes are necessary to address them. The VN states that "[o]perations at ash impoundments have resulted in violations of the Groundwater Quality Standards...." (Violation Notice, Attachment A, page 1, 1st paragraph) No further description of the alleged "ash impoundments" is provided in the VN. Multiple ash impoundments exist at the Powerton Station. It is impossible to identify from the contents of the VN what operations or activities at the Powerton Station the Agency is claiming are the cause of the alleged violations, including whether it is the Agency's position that each of the Station's ash ponds, or only certain ones,

[3] *Citizens Utilities Co., v. IPCB*, 9 Ill.App.3d 158, 164, 289 N.E.2d 642, 648 (2nd Dist., 1972) (a person is entitled to notice of the specific violation charged against it and notice of the specific conduct constituting the violation). *See also, City of Pekin v. Environmental Protection Agency*, 47 Ill.App.3d 187, 192, 361 N.E.2d 889, 893 (3rd Dist., 1977.

have caused the alleged violations. Absent an accurate or complete description of the activities or operations that the Agency is alleging caused the violations, it is also not possible to identify what action might be necessary to resolve them. Attachment A to the VN states: "Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation." However, no such explanation is provided in the VN. In sum, the VN fails to comply with the legal requirement that it include a detailed explanation of the violations alleged, does not inform MWG of the specific conduct constituting the alleged violations and provides no notice of what is necessary to resolve the alleged violations. The Section 31 process is based on fundamental principles of due process. MWG should not have to speculate about what activities it allegedly engaged in that caused the violations and how to address them to resolve the alleged violations. In the absence of this material, statutorily-required information, the Agency also has effectively denied MWG's statutory right to formulate an acceptable Compliance Commitment Agreement to submit for the Agency's approval.

The VN is also deficient regarding its explanation of what laws MWG has allegedly violated. The VN solely alleges that MWG violated "Section 12" of the Act. 415 ILCS 5/12. It does not provide any further specification as to which of the provisions of Section 12 MWG has allegedly violated.

Section 12 of the Act has nine subsections, consecutively numbered (a) through (i). Each of these subsections describes a different and distinct water pollution prohibition. 415 ILCS 5/12(a)-(i). However, the VN issued to MWG does not identify which of the nine subsections the Agency is alleging MWG violated. Based on the contents of Section 12 of the Act, the Agency is taking the position that MWG violated each and every one of the provisions of Section 12. Based on the relevant facts, it is highly unlikely that this is the intent of the VN. Therefore, the VN's general reference to Section 12 of the Act, without any other explanation, is not a "detailed explanation of the violations." This is yet another example of how the VN fails to provide MWG with adequate notice as a matter of law and thereby violates MWG's due process rights.[4]

By failing to provide a detailed explanation of the violations and any explanation of the activities that the Illinois EPA believes may resolve the violations, the Illinois EPA has effectively denied MWG the opportunity to properly and thoroughly respond to the alleged violations and to make an acceptable offer to resolve them. The VN's deficiencies conflict with the intent and purpose of Section 31 of the Act, which is to avoid unnecessary litigation. Therefore, MWG respectfully requests that the Agency rescind the VN and suspend any further enforcement action unless and until it has taken the necessary actions to correct and cure the legal deficiencies in the notice of the alleged violations by following the statutory requirements under Section 31(a)(1)(B) of the Act. 415 ILCS 5/31(a)(1)(B)

[4] *See, e.g., Grigoleit Co. v. Illinois EPA*, PCB 89-184, slip op at p. 11 (November 29, 1990) (Failure to notify permit applicant of alleged violations and provide an opportunity to provide information in response was a violation of applicant's due process rights).

II. Response to Alleged Violations in the VN

Subject to and without waiving its objections to the legal sufficiency of the VN, MWG nevertheless has attempted to discern the legal basis for the alleged violations and to prepare this response in defense to those allegations based on various assumptions. MWG reserves the right to supplement this response, including by submitting a separate response should the Agency provide the legally required notice under Section 31 of the Act.

The VN alleges "[o]perations at ash impoundments" at MWG's Powerton Station have resulted in violations of certain of the Groundwater Quality Standards at the respective monitoring wells identified in the VN. (Violation Notice at Attachment A) MWG believes the Agency's use of the term "ash impoundments" is intended to refer to the structures which the Powerton Station commonly refers to as "ash ponds;" that is how they will be referred to here. The Agency further alleges that the alleged violations of the groundwater quality standards in 35 Ill. Admin. Code Part 620 also constitute violations of Section 12 of the Act and the underlying groundwater regulations in 35 Ill. Admin. Code Part 620. It is undisputable that the Agency has the burden to prove these alleged violations both in proceedings before the Illinois Pollution Control Board ("Board") and in the courts.[5] However, the groundwater monitoring data on which the Agency primarily, if not solely, relies to assert these violations is not sufficient, legally or technically, to prove that any "ash impoundments" is the source of the alleged groundwater impacts. Further, based on the existing condition of the ash ponds, it is not likely that they are a source of the alleged impacts.

To support its defense to the alleged violations, MWG has set forth below a description of: (1) the condition and use of the ash ponds at Powerton; (2) the hydrogeologic assessment performed at the Powerton Station; (3) the site hydrology; and (4) why the analytical data from the monitoring wells does not establish that the ash ponds are the source of the alleged exceedances of the groundwater standards.[6] In addition, for certain of the alleged exceedances, additional information not considered by the Agency shows that it is either more likely, or at least as likely, that the source of the alleged exceedance is something other than the ash ponds. In either case, the Agency cannot sustain its burden to prove the alleged violations.

---

[5] Section 31(e) of the Act provides in relevant part: "In hearings before the Board under this Title, the burden shall be on the Agency...to show either that the respondent has caused or threatened to cause...water pollution or that the respondent has violated or threatens to violate any provision of this Act or any rule or regulation of the Board or permit or term or condition thereof." 415 ILCS 5/31(e); *Citizens Utilities v. IPCB*, 9 Ill. App. 3d 158, 164, 289 N.E.2d 642, 646 (1972) (the Agency has the burden of proof in enforcement actions).

[6] In preparing this response, MWG closely reviewed the groundwater monitoring reports previously submitted to the Agency for the monitoring wells which are identified in the VN. In the course of this review, some data transcription errors were found in the previously submitted data tables included in the groundwater monitoring reports. Copies of the corrected data tables are enclosed. The tables are annotated to identify the nature of the corrections made to the previously submitted reports. The most significant changes are: (i) consistent with previous data for MW-1, there was no boron exceedance at monitoring well MW-1 in the first quarter 2012 sampling event; (ii) there was no exceedance of selenium at wells MW-7 (4th quarter 2011), MW-9 (1st quarter 2011) and MW-13 (August 2011); and (iii) there was no exceedance of mercury at well MW-12 (4th quarter 2010).

A. The Condition of the Ash Ponds

For several reasons, the construction and operation of the Powerton ash ponds makes it unlikely that they are the cause of the alleged violations. The construction and operation of the ponds minimizes the potential for leakage from the ash ponds to groundwater.

First, the Powerton ash ponds are not disposal sites. The ash that enters the ponds is routinely removed. This operating condition limits the amount of ash accumulated over time which serves to minimize the potential for the release of ash constituents to the groundwater.

Second, unlike many other ash ponds in Illinois, two of the ash ponds at Powerton, the Ash Surge Pond and the Ash Bypass Basin are lined to prevent releases to groundwater. The third pond, the Secondary Ash Settling Basin, is not presently lined. However, as described below, there are no groundwater exceedances of coal ash constituents downgradient of the Secondary Ash Settling Basin, thus supporting the conclusion that it is not a source. When the final federal Coal Combustion Residual Rules are issued, MWG will rely on those rules to make a decision regarding any further modifications to, or the continued use of, the Secondary Ash Settling Basin.

The Ash Surge Pond at Powerton is constructed of Poz-o-Pac material which meets accepted standards for preventing the migration of constituents to the environment.[7] The permeability of the Poz-o-Pac liner is 10^{-7} cm/sec. Notably, this is the same degree of permeability that is required in the Board Regulations for constructing a new solid waste landfill where, unlike the ash ponds, waste materials are to be disposed of on a permanent basis. *See* 35 IAC 811.306(d). Pursuant to a construction permit issued by the Agency, the second ash pond, called the Ash Bypass Basin, was relined in 2010 with a high-density polypropylene (HDPE) liner.[8] The HDPE liner provides an even greater degree of protection against leakage with a permeability of approximately 10^{-13} cm/sec. The liners in the two ash ponds achieve and exceed the level of permeability which the Illinois regulations expressly recognize is sufficient to prevent the release of constituents to the environment. Hence, the facts regarding the liners in place for these two ash ponds also support the conclusion that the ash ponds are not the source of the exceedances of groundwater standards alleged in the VN.

The VN contains no facts concerning the condition of the liners in the Powerton ash ponds that would indicate that they are allowing ash constituents to escape from the ponds. For example, the Agency does not contend that there are any breaches in the integrity of the ash pond liners that are allowing ash constituents to be released to the groundwater. The Agency similarly does not claim that the materials used for the existing liners are inadequate to prevent the migration of constituents, and it would be hard pressed to do so given that the materials either meet or exceed the analogous requirements for Illinois landfills. In the absence of such

[7] Poz-o-Pac is an aggregate liner similar to concrete.
[8] *See* Illinois EPA Water Pollution Control Permit No. 2010-EP-0664 for the Bypass Basin Expansion and Liner Upgrade

evidence, it is certainly far more likely than not that the existing ash ponds at the Powerton Station are not the source of the groundwater impacts alleged in the VN.

B. Hydrogeologic Assessment and Site Hydrology

The VN appears to be based on the flawed premise that the hydrogeologic assessment which the Agency directed MWG to perform in the vicinity of the ash ponds would be sufficient to identify the ash ponds as the source of any elevated levels of constituents in the groundwater. This is simply not the case. The results of the hydrogeologic assessment at best give rise to more questions about the source of the alleged groundwater impacts, and do not prove that the existing ash ponds are the source of those impacts.

The results of the hydrogeologic assessment show that there is some complexity to the site hydrology at Powerton. The complexity of the groundwater flow system arises from the existence of two distinct, though connected, groundwater units underlying the Powerton Station. The first unit is a localized, saturated silt and clay layer and the lower unit is a more extensive sand layer. When the groundwater elevations from all fifteen of the existing monitoring wells are plotted and analyzed for a single monitoring event (*i.e.*, the silt/clay unit wells and the sand unit wells), the groundwater flow system appears very complex. It shows a general groundwater flow direction of south to north, but with very unusual, localized groundwater highs, making a reasonable interpretation of groundwater flow difficult and suggests the presence of some localized, divergent flow. However, when the five monitoring wells that are screened in the silt/clay unit and the ten wells that are screened in the sand unit are plotted separately, it becomes evident that there are two distinct, though connected, groundwater units beneath this portion of the Site. In both units, the groundwater flows from the south/southeast to the north/northwest, toward the adjoining outlet channel west of the ponds. The elevation of the groundwater surface is approximately 10 feet higher in the silt/clay unit than in the sand unit. Because both units flow in the same direction and are in direct physical contact with each other, it is likely that they share some degree of hydraulic connection. Given this groundwater flow system, the data provides no indication of divergent or radial flow associated with the ash ponds.

The VN's allegations fail to make any distinctions among the fifteen monitoring wells that have been installed at the Powerton Station. There is no apparent attempt to evaluate the quarterly groundwater monitoring results, whether on a parameter-by-parameter basis or relative to each of the ash ponds themselves. When these evaluations are performed, the results show that the monitoring data does not support the VN's allegations that the operations of the ash impoundments have caused these groundwater impacts. The results of the evaluations are set forth below, beginning with the parameter-by-parameter evaluation.

Boron and sulfate are constituents known to be associated with coal ash. However, the monitoring data does not support a finding that the alleged boron and sulfate exceedances are due to the operations of the ash ponds. There are no exceedances of boron concentrations in any of the wells within the clay unit (*i.e.*, MW-6, MW-8, MW-12, MW-14 and MW-15) and boron is generally considered a reliable tracer of potential ash leachate impacts. Further, in the course of

this review, a transcription error was discovered in the previously reported first quarter 2012 groundwater sampling results for monitoring well MW-1. There was no exceedance of boron at monitoring well MW-1 in the first quarter 2012 sampling event, which is consistent with previous monitoring results for this well. Corrected data tables for the Powerton groundwater monitoring wells quarterly monitoring results are included with this response.

In addition, of all of the clay unit wells, only MW-14 had reproducible exceedances of sulfate. MW-15 had only one exceedance of sulfate, which did not occur again in any of the subsequent quarterly monitoring results. The remaining groundwater monitoring wells sampling results have reported no sulfate exceedances. Of the monitoring wells located in the underlying sand unit, only wells MW-9 and MW-13 had reproducible exceedances for either boron or sulfate.

As further discussed below, monitoring well MW-9 is the furthest upgradient well within the overall monitoring network. It has the highest detections of boron relative to all the other wells, with the exception of well MW-13. However, monitoring well MW-13 was not installed as part of the hydrogeologic assessment of the ash ponds. It was installed as an upgradient monitoring point pursuant to the construction permit requirements for the Metals Cleaning Basin, which as its name implies, does not receive or store any coal ash. The Metals Cleaning Basin is not associated in any way with the ash storage pond system. Thus, boron present in MW-13 is not evidence of any impact caused by the operation of the ash ponds.

Turning to the alleged pH exceedances, all nine pH exceedances noted in the VN were from a single sampling event - the December 2011 sampling event. They were not detected in the previous quarterly sampling events and have not been repeated since the December 2011 sampling event. Moreover, for MW-2, the alleged pH exceedance reported from this December 2011 sampling event is the only exceedance detected for any parameter over all of the six consecutive quarters of sampling. Given that pH is a field parameter, and no other pH exceedances were detected in any of the wells in any of the other quarterly sampling events, it is far more likely that the December 2011 pH measurements were associated with a malfunctioning field meter. Therefore, the December 2011 pH monitoring results are not indicative of alleged impacts from the ash ponds or that the groundwater in the vicinity of the subject monitoring wells is actually exceeding the pH standard.

A review of the chloride groundwater monitoring results also shows that they are not associated with the operations of the ash impoundments, as alleged in the VN. There were alleged chloride exceedances at monitoring well locations MW-8, MW-12, MW-14 and MW-15. Except for well MW-8, each of these was a single non-reproducible exceedance at each location. At monitoring well MW-8, the chloride exceedances are from only the last two rounds of the six consecutive quarters of groundwater sampling. Chloride is not an indicator of potential coal ash impacts. There are various other potential non-ash related sources of this compound. None of the wells where these alleged chloride exceedances were found had any exceedances of the boron standard.

The only exceedance detected for thallium in all six, consecutive sampling events is an isolated exceedance recorded for a single monitoring well, MW-14. Monitoring well MW-14 was not installed as part of the hydrogeologic assessment of the ash ponds. It instead was installed as a downgradient monitoring well for the Metals Cleaning Basin, which is not associated with the ash storage pond system. Thallium is not a constituent typically associated with ash storage facilities. It was not detected in any of the other fourteen monitoring wells at the Powerton Station in any of six consecutive quarters of groundwater monitoring. Hence, the isolated and unique detection of thallium is not evidence of a release from the ash ponds.

The alleged selenium and mercury exceedances alleged in the VN are almost exclusively the result of transcription errors which occurred in the previous reporting of these results to the Agency. There was no exceedance of selenium detected at monitoring wells MW-7 (4th Quarter 2011), MW-9 (1st Quarter 2011) and MW-13 (3rd Quarter 2011). The original laboratory data package shows selenium concentrations at ten times lower than what was reported in the monitoring results submitted to the Agency. In the quarterly reports submitted to the Agency, the decimal point was erroneously placed in the reported monitoring values, resulting in the reporting of values ten times higher than the actual laboratory results. The single selenium exceedance in monitoring well MW-14 is an isolated event, which occurred over a year ago. No subsequent selenium exceedances have been reported in the quarterly sampling events to date. Like thallium, the isolated detection of selenium is not evidence of a release from an ash pond. There also was no exceedance of mercury at well MW-12 (4th Quarter 2010). The previously reported elevated mercury level was also due to a transcription error. The corrected selenium and mercury groundwater monitoring results are included in the enclosed, corrected Tables.

In summary, a parameter-by-parameter evaluation shows that the monitoring data does not support the VN's allegation that the operation of the ash ponds has caused the alleged exceedances. Isolated monitoring well results showing exceedances of a given parameter that are not seen in any of the other fourteen monitoring wells (*e.g.*, thallium, selenium) do not support the VN's allegations. Multiple pH exceedances from a single sampling event are more indicative of an equipment error than actual groundwater conditions. Similarly, the chloride exceedances, most of which were not reproducible in subsequent sampling events and none are which are associated with boron and sulfate exceedances, also are not consistent with the ash ponds being the source of the exceedances. For other parameters, such as arsenic, manganese and iron, the monitoring results are far more consistent with the presence of a reducing environment in the area of groundwater where these elevated levels were detected. Finally, the alleged exceedances for selenium are not real. They are the result of transcription errors which occurred in the preparation of its quarterly reporting to the Agency due to the incorrect placement of a decimal point in the monitoring results values. This is now corrected in the enclosed Tables.

The separate evaluation of the groundwater monitoring results relative to each of the three active ash ponds and the former ash pond individually also reveals several deficiencies in the alleged violations. Each of these ash ponds is discussed separately below.

Ash Bypass Basin:

The furthest south (upgradient) pond is known as the "Ash Bypass Basin." As previously stated, the Ash Bypass Basin was relined with a HDPE liner in 2010. Monitoring well MW-9 is the upgradient monitoring well for the Ash Bypass Basin and wells MW-11 and MW-12 are the two immediately downgradient wells. Monitoring well MW-12 is screened within the silt/clay unit and monitoring wells MW-9 and MW-11 are screened within the underlying sand unit. For upgradient well MW-9, multiple exceedances of boron and manganese were detected. Monitoring well MW-11 had one exceedance of boron, but this occurred during the last round of quarterly sampling and hence, additional monitoring data is not yet available to determine whether this is an isolated event. While there were multiple exceedances of manganese in monitoring well MW-12, it did not have any reported exceedances of boron. The highest boron concentrations were reported in upgradient well MW-9. This indicates that the boron source is not associated with the operation of the Ash Bypass Basin. Further, the manganese concentrations in well MW-12 are similar to the concentrations measured at upgradient well location MW-9; however, the manganese concentrations at MW-11 (ranging from 2.2 mg/l to 3.6 mg/l) are higher than in the upgradient well which ranges from 0.19 mg/l to 0.48 mg/l. Elevated manganese concentrations can be associated with sources other that ash ponds and can be reflective of localized mineralogy and reduction-oxidation (redox) conditions, especially when elevated levels of both boron and sulfate are absent. Similarly, the alleged iron exceedances in well MW-12 can also be reflective of localized mineralogy and redox conditions especially in the absence of elevated concentrations of boron and sulfate, as is the case here.

The conclusion that the elevated manganese and iron levels are not due to the operation of the ash ponds is further supported by analytical testing performed in August 2008 of plant bottom ash, fly ash and fines. The analytical testing, which included Toxic Characteristic Leaching Procedure (TCLP) analyses, provides relevant information concerning the leaching nature of the ash compounds. The analytical data shows no detections of manganese in TCLP leachate from any of the samples. The leached iron detections range from non-detect to 0.044 mg/l, which is substantially lower than the iron exceedances in monitoring well MW-12. The analytical data does not support the VN's allegations that the source of the alleged exceedances in these monitoring wells is associated with the operation of the Ash Bypass Basin.

The weight of the evidence shows that the Ash Bypass Basin is not causing the alleged groundwater impacts. Moreover, even if a case could be made that it was, MWG has already taken the necessary steps to address it. As described above, the Ash Bypass Basin was relined in 2010 with a state of the art HDPE liner.

Ash Surge Pond:

The Ash Surge Pond is located north (*i.e.,* downgradient) of the Ash Bypass Basin. It is the largest of the ash ponds and is lined. Monitoring wells upgradient of the Ash Surge Pond are MW-12, MW-11 (previously discussed above because they are also downgradient of the Ash Bypass Basin) and monitoring well MW-10. Wells MW-15 and MW-8 are immediately

downgradient of the Ash Surge Pond.[9] Monitoring wells MW-8 and MW-15 are screened within the silt/clay unit and well MW-10 is within the underlying sand unit.

Upgradient well MW-10 had multiple reported exceedances of manganese, ranging from 2.1 mg/l to 3.8 mg/l.[10] (Downgradient well MW-15 has six exceedances of manganese ranging from 0.25 mg/l to 0.60 mg/l and well MW-8 has five exceedances of manganese ranging from 0.18 to 0.28 mg/l. The downgradient concentrations of manganese are clearly lower than in the upgradient wells suggesting that the manganese is not associated with operation of the Ash Surge Basin. It is also noted that neither wells MW-8 nor MW-15 have exceedances of boron, an ash impact indicator. There is also only one reported exceedance of sulfate in monitoring well MW-15 (650 mg/l), which was not reproducible during subsequent, consecutive sampling events. This alleged, isolated sulfate exceedance also was anomalously and significantly higher than all other sulfate detections at this monitoring well location, which ranged from 140 mg/l to 300 mg/l. Hence, the level of the single, alleged sulfate exceedance at MW-15 is more than twice that of any other reported value for this monitoring well.

Monitoring well MW-13 is slightly side gradient of the Ash Surge Basin (located just west of the southwest corner of the basin). As discussed previously, the boron and sulfate detections at this location were the highest of any monitoring well. These levels do not support a finding that that they are caused by the Ash Surge Basin's operations because none of the downgradient monitoring wells from this basin had any similar boron and sulfate levels detected throughout numerous, consecutive sampling events.

Ash Settling Pond:

The Ash Settling Pond is located to the north (downgradient) of the Ash Surge Basin. Monitoring well MW-8's location is considered upgradient of this pond. Monitoring wells MW-6 and MW-7 are immediately downgradient of the Ash Settling Pond. MW-6 is screened within the silt/clay unit and MW-7 is screened within the underlying sand unit. None of these three wells (MWs 6, 7 or 8) had reported exceedances of boron or sulfate. The range of boron detections at MW-6 (0.35 mg/l to 0.63 mg/l) and at MW-7 (0.34 mg/l to 0.61 mg/l) are significantly lower than the range of boron detections in the upgradient monitoring well MW-8 (0.57 mg/l to 0.93 mg/l). Hence, the monitoring data indicates that the concentrations of boron are lower on the downgradient side of the Ash Settling Pond. The same observation is true for the sulfate levels among these same monitoring wells. These findings support the conclusion that the alleged groundwater impacts in the vicinity of the Ash Settling Pond are not associated with its operation.

---

[9] Monitoring well MW-15 is also adjacent to the northwest corner of the Metals Cleaning Basin, which is not part of the ash pond system.

[10] The manganese levels are similar to the elevated detections in monitoring well MW-11. Hence, these results are further evidence that the elevated manganese at MW-11 is not associated with the operation of the Ash Bypass Basin because monitoring well MW-10 is approximately 600 feet away from the Ash Bypass Basin and is not downgradient of it.

There were other alleged exceedances in MW-6 and/or MW-7, including a single alleged exceedance of chloride (MW-6) and one for lead (MW-7), as well as manganese, arsenic, iron, and Total Dissolved Solids (TDS)[11], as discussed above regarding iron and manganese, in the absence of elevated concentrations of the coal ash indicators such as boron and sulfate, these alleged exceedances are as likely due to other sources that are unrelated to the Ash Settling Pond or any of the other Powerton ash ponds.

Former Ash Pond:

Monitoring wells MW-1 through MW-5 are located around a former ash pond which is no longer in operation. Monitoring wells MW-1 and MW-10 are located upgradient of this former ash pond. Monitoring wells MW-2 through MW-5 are located downgradient of it. All six of these wells are screened within the sand unit. None of these wells have any exceedances of boron or sulfate. The single boron exceedance noted in the VN for these wells was at well MW-1, which a further review has found to be a transcription error in the prior reporting to the Agency. (See corrected value for MW-1 in enclosed Tables) The boron levels both upgradient and downgradient of the former ash pond are similar to each other, further evidence that the former ash pond is not the source of groundwater impacts. Although there are alleged manganese exceedances in monitoring wells MW-4 and MW-5, the range of these manganese values was lower than in these wells than in the upgradient monitoring well MW-10. The single alleged nitrate exceedance in upgradient monitoring well MW-1 is an isolated, unconfirmed exceedance that is insufficient to prove a violation of the nitrate standard. Further, there are various sources of nitrate in groundwater that are not associated with ash pond operations, especially when no elevated levels of known coal ash indicator compounds are present, which is the case here.

The Agency's broad and all-encompassing allegations regarding the ash ponds are simply not supported by a careful evaluation of the underlying groundwater monitoring data for the respective monitoring wells that are located upgradient and downgradient of each of the subject ash ponds. The groundwater monitoring data on which the VN is based is not sufficient to show that the ash ponds are the source of the alleged exceedances.

C. The Powerton Ash Ponds Are Not Causing Groundwater Exceedances

Because the Agency failed to specify which of the provisions of Section 12 of the Act MWG allegedly violated, MWG has had to speculate to identify the potential Section 12 violations this response needs to address. As stated above, MWG objects to the vagueness of, and legally deficient notice provided by, the VN and reserves its right to respond further when and if the Agency properly identifies the provisions of Section 12 on which it is relying.

[11] The single alleged exceedance for selenium in MW-7 that is included in the VN is due to a transcription error in prior reporting of monitoring results to the Agency. It has been corrected in the enclosed Tables.

For purposes of this response, based upon the regulations cited by the Agency in the VN, MWG has assumed that the Agency's alleged violations of Section 12 are limited to Sections 12(a), which prohibits causing or allowing water pollution, and to Section 12(d), which prohibits causing or allowing the creation of a water pollution hazard. 415 ILCS 5/12(a), (d). Based on these assumptions regarding the substance of the Illinois EPA's alleged violations, MWG submits that the Agency cannot show that the ash ponds at Powerton caused or allowed water pollution or created a water pollution hazard.

The overwhelming number of the alleged exceedances of the Class 1 groundwater standards are random and inconsistent. For all but a few of the parameters, the necessary confirmation of the existence of groundwater impacts above the Class 1 groundwater standards is absent. For the remaining few, the data is insufficient to prove that the source is one or more of the subject ash ponds.

To show a violation of Section 12(a) and 12(d), there must be a showing not only of the presence of a potential source of contamination, but also that it is in sufficient quantity and concentration to render the waters harmful. *Bliss v. Illinois EPA,* 138 Ill. App. 3d 699, 704 (1985) ("mere presence of a potential source of water pollutants on the land does not necessarily constitute a water pollution hazard"). In other words, there must be a causal link between the potential source and the water or groundwater. The groundwater monitoring data on which the Agency relies does not establish this essential causal link between the ash ponds and the groundwater. Therefore, the Agency has failed to meet its burden to prove that the ash ponds are the cause of the alleged exceedances of the groundwater standards as required to prove a violation of Sections 12(a) or 12(d) of the Act. 415 ILCS 5/12(a), (d).

Illinois EPA also alleges violations of the groundwater quality regulations based on exceedances of the groundwater quality standards in 35 Ill. Admin. Code § 620.401. There is no violation here of Section 620.401. Section 620.401 solely provides the legal criteria that groundwater must meet the standards appropriate to the groundwater's class. It is a foundational regulation, allowing for different classes of groundwater to meet different groundwater standards. It is not a prohibition regulation. There is no conduct prohibited by this section of the regulations in which MWG is alleged to have engaged. MWG cannot and did not violate Section 620.401.

The remaining alleged groundwater regulation violations, Sections 620.115, 620.301, 620.405, and 620.410 of the Board Regulations, are all based on the Agency's contention that MWG's operation of the ash ponds has caused the exceedances of the groundwater standards detected in the monitoring data. To sustain these allegations, the Agency must show that MWG caused a discharge of the subject constituents from ash ponds which in turn caused the

exceedances of the groundwater standards.[12] The relevant facts and circumstances do not support either conclusion.

The use and condition of the ash ponds does not support a finding that they are releasing constituents to the groundwater. They are not disposal sites. The ash is regularly removed from the ponds by MWG. The linings in two of the ash ponds are of sufficient permeability, consistent with accepted regulatory guidance, to prevent the release of constituents. Moreover, the groundwater down-gradient of the only unlined ash pond shows no impacts from coal ash constituents. Finally, pursuant to the terms of the Powerton Station's NPDES Permit, these ash ponds are part of the flow-through wastewater treatment process at the station. MWG's operation of the ash ponds has been carried out in accordance with the terms and conditions of the NPDES Permit. Under Section 12(f) of the Act, compliance with the terms and conditions of any permit issued under Section 39(b) of the Act is deemed compliance with this subsection.

Similarly, the groundwater data on which the Agency relies does not provide a sufficient scientific or technical evidentiary basis on which to conclude that the ash ponds are causing the alleged groundwater exceedances. The essential "causal link" between the ash ponds and the elevated constituents in the groundwater is missing. The data is at best inconclusive on this issue, while certain aspects of the data clearly point to other, unrelated causes.

Because the ash ponds have not been shown to have caused a release of any contaminants that are causing the groundwater exceedances, the Agency's VN does not support its claims that MWG has violated Sections 620.405 or 620.301 of the Board regulations. Accordingly, MWG also has not violated Section 620.115 of the Board regulations.

III. Compliance Commitment Agreement

This VN should not have been issued. Given the absence of proof that the ash ponds are the cause of the alleged groundwater exceedances, the Agency's request for a Compliance Commitment Agreement (CCA) is an attempt to compel MWG to conduct unnecessary corrective action.

Moreover, with the pending federal regulatory process to enact regulations for the design and operation of ash ponds, it is prudent to await the outcome of the proposed federal regulations to determine whether any changes to the ash ponds construction or operation are required by those regulations. The Agency itself has previously advanced this position. In 2010, the Agency's Steven Nightingale testified before the Illinois Pollution Control Board that the Board should consider initiating a temporary moratorium on the closure of coal ash impoundments because of the U.S. EPA's intention to regulate them. (*See In the Matter of Ameren Ash Pond Closure Rules (Hutsonville Power Station): Proposed 35 Ill.Adm.Code Part 840.101 Through*

[12] *See People of the State of Illinois v. ESG Watts, Inc.*, PCB 96-107 slip op. at p. 41 (February 5, 1998) (By finding the respondent caused a discharge of constituents into the groundwater causing a violation of the Class II Groundwater standards, the Board found the respondent also violated 35 IAC §§ 620.301 and 620.115).

840.152, Docket R09-21 (October 7, 2010) at p. 64) On behalf of the Agency, Mr. Nightingale told the Board that if industry had to take action in the interim, it "could end up expending substantial money and resources only to find they are subject to additional and/or different closure requirements for those units." (*Id.*) The Agency's pursuit of this enforcement action, particularly given the deficiencies in its alleged evidence, also threatens to force MWG to take actions that may conflict with or otherwise differ from the requirements in the upcoming federal regulations.

As the hydrogeologic assessment showed, there is no threat to human health presented by the alleged exceedances of the groundwater standards. The hydrogeologic assessment investigated the presence of potable water sources within a 2,500-foot radius of the site. Six wells are located within the 2,500-foot radius of the site; however none of the wells are down-gradient of the ash ponds. In fact, two of the wells supply the Powerton Station with water, and are regularly sampled for potable water constituents. The sampling results have consistently been in compliance with potable water regulations.[13] In the absence of any potable groundwater receptors or use, groundwater at the Powerton site does not pose any risk to human health. Accordingly, awaiting the outcome of the federal regulatory proposal is appropriate under these circumstances.

Because MWG's preference is to cooperate with the Agency in this matter, MWG presents here a proposed CCA that should be acceptable based on the relevant facts and circumstances. The proposed CCA terms are as follows:

A. The ash ponds will not be used as disposal sites and ash will continue to be removed from the ponds on a periodic basis.

B. MWG has installed a new liner in the Ash Bypass Basin that provides protection against the migration of ash constituents to the groundwater.

C. The ash ponds and the Ash Bypass Basin will be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures will be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

D. During the ash removal process, visual inspections of the ponds will be conducted to identify any signs of a breach in the integrity of the pond liner. In the event that a breach of the pond liner is detected, MWG will notify the Agency and will submit a corrective action plan for repair or replacement, as necessary, of the liner. Upon the Agency's approval, and the issuance of any necessary construction permit, MWG will implement the correction action plan.

[13] See previously submitted Hydrogeologic Assessment of Midwest Generation Electric Generation Stations: Will County Station, Waukegan Station, Joliet 29 Station, Crawford Station, Powerton Station.

E. MWG proposes to establish a Groundwater Management Zone ("GMZ") below the ash ponds pursuant to Section 620.250 of the Board's regulations. 35 Ill. Admin. Code § 620.250. The corrective action required by the GMZ regulations is addressed by the existing pond liners. MWG is also willing to evaluate the inclusion of institutional controls regarding the area of impacted groundwater, provided that any institutional controls allow for the continued use of the Powerton potable water wells which are located outside of the subject area and for which regular, repeated testing has confirmed are not affected.

F. MWG will continue to monitor the groundwater through the existing fifteen groundwater monitoring wells and report its findings to Illinois EPA, pursuant to Section 620.250(c) of the GMZ Regulations, 35 Ill. Admin. Code § 620.250(c). MWG reserves the right to request the Agency's approval of a cessation of all or some of the monitoring requirements based on future monitoring results.

G. MWG will continue to monitor the development of the Coal Combustion Residuals Proposed Rules, EPA-HQ-RCRA-2009-0640. When the final rule is issued, MWG will promptly notify Illinois EPA how it will comply with the new Federal Rules.

This letter constitutes our response to and proposed CCA for the Violation Notice W-2012-00057. MWG also reserves the right to raise additional defenses and mitigation arguments as may be necessary, in defense of the allegations listed in the Violation Notice in the event of any future enforcement. We look forward to discussing the above information further at the soon to be scheduled meeting with the Agency's representatives. Please contact me to schedule a mutually convenient date for the meeting.

Very truly yours,

Susan M. Franzetti
Counsel for Midwest Generation, LLC

Enclosures

cc: Maria L. Race, Midwest Generation, LCC

Table 3

GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012

Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)
Chemical Name		Class I*	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	0.0018	0.0015	0.0017	ND	ND	ND
Barium	Metals 6020	2.0	0.044	0.026	0.034	0.056	0.044	0.038	0.042	0.025	0.053	0.059	0.066	0.049
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0057	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	0.0077	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.01	0.008	ND	0.0069	0.0095	ND	0.0086	0.0096	0.0053	0.01	0.0073	ND
Selenium	Metals 6020	0.05	0.0016	0.0022	0.0016	0.0036	0.0027	0.0025	0.0017	0.0032	0.0014	0.0032	0.0037	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.45	0.26	0.33	1.0	0.48	0.29	0.38	0.23	0.35	0.83	0.69	0.27
Sulfate	Dissolved 9038	400	50	30	39	83	31	61	52	42	53	70	69	55
Chloride	Dissolved 9251	200	46	37	40	41	26	53	45	43	44	46	40	53
Nitrogen/Nitrate	Nitrogen By calc	10	7.2	4.3	5.7	11	4.1	7.3	7.5	4.5	4.7	4.3	6.9	5.1
Total Dissolved Solids	Dissolved 2540C	1,200	490	340	410	510	440	470	480	420	470	460	490	440
Fluoride	Dissolved 4500 FC	4	0.28	0.32	0.38	ND	ND	ND	ND	0.3	0.35	ND	ND	ND
Radium 226 (pCi/L)	EPA 903.1	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Radium 228 (pCi/L)	EPA 904.0	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS-not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS

- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_399

Table 3

GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012

Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)
Chemical Name		Class I*	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0017	ND	0.0011	0.0012	0.0012	0.0012	ND	ND	ND	ND	ND	ND
Barium	Metals 6020	2.0	0.038	0.03	0.063	0.081	0.076	0.052	0.055	0.052	0.058	0.041	0.048	0.043
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	0.0045	ND	ND	0.0044	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	0.0026	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.012	0.0042	ND	ND	ND	ND	0.0033	0.01	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	0.042	ND	ND	ND	0.017	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.0047	0.0023	ND	0.0037	0.0014	ND	ND	0.68	0.41	0.69	0.35	0.089
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.011	0.0095	ND	0.008	0.0078	ND	0.012	0.012	0.0067	0.011	0.01	0.0055
Selenium	Metals 6020	0.05	ND	0.0036	0.0015	0.0036	0.0021	0.0067	0.0022	0.0037	0.0022	0.0039	0.002	0.0085
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.75	0.18	0.24	0.64	0.7	0.56	0.77	0.83	0.33	0.84	0.79	0.78
Sulfate	Dissolved 9038	400	64	42	47	66	45	72	110	140	48	61	6.7	160
Chloride	Dissolved 9251	200	39	52	59	62	39	54	150	77	43	86	8.1	58
Nitrogen/Nitrate	Nitrogen By calc	10	9.4	5.2	5.4	0.2	0.2	2.1	0.34	0.73	2.7	0.06	0.07	0.65
Total Dissolved Solids	Dissolved 2540C	1,200	480	430	440	460	480	450	680	620	470	580	520	660
Fluoride	Dissolved 4500 FC	4	0.3	0.35	0.41	0.35	ND	ND	0.3	0.39	0.43	0.31	ND	ND
Radium 226 (pCi/L)	EPA 903.1	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Radium 228 (pCi/L)	EPA 904.0	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

NS-not sampled

ND- non detect

mg/L- milligrams per liter

AMENDMENTS

- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_400

Table 3
GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012
Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)
Chemical Name		Class I*	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0011	ND	ND	ND	0.001	ND	0.0042	0.0024	0.0029	0.0031	0.0036	0.002
Barium	Metals 6020	2.0	0.053	0.048	0.046	0.071	0.065	0.054	0.11	0.092	0.1	0.1	0.12	0.097
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0044	0.0042	ND	0.0066	ND	ND	0.006	0.0083	0.0045	0.0085	0.0056	ND
Cobalt	Metals 6020	1.0	0.0025	0.0023	ND	0.0027	0.0022	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0036	0.0061	ND	ND	ND	0.0032	0.0042	ND	0.16
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.13	0.05	0.046	0.082	0.036	ND	1.6	1.6	1.7	1.8	1.9	1.7
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.51	0.49	0.48	0.64	0.5	0.26	0.68	0.68	0.63	0.66	0.63	0.61
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.014	0.013	0.0077	0.014	0.014	0.008	0.0091	0.014	0.0078	0.0099	0.0089	ND
Selenium	Metals 6020	0.05	0.0019	0.003	ND	0.0045	0.0023	0.0028	0.0034	ND	ND	0.0025	0.0033	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	0.0064	ND	ND	ND	ND	0.049
Boron	Metals 6020	2	0.95	0.93	0.79	0.79	0.77	0.82	0.05	0.35	0.43	0.61	0.63	0.39
Sulfate	Dissolved 9038	400	160	170	110	250	170	120	210	250	280	260	170	250
Chloride	Dissolved 9251	200	150	120	89	160	140	82	180	200	160	210	150	150
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	0.08	ND	ND	1.6	0.037	ND	ND	0.04	0.06	ND
Total Dissolved Solids	Dissolved 2540C	1,200	740	680	640	850	820	590	950	990	1,100	970	1,000	1,100
Fluoride	Dissolved 4500 FC	4	0.27	0.26	0.43	0.25	ND	ND	0.65	0.61	0.63	0.64	0.5	0.47
Radium 226 (pCi/L)	EPA 903.1	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Radium 228 (pCi/L)	EPA 904.0	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS-not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS
- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_401

Table 3
GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012
Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)
Chemical Name		Class I*	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.026	0.085	0.12	0.18	0.23	0.23	0.0052	0.0039	0.0044	0.0036	0.0052	0.0038
Barium	Metals 6020	2.0	0.55	0.52	0.57	0.57	0.59	0.57	0.11	0.12	0.11	0.11	0.13	0.14
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	0.0026	ND	0.0015	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0088	0.0075	0.0061	0.011	ND	ND	0.0059	0.0081	0.0059	0.0084	0.0053	ND
Cobalt	Metals 6020	1.0	0.017	0.0056	0.007	0.0055	0.006	0.0067	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.14	ND	ND	ND	ND	ND	ND	ND	0.0036	0.0037	0.01	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	8	7.5	10	22	26	31	0.56	2.1	1.7	0.97	0.94	2.3
Lead	Metals 6020	0.0075	0.039	ND	0.0014	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	3.5	5.9	6.4	12	12	11	0.15	0.27	0.29	0.18	0.2	0.27
Mercury	Mercury 7470A	0.002	ND	ND	0.00025	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.045	0.021	0.022	0.026	0.022	0.018	0.011	0.013	0.0076	0.007	0.009	0.0054
Selenium	Metals 6020	0.05	0.0043	0.0026	0.0025	0.0073	0.0054	0.0013	0.0036	0.0013	ND	0.0031	0.0036	0.0018
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.076	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.61	0.44	0.43	0.38	0.34	0.35	0.93	0.72	0.64	0.82	0.82	0.57
Sulfate	Dissolved 9038	400	120	49	25	9.1	3.3	3	160	240	140	200	200	300
Chloride	Dissolved 9251	200	170	200	140	130	81	99	180	210	140	210	190	170
Nitrogen/Nitrate	Nitrogen By calc	10	0.043	0.08	ND	0.31	0.03	ND	ND	ND	0.1	1.6	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	860	1,100	1,300	1,300	1,300	1,400	890	990	970	940	990	1,200
Fluoride	Dissolved 4500 FC	4	0.47	0.42	0.58	0.94	0.47	0.54	0.77	0.76	0.81	0.84	0.75	0.7
Radium 226 (pCi/L)	EPA 903.1	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Radium 228 (pCi/L)	EPA 904.0	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS-not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS
0.0059 - Value amended from original Table 3 (May 11, 2012).
200 - Value has not changed; font has been changed from bold to normal.
2.3 - Value has not changed; font has been changed from normal to bold.

MWG13-15_402

Table 3
GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012
Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard* (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)
Chemical Name		Class I*	2/16/10	2/15/11	3/25/11	6/16/11	9/19/11	12/13/11	3/19/12	12/15/10	3/25/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	0.0018	0.0017	ND	0.0012	ND	ND	ND	0.0015	ND	ND	ND
Barium	Metals 6020	2.0	0.038	0.042	0.042	0.038	0.03	0.038	0.035	0.24	0.28	0.36	0.25	0.26	0.26
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	0.0026	0.0027	0.0039	0.0025	0.0026	0.0024
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0041	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	0.066	ND	ND	ND	0.014	ND	ND	0.044	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.23	0.43	0.45	0.48	0.14	0.28	0.22	2.1	2.8	3.8	2.3	2.3	2.3
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.01	0.011	0.0093	0.0063	0.0065	0.0088	ND	0.015	0.016	0.015	0.01	0.013	0.0091
Selenium	Metals 6020	0.05	0.0024	ND	0.0072	0.0017	0.0043	0.0041	0.0072	0.0042	0.0064	0.0043	0.0057	0.0055	0.0056
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	2.1	1.9	1.9	1.9	2.5	2.7	2.6	0.48	0.48	0.52	0.42	0.57	0.54
Sulfate	Dissolved 9038	400	110	99	110	110	130	110	120	62	64	67	64	72	76
Chloride	Dissolved 9251	200	25	33	28	28	30	30	30	40	43	43	49	42	45
Nitrogen/Nitrate	Nitrogen By calc	10	2.9	3.7	5.6	5.6	3.7	2.6	5	3	4	2.1	4.5	4.9	6
Total Dissolved Solids	Dissolved 2540C	1,200	500	470	510	540	500	520	530	530	520	650	470	540	530
Fluoride	Dissolved 4500 FC	4	ND	0.32	0.31	0.34	0.25	ND	ND	ND	0.3	0.36	ND	ND	ND
Radium 226 (pCi/L)	EPA 903.1	20	0.673	0.728	NS	0.95	0.811	0.621	0.592	NS	NS	NS	NS	NS	NS
Radium 228 (pCi/L)	EPA 904.0	20	0.941	0.983	NS	0.974	0.968	0.966	0.837	NS	NS	NS	NS	NS	NS

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS-not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS
- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_403

Table 3
GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012
Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11c (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)
Chemical Name		Class I*	12/16/10	2/15/11	6/16/11	9/19/11	12/12/11	3/19/12	12/15/10	2/15/11	6/16/11	9/19/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0021	0.0025	0.0019	0.0016	0.0019	0.0021	0.0088	0.013	0.0064	0.0087	0.0089	0.0042
Barium	Metals 6020	2.0	0.17	0.11	0.18	0.11	0.11	0.13	0.089	0.11	0.091	0.085	0.09	0.071
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	0.0056	0.0044	0.0071	0.0047	ND
Cobalt	Metals 6020	1.0	0.0028	0.0041	0.0024	ND	ND	0.0024	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.0032	0.0032	0.0043	ND	ND	ND	ND	ND	0.0032	0.0036	0.0031	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.44	0.01	0.029	0.018	ND	ND	5.5	6.3	5.6	4	3.1	4.8
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	3.2	3.6	2.9	2.2	2.5	2.9	0.32	0.58	0.26	0.37	0.25	0.13
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.019	0.016	0.013	0.011	0.013	0.011	0.0096	0.01	0.0072	0.0075	0.0091	0.0075
Selenium	Metals 6020	0.05	0.0026	0.0015	0.0018	0.004	0.0031	0.0039	0.0026	0.0027	ND	0.0023	0.0034	0.0043
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.8	1.6	1.5	1.8	2.3	1.6	1.4	1.3	1.2	1.3	0.92
Sulfate	Dissolved 9038	400	170	160	230	140	160	130	290	270	350	360	300	310
Chloride	Dissolved 9251	200	70	66	120	53	87	54	170	180	180	190	210	170
Nitrogen/Nitrate	Nitrogen By calc	10	0.41	0.17	0.04	0.74	1.5	0.39	ND	ND	0.14	ND	ND	0.04
Total Dissolved Solids	Dissolved 2540C	1,200	740	710	930	620	730	740	980	1,000	1,100	970	970	1,000
Fluoride	Dissolved 4500 FC	4	0.53	0.56	0.67	0.58	0.44	0.42	0.71	0.61	0.64	0.74	0.61	0.46
Radium 226 (pCi/L)	EPA 903.1	20	0.445	0.174	0.929	0.693	0.733	0.621	0.617	0.207	0.893	0.403	0.923	0.345
Radium 228 (pCi/L)	EPA 904.0	20	0.915	0.967	0.914	0.943	1.03	0.813	0.97	0.973	0.956	0.996	0.952	0.715

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS-not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS
- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_404

Table 3
GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012
Powerton Generation Station
Pekin, Illinois
Midwest Generation
21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)
Chemical Name		Class I*	12/15/10	2/15/11	4/25/11	6/16/11	8/9/11	10/13/11	12/12/11	4/10/12	12/15/10	2/15/11	4/25/11	6/16/11	8/9/11	10/13/11	12/12/11	4/10/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.011	0.0069	0.0063	0.0057	0.0048	0.0066	0.023	0.027	0.024	0.019	0.0084	0.005	0.0062	0.015	0.0033	0.0039
Barium	Metals 6020	2.0	0.11	0.052	0.073	0.059	0.046	0.083	0.21	0.14	0.034	0.034	0.036	0.04	0.041	0.04	0.045	0.045
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0062	0.0042	0.0045	ND	ND	0.01	0.0055	0.0055	ND	0.0046	0.0078	0.0049	0.0076	0.0096	0.0065	0.0057
Cobalt	Metals 6020	1.0	0.0031	0.0026	0.0023	0.0022	0.0031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.0068	0.0037	0.0041	0.004	0.004	0.0055	0.0066	0.0068	0.0037	0.0035	0.0074	0.0071	0.0064	0.0055	0.025	0.0067
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.69	0.052	0.077	ND	0.043	ND	0.11	0.2	2.2	0.94	0.036	0.3	0.71	2	0.12	0.77
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0035
Manganese	Metals 6020	0.15	5	3.8	2.7	2.9	2.6	3.6	3.5	3.5	0.68	0.81	0.29	0.36	0.57	0.84	0.067	0.63
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.03	0.023	0.021	0.018	0.016	0.015	0.022	0.02	0.015	0.015	0.02	0.016	0.016	0.011	0.015	0.018
Selenium	Metals 6020	0.05	0.0046	0.0046	0.0045	0.0029	0.0056	0.004	0.0035	0.0037	0.0024	0.0015	0.0065	0.0035	0.003	0.0017	0.0037	0.022
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	0.0019	0.0018	0.0035	0.0039	0.0027	0.0016	0.0016	0.0034
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0084
Boron	Metals 6020	2	3.9	3.1	2.6	3.0	2.7	3.0	4.1	4.0	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.8
Sulfate	Dissolved 9038	400	1,400	770	580	540	440	660	1,100	1,100	960	820	770	810	940	850	880	990
Chloride	Dissolved 9251	200	160	120	100	86	110	110	180	170	160	160	160	160	240	200	200	190
Nitrogen/Nitrate	Nitrogen By calc	10	0.14	1.3	1.8	2.2	3.6	1.6	0.07	0.06	0.036	ND	1	0.27	0.05	ND	0.33	0.31
Total Dissolved Solids	Dissolved 2540C	1,200	2,600	1,600	1,400	1,300	1,100	1,500	2,100	2,300	1,800	1,700	1,800	1,900	2,000	1,800	1,800	2,200
Fluoride	Dissolved 4500 FC	4	0.28	0.29	0.31	0.44	0.38	0.3	ND	0.32	1.7	1.6	1.1	1.3	1.4	0.88	1.1	1
Radium 226 (pCi/L)	EPA 903.1	20	0.603	0.165	NA	0.741	0	0.433	0.955	0.671	0.577	0.163	NA	0.893	0.974	0.0983	0.857	0.601
Radium 228 (pCi/L)	EPA 904.0	20	0.988	0.966	0.73	1	0.198	0.84	1.01	0.913	0.944	0.96	0.737	0.947	1.11	–	0.985	0.929

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
NS- not sampled
ND- non detect
mg/L- milligrams per liter

AMENDMENTS
- Value amended from original Table 3 (May 11, 2012).
- Value has not changed; font has been changed from bold to normal.
- Value has not changed; font has been changed from normal to bold.

MWG13-15_405

Table 3

GROUNDWATER ANALYTICAL RESULTS - AMENDED JULY 2012

Powerton Generation Station

Pekin, Illinois

Midwest Generation

21253.022

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)
Chemical Name		Class I*	12/15/10	12/15/11	4/25/11	6/16/11	8/9/11	10/13/11	12/12/11	4/10/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0099	0.0092	0.0064	0.0052	0.0053	0.011	0.0097	0.0061
Barium	Metals 6020	2.0	0.058	0.052	0.061	0.11	0.057	0.06	0.063	0.075
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0042	0.0061	0.0092	0.0054	0.0091	0.0062	0.0062	0.0071
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	0.0039	0.005	0.0041	0.0037	0.0031	0.0039
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	3.3	2.4	2.1	0.7	2.1	2.6	2.1	0.0011
Lead	Metals 6020	0.0075	ND	ND	0.0012	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.56	0.42	0.36	0.6	0.37	0.48	0.39	0.25
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.013	0.011	0.012	0.015	0.01	0.011	0.011	0.01
Selenium	Metals 6020	0.05	0.0042	0.0079	0.017	0.004	0.002	0.004	0.0047	0.025
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.4	1.5	1.6	1.3	1.2	1.2	1.4
Sulfate	Dissolved 9038	400	300	220	270	650	250	180	140	200
Chloride	Dissolved 9251	200	180	190	190	170	210	180	200	200
Nitrogen/Nitrate	Nitrogen By calc	10	0.03	0.086	0.04	0.07	0.05	ND	0.07	0.12
Total Dissolved Solids	Dissolved 2540C	1,200	1,000	1,000	1,100	1,600	1,000	890	840	1,000
Fluoride	Dissolved 4500 FC	4	0.69	0.75	0.6	0.73	0.76	0.77	0.75	0.79
Radium 226 (pCi/L)	EPA 903.1	20	0.666	0.174	NA	0.946	0.567	0.922	0.979	0.504
Radium 228 (pCi/L)	EPA 904.0	20	0.902	0.968	0.689	0.983	0.0954	1.04	0.937	0.901

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

NS-not sampled

ND- non detect

mg/L- milligrams per liter

AMENDMENTS

Value - Value amended from original Table 3 (May 11, 2012).

Value - Value has not changed; font has been changed from bold to normal.

Value - Value has not changed; font has been changed from normal to bold.

MWG13-15_406