

ILLINOIS POLLUTION CONTROL BOARD  
June 18, 2026

IN THE MATTER OF: )  
)  
PROPOSED AMENDMENTS TO ) R22-18(A)  
GROUNDWATER QUALITY ) (Rulemaking – Public Water Supplies)  
35 ILL. ADM. CODE 620 )

Proposed Rule. First Notice.

OPINION AND ORDER OF THE BOARD (by M. Gibson):

On March 20, 2025, the Board adopted amendments to its groundwater quality standards under 35 Ill. Adm. Code 620. These amendments included new groundwater quality standards for six poly- and perfluoroalkyl substances (PFAS) based on the United States Environmental Protection Agency’s (USEPA) drinking water maximum contaminant levels and health-based water concentrations. The amendments also included exemptions from PFAS standards for landfills regulated under 35 Ill. Adm. Code 811 and 814. The Board opened this sub-docket on January 23, 2025 in response to the Joint Committee of Administrative Rules’ (JCAR) recommendation that the Board substantively consider the technical feasibility and economic reasonableness of the groundwater quality standards and whether the amendments would have an adverse economic impact “particularly on landfills” regulated under 35 Ill. Adm. Code 811 and 814. 48 Ill. Reg. 4608.

After reviewing the record, which includes economic testimony from representatives of the affected landfills and extensive information on landfills regulated under Parts 807, 811, and 814 from the Illinois Environmental Protection Agency (IEPA or Agency), the Board proposes to strike the exemptions for Part 811 and 814 landfills at 35 Ill. Adm. Code 620.410(f) and 620.420(e) and declines to add an exemption for Part 807 landfills.

In this opinion, the Board first provides a brief background on this rulemaking docket. Next, the Board summarizes the testimony on the economic impact of the proposed PFAS groundwater quality standards on landfills. The Board then considers the economic reasonableness of these amendments, their impact to landfills, and concludes that the significant risks to human health and the environment far outweigh the increased costs associated with sampling and potentially remediating PFAS exceedances at landfills.

**PROCEDURAL BACKGROUND**

During the underlying rulemaking, the Board heard testimony and received public comments from participants representing nonhazardous solid waste landfills in Illinois. These participants expressed concern over costs to landfills to sample for PFAS as well as potential costs for implementing corrective action at their facilities. Following the issuance of second notice, JCAR issued a certificate of no objection to the amendments and also issued a recommendation. JCAR recommended that the Board substantively consider the technical

feasibility and economic reasonableness of the groundwater quality standards and whether the amendments would have an adverse economic impact “particularly on landfills” regulated under 35 Ill. Adm. Code 811 and 814. 48 Ill. Reg. 4608.

The Board responded to JCAR’s recommendation, in part, as follows:

The Board agrees to pursue the action recommended by JCAR. Although the Board considers the economic reasonableness and technical feasibility of proposed regulations in all rulemakings that are subject to Section 27 of the Environmental Protection Act (415 ILCS 5/27 (2022)), the Board will emphasize economic impacts by requesting the rulemaking proponent and other participants, including affected entities, to submit specific economic information and testimony in support of or in opposition to the proposed rules. Board Response to JCAR (Apr. 7, 2025).

### **Hearing**

In response to JCAR’s recommendation, the Board opened this sub-docket, R22-18A on January 23, 2025. The Board informed participants that the “main purpose of the sub-docket is to receive testimony and evidence on any economic impact that adding the PFAS standards to Part 620 would have on compliance costs under the current versions of Part 811 and Part 814.” R22-18 Second Notice at 19. The Board issued questions to all participants, which included representatives of landfills, and received pre-filed testimony. The Board held a public hearing on September 16, 2025 at which two witnesses testified: Brad Hunsberger on behalf of Land and Lakes Company and Eric Ballenger on behalf of the National Waste & Recycling Association. Because the representatives of landfills raised concerns with the application of PFAS standards to Part 807 landfills, the Board asked IEPA to provide a list of all closed Part 807 landfills and the contact information for those landfills’ owners and operators. The Board included those owners and operators in its notice list for this rulemaking.

### **Additional Information**

Following the hearing, the Board issued additional questions to IEPA regarding groundwater monitoring reports for the Part 807 landfills in the state. The Board also requested that IEPA provide a GIS (geographic information system) map (or equivalent) that would show the overlay of Part 807, 811, and 814 landfills in the State along with the underlying Class I potable groundwater resource aquifers, any regulated recharge areas, and public water supply wells setback zones located within 1,000 feet from the edge of the landfill unit or zone of attenuation. The Board thanks IEPA for its detailed response, which included over 11,000 pages of groundwater monitoring data. The Board also appreciates the detailed written and oral testimony presented by the two witnesses representing the affected landfills.

Additionally, the Board requested information on whether any Part 811 or 814 landfills are small businesses or small municipalities and whether they will be adversely affected by the proposed amendments. The Board thanks IEPA and Land and Lakes Company for their quick responses.

### **REGULATORY BACKGROUND**

The Board opened this sub-docket to address the economic impact of Part 620 PFAS groundwater quality standards on landfills regulated under Part 811 and 814. While Part 620 establishes groundwater quality standards, it does not specify groundwater monitoring or remediation requirements for facilities like landfills. Other parts of the Board's regulations like the landfill rules, tiered approach to corrective action objectives, and site remediation program detail the specific steps that facilities must follow to monitor groundwater or remediate exceedances of the Part 620 standards. Even though those specific remediation activities are specified in other programs, the Board examines the potential cost impact of the Part 620 PFAS standards on landfills regulated under Part 807, 811, and 814 in this order to fully comply with JCAR's recommendation.

As noted above, Part 811 and 814 landfills were exempted from Part 620 PFAS standards pending additional review in this sub-docket. However, in addition to Part 811 and 814 landfills, the Board also received testimony and comments regarding the impact of Part 620 PFAS standards on Part 807 landfills, which were not exempted from Part 620 PFAS standards. Therefore, the Board will also address Part 807 landfills in this order.

### **Part 811 and 814 Landfills**

The Part 811 and 814 landfill rules, which were initially adopted in 1990, specify comprehensive standards for new and existing nonhazardous solid waste landfills that address location, design, construction quality assurance, monitoring of gas, leachate and groundwater, closure, post-closure, and financial assurance.

Part 811 details the requirements for "new landfills," also known as "Part 811 landfills." "New landfills" are landfills that had, as of September 18, 1990, not accepted waste, no development or operating permit issued by the Agency under 35 Ill. Adm. Code 807, or increased the maximum design capacity or lateral extent. *See* 35 Ill. Adm. Code 810.103. New landfills are required to establish background concentrations for any constituent with a groundwater quality standard under Part 620 (including PFAS) that is expected to appear in the leachate. *See* 35 Ill. Adm. Code 811.315(e)(1)(G)(i).

Part 814 details the requirements for existing landfills<sup>1</sup> that did not meet the definition of a Part 811 landfill. These existing landfills, which were required to upgrade to meet Part 814 requirements to keep operating beyond September 18, 1990, are known as "Part 814 landfills." The Part 620 PFAS standards impact both Part 811 and 814 landfills because Part 620 requires the landfills to monitor for all constituents listed in 35 Ill. Adm. Code 620.410, including PFAS when the landfill is in an assessment monitoring phase. *See* 35 Ill. Adm. Code 811.319(b)(5)(A).

### **Part 807 Landfills**

---

<sup>1</sup> Part 814 specifies requirements for existing landfills by including cross-references to specific provisions in Part 811.

When the new landfill rules were adopted in 1990, the Board allowed owners/operators who did not want to upgrade their existing landfills (pre-1990) to meet the new requirements of Part 814 to close by the end of 1992 under the old landfill rules at 35 Ill. Adm. Code 807. *See* Part 814, Subpart E. These landfills are referred to as “Part 807 landfills.” While Part 807 landfills stopped accepting waste and initiated closure by the end of 1992, many of them are still conducting post-closure care groundwater monitoring. The record indicates that the Part 807 landfills, which are currently monitoring groundwater, are impacted by the Part 620 PFAS standards because they are required to monitor for all constituents with Part 620 standards, including PFAS.

### **Groundwater Monitoring at Landfills**

Groundwater monitoring at Parts 807, 811, and 814 landfills is conducted to detect, at an early stage, any leakage of contaminants from waste into the uppermost aquifer, ensuring protection of human health and the environment. Groundwater monitoring assesses landfill performance by measuring water quality downgradient versus upgradient, enabling timely, required corrective actions. Part 811 and 814 landfills are required to implement a groundwater monitoring program that includes detection monitoring, assessment monitoring, and remedial action. *See* 35 Ill. Adm. Code 811.319. For Part 807 landfills, IEPA specifies detailed groundwater requirements in those facilities’ permits that include detection monitoring, assessment monitoring, and corrective action. *See* 35 Ill. Adm. Code 807.501.

“Detection monitoring” is conducted during operation, closure, and post-closure to detect any release from a landfill unit as early as possible, so additional measures like confirmation of release and assessment monitoring can be implemented in a timely manner. If detection of monitored constituents above a certain specified level is confirmed as attributable to the landfill, then the landfill must implement an “assessment monitoring program.”

“Assessment monitoring” is conducted to confirm that the landfill is the source of the contamination as well as to provide information needed to carry out a groundwater impact assessment. Assessment monitoring includes monitoring of additional constituents, increased sampling frequency, installation of additional wells, and other investigative techniques to determine the source and extent of contamination.

During detection and assessment monitoring, the operator may submit an “alternative source demonstration” (ASD) to demonstrate that a monitored increase is being caused by a source other than the landfill. If the assessment monitoring data shows that the concentration of one or more constituents, monitored at or beyond the compliance point, is above the applicable groundwater quality standards and is attributable to the solid waste disposal facility, the operator must implement remedial action.

“Remedial action” at Part 811 and 814 landfills involves the implementation of one or a combination of more than one remedial measures to restore groundwater quality, including retrofitting additional groundwater protective measures within the unit; constructing an additional hydraulic barrier, such as a cutoff wall or slurry wall system; pumping and treating the contaminated groundwater; or any other equivalent technique.

## **ECONOMIC REASONABLENESS**

The Board appreciates JCAR's careful review and has endeavored to gather as much economic reasonableness testimony and evidence as possible. Though the Board solicited economic impact information from all participants, and included the owners/operators of all 97 Part 807 landfills in the notice list for this sub-docket, only two witnesses testified at hearing on behalf of landfills. As required under 415 ILCS 5/27(b) (2024), the Board sent a letter on January 6, 2022 to the Department of Commerce and Economic Opportunity (DCEO) requesting that it perform an economic impact study on the proposed amendments in the underlying rulemaking. To date, DCEO has not responded to this request.

Mr. Eric Ballenger, Senior Manager of hydrology for Republic Services, the second largest provider of waste disposal in the United States, testified on behalf of NWRA, an organization that represents companies that manage waste in Illinois. Mr. Ballenger pre-filed written testimony on July 25, 2025 (Ballenger Test.) and his testimony focuses on Part 811 and 814 landfills. Mr. Ballenger asks the Board to retain the exemptions in Sections 620.410(f) and 620.420(e). Ballenger Test. at 19.

Mr. Hunsberger, a civil and environmental engineer, testified on behalf of Land and Lakes Company, which owns and operates a Part 807 landfill located in Des Plaines, Cook County. This landfill was closed pursuant to Part 807 in 1994. Hunsberger prefiled testimony in this sub-docket on July 25, 2025 (Hunsberger Test.) and his testimony focuses on Part 807 landfills. He asks that the Board include Part 807 landfills in the PFAS exemptions provided to Part 811 and 814 landfills.

In the following sections, the Board first summarizes the economic information pertaining to Part 811 and 814 landfills, including Mr. Ballenger's testimony. Next, the Board summarizes the economic information addressing Part 807 landfills, along with Mr. Hunsberger's testimony.

### **Part 811 and 814 Landfills**

IEPA states that there are currently 91<sup>2</sup> landfills subject to Part 811 or Part 814 permits, of which one is currently seeking expansion; 56 are closed; all are in detection monitoring; and 10 sites have wells subject to assessment monitoring. 8/12/25 IEPA Resp. at 4-5. In addition, 36 active landfills are fully compliant with Subtitle D with composite liner systems. *Id.* at 5

### **PFAS Sampling & Analysis Cost**

In its final order in R22-18, the Board, based on IEPA's estimate, found that the analytical cost for PFAS would be \$300 per sample. Final Order at 6. In this sub-docket, IEPA continues to maintain that the cost for analysis of PFAS samples would be \$300 per event per well. 7/25/25 IEPA Resp. at 6. However, both Ballenger and Hunsberger estimated slightly higher

---

<sup>2</sup> The number of closed and active landfills add to 92 landfills.

PFAS analytical cost per sample of \$375, relying on costs obtained from Illinois and national laboratories. Ballenger Test. at 20, Hunsberger Test. At 11. In addition, Hunsberger also estimated a cost of \$45 per well for sampling, compilation, and reporting. Thus, for each monitoring well, the cost of sampling, laboratory analysis, and compilation/reporting is approximately \$420 per event. *Id.* This cost applies to sampling at Part 807, 811, and 814 landfills.

### **PFAS Monitoring Costs**

As noted above, Part 811 and 814 landfills would be required to establish background for PFAS and also monitor them on an annual or semi-annual basis during assessment monitoring. *See* 35 Ill. Adm. Code 811.319(b)(5)(C) and (D). In addition, Mr. Ballenger asserts that Part 811 and 814 landfills will also be required to monitor leachate for PFAS. Ballenger Test. at 7. Both IEPA and NWRA (Mr. Ballenger) provided potential PFAS monitoring costs.

**IEPA.** IEPA states that establishing background would require analysis of groundwater samples collected at upgradient monitoring wells for four quarters. 7/25/25 IEPA resp. at 6. The cost for analysis of these samples would be \$300 per event per well, i.e., an annual cost of \$1,200 per well. IEPA notes that the total costs would be site-specific based on the total number of upgradient wells.

Next, IEPA estimates the cost of semiannual monitoring of PFAS during assessment monitoring by considering a landfill with the greatest number of monitoring wells, 110 wells, as a worst-case scenario. Thus, based on an analytical cost of \$300 per sample, IEPA estimates that the total annual cost would be \$66,000 per year. Assuming an average 10-year active life and 30-year post-closure care period, the total cost would be \$2,640,000. *Id.* at 6-7.

IEPA also notes that the costs associated with sample collection according to procedures incorporated by reference that may include mitigation of potential interference are separate from the analytical costs. 8/12/25 IEPA Resp. at 8. This cost, which is considered by IEPA as feasible, may result in additional costs which will vary from site to site. *Id.*

**NWRA.** To estimate the PFAS monitoring costs, Mr. Ballenger made the following assumptions: 1) “PFAS constituents will be added to the List G2 parameters analyzed pursuant to the permit (semi-annual for Parts 811 and 814 Subpart C programs, and annually for Part 814 Subpart D programs)”; 2) “the PFAS constituents will be contained in the L2 leachate list of parameters, with the number of sampling events based on the number of leachate monitoring points for each program”; 3) the “incremental costs includes derivation of the AGQs [applicable groundwater quality standards] for PFAS constituents and related permitting”; 4) “a minimum of four quarters of background analyses will be required”, then “there may need to be justification or an ASD [alternative source demonstration] done to show the detections are not the result of a release”; and 5) “PFAS would be added to the existing groundwater and leachate lists and analyzed with the other organic compounds”. Ballenger Test. at 19-20.

Unlike IEPA’s worst-case scenario, Mr. Ballenger used data provided by the NWRA-member landfills “for the number and frequency of the sampling locations” as well as the “the

published remaining operating years” from the IEPA landfill capacity report dated July 2024 for 2023. Ballenger Test. at 20. In his testimony, Mr. Ballenger lays out the frequency of the required monitoring for each landfill in Tables 9-11. *See id.* at 21-26.

Mr. Ballenger estimates the additional incremental cost for Part 811 and 814 landfills to comply with PFAS groundwater and leachate monitoring for the remaining life of the sites to be \$32,629,125 for Part 814 Subpart D sites and \$22,613,625 for Part 811 and Part 814 Subpart C sites. Ballenger Test. at 20.

### **Assessment Monitoring Costs**

Beyond the incremental cost of monitoring PFAS in groundwater and leachate, both IEPA and NWRA also address potential costs that may be associated with other assessment monitoring requirements, including additional sampling.

**IEPA.** IEPA notes that to determine the rate and extent of contamination under Section 811.319(b), quarterly monitoring would be required at each well exhibiting an exceedance. 7/25/25 IEPA Resp. at 7. Again, considering the worst-case scenario of a landfill with 110 wells, IEPA estimates an annual cost of \$1,200 per well during the assessment monitoring period that equates to \$132,000 per year for 110 wells.

**NWRA.** Mr. Ballenger also addresses potential assessment monitoring costs, including: 1) “[e]valuation of the detections of the PFAS constituents within the background wells,” including “additional sampling of groundwater, surface water, and soils, and may include installation and sampling of additional monitoring wells”; 2) “[e]valuation of potential cross-contamination from old well construction and pumps,” including the replacement of wells and/or pumps; 3) “[e]valuation of the rate and extent of PFAS constituents detected above the Part 620 standards,” including additional well installations, related sampling, multiple drilling programs to adequately identify the extent of concentrations above the applicable standards depending upon the geometry of the site, property, and hydrogeologic characteristics; 4) “[c]onducting the Corrective Action Measures Assessment (“CAMA”), holding public meetings, designing and permitting of potential corrective action pursuant to 35 Ill. Adm. Code Section 811.324”; 5) “[r]evision of the contaminant transport model to accommodate either the CAMA, or revision of the model due to a failure at the time of a permit renewal application where PFAS constituents into the Groundwater Impact Assessment (GIA)”; 6) “[d]esign, permitting, and installation of contingent remediation programs resulting from contaminant transport model failures due to the extremely low limits of the PFAS constituents”; and 7) “[d]esign modification for new areas based on the GIA results.” Ballenger Test. at 26-27.

Mr. Ballenger estimates that these additional costs will be \$2,616,750 for Part 814 Subpart D landfills and \$818,000 for Part 811 and Part 814 Subpart C sites. Ballenger Test. at 28. He notes that these costs are based on data provided by NWRA member landfills and “does not include additional assessment monitoring for Appendix II parameters, revisions to the groundwater impact assessment, or other site investigations that may be required to complete the assessment.” *Id.* To estimate these costs, Mr. Ballenger also assumed that: 1) “an extra two samples will be required in a year for each groundwater and leachate monitoring location to

establish background concentrations”; 2) “background concentrations for PFAS parameters can be established for approximately \$10,000 in an assessment report contained in a permit application”; and 3) “one permit application is assumed during operation and post-closure care period.” *Id.* Mr. Ballenger details the amount and frequency of monitoring for each landfill in Tables 13-15. *Id.* at 28-33.

### **Corrective Action Costs**

As noted above, if the assessment monitoring results show that the concentration of monitored constituents, including PFAS at or beyond the compliance point, is above the applicable groundwater quality standards and is attributable to the landfill, the operator must implement remedial action consisting of one or a combination of more than one remedial measures including: retrofitting additional groundwater protective measures within the unit; constructing an additional hydraulic barrier, such as a cutoff wall or slurry wall system; pumping and treating the contaminated groundwater; or any other equivalent technique.

**IEPA.** Regarding the corrective action costs, IEPA states that they are “difficult to determine, especially specific to PFAS, due to a variety of factors such as the extent of contamination, its fate and transport, emerging technologies, site specific conditions, existing site infrastructure, space constraints and availability at the site, water quality variation, PFAS concentrations and speciation, and chemistry of the facility’s groundwater.” 7/25/25 IEPA Resp. at 7, *citing* NWRA’s Public Comment #61 in R22-18, P.C. # 61 (referencing “Evaluation of Current Alternatives and Estimated Cost Curves for PFAS Removal and Destruction from Municipal Wastewater, Biosolids, Landfill Leachate, and Compost Contact Water” prepared by BARR Engineering Co., Hazen and Sawyer dated May 2023).

**NWRA.** Mr. Ballenger estimates the cost of PFAS-related corrective action only for Part 814 Subpart D units because Part 811 and Part 814 Subpart C facilities are Subtitle D compliant, i.e., “designed and constructed with composite liner and leachate management systems.” Ballenger Test. at 34. He notes that there have been no confirmed leachate leaks from landfills with RCRA Subtitle D compliant liner systems, which include Part 811 and Part 814, Subpart C landfills. *Id.* at 7. For landfill operational data, he relied on data provided by NWRA-member landfills as well as IEPA’s Landfill Capacity Report for 2023. *Id.* The cost estimates are for projected life of the facility unless closed and includes “30 years of post-closure care unless an alternative minimum post-closure care period is required.” *Id.*

For estimating remedial costs, Mr. Ballenger relied on a study done for the Minnesota Pollution Control Agency entitled “Evaluation of Current Alternatives and Estimated Cost Curves for PFAS removal and Destruction from Municipal Wastewater, Biosolids, Landfill Leachate, and Compost Contact Water” as well as data from “an internal case study prepared by Republic Services in July 2025.” Ballenger Test. at 34. The Minnesota study identified feasible treatment options for several waste streams, including landfill leachate, by examining over 50 PFAS separation and destruction technologies “for their ability to remove and destroy select PFAS to below current analytical reporting limits.” Minn. Study at 1.

For landfill leachate, the Minnesota study evaluated the costs for two feasible alternative treatment options: GAC with high temperature incineration and foam fractionation with high temperature incineration of foamate. Mr. Ballenger states that “the estimates for the remediation of the PFAS-contaminated groundwater were variable.” Ballenger Test. at 35. The estimates “ranged significantly from a low- to high-construction cost depending upon the selected treatment.” *Id.* Mr. Ballenger also states that the “two top options evaluated were granular activated carbon with high temperature incineration and a foam fractionation with high temperature incineration resulting in a total range of \$112 [million] MM up to \$558MM.” *Id.* According to Mr. Ballenger, the “case study provided by Republic Services indicates capital costs for the project of \$3.893MM but indicated some initial design and construction issues with first-time construction may be mitigated in future construction, reducing the cost potential by \$1.2MM.” *Id.* Mr. Ballenger includes details of the estimate for each NWRM-member landfill in Tables 17-19. *Id.* at 36-44.

### **Part 807 Landfills**

As noted above, Mr. Hunsberger, on behalf of Land and Lakes Company, and IEPA provided information on the cost impact of Part 620 PFAS standards on Part 807 landfills. There are 97 Part 807 landfills in Illinois that have not completed post-closure care, of which 34 are closed but not certified closed, and 63 in post-closure care (including Land and Lakes 1 & 2). All 97 Part 807 landfills are subject to groundwater monitoring requirements under their permits<sup>3</sup> that include detection monitoring, assessment monitoring, and corrective action. 8/12/25 IEPA Resp. 13. The 807 landfills are required to monitor all Part 620 parameters, including PFAS, annually under detection monitoring. If select wells are in assessment or corrective action monitoring, those wells may have a quarterly or semiannual frequency to monitor a release from the landfill. *Id.*

### **PFAS Sampling & Analysis Costs**

As noted above, the sampling and analysis cost is the same for Part 807, 811, and 814 landfills. IEPA maintains that the cost for the analysis of PFAS samples would be \$300 per event per well. 7/25/25 IEPA Resp. at 6. However, both Ballenger and Hunsberger estimated slightly higher PFAS analytical cost per sample of \$375 plus an estimated cost of \$45 per well for sampling, compilation, and reporting, which totals to \$420 per event per well. Ballenger Test. at 20, Hunsberger Test. at 11. In addition, for PFAS sampling, Hunsberger notes that the landfills’ monitoring well networks must be evaluated to ensure cross-contamination from Teflon tape, gaskets, tubing, or pumps are not impacting the results. Hunsberger Test. at 12. However, he does not provide a cost estimate for such evaluation.

---

<sup>3</sup> Section 807.501(a) allows IEPA to supplement the general provisions of the closure and post-closure plans “by more specific closure and post-closure care requirements for certain types of waste management sites, specifically the closure and post-closure care requirements for sanitary landfills contained in Subpart C.” 35 Ill. Adm. Code 807.501. Under this provision, IEPA may specify detailed groundwater requirements for Part 807 landfills in those facilities’ permits that include detection monitoring, assessment monitoring, and corrective action.

### **PFAS Monitoring Costs**

To estimate the PFAS monitoring cost for Part 807 landfills, Mr. Hunsberger assumed that IEPA would include Part 620 PFAS constituents in the annual list of parameters to be monitored (commonly referred to as the G2 list of parameters) to the supplemental permits of all Part 807 units at some point. Hunsberger Test. at 10. In this regard, IEPA states that “Part 807 landfills analyze samples for all Part 620 parameters annually as part of detection monitoring; therefore, they will analyze for PFAS on an annual basis along with all other Part 620 parameters.” 8/12/25 IEPA Resp. at 4.

Mr. Hunsberger calculated the total incremental costs of PFAS monitoring by multiplying PFAS sampling cost per well by the number of wells and the expected number of years until release from post-closure care. Hunsberger Test. at 11. He determined the potential incremental cost of routine annual PFAS monitoring at a “typical” 50-acre Part 807 landfill with 15 monitoring wells to be \$6,300 per year. Hunsberger Test., Attach. A, Table 1. However, Mr. Hunsberger notes that the likelihood of Part 807 landfills going into assessment monitoring is high due to the pervasiveness of PFAS in the environment. *Id.* at 11.

### **Assessment Monitoring Costs**

IEPA notes that Part 807 landfills are required to analyze samples for all Part 620 parameters, including PFAS, annually as a part of monitoring. However, if PFAS are detected above the Part 620 standards downgradient of a Part 807 landfill, the unit is required to enter assessment monitoring to confirm that the solid waste disposal facility is the source of the contamination. 8/12/25 IEPA Resp. at 4. Mr. Hunsberger notes that assessment monitoring includes: establishing background concentrations, installing additional wells and geo probes, increasing sampling frequency, preparing an extent of contamination investigation, and preparing a supplemental permit application. Hunsberger Test. at 11-12, Attach. A, Table 1.

Mr. Hunsberger estimates the cost of implementing assessment monitoring program, including establishing background at a “typical” Part 807 landfill, to be \$161,460. Hunsberger Test., Attach. A, Table 1. This estimate includes background sampling costs (\$3,360) for two wells, the engineering cost for the permit application (\$5,000), verification cost of background data (\$15,000), assessment monitoring program permit (\$7,500), assessment of extent investigation (\$72,100), analysis of Geoprobe samples from 8 borings (\$3,000), installation of four compliance monitoring wells (\$48,000), and reporting/permitting (\$7,500). *Id.*

Additionally, if the unit is required to sample quarterly, Mr. Hunsberger provides an estimate for the sampling of four compliance boundary wells, four GMZ (groundwater management zone) wells, and four impacted detection wells, at a total annual cost of \$28,320. *Id.*

### **Corrective Action Costs**

Mr. Hunsberger states, “given the extremely low detection limits for PFAS, the chances are that many Part 807 landfills will enter corrective action.” Hunsberger Test. at 13. He notes

that the “remedial (corrective) action for PFAS constituents will be similar to most other contaminants and will likely involve source control, including cap, leachate extraction, treatment and disposal, and/or hydraulic gradient control and removal of the impacted groundwater through groundwater extraction that may or may not include barrier walls.” *Id.* However, removal of such PFAS-containing liquids (groundwater or leachate) may be complicated by the lack of treatment facilities willing to accept such liquids. Even if publicly-owned and/or private water treatment facilities decide to accept the PFAS-containing liquids for treatment, the treatment and disposal costs are currently unknown. *Id.*

For source control, Mr. Hunsberger reports that a landfill will likely have to re-do its final cover. Part 807 landfills are required to have a final cover that is a compacted layer of not less than two feet of suitable material placed over the entire surface of the landfill. *See* 35 Ill. Adm. Code 807.305. Mr. Hunsberger estimates the cost per acre of installing a new geocomposite cover system with a geotextile to be \$151,000. For a 50-acre landfill, that would be a total cost of \$7,550,000.

For leachate extraction, which consists of a collection and pumping system to remove leachate from the landfill to prevent it from migrating to underlying groundwater, Mr. Hunsberger estimates a new system to cost \$285,000. For a groundwater extraction system, which involves pumping contaminated groundwater, he estimates a cost of \$130,600. Installing barrier walls is estimated to cost \$844,388. Once leachate and groundwater are extracted, they will have to be transported for treatment at a Publicly Owned Treatment Works (POTW). The annual operation and maintenance cost of leachate and groundwater extraction systems, transportation of leachate and groundwater to a POTW, and treatment at POTW add to an annual cost of \$514,000. Hunsberger Test., Attach. A, Table 2.

In the very unlikely circumstance where a POTW refuses to accept PFAS-containing liquids for treatment, Mr. Hunsberger provides an estimated cost for a landfill to construct an on-site treatment facility. He estimates that it would cost \$1 million to \$5 million and would have \$100,000 to \$500,000 of annual operation costs.

Looking at Part 807 landfills, Mr. Hunsberger notes that they currently do not generate revenue from waste disposal. “Given the extremely low groundwater quality standards for the PFAS constituents, the potential for these sites to exit post-closure is unlikely without substantial investment in PFAS remediation.” Hunsberger Test. at 9. He argues that remediation costs without matching revenue streams could lead to owners of Part 807 landfills abandoning their facilities. *Id.*

### **PROPOSED AMENDMENTS**

At first notice, the Board proposes striking the following exemptions for Part 811 and 814 landfills as follows:

35 Ill. Adm. Code 620.410

- f) ~~No facility that is subject to 35 Ill. Adm. Code 811 or 814 must comply with any requirement or standard of those rules to the extent it incorporates or is otherwise based on any of the following constituents or their standards under this Section:~~

<u>CASRN</u>	<u>Constituent</u>
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)
375-73-5	PFBS (perfluorobutanesulfonic acid)
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
335-67-1	PFOA (perfluorooctanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)

35 Ill. Adm. Code 620.420

- e) ~~No facility that is subject to 35 Ill. Adm. Code 811 or 814 must comply with any requirement or standard of those rules to the extent it incorporates or is otherwise based on any of the following constituents or their standards under this Section:~~

<u>CASRN</u>	<u>Constituent</u>
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)
375-73-5	PFBS (perfluorobutanesulfonic acid)
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
335-67-1	PFOA (perfluorooctanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)

## DISCUSSION

At second notice in the underlying rulemaking, the Board reiterated that the adoption of the Part 620 PFAS standards did not impose corrective actions on facilities, including landfills that exceeded the PFAS groundwater quality standards. Second Notice at 15 (Jan. 23, 2025). Any corrective action at affected landfills would be required under the Board's existing landfill regulations under Parts 807, 811, and 814. Because the landfill rules cross-reference the Part 620 standards, there are certain compliance costs for PFAS monitoring and remediation that could be

incurred when the Board eliminates the exemptions for Part 811 and 814 landfills as proposed here. Part 807 landfills are already subject to the new PFAS standards as they were not included in the exemptions.

As the Board has reminded participants throughout the underlying rulemaking, regulatory relief exists for all landfills subject to the part 620 groundwater standards. R22-18, First Notice Opinion at 19, 68 (March 7, 2024); Proposed Second Notice at 54 (Oct. 17, 2024); Second Notice at 15 (Jan. 23, 2025); Final Adoption at 7 (Mar. 20, 2025). Should the Board adopt the amendments proposed in this sub-docket, any landfill can request an adjusted standard, site-specific rule, or, if the landfill is in corrective action, can request that IEPA establish a groundwater monitoring zone.

The Illinois Groundwater Protection Act guides the Board when establishing groundwater protection standards. At second notice, the Board looked to the General Assembly's language in creating the Groundwater Protection Act.

The Board has looked to the Illinois Groundwater Protection Act for its statutory directive in regularly updating its groundwater quality standards (GWQS). Under the Groundwater Protection Act, the Board "shall, in addition to the factors set forth in Title VII of the Environmental Protection Act, consider ... existing methods of detecting and quantifying contaminants with reasonable analytical certainty." 415 ILCS 55/8(b) (2022). The Groundwater Protection Act informs the Board and IEPA of the unique importance of groundwater to the people of the State of Illinois. "The State recognizes the essential and pervasive role of groundwater in the social and economic well-being of the people of Illinois, and its vital importance to the general health, safety, and welfare." 415 ILCS 55/2(b) (2022).

The General Assembly also acknowledges the necessity of maintaining groundwater as a resource for all residents of the State, "a large portion of Illinois' citizens rely on groundwater for personal consumption, and industries use a significant amount of groundwater." 415 ILCS 55/2(i) (2022). Further, the General Assembly notes that groundwater contamination is currently occurring, and this contamination, "will adversely impact the health and welfare of its citizens and adversely impact the economic viability of the State." 415 ILCS 55/2(ii) and (iii) (2022). Finally, the General Assembly ties the protection of groundwater to future economic benefit of the residents of the State, "protection of groundwater is a necessity for future economic development in this State." 415 ILCS 55/2(iv) (2022). The General Assembly is clear in (1) describing groundwater as a vital resource to citizens of the State as well as the economy of the State and (2) directing IEPA and the Board to regularly consider existing methods of detecting and quantifying contaminants so that groundwater quality standards can be updated. R22-18 Second Notice at 3.

### **Harm to Human Health and the Environment**

In the underlying rulemaking, R22-18, at proposed second notice, second notice, and final adoption, the Board held that PFAS pose a significant threat to human health and the environment. Proposed Second Notice at 40-42, 55 (Oct. 17, 2024); Second Notice at 4-5 (Jan. 23, 2025); Final Adoption at 1 (Mar. 20, 2025). After reviewing testimony, answers to Board questions, and public comments, the Board found that establishing groundwater quality standards for PFAS chemicals would protect human health and maintain groundwater as a vital resource for the State of Illinois. Second Notice at 5.

### **“Forever Chemicals”**

PFAS are commonly called “forever chemicals” as they do not easily degrade and are bio-accumulative, meaning they can concentrate in tissues of living organisms, including humans. Establishing groundwater quality standards for the six PFAS at issue here is important to the protection of human health and the environment. In the underlying rulemaking, the Board set standards for PFOA, PFOS, PFNA, PFBS, PFHxS, and HFPO-DA (also known as GenX). Four of these, PFBS, PFHxS, PFOS and PFOA, have been detected in the finished water of public water supplies across Illinois. Second Notice at 4. At second notice, the Board found:

GenX has been detected in groundwater during sampling conducted under the statewide PFAS sampling initiative. All six PFAS chemicals at issue in this rulemaking have been detected in the State’s public water supplies that rely on community water supply wells to serve large populations. In addition, thousands of Illinoisans depend on groundwater from private potable wells, which usually do not have access to treatment technologies. Further, the proposed PFAS standards are based on USEPA’s drinking water maximum contaminant levels (MCLs) or health-based water concentrations (HBWC) intended to protect human health from adverse effects of exposure from PFAS. These adverse health effects include effects on the liver (e.g., liver cell death), growth and development (e.g., low birth weight), hormone levels, kidney, the immune system (reduced response to vaccines), lipid levels (e.g., high cholesterol), the nervous system, and reproduction, as well as increased risk of certain types of cancer. Additionally, USEPA found that PFAS exposure has disproportionate health effects on children, including developmental effects to fetuses during pregnancy or to breast-fed infants, cardiovascular effects, immune effects, endocrine effects, and reproductive effects. Second Notice at 4 (internal citations omitted).

### **The Board’s Rulemaking Requirements**

The Act requires the Board to consider the economic reasonableness and technical feasibility of proposed regulations. 415 ILCS 5/27(a) (2024). The Supreme Court has found that, “[i]f the Board, in its own discretion and based on its technical expertise, determines that a proposed regulation is necessary to carry out the purpose of the Act, it may adopt technology-forcing standards which are beyond the reach of existing technology.” Granite City Div. of Nat’l Steel Co. v. Illinois Pollution Control Board, 155 Ill. 2d 149, at 182-183 (1993), *citing Monsanto Co. v. Pollution Control Board*, 67 Ill. 2d 276, 292-93 (1977). The Supreme Court further held that Section 27(a) “requires only that the Board consider or take into account the factors set forth

therein. The Board must then use its technical expertise and judgement in balancing any hardship that the regulations may cause to dischargers against its statutorily mandated purpose and function of protecting our environmental and public health.” *Id.* at 183.

### **Cost Impact on Part 807, 811, and 814 Landfills**

Whenever the Board updates Part 620 with numerical standards for new contaminants like PFAS standards, those standards become applicable to landfills due to Part 620 being cross-referenced in the landfill rules. The new groundwater standards are incorporated in the landfill’s groundwater monitoring programs, including establishment of background, detection monitoring, and assessment monitoring, which impose an additional cost on the landfills. Since the adoption of Part 620 in 1991, the Board has received and adopted periodic updates to its numerical standards, consistent with current scientific methodologies and developments. *See* Proposed Amendments to Groundwater Quality Standards, 35 Ill. Adm. Code 620, R08-18; Proposed MTBE and Compliance Determination Amendments to Groundwater Quality Standards: 35 Ill. Adm. Code 620, R01-14; Groundwater Protection: Amendments to Groundwater Quality Standards (35 Ill. Adm. Code 620), R93-27.

For example, in R08-18, the Board added 39 chemical constituents detected in Illinois groundwater to Part 620 consistent with the IGPA (415 ILCS 55 (2010)) and the Act. *Id.* at 11-12. While addressing concerns regarding monitoring costs in that rulemaking, “the Board found that a primary purpose behind the IGPA and the Act is to protect groundwater, which requires being preventive and avoiding degradation, not waiting until contaminants are widespread.” Thus, the Board found that monitoring is a significant preventative means to protect groundwater resources. In adopting new PFAS standards, the Board stated in the underlying rulemaking:

The Board continues to find that the protection of human health and the environment to be the main motivation to periodically updating Part 620 to include new constituents and new scientific methodologies. The Board finds, under Section 27(b) of the Act, that the benefit of protecting human health and the groundwater as a vital resource will be achieved by establishing groundwater quality standards for these six PFAS chemicals in addition to the other proposed amendments to Part 620. Second Notice at 5.

Therefore, groundwater monitoring of Part 620 constituents, including PFAS under the landfill rules, is an integral part of protecting groundwater from impact of landfills.

As noted above, the removal of the PFAS standards exemptions under Part 620 for Part 811 and 814 landfills and the application of PFAS standards to Part 807 landfills impose compliance costs on landfills, largely due to certain landfill rule provisions cross-referencing Part 620 standards.<sup>4</sup> These costs include establishing background for PFAS, inclusion of PFAS in detection and assessment monitoring, and possible corrective action if triggered by assessment

---

<sup>4</sup> The Board explained in the underlying rulemaking that, even without future Board rulemaking, it is conceivable that compliance costs for monitoring and possible remediation could be incurred at landfills due to the Part 620 PFAS amendments. Second Notice at 6-11.

monitoring. The cost estimates provided by NWRA, Land and Lakes, and IEPA for Part 811 and 814 landfills, as well as Part 807 landfills, are summarized below in Tables 1 and 2. The Board discusses these costs below.

**Table 1  
Cost Estimate for Part 811 and 814 Landfills**

<b>Part 620 PFAS Standards Related Provisions</b>	<b>Cost Estimate (\$)</b>
<b>PFAS Analytical cost</b>	300-420 per sample
<b>PFAS Background (4 quarters)</b>	1200 – 1,680 per well
<b>PFAS Detection monitoring</b>	
NWRA (total for all landfills for remaining life 5-169 years)	55,242,750
IEPA (worst case – landfill with 110 wells, semiannual sampling)	66,000/year/landfill 2,640,000 (total cost over 40 years)
<b>Assessment Monitoring</b>	
IEPA (worst case – landfill with 110 wells, quarterly sampling)	132,000/year/landfill
NWRA (total for all landfills)	3,434,750
<b>Corrective Action</b>	
<b>IEPA</b>	Site-specific
NWRA For treatment of extracted leachate and groundwater (for total of 24 Part 814, Subpart D landfills total cost over life of landfills including post-closure care)	
<b><u>Based on Minnesota Study:</u></b> GAC with high temperature Incineration	Median \$139,094,000 High \$164,519,000 Low \$113,669,000
Foam fractionation with high temperature incineration of foamate	Median \$441,705,000 High \$581,667,000 Low \$301,743,000
<b><u>Based on Republic Services Case Study</u></b>	High \$598,660,670 Low \$549,460,670

**Table 2  
Cost Estimate for Part 807 Landfills**

<b>Part 620 PFAS Standards Related Provisions</b>	<b>Cost Estimate (\$)</b>
<b>PFAS Analytical cost</b>	300-420 per sample
<b>PFAS Background (4 quarters)</b>	1200 – 1,680 per well
<b>PFAS Detection Monitoring</b>	
<b>Land and Lakes</b> (annual for a typical 50-acre landfill with 15 wells)	6,300/year
<b>IEPA</b> (worst case – landfill with 110 wells, semiannual)	66,000/year/landfill 2,640,000 (total cost over 40 years)
<b>Assessment Monitoring</b>	
<b>Land &amp; Lakes</b> (for a typical 50-acre landfill)	161,460
<b>Annual cost</b>	42,120
<b>Corrective Action</b>	
<b>IEPA</b>	Site-specific
<b>Land &amp; Lakes</b> (for a typical 50-acre landfill)	
Initial construction cost	8,814,988
Annual operation and maintenance cost (including treatment of leachate and groundwater)	464,000
Onsite Treatment of leachate and groundwater	1-5 million capital cost 100,000 to 500,000 O&M cost

### **PFAS Monitoring Cost**

Whenever the Board updates Part 620 with numerical standards for new contaminants like PFAS standards, those standards become applicable to landfills due to Part 620 being cross-referenced in the landfill rules. The new groundwater standards are incorporated in the landfill's groundwater monitoring programs, including establishment of background, detection monitoring and assessment monitoring, which impose an additional cost on the landfills. As noted in the Tables above, the per sample PFAS analytical cost is between \$300 and \$375 (excluding compilation and reporting cost). This cost is within the range (\$42.70 to \$402.50) of analytical costs for other common groups of volatile and semi-volatile organic compounds albeit toward the higher end. 8/25/25 IEPA Resp at 8. Therefore, the PFAS monitoring costs for detection and assessment monitoring or establishment of background that flow from the analytical cost should not be very different from that of other constituents added to Part 620 in previous rulemakings.

**Establishing background for PFAS.** IEPA states that landfills would be required to develop background values for statistical comparison for PFAS constituents like all other Part 620 constituents. These background values require that a minimum of four quarters of groundwater samples be collected from groundwater monitoring wells located hydraulically upgradient and unaffected by the facility. 7/25/25 IEPA Resp. at 3. Further, IEPA anticipates that background values for groundwater can be established using existing groundwater

monitoring networks that are adequate for detecting a potential release. *Id.* Mr. Hunsberger estimates the cost for background sampling costs at \$3,360 for two wells. Hunsberger Test., Attach. A, Table 1.

**Detection/assessment Monitoring.** For Part 811 and 814 landfills, NWRA estimates a total cost of approximately \$55 million for including PFAS in detection monitoring, and \$3.4 million for conducting assessment monitoring. These costs cover approximately 91 landfills, and the cost is spread over the landfill's active life and post-closure care period. Given sample analytical costs for PFAS are within range of other organic compounds, the Board considers NWRA's cost estimates including PFAS in detection monitoring, as well as any potential assessment monitoring, to be along the same lines as monitoring costs for many other organic contaminants on the detection monitoring list under Part 811 and 814. IEPA notes that for typical landfills, costs range from a few thousand to tens of thousands of dollars annually would be within the normal operating budgets of regulated facilities. PC 2 at 5-6. Additionally, IEPA maintains that "because PFAS would not be included in routine detection monitoring, but only in assessment or corrective action programs for Part 811 and Part 814 facilities, the actual number of analyses each year is limited. In this way, the cost structure aligns with the level of environmental concern, so facilities with no indication of PFAS impact would bear little to no additional cost." *Id.* at 6.

In case of Part 807 landfills, Land and Lakes estimates an annual cost of \$6,300 per landfill for including PFAS in detection monitoring. This cost is what would be expected when additional contaminants are added to the detection monitoring list. The cost estimate for assessment monitoring of \$28,320 is higher because of additional wells and quarterly monitoring. Land and Lakes also estimate an additional assessment monitoring cost of \$161, \$460 per landfill for placement of boundary wells, extent investigation, background verification, etc. However, as noted by Land and Lakes, the additional cost varies based on site-specific factors especially the extent investigation. Also, the additional assessment monitoring cost is not unique to PFAS; it applies to assessment of any monitored constituent triggered during detection monitoring because the items listed by Land and Lakes are part of the process of assessing whether there is a release attributable to the landfill.

**Board finding.** Considering the above, the Board disagrees with NWRA and Land and Lakes that Part 807, 811, and 814 landfills must be exempted from Part 620 PFAS standards when it comes to monitoring PFAS. As noted above, groundwater monitoring is a preventative measure for the early detection of any release of contaminants from a landfill so that appropriate remedial steps can be taken to protect underlying groundwater. IEPA asserts that the inclusion of PFAS constituents in groundwater monitoring programs at landfills is critical for identifying potential contamination and ensuring appropriate corrective actions are timely taken at these landfills. 7/25/25 IEPA Resp. at 2. IEPA maintains that potential impact of "any PFAS constituents released from Illinois landfills, as these will remain unknown without the requirements for sampling and analysis of these constituents and would therefore undermine the State's policy and commitment to safeguarding public health and environmental integrity." *Id.* The Board agrees that if PFAS are excluded from Part 807, 811, or 814 landfills' groundwater monitoring programs, then we will never know if groundwater is being contaminated by any release of PFAS from the landfills. Therefore, the Board considers the cost imposed on Part 807,

811, and 814 landfills due to inclusion of PFAS in their detection and assessment monitoring programs to be consistent with other constituents added to the landfill rules during previous updates of Part 620 standards. Considering this, the Board finds the costs of including PFAS in groundwater monitoring programs at Part 807, 811, and 814 landfills to be economically reasonable.

### **Corrective Action Costs**

The owner or operator of Part 811 or 814 landfill must conduct corrective action under Sections 811.319(d), 811.324, 811.325, or 811.326 if the analysis of the assessment monitoring data shows that the concentration of one or more constituents is above the applicable groundwater quality standards. In case of Part 807 landfills, corrective action is required if the landfill exceeds applicable Part 620 standards.

Regarding the corrective action costs, IEPA states that the “costs are difficult to determine, especially specific to PFAS, due to a variety of factors such as the extent of contamination, its fate and transport, emerging technologies, site specific conditions, existing site infrastructure, space constraints and availability at the site, water quality variation, PFAS concentrations and speciation, and chemistry of the facility’s groundwater.” 7/25/25 IEPA Resp. at 7, *citing* Minnesota Study submitted by NWRA (PC 61). However, as noted above, both NWRA and Land and Lakes have provided corrective action cost estimates for Part 811/814 landfills and Part 807 landfills, respectively. The Board appreciates NWRA and Land and Lakes for providing cost estimates for corrective action related to PFAS release from Part 807, 811, and 814 landfills.

**Part 811 and 814 Landfills.** For Part 811 and 814 landfills without composite liners and leachate collection systems (Part 814 Subpart D landfills), NWRA estimates total corrective action costs (for 56 landfills) based on treatment of extracted leachate and/or groundwater with groundwater impacts identified during assessment monitoring with two options: for GAC (granular activated carbon) with high temperature incineration, cost ranging from approximately \$113 million to \$165 million with a median cost of \$164.5 million; and for foam fractionation with high temperature incineration of foamate, cost ranging from approximately \$301.7 million to \$581.6 million with a median cost of \$441.7 million.

**Part 807 Landfills.** Land and Lakes estimates the corrective action cost for a typical 50-acre Part 807 landfill. The initial cost for planning, construction and installation of PFAS control and reduction system (preliminary design, final cover, leachate and groundwater extraction systems, and barrier wall installation) is estimated at approximately \$8.8 million of which \$7.5 million is for a new final cover system. In addition, the annual operations and maintenance cost, including leachate and groundwater treatment, is estimated at \$456,000. Hunsberger at 14, Table 2.

**Board finding.** The Board notes that while leachate/groundwater treatment costs for all affected landfills are in the range of \$113 to \$581 million, they are projected over the operating life of the landfills (5 to 169 years) plus 30 years of post-closure care for Part 811 and 814 landfills. Ballenger at 35, Tables 16 and 17. Further, as noted by IEPA, the annual estimated

tipping fee revenue for active Part 811 and 814 landfills is over \$1.3 billion, which provides a perspective on the annual remediation costs in terms of revenue for protecting the State's groundwater. 8/12/25 IEPA Resp. at 11. Additionally, as noted by Hunsberger, treatment technologies for PFAS contaminated groundwater are still emerging and have not been applied on a large scale. *Id.* at 14. So, as more technologies become commercially available, the Board expects treatment costs to decrease. Another factor to be considered is that many landfills with PFAS contamination may already be in corrective action phase for other constituents, so the burden of corrective action costs other than treatment may not be significant. 7/25/25 IEPA Resp. at 7.

Regarding Part 807 landfills, the bulk of non-treatment related costs is accounted by a new final cover, the need for which may have to be evaluated on a site-specific basis. Also, the Board recognizes that Part 807 landfills are mostly publicly owned and have no revenue coming in as all of them are in post-closure care. Also, many of the Part 807 landfills, which are owned by municipalities, are exempt from financial assurance requirements for corrective action. The Board notes that these landfills were closed almost 35 years ago under closure requirements of old landfill rules under Part 807, but most of them are continuing post-closure care due to groundwater issues. While adding potential PFAS corrective action costs would place additional burden on these facilities, the Board expects the Agency to ensure compliance with Part 620 groundwater standards, including PFAS, by utilizing existing enforcement tools or voluntary measures. In this regard, IEPA states "that even for closed landfills with limited data, the protection of groundwater remains a statutory mandate and will continue to be addressed within the constraints of available resources and authorities." 1/30/26 IEPA Resp. at 8.

Finally, the corrective action cost estimates are based on broad assumptions which may not be applicable at all landfills depending on site-specific conditions. In this regard, the Board agrees with IEPA, NWRA, and Land and Lakes that corrective action costs are very site-specific considering the various factors listed by IEPA, as well as NWRA and Land and Lakes, that may affect the corrective action costs at affected landfills. Therefore, while the Board generally finds the corrective action cost estimates for Part 807, 811, and 814 landfills to be reasonable, the Board reiterates that site-specific relief mechanisms like a GMZ, site-specific rules, and adjusted standards are available for landfill owners to seek relief based on site-specific conditions or factors for implementing corrective action or adjusting the groundwater standards.

### **Additional Information on Landfills**

The Board asked IEPA to provide recent groundwater monitoring reports for Part 807 landfills and a GIS (graphic information system) map showing landfills and their physical location with respect to groundwater resources in the State. In response, IEPA submitted extensive groundwater monitoring data for the 97 Part 807 landfills. 1/30/26 IEPA Resp. In its comments accompanying the data, IEPA maintains its position that, "protecting groundwater from PFAS is equally important at older, closed landfills as it is at active sites. A lack of recent data does not lessen the importance of understanding potential risks. Instead, it highlights gaps that may need future attention." IEPA Resp. at 8. IEPA points to the same economic issues raised by Mr. Hunsberger when dealing with closed landfills.

For example, the difficulty of retrofitting remedies at closed landfills and the lack of a dedicated funding stream for long-term care once the original postclosure funds (if any) are exhausted. Many municipally-owned Part 807 landfills no longer have dedicated financial assurance, as local governments were exempt from post-closure financial assurance requirements. Furthermore, the discontinuation of state funding programs like the Abandoned Landfill Program means there is currently no external funding mechanism to conduct new monitoring or cleanup at these orphaned sites. This creates a challenge where ensuring compliance and addressing contamination must be pursued through existing enforcement tools or voluntary measures, which can be slow or resource-constrained. Illinois EPA highlights this context not to advocate any new policy in this forum, but to candidly acknowledge why some data gaps exist.” IEPA Resp. at 8.

Additionally, IEPA provided 28 maps that illustrate where Part 807, 811, and 814 landfills are situated in the State in relation to Class I Potable Resource Groundwater, Regulated Recharge Areas, and public water supply wells and their setback zones. 1/30/16 IEPA’s response at 1,915 to 1,943. IEPA also provided two overview maps that show all landfills in relation to major aquifers in the state. *Id.* at 1,944 to 1,947. IEPA clarifies that the presence of a landfill near a well or aquifer does not automatically indicate contamination, but rather only indicates a potential source for contaminants. IEPA notes that it has not made determinations of impact or risk in the GIS mapping exercise. Instead, the maps respond to the Board’s request to visualize proximities. *Id.* at 13.

In examining the locations of Part 807, 811, and 814 landfills across the state, IEPA found that there are 23 landfills whose boundaries or edge of permitted zones of attenuation are within 1,000 feet of community water supply wells.<sup>5</sup> Some of these landfills have multiple community water supply wells nearby. There are 18 landfills that have at least one non-community water supply well<sup>6</sup> within 1,000 feet of the landfill’s boundary. The GIS maps also show that 71 landfills are located within one mile of at least one active public water supply well.<sup>7</sup>

While IEPA cautions that GIS maps are descriptive tools and are not intended to imply that any site is contaminating a water supply or that any regulatory violation exists, the Board notes the maps provide a visual representation of potential danger posed by landfills to the State’s potable resource groundwater and supports the necessity for eliminating the Part 620 PFAS exemptions for landfills.

### **Board Findings**

---

<sup>5</sup> Community water supply wells are public water supplies which serve at least 15 service connections or regularly serve at least 25 residents. 415 ILCS 5/3.145 (2024).

<sup>6</sup> Non-community water supply wells are public water supplies that serve less connections or residents than community water supply wells.

<sup>7</sup> Public water supply wells contain water that is used for the purpose of drinking or general domestic use and serve at least 15 service connections or 25 persons. 415 ILCS 5/3.365 (2024).

In balancing economic reasonableness, technical feasibility, and the threat of harm to human health and the environment, the Board finds that the additional cost of monitoring PFAS at Part 807, 811, and 814 landfills under their groundwater monitoring programs to be economically reasonable when weighed against the many adverse health effects of PFAS in groundwater. Further, the Board finds that any potential corrective action costs stemming from the results of PFAS monitoring at landfills are also reasonable, especially since many of the affected landfills are within proximity of potable water wells. Further, the cost estimates are spread over the life of the landfills, including post-closure care that can range from 35 to 205 years.

However, the Board recognizes that corrective action costs may vary depending on site-specific conditions because the cost estimates are based on broad assumptions. The Board is also aware of challenges facing Part 807 landfills in complying with groundwater standards due to lack of revenue and financial assurance. Therefore, the Board reiterates that site-specific relief mechanisms like a GMZ, site-specific rules, and adjusted standards are available for landfill owners to seek relief based on site-specific conditions or factors for implementing corrective action or adjusting the groundwater standards. The Board welcomes affected entities and IEPA to propose adjusted standard justification language tailored for landfills instead of Section 28.1(c) factors under the Act or other changes to Parts 807, 811, and 814 without extending blanket exemptions from PFAS standards.

The Board finds that the threat to human health and the environment far outweighs the costs imposed on Part 811 and 814 landfills by eliminating the PFAS standards exemptions under Part 620 for Part 811 and 814 landfills; and Part 807 landfills by applying PFAS standards already in place. Thus, the Board finds the proposed changes for first notice are economically reasonable.

### **CONCLUSION**

After analyzing the estimated costs as reported by both witnesses and information provided by the Agency, the Board concludes that the potential harm to human health and the environment far outweighs the costs associated with sampling for PFAS, and any potential corrective action at Part 807, 811, and 814 landfills. As such, at first notice, the Board proposes removing the exemptions for Part 811 and 814 landfills from complying with the Part 620 PFAS groundwater quality standards for Class I and Class II groundwater. Further, the Board declines to add an exemption from Part 620 PFAS standards for Part 807 landfills.

### **ORDER**

The Board directs the Clerk to file the first-notice proposal with the Secretary of State for publication in the *Illinois Register*.

IT IS SO ORDERED.

I, Don A. Brown, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above order on June 18, 2026, by a vote of 4-0.

Don A. Brown

Don A. Brown, Clerk  
Illinois Pollution Control Board