ILLINOIS POLLUTION CONTROL BOARD
May 4, 2006

IN THE MATTER OF:	)	
	)	
SETBACK ZONE FOR CITY OF	)	R05-9
MARQUETTE HEIGHTS COMMUNITY	)	(Rulemaking - Public Water Supply)
WATER SUPPLY, NEW 35 ILL. ADM.	)	
CODE 618	)	

Adopted Rule. Final Order.

OPINION AND ORDER OF THE BOARD (by A.S. Moore):

The Board today adopts final rules that establish an expanded setback zone of up to 1,000 feet to provide additional protection for the community water supply (CWS) wells of the City of Marquette Heights, in Tazewell County. The proponent of this rulemaking is the Illinois Environmental Protection Agency (Agency), acting at Marquette Heights' request. On December 2, 2005, first notice of the proposed rules was published in the *Illinois Register*. On April 11, 2006, the Joint Committee on Administrative Rules (JCAR) issued a certification of no objection concerning the second-notice rules. The Board will now file the adopted rules with the Secretary of State for publication in the *Illinois Register* as final rules.

This rulemaking is the first of its kind under Section 14.3(d) of the Environmental Protection Act (Act) (415 ILCS 5/14.3(d) (2004)), which allows for the establishment of "maximum setback zones" to prevent contamination of particularly vulnerable groundwater sources used by CWS. These final public water supply rules create a new Part 618 of Title 35 of the Illinois Administrative Code.

In this opinion, the Board first provides the procedural history of this rulemaking. The Board then discusses the legal framework for setback zone protection in Illinois, the developments leading to the Agency's proposal, and the contents of and justification for the final rules. The rules themselves appear in the order following this opinion.

PROCEDURAL HISTORY

The Agency filed the rulemaking proposal on November 5, 2004. In an order of December 2, 2004, the Board accepted the Agency's proposal for hearing.[1] The Board has held two hearings in this rulemaking. The first hearing took place in Pekin on March 1, 2005, and the second hearing took place in Chicago on April 5, 2005.

At the first hearing, three witnesses testified: Richard P. Cobb, Deputy Manager of the Division of Public Water Supplies of the Agency's Bureau of Water; David Redfield, Mayor of Marquette Heights; and Rick Crum, Superintendent of Marquette Heights. Cobb testified at the

[1] The Board cites the Statement of Reasons in the Agency's proposal as "Stat. of Reas. at _."

second hearing.[2] Also participating at hearing were attorneys Kimberly A. Geving and Stephanie Flowers on behalf of the Agency; Michael J. Tibbs, City Attorney with Miller, Hall, and Triggs on behalf of Marquette Heights; Steve Little, an Alderman on the Marquette Heights City Council; and Harold S. Primack, Environmental Business Manager for Atlantic Richfield Company, a BP affiliated company.

The Board hearing officer admitted twelve exhibits (Exhibits A-L) into the record over the course of the two hearings.[3] Nine of the twelve exhibits were offered by the Agency. The other three exhibits were offered by Marquette Heights. The exhibits include an "*Errata* Sheet Number 1" (Exhibit F) offered by the Agency, which shows proposed changes to the rule language originally set forth in the Agency's proposal.

The transcripts of the Pekin and Chicago hearings were received by the Board on March 11 and April 20, 2005, respectively, and promptly placed in the Clerk's Office On Line (COOL) on the Board's Web at www.ipcb.state.il.us. Many other documents from this rulemaking record are available through COOL, including Board opinions and orders.

Section 27(b) of the Act requires the Board to request that the Department of Commerce and Economic Opportunity (DCEO) conduct an economic impact study (EcIS) of proposed substantive rules. Section 27(b) of the Act also requires the Board to make DCEO's response available at least 20 days before holding a public hearing on the proposal's economic impact. *See* 415 ILCS 5/27(b) (2004). However, Section 14.3(d) of the Act (415 ILCS 5/14.3(d) (2004)) provides that Section 27(b) does not apply to rulemaking proceedings initiated by the Agency under Section 14.3(d), like this one. Accordingly, the Board hearing officer did not solicit any testimony at hearing regarding the issue of DCEO performing an EcIS.

On November 17, 2005, the Board adopted a first-notice opinion and order. In the first-notice rules, the Board made several minor, clarifying changes to the Agency's proposed rule language. On December 2, 2005, the *Illinois Register* published first notice of the Board's proposed rules (29 Ill. Reg. 19503 (Dec. 2, 2005)). This began a 45-day period during which any interested person could file with the Board a public comment on the proposed rules. The Board received no public comments on this rulemaking, either before or after first-notice publication.

On December 5, 2005, the Board received from JCAR several minor suggested changes to the first-notice rule text adopted by the Board. JCAR's suggestions were reflected in the second-notice rules adopted by the Board on February 16, 2006. On April 11, 2006, JCAR issued a certification of no objection concerning the second-notice rules. The Board today makes only minor changes to the second-notice rules, again at the request of JCAR.

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[2] The Board cites the transcript of the first hearing as "Tr.1 at _" and the transcript of the second hearing as "Tr.2 at _."

[3] The Board cites the hearing exhibits as "Exh. _ at _."

DISCUSSION

Legal Framework

Section 14.2 of the Act (415 ILCS 5/14.2 (2004)) establishes a "*minimum* setback zone" of 200 feet around each CWS well in Illinois. *See* 415 ILCS 5/14.2(a) (2004). In specified instances where the CWS derives water from an especially vulnerable geological formation, the minimum setback zone is 400 feet. *See* 415 ILCS 5/14.2(d) (2004).

A setback zone restricts land use near the CWS well, providing a buffer between the well and potential sources or routes of contamination. The Act defines a CWS as a "public water supply which serves or is intended to serve at least 15 service connections used by residents or regularly serves at least 25 residents." 415 ILCS 5/3.145 (2004). Generally, absent a setback exception issued by the Board, various defined new "potential primary sources," "potential secondary sources," or "potential routes" of contamination cannot be placed within the minimum setback zone of a CWS well. *See* 415 ILCS 5/14.2(a), (c) (2004).

Section 14.3 of the Act (415 ILCS 5/14.3 (2004)), which is at the heart of this rulemaking, allows for *additional* protection beyond the minimum setback zone. Under specified circumstances, Section 14.3 authorizes either the Board, or the county or municipality served by a CWS well, to establish a "*maximum* setback zone" of up to 1,000 feet from the CWS wellhead.[4] Subsection (d) of Section 14.3 provides that the Board may adopt a maximum setback zone after receiving an Agency rulemaking proposal. Specifically, Section 14.3(d) reads in part:

> [U]pon written notice to the county or municipality, the Agency may propose to the Board a regulation establishing a maximum setback zone for any well subject to this Section. Such proposal shall be based upon all reasonably available hydrogeologic information, include the justification for expanding the zone of wellhead protection, and specify the boundaries of such zone, no portion of which boundaries shall be in excess of 1,000 feet from the wellhead. Such justification may include the need to protect a sole source of public water supply or a highly vulnerable source of groundwater, or an Agency finding that the presence of potential primary or potential secondary sources or potential routes represents a significant hazard to the public health or the environment. 415 ILCS 5/14.3(d) (2004).

Development of Agency's Proposal

Marquette Heights is located near the intersection of Interstate Route 474 and Illinois Route 29, in Tazewell County. Marquette Heights sits primarily on a bluff overlooking the valley occupied by the Illinois River. Marquette Heights' two CWS wells are located in the Village of North Pekin, which lies to the west of Marquette Heights. Exh. C at 1; Exh. G. The

[4] In limited instances, a county or municipality may adopt an ordinance establishing a maximum setback zone of up to 2,500 feet from the wellhead. *See* 415 ILCS 5/14.3(f) (2004).

Marquette Heights wells, which are in close proximity to one another, have minimum setback protection of 400 feet. Tr.1 at 15-16; Exh. G.

Section 14.3 of the Act, as indicated, authorizes counties, municipalities, and the Board to establish maximum setback zones. Marquette Heights lacks the legal authority to establish a maximum setback zone by ordinance because its CWS wells are in North Pekin. Tr. 1 at 10-12. On March 22, 2004, Marquette Heights adopted a resolution requesting that the Agency propose a rule to the Board that would increase the setback zone around the Marquette Heights CWS wells. Stat. of Reas. at 1.

The Agency states that it met the notice requirements of Section 14.3(d) of the Act. Section 14.3(d) reads in part:

> [U]pon written notice to the county or municipality, the Agency may propose to the Board a regulation establishing a maximum setback zone for any well subject to this Section. *** The Agency may proceed with the filing of such a proposal unless the county or municipality, within 30 days of the receipt of the written notice, files a written request for a conference with the Agency. 415 ILCS 5/14.3(d) (2004).

According to the Agency, it provided notice of the rulemaking proposal by certified mail to Marquette Heights, North Pekin, and the Tazewell County Zoning Office in June 2004. Stat. of Reas. at 7; Tr.1 at 8, 41. The proposal notes that the Agency received no comments within the statutory 30-day period from any of these governmental entities. Stat. of Reas. at 8; Tr.1 at 8.

The Agency proposal provides that at separate meetings held in July 2004, the following organizations concluded that they had no objections to the Agency proceeding with the proposal: (1) the Central Regional Priority Groundwater Protection Planning Committee, established under Section 17.2 of the Act (415 ILCS 5/17.2 (2004)) as one of four priority groundwater protection planning regions in the State;[5] and (2) the Interagency Coordinating Committee on Groundwater and the Groundwater Advisory Council, both established under the Illinois Groundwater Protection Act (415 ILCS 55 (2004)).[6] Stat. of Reas. at 4, 7; Tr.1 at 8-9, 41.

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[5] The central region consists of Mason, Peoria, Tazewell, and Woodford Counties. Each of the four regions has a committee comprised of representatives of counties, municipalities, public water supplies, and members of the general public, including persons with business, environmental, and agricultural interests. Stat. of Reas. at 4.

[6] The Interagency Coordinating Committee on Groundwater is chaired by the Agency and comprised of the Illinois Department of Public Health, the Illinois Department of Natural Resources, the Illinois Department of Agriculture, the Illinois State Fire Marshal, the Department of Commerce and Economic Opportunity, and the Illinois Emergency Management Agency. Stat. of Reas. at 7. The Groundwater Advisory Council is comprised of environmental, business, public water supply, county and municipal government, regional planning, and water well driller interest group representatives. The Agency's proposal stated that these two organizations (1)

BP Amoco is conducting a groundwater cleanup at a tank farm north of the maximum setback zone. Although BP Amoco was apparently not notified by the Agency about the proposal, representatives of the company are aware of the rulemaking and participated at hearing. Tr.1 at 41-42. Cobb, Deputy Manager of the Agency's Division of Public Water Supplies, testified that this rulemaking has "no direct bearing" on the BP Amoco tank farm cleanup. *Id*. at 41.

In response to the request from Marquette Heights and findings indicating the vulnerability of the City's CWS wells, the Agency proposed this rulemaking to establish a maximum setback zone of up to 1,000 feet, as depicted on a map in Section 618.APPENDIX A of the rules. In addition to the maximum setback rulemaking, the Agency recommended activities to Marquette Heights to further minimize the risk to the Marquette Heights CWS. The Agency suggested that Marquette Heights develop a contingency plan, review its cross-connection control ordinance, abandon two inactive wells, replace screens on the two current wells, and implement a wellhead protection program. Exh. A, Attachment V at 4.

Final Rules

In adopting final rules today, the Board has made no substantive changes to the rules proposed at second notice. This rulemaking expands the setback zone around the drinking water wells used by Marquette Heights. The rules include the Act's definition of a "setback zone." A "setback zone" means:

> *a geographic area, designated pursuant to the Act, containing a potable water supply well or a potential source or potential route, having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters* [415 ILCS 5/3.450]. *See* Section 618.105.

As discussed in more detail below, this record demonstrates that the rules are needed to protect the groundwater supplied to Marquette Heights residents as drinking water. Stat. of Reas. at 1, 5. Marquette Heights has two CWS wells. As noted, the wells are located not in Marquette Heights, but rather in North Pekin, also in Tazewell County. The wells have an estimated average daily pumpage from the groundwater source of 240,000 gallons per day, supplying approximately 3,200 persons directly. *Id*. at 4-5. Marquette Heights' water system has approximately 1,064 service connections within the corporate limits and another 56 service connections in an area of anticipated future expansion east of the City. Exh. C at 2-3.

Based on various assessments, including groundwater flow and recharge area modeling, the Agency concluded that the Marquette Heights CWS wells are not adequately protected by the current minimum setback zones, and that the groundwater source is "highly vulnerable." Stat. of Reas. at 5-6. In addition, the Agency issued an "advisory of groundwater contamination hazard"

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work jointly, with the Agency as liaison between them; and (2) work with the four regional priority groundwater planning committees described in the preceding footnote. *Id*.

for North Pekin and Marquette Heights in July 1990 because of potential sources of groundwater contamination that represented a "significant hazard to public health and the environment." *Id*. The Agency maintains therefore that expanding the zone of wellhead protection is justified, as Section 14.3(d) of the Act requires. *Id*. at 7.

As adopted, the new Part 618 of the Board's public water supply rules has two subparts: Subpart A and Subpart B. In Subpart A of Part 618, there are general provisions for maximum setback zones, including definitions. Subpart A's provisions apply to all maximum setback zones established in Illinois through Board rulemaking, including this first such maximum setback, the Marquette Heights maximum setback.

In Subpart B of Part 618, there are rules specific to the Marquette Heights CWS wells. Subpart B includes an appendix (Section 618.APPENDIX A) with a map that delineates the irregularly-shaped boundaries of the maximum setback zone relative to local land use plats. Tr.1 at 9. The distance from the wells to the setback boundaries varies from approximately 600 to 1,000 feet. Exh. G. The appendix also lists identification numbers of parcels that are located wholly or partially within the maximum setback.

Additionally, Subpart B of Part 618 states that (1) certain activities within the setback are banned and (2) other activities within the setback are subject to management and control standards. First, "new potential primary sources" of groundwater contamination are prohibited from locating wholly or partially within the Marquette Heights expanded setback. *See* Sections 618.200(b)(1) and 618.205. The Act's definition of a "potential primary source" is set forth in the rules. A "potential primary source" means:

> *any unit at a facility or site not currently subject to a removal or remedial action which:*
>
> > *is utilized for the treatment, storage, or disposal of any hazardous or special waste not generated at the site; or*
> >
> > *is utilized for the disposal of municipal waste not generated at the site, other than landscape waste and construction and demolition debris; or*
> >
> > *is utilized for the landfilling, land treating, surface impounding or piling of any hazardous or special waste that is generated on the site or at other sites owned, controlled or operated by the same person; or*
> >
> > *stores or accumulates at any time more than 75,000 pounds above ground, or more than 7,500 pounds below ground, of any hazardous substances* [415 ILCS 5/3.345]. *See* Section 618.105.

In turn, a "new potential primary source," to which the location prohibition would apply, is defined in the Act and rules as:

a potential primary source which is not in existence or for which construction has not commenced at its location as of January 1, 1988; or

a potential primary source which expands laterally beyond the currently permitted boundary or, if the primary source is not permitted, the boundary in existence as of January 1, 1988; or

a potential primary source which is part of a facility that undergoes major - reconstruction. Such reconstruction shall be deemed to have taken place where the fixed capital cost of the new components constructed within a 2-year period exceed 50% of the fixed capital cost of a comparable entirely new facility [415 ILCS 5/3.345]. *See* Section 618.105.

Second, Subpart B of Part 618 specifies that the Board's Part 615 or Part 616 "technical standards" or "technology control regulations" (35 Ill. Adm. Code 615 and 616) apply to those new or existing activities regulated by Part 615 or Part 616 that are located wholly or partially within the expanded Marquette Heights setback. *See* Section 618.200(b)(2); Tr.1 at 30, 42-43. The rules make clear, however, that agrichemical facilities that affirmatively opt out of Part 615 or Part 616 are regulated instead under rules of the Department of Agriculture (8 Ill. Adm. Code 257) or the Department of Public Health (77 Ill. Adm. Code 830). *See* Section 618.200(b)(2); *see also* 415 ILCS 5/14.6 (2004); Tr.1 at 43-45; Tr.2 at 8-11; Exh. F.

Part 615 ("Existing Activities in a Setback Zone or Regulated Recharge Area") and Part 616 ("New Activities in a Setback Zone or Regulated Recharge Area") contain groundwater monitoring, design, inspection, operating, closure, and post-closure requirements. Parts 615 and 616 generally apply to on-site landfills, on-site land treatment units, on-site surface impoundments, on-site waste piles, underground storage tanks, pesticide storage and handling units, fertilizer storage and handling units, road oil storage and handling units, and de-icing agent storage and handling units.

As Cobb explained, Parts 615 and 616, by their own terms, apply within setback zones, so their application within the Marquette Heights maximum setback zone will be "automatic . . . upon the effective date of the establishment of this maximum setback zone." Tr.1 at 43. For further clarity, Section 618.200(b)(2) cross-references Parts 615 and 616. *Id*. Cobb added, however, that the Agency's analysis did not reveal any activities within the expanded setback that would become subject to the technical standards because of this rulemaking. *Id*. at 48-49.

Conditions Justifying Expansion of the Marquette Heights Setback

Environment

Marquette Heights' two CWS wells (wells #4 and #5, also identified as wells 50280 and 50281) are located outside of and to the west of the City, in North Pekin, on the Illinois River floodplain. Both wells are approximately 95 feet deep and are screened in the Sankoty Sand or Henry Formation. Exh. A at 13-14; Tr.1 at 31-33, 54. Accessible portions of the Sankoty

aquifer appear to lie outside of the corporate limits of Marquette Heights. Tr.1 at 54; Exh. C at 4.

Digging a deeper well would not be an effective means of providing water. Cobb testified that "[i]n this part of the State as you transgress south from Northern Illinois, the deeper aquifer systems become saline in nature due to their depth." Tr. 1 at 58. Concerns would arise due to naturally occurring high levels of total dissolved solids (TDS), sulfate, and radionuclides. *Id*.

The Agency conducted a source water assessment pursuant to the Federal Safe Drinking Water Act (SDWA) (42 U.S.C. § 300f *et seq*.) for Marquette Heights. Stat. of Reas. at 6; Tr.1 at 23. The assessment, which was completed in April 2003, evaluated existing water quality, geologic vulnerability, and existing potential sources of groundwater contamination to determine the overall susceptibility of the Marquette Heights CWS wells. The assessment found that the wells are susceptible to groundwater contamination. Stat. of Reas. at 5-6.

Twenty-two potential sources of contamination within 1,000 feet of the CWS wells were identified in the "Source Water Assessment Program Fact Sheet" for Marquette Heights. Exh. A, Attachment V. The Agency's main motivation for issuing the 1990 advisory, however, was an Amoco Mobil (now BP Amoco) tank farm remediation site located north of the Marquette Heights wells. Tr.1 at 22, 33-34, 37-40, 63; Exh. A at 11, Attachment V; Exh. B, D, G.

There is no evidence that the groundwater contamination plume from the BP Amoco tank farm is within the maximum setback. Tr.1 at 18. Indeed, Cobb believes that the BP Amoco contaminant plume is not off-site at this time and is contained on the tank farm site with hydraulic pumping. *Id*. at 18-21. According to Cobb, BP Amoco is:

> doing a very active remediation, pump and treat, hydraulic containment, active soil venting and bioventing because they have free product there as well as dissolved contaminants including methyl tertiary butyl ether [MTBE] which is very mobile. And, of course, they are surrounded by Creve Coeur public water supply to the north and right now North Pekin and Marquette Heights on the south. Tr.1 at 13.

Contamination was found in monitoring wells within the setback zone of North Pekin well #1 (also identified as well 50210). Exh. A, Attachment V at 2; Exh. G. Marquette Heights' two CWS wells are located just east of North Pekin well #1. Exh. A, Att. V at 2; Exh. G; Tr.1 at 31-32, 54.

A maximum setback zone around North Pekin's well #1 currently encompasses the two Marquette Heights wells. North Pekin, however, is in the process of abandoning well #1 and drilling another well in a different location. Tr. 1 at 11-12, 59-60; Exh. C at 7. Cobb testified that North Pekin, in negotiation with BP Amoco, would relocate well #1, extinguishing North Pekin's current maximum setback zone. According to Cobb, under the Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code 742), extinguishing the current maximum setback zone of North Pekin would allow BP Amoco to extend the point of

compliance for the remediation. Tr.1 at 11. Specifically, BP Amoco could show compliance with the groundwater standards at the minimum setback of 400 feet from the Marquette Heights CWS wells, instead of at a location farther away from the wells, at the current North Pekin maximum setback boundary. *Id*. at 15-16.

When North Pekin's well is relocated, Marquette Heights expects to lose the protection it has been receiving indirectly from North Pekin's overlapping maximum setback. Tr.1 at 12, 60, 63. Marquette Heights wants to preserve that area of protection through this rulemaking. *Id*. at 12. With a new maximum setback zone that, as delineated, ranges from roughly 600 to 1,000 feet from the Marquette Heights wells, the point of compliance under TACO (*i.e.*, where BP Amoco would be required to meet the groundwater standards) would move farther away from wells #4 and #5 than with the 400-foot minimum setback zone. *Id*. at 15-17.

Cobb stated that the rule currently has no direct bearing on the BP Amoco remediation or on the consent order requiring the cleanup, although the setback might in the future. Tr. at 41; Exh. K. As to the other potential sources of contamination identified in the "Source Water Assessment Program Fact Sheet," the Agency's analysis showed the rules would have no immediate impact on any particular type of existing activity or potential source. Tr. 1 at 48-49.

The Agency contracted with RAPPS Engineering and Applied Science (RAPPS) to model the groundwater flow and delineate the recharge area and wellhead protection area (WHPA) for the Marquette Heights CWS wells. Stat. of Reas. at 4; Exh. A at 4; Exh. H; Tr.1 at 25-28. A WHPA is "the surface and subsurface area around a water well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field." Exh. L at 2-3. To delineate a WHPA, the capture zone of a well must be determined and projected on to the land surface. *Id*. at 3. A capture zone is "the entire area recharging or contributing water to the well, a three-dimensional volume of aquifer that may or may not intersect the land surface." *Id*.

The Marquette Heights maximum setback zone is based on a sophisticated technique for determining the lateral area of influence (LAI) under 35 Ill. Adm. Code 671.201(g),[7] Illinois' Wellhead Protection Program approved by the United States Environmental Protection Agency (USEPA), and guidance for conducting groundwater protection needs assessments (Cobb, *et al*. 1995). Exh. A at 4; Tr.1 at 25-28. Other resources that were considered included *Guidelines for the Delineation of Wellhead Protection Areas* (USEPA, 1987) and *Model Assessment for Delineating WHPAs* (USEPA, 1988).

In addition, modeling was performed consistent with *Applied Groundwater Modeling Simulation of Flow and Advective Transport* (Anderson and Woessner, 1992). Exh. A at 4. RAPPS created a groundwater flow model and delineated the capture zone using MODFLOW and MODPATH, the United States Geological Survey (USGS) groundwater flow modeling

[7] The Part 671 rules (35 Ill. Adm. Code 671), which were adopted by the Agency, provide procedures to be used by counties or municipalities interested in establishing maximum setback zones around CWS wells by ordinance. The rules include procedures for a county or municipality to request Agency review of the local government's LAI determination.

program and particle tracking program, respectively (McDonald and Harbough, 1988; Pollock, 1989). Exh. L at 3. The model was reviewed and approved by the Agency. Exh. A at 4.

A WHPA was constructed by outlining the area encompassed by the capture zones produced by the model. Exh. A at 24; Exh. G, H. Delineating WHPAs fulfills part of the requirements of Section 1428(a) of the federal SDWA (42 U.S.C. § 300h-7(a)). Exh. L at 1. In general, a WHPA was established by the Illinois Groundwater Protection Act as a 1,000-foot fixed radial area around each CWS well in Illinois. For unconfined aquifers, WHPAs are further delineated using models and hydrogeologic mapping to determine "five-year time-related capture zones," which might extend beyond the 1,000-foot radius. Exh. L at 2.

The WHPA, as outlined by the model capture zones for the Marquette Heights CWS wells, led to the determination of an irregular shaped maximum setback zone within the WHPA, up to 1,000 feet from the two wellheads. Stat. of Reas. at 6; Exh. G, H. The setback zone is depicted on a map in Appendix A of the rules. Stat. of Reas. at 6. The map details the location of the Marquette Heights CWS wells and maximum setback zone boundaries, as well as local roads and property boundaries. *Id*. at 9. The Agency's modeling also accounted for scenarios of the North Pekin well and the BP Amoco wells being closed. Tr.1 at 49-50.

The evaluation took into account the regional groundwater gradient, LAI, and pumping stresses. Stat. of Reas. at 5-6. Other pumping stresses on the same aquifer included the wells of Creve Couer, Pekin, North Pekin, and Groveland Township, plus 15 wells operated by BP Amoco as part of the subsurface contamination cleanup system. Tr. 1 at 33; Exh. A at 16. Results demonstrated that recharge is occurring beyond the minimum setback zones, and that the Marquette Heights CWS wells are not adequately protected. Stat. of Reas. at 6; Exh. H.

Economics

Marquette Heights Mayor, David Redfield, testified that "wells number 4 and 5 are the only source of raw water for the city's system." Tr.1 at 54; Exh. C at 3. The record indicates that relocating the Marquette Heights CWS wells is impractical. Based on the City's research, there are no suitable alternate sites for the wells. Longer pipelines (as well as associated pumping facilities, easements, and land acquisition) needed to deliver the water are cost-prohibitive. Also, as noted, ready access to the Sankoty aquifer is lacking, such as within Marquette Heights' corporate limits, and deeper aquifers raise concerns over high levels of TDS, sulfate, and radionuclides. Tr. at 54, 58-59; Exh. C at 3-6.

Further, using the Illinois River as a source is also not an effective solution. The river is outside the boundaries of Marquette Heights and higher costs would apply to delivery and treatment. Tr. 1 at 57. Mayor Redfield emphasized that the "limited availability of alternative sites underscores the importance of protecting the existing sites from contamination." Exh. C at 5. Even if suitable locations were available for replacement wells in Marquette Heights, the City estimated that it would cost at least $825,000 to replicate the City's existing well and treatment facilities. *Id*. at 5-6.

According to Cobb, the rules are economically reasonable and technically feasible. Tr.1 at 48. Cobb also testified that the maximum setback zone would be economically beneficial:

> The benefit of prevention in my opinion outweighs the cost of prohibiting any new potential primary sources of groundwater contamination within the proposed maximum setback zone. And the theory here is that good water is good business; that we need good water to maintain the economic growth and economy in an area as well as . . . to see future growth. *Id*. at 9.

Groundwater contamination can produce "significant economic hardships for local businesses and communities." Exh. A at 27. These hardships include:

> devalued real estate; diminished home sales or commercial real estate sales; loss to the tax base; consulting and legal fees; increased operation and maintenance costs; increased water rates for alternative water supplies as well as the cost of new equipment and treatment; and remediation costs. *Id*. at 27-28.

For example, the Agency provided information on the substantial costs faced by the community of East Alton, in Madison County, because of MTBE contamination of groundwater. Exh. A at 28-29. USEPA has estimated that the "ratio of contamination costs to basic prevention costs may be as large as 200:1." *Id*. at 28. Mayor Redfield stated that the enlarged setback would "decrease the risk both of contaminating those wells [#4 and #5] and of the significant financial burden which such contamination would impose on the City." Exh. C at 6.

In addition, according to Mayor Redfield, the "only territory available for further expansion" of Marquette Heights lies in the largely undeveloped area to the east of the City's corporate limits. Exh. C at 2. The Mayor expects new residential and business development to occur in this area as a result of the construction of a five-lane roadway that will intersect with Interstate 474. *Id*. Communities that deliver water exceeding the drinking water standards are placed on restricted status and therefore are generally unable to get permits for water main extensions. Exh. A at 28.

CONCLUSION

The Board today adopts as final rules a new Part 618 on maximum setback zones. Part 618 has two subparts. Subpart A contains general provisions for maximum setback zones established in Illinois by Board rulemaking. This is the first such rulemaking. Subpart B has rules specific to the maximum setback zone for Marquette Heights, which provides expanded setback zone protection for the City's two CWS wells.

The final rules reflect several minor changes from second notice, all suggested by JCAR and none of which merit discussion. Based on this record, the Board finds that the rules are technically feasible and economically reasonable. *See* 415 ILCS 5/27(a) (2004).

ORDER

The Board directs the Clerk of the Board to file the following final rules with the Secretary of State for publication in the *Illinois Register*.

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE F: PUBLIC WATER SUPPLIES
CHAPTER I: POLLUTION CONTROL BOARD

PART 618
MAXIMUM SETBACK ZONES

SUBPART A: GENERAL

Section
618.100 Purpose and Applicability
618.105 Definitions

SUBPART B: MARQUETTE HEIGHTS' MAXIMUM SETBACK ZONE

Section
618.200 Purpose and Applicability
618.205 1,000 Foot Maximum Setback Zone Prohibition

618.APPENDIX A Boundaries of Marquette Heights' Maximum Setback Zone

AUTHORITY: Implementing Section 14.3 and authorized by Section 27 of the Illinois Environmental Protection Act [415 ILCS 5/14.3 and 27].

SOURCE: Adopted in R05-9 at __ Ill. Reg. _____, effective _____.

SUBPART A: GENERAL

Section 618.100 Purpose and Applicability

This Part is established in the interest of securing the public health, safety, and welfare; to preserve the quality and quantity of groundwater resources in order to assure a safe and adequate water supply for present and future generations; and to preserve groundwater resources currently in use and those aquifers having a potential for future use as a public water supply. Pursuant to the authority of Section 14.3(d) of the Illinois Environmental Protection Act (Act) [415 ILCS 5/14.3(d)], the provisions of this Part apply to all properties located wholly or partially within a maximum setback zone established under Section 14.3(d) of the Act and this Part.

Section 618.105 Definitions

Unless a different meaning of a word or term is clear from the context, the definitions of words or terms in this Part are the same as those used in the Act, the Illinois Groundwater Protection Act [415 ILCS 55], or 35 Ill. Adm. Code 671.

"Agency" means the Illinois Environmental Protection Agency.

"Board" means the Illinois Pollution Control Board.

"Facility" means *the buildings and all real property contiguous thereto, and the equipment at a single location used for the conduct of business* [430 ILCS 45/3].

"New Potential Primary Source" means:

> *a potential primary source which is not in existence or for which construction has not commenced at its location as of January 1, 1988; or*
>
> *a potential primary source which expands laterally beyond the currently permitted boundary or, if the primary source is not permitted, the boundary in existence as of January 1, 1988; or*
>
> *a potential primary source which is part of a facility that undergoes major reconstruction. Such reconstruction shall be deemed to have taken place where the fixed capital cost of the new components constructed within a 2-year period exceed 50% of the fixed capital cost of a comparable entirely new facility* [415 ILCS 5/3.345].

"New Potential Route" means:

> *a potential route which is not in existence or for which construction has not commenced at its location as of January 1,1988; or*
>
> *a potential route which expands laterally beyond the currently permitted boundary or, if the potential route is not permitted, the boundary in existence as of January 1, 1988* [415 ILCS 5/3.350].

"New Potential Secondary Source"

> means *a potential secondary source which:*
>
> > *is not in existence or for which construction has not commenced at its location as of July 1, 1988; or*
> >
> > *expands laterally beyond the currently permitted boundary or, if the secondary source is not permitted, the boundary in existence as of July 1, 1988, other than an expansion for handling of livestock waste or for treating domestic wastewaters; or*

> *is part of a facility that undergoes major reconstruction. Such reconstruction shall be deemed to have taken place where the fixed capital cost of the new components constructed within a 2-year period exceed 50% of the fixed capital cost of a comparable entirely new facility* [415 ILCS 5/3.355]; but
>
> excludes an agrichemical facility that *modifies on-site storage capacity such that the volume of the pesticide storage does not exceed 125% of the available capacity in existence on April 1, 1990, or the volume of fertilizer storage does not exceed 150% of the available capacity in existence on April 1, 1990; provided that a written endorsement for an agrichemical facility permit is in effect under Section 39.4 of the Act and the maximum feasible setback is maintained. This on-site storage capacity includes mini-bulk pesticides, package agrichemical storage areas, liquid or dry fertilizers, and liquid or dry pesticides* [415 ILCS 5/14.2(g)(4)].

"Potential Primary Source" means *any unit at a facility or site not currently subject to a removal or remedial action which:*

> *is utilized for the treatment, storage, or disposal of any hazardous or special waste not generated at the site; or*
>
> *is utilized for the disposal of municipal waste not generated at the site, other than landscape waste and construction and demolition debris; or*
>
> *is utilized for the landfilling, land treating, surface impounding or piling of any hazardous or special waste that is generated on the site or at other sites owned, controlled or operated by the same person; or*
>
> *stores or accumulates at any time more than 75,000 pounds above ground, or more than 7,500 pounds below ground, of any hazardous substances* [415 ILCS 5/3.345].

"Potential route" means *abandoned and improperly plugged wells of all kinds, drainage wells, all injection wells, including closed loop heat pump wells, and any excavation for the discovery, development or production of stone, sand or gravel* [415 ILCS 5/3.350].

"Potential secondary source" means *any unit at a facility or a site not currently subject to a removal or remedial action, other than a potential primary source, which:*

> *is utilized for the landfilling, land treating, or surface impounding of waste that is generated on the site or at other sites owned, controlled or operated by the same person, other than livestock and landscape waste, and construction and demolition debris; or*
>
> *stores or accumulates at any time more than 25,000 but not more than 75,000 pounds above ground, or more than 2,500 but not more than 7,500 pounds below ground, of any hazardous substances; or*

stores or accumulates at any time more than 25,000 gallons above ground, or more than 500 gallons below ground, of petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance; or

stores or accumulates pesticides, fertilizers, or road oils for purposes of commercial application or for distribution to retail sales outlets; or

stores or accumulates at any time more than 50,000 pounds of any de-icing agent; or

is utilized for handling livestock waste or for treating domestic wastewaters other than private sewage disposal systems as defined in the Private Sewage Disposal Licensing Act [415 ILCS 5/3.355].

"Setback zone" means *a geographic area, designated pursuant to the Act, containing a potable water supply well or a potential source or potential route, having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters* [415 ILCS 5/3.450].

"Site" means *any location, place, tract of land, and facilities, including but not limited to buildings, and improvements used for purposes subject to regulation or control by the Act or regulations thereunder* [415 ILCS 5/3.460].

"Unit" means *any device, mechanism, equipment, or area (exclusive of land utilized only for agricultural production). This term includes secondary containment structures and their contents at agrichemical facilities.* [415 ILCS 5/3.515]

"Unit boundary" means a line at the land's surface circumscribing the area on which, above which, or below which waste, pesticides, fertilizers, road oils or de-icing agents will be placed during the active life of the facility. The space taken up by any liner, dike or other barrier designed to contain waste, pesticides, ferti1izer, road oils, or de-icing agents falls within the unit boundary.

SUBPART B: MARQUETTE HEIGHTS' MAXIMUM SETBACK ZONE

Section 618.200 Purpose and Applicability

a) This Subpart prescribes maximum setback zone prohibitions and the applicable technology control regulations that apply under 35 Ill. Adm. Code 615 and 616 in the interest of securing the public health, safety, and welfare; to preserve the quality and quantity of groundwater resources in order to assure a safe and adequate water supply for present and future generations; and to preserve groundwater resources currently in use and those aquifers having a potential for future use as a public water supply.

b) The provisions of this Subpart apply to all properties located wholly or partially within the maximum setback zone boundaries of Marquette Heights, as delineated in Appendix A of this Part:

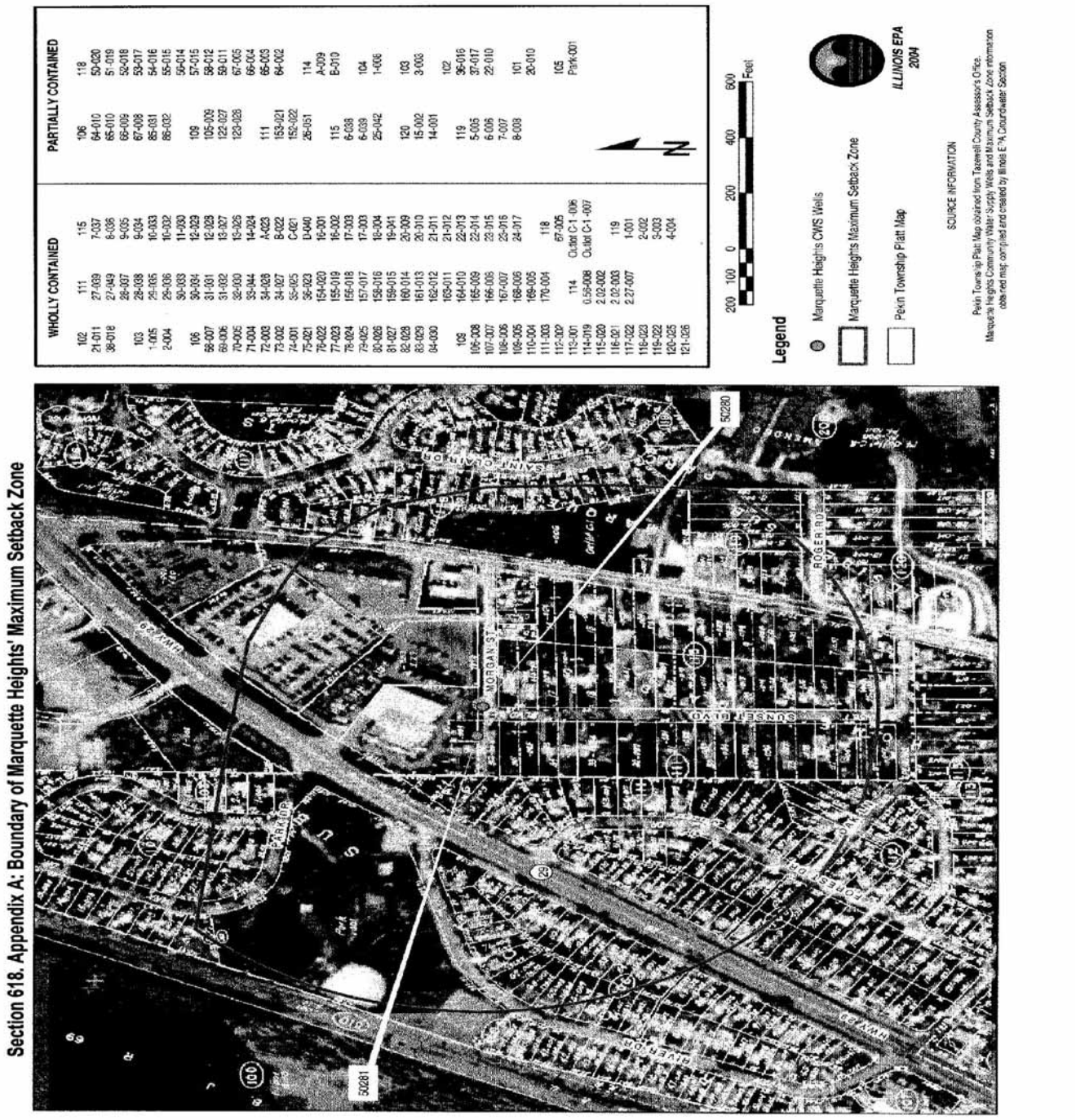
1) That are new potential primary sources of groundwater contamination pursuant to Section 14.3(d) of the Act; or

2) That are existing or new activities regulated under 35 Ill. Adm. Code 615 or 616, excluding agrichemical facilities that affirmatively opt out of 35 Ill. Adm. Code 615 or 616, which are regulated instead under 8 Ill. Adm. Code 257 or 77 Ill. Adm. Code 830.

Section 618.205 1,000 Foot Maximum Setback Zone Prohibition

New potential primary sources of groundwater contamination are prohibited from locating wholly or partially within the Marquette Heights' maximum setback zone boundaries delineated in Appendix A of this Part.

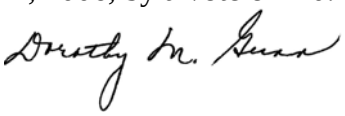
Section 618.APPENDIX A: Boundaries of Marquette Heights' Maximum Setback Zone



IT IS SO ORDERED.

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2004); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on May 4, 2006, by a vote of 4-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board