

TITLE 785. OKLAHOMA WATER RESOURCES BOARD
CHAPTER 32. AQUIFER STORAGE AND RECOVERY

RULEMAKING ACTION:

PERMANENT final adoption

RULES:

Subchapter 1. General Provisions [NEW]

785:32-1-1. Purpose [NEW]

785:32-1-2. Definitions [NEW]

Subchapter 3. Permit Application Requirements and Processing [NEW]

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785:32-3-2. Site-specific aquifer storage and recovery plan [NEW]

785:32-3-3. Well spacing [NEW]

785:32-3-4. Fees [NEW]

785:32-3-5. Acceptance of application for filing; when applications deemed withdrawn [NEW]

785:32-3-6. Notice of application [NEW]

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Subchapter 5. Aquifer Storage and Recovery Permits [NEW]

785:32-5-1. Contents of permits [NEW]

785:32-5-2. Annual reports [NEW]

785:32-5-3. Cancellation or suspension of permits [NEW]

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Oklahoma Water Resources Board; 82 O.S. § 1085.2; 82 O.S. § 1020.2A.

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8:00 a.m. to 5:00 p.m., Monday through Friday at Oklahoma Water Resources Board, 3800 N. Classen Blvd., Oklahoma City, OK 73118, 405-530-8800.

GIST/ANALYSIS:

The Oklahoma Water Resources Board ("OWRB") has adopted a new Chapter of the Oklahoma Administrative Code ("OAC") for the taking and use of water stored in an aquifer pursuant to a site-specific aquifer storage and recovery plan. This rulemaking was directed by the Oklahoma Legislature in 2016 through Senate Bill 1219, codified as Title 82, Section 1020.2A of the Oklahoma Statutes.

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PURSUANT TO THE ACTIONS DESCRIBED HEREIN, THE FOLLOWING RULES ARE CONSIDERED FINALLY ADOPTED AS SET FORTH IN 75 O.S., SECTIONS 250.3(5) AND 308(E), WITH AN EFFECTIVE DATE OF SEPTEMBER 14, 2018:

**Title 785 - Oklahoma Water Resources Board
CHAPTER 32. AQUIFER STORAGE AND RECOVERY**

SUBCHAPTER 1. GENERAL PROVISIONS

785:32-1-1. Purpose

Pursuant to 82 O.S. § 1020.2A, this Chapter of the Board's rules sets out the requirements to obtain a permit to conduct aquifer storage and recovery activities, and details procedures for determining the amount of stored water that may be recovered as a part of such activities.

785:32-1-2. Definitions

The following words and terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Application" means a formal request to the Board and the first step required by law to acquire the right to perform or engage in activities regulated by the Board.

"Aquifer Storage and Recovery Activities (ASR)" means activities that exclusively include activities for the storage of water in and recovery of water from an aquifer pursuant to a site-specific aquifer storage and recovery plan authorized by 82 O.S. § 1020.2A. Activities not conducted pursuant to a site-specific aquifer storage and recovery plan shall not be considered ASR activities. For purposes of this chapter, ASR activities also shall not include activities authorized pursuant to 82 O.S. 1020.2(G), storm water runoff management practices, groundwater recharge or augmentation through a natural connection with a farm pond or other impoundment otherwise authorized by law.

"Area of Hydrologic Effect" means the areal extent of all hydrologic features, including surface and groundwater, potentially influenced by ASR operations as determined by the site-specific aquifer and storage recovery plan.

"Beneficial use" means the use of such quantity of stream or groundwater when reasonable intelligence and reasonable diligence are exercised in its application for a lawful

purpose and as is economically necessary for that purpose. Beneficial uses include but are not limited to municipal, industrial, agricultural, irrigation, recreation, fish and wildlife, etc.

"Board" means the Oklahoma Water Resources Board authorized by law to make final adjudications, execute contracts, adopt rules and carry out other powers and duties set forth by law or, duties authorized by law to be delegated to the Executive Director, or any employee or agent or staff member thereof as assigned by the Executive Director.

"Dedicated land" means the tract or tracts of land which the applicant owns, leases, or from which the applicant holds a valid right to withdraw groundwater and which is listed in the application and used to calculate the amount of groundwater requested.

"Domestic use" means the use of water by a natural individual or by a family or household for household purposes, for farm and domestic animals up to the normal grazing capacity of the land whether or not the animals are actually owned by such natural individual or family, and for the irrigation of land not exceeding a total of three (3) acres in area for the growing of gardens, orchards, and lawns [82:1020.1(2)]. Domestic use also includes:(1) the use of water for agriculture purposes by natural individuals, (2) use of water for fire protection, and (3) the use of water by non-household entities for drinking water purposes, restroom use, and the watering of lawns, provided that the amount of groundwater used for any such purposes does not exceed five acre-feet per year.

"Fresh water" means water which has less than five thousand (5,000) parts per million total dissolved solids. All other water is salt water. [82:1020.1(7)]

"Groundwater" means fresh water under the surface of the earth regardless of the geologic structure in which it is standing or moving outside the cut bank of any definite stream. [82:1020.1(C)]

"Groundwater basin" means a distinct underground body of water overlain by contiguous land having substantially the same geological and hydrological characteristics and yield capabilities. [82:1020.1(3)] The area boundaries of a major or minor basin can be determined by political boundaries, geological, hydrological, or other reasonable physical boundaries.

"Groundwater subbasin" means a subdivision of a major or minor groundwater basin overlain by contiguous land and having substantially the same geological and hydrological characteristics and yield capabilities. [82:1020.1(4)] Examples are a lateral or vertical subdivision of a groundwater basin delineated by either physical or political boundaries. Physical boundaries would be different in geological, hydrological or yield capabilities; bedrock; faults; low permeability zones or limits of pressure areas, etc. Political boundaries would be irrigation districts, planning districts, counties, city limits, etc.

"Maximum annual yield" means a determination by the Board of the total amount of fresh groundwater that can be produced from each basin or subbasin allowing a minimum twenty (20) year life of such basin or subbasin.

"Natural recharge" means all flow of water into a groundwater basin or subbasin by natural processes including percolation from irrigation.

"Party "or" interested party" means a person or agency named and participating, or properly seeking and entitled by law to participate, in hearings other than hearings on Board rules, regulations and standards.

"Person" means any individual, firm, partnership, association, corporation, business or public trust, federal agency, state agency, the State or any political subdivision thereof, municipalities, and any other duly constituted legal entity.

"Recharge Well" means any well by which stored water is transmitted from the surface to the subsurface.

"Sensitive sole source groundwater basin or subbasin" means a major groundwater basin or subbasin all or a portion of which has been designated as a "Sole Source Aquifer" by the United States Environmental Protection Agency, and includes any portion of an contiguous aquifer located within five (5) miles of the known areal extent of the surface outcrop of the sensitive sole source groundwater basin [82:1020.9A].

"Stored water" means water stored in an aquifer pursuant to a site-specific aquifer storage and recovery plan.

"Subsurface watershed" means the geographic area in the subsurface that contributes flowing groundwater to a specific point. The area and boundaries of the subsurface watershed can deviate from the surface watershed. The subsurface watershed is delineated using a water-table elevation map or potentiometric surface map.

"Water right" means a right to the use of stream or groundwater for beneficial purposes.

"Well" means any type of excavation for the purpose of obtaining groundwater or to monitor or observe conditions under the surface of the earth but does not include oil and gas wells.

SUBCHAPTER 3. PERMIT APPLICATION REQUIREMENTS AND PROCESSING

785:32-3-1. Requirement for permit

(a) **General application requirements.**

(1) Any person intending to initiate an ASR project shall make an application, submit an approved site-specific ASR plan, and obtain an appropriate permit before recovery of stored water.

(2) No permit shall be issued to an applicant who is not the surface owner of the land on which the ASR structures are to be located, or hold a valid right from such surface owner allowing for the storage and recovery of water from an aquifer. A copy of the ownership documentation or notarized written permission shall be required as part of the application.

(3) In addition to the information specified in (a) and (b) of this subsection and in the application form, the applicant may be required to submit additional information necessary for proper consideration of the application.

(4) All necessary water rights permits must be obtained for the water to be used during the ASR project.

(5) If a water right permit is not applicable or needed, origin of water for ASR project must be defined.

(b) **Forms to be furnished by the Board.** The Board will furnish, without charge, blank application forms and instructions for filing for an ASR permit. Each blank on the application shall be filled in by the applicant as accurately and completely as the circumstances allow with all the relevant data. Supplements may be attached if space on the form is insufficient. If a supplement is used, the data entered thereon should be segregated into paragraphs with numbers corresponding to the paragraph numbers of the forms and properly cross-referenced thereto.

(c) **Applications to be amended by applicant.** Applications will be altered, corrected, amended or revised by the Board only upon written request signed by the applicant or his duly authorized agent. Changes may also be made directly on the application, or filed through the

Board's online application service, by the applicant or his duly authorized agent or by telephone instructions to the Board from the applicant or his duly authorized agent to be followed by written confirmation.

(d) **Corrections, changes, or amendments to defective applications.** If the application is defective as to form, the Board shall advise the applicant of the corrections, amendments, or changes required and the applicant shall be allowed to refile within sixty (60) days from the date of notification of deficiency. If the application is not corrected, amended, or changed within the time required, the Board may inactivate the application.

(e) **Corrected applications not filed in time allowed.** Any corrected application filed after the time allowed shall be treated in all respects as an original application received on the date of its refiling.

(f) **Optional preliminary meeting with the Board.** Any person intending to conduct an ASR project has the option to meet with the board, at no charge, to discuss the requirements and expectations for the site-specific ASR plan.

(g) **A site-specific plan to be submitted to the Board.** Applicants must submit a site-specific aquifer and storage recovery plan that satisfies the requirements of OAC 785:31-3-2. After review by Board staff, the site-specific aquifer storage and recovery plan shall be approved by the Board as part of the ASR permit.

785:32-3-2. Site-specific aquifer storage and recovery plan

(a) An approvable site-specific aquifer storage and recovery plan shall include, at a minimum:

- (1) a report containing hydrogeologic properties of the project area, including:
 - (A) description of the aquifer selected for storage, including its areal extent, any associated confining or semi-confining layer(s), and any other aquifer(s) present in the area of hydrologic effect;
 - (B) description of the lithology, soil types, geochemistry, and well logs including but not limited to geologic and/or drillers' logs;
 - (C) location of surface water bodies including but not limited to springs, creeks, ponds, rivers, and lakes within the area of hydrologic effect;
 - (D) groundwater information in the area of hydrologic effect including:
 - (i) elevation of groundwater;
 - (ii) location of water rights and groundwater wells, including total depth, within the area of hydrologic effect;
 - (iii) groundwater flow direction and hydraulic gradient determined by a sufficient number of wells in the same water bearing zone developed according to the aquifer conditions;
 - (iv) assessment of previous hydrologic data;
 - (E) site-specific aquifer characteristics including:
 - (i) storage capacity of the aquifer (storage coefficient for confined aquifers and specific yield for unconfined aquifers);
 - (ii) hydraulic conductivity, transmissivity, and porosity;
 - (iii) aquifer thickness and saturated thickness;
 - (iv) if applicable, perched groundwater conditions;
 - (v) estimated annual recharge in inches per year;

- (2) a site monitoring plan for the aquifer storage and recovery system shall include, at a minimum:
- (A) sufficient number of monitoring wells dependent upon aquifer type, including a minimum of three (3) monitoring in the same water bearing zone to determine if any changes to groundwater flow direction and gradient have occurred;
 - (i) number, location, and design of monitoring wells; extraction wells can be used as monitoring wells;
 - (ii) at least one monitoring well must be located down-gradient of the flow path through the water delivery mechanism;
 - (B) proposed method to demonstrate proportion of source water present at recovery;
 - (C) effects of the operation on groundwater elevation, aquifer leakage rates, and groundwater discharge rates;
 - (D) the frequency of reporting shall be a maximum of one year unless otherwise determined by the Board;
 - (E) methods to monitor impacts of ASR operation on nearby surface water features.
- (3) impact area of proposed aquifer storage and recovery plan;
- (4) anticipated effects on any hydrologic feature within the area of hydrologic effect;
- (5) source of water to be used in ASR and estimated annual volumes available;
- (6) description of the method for determining the amount of source water available at the proposed recovery site;
- (7) accounting for changes in volume and quality of stored water;
- (8) current and proposed land use within the ASR area of hydrologic effect;
- (9) plan for well spacing that demonstrates that the storage and recovery of water shall not interfere with any domestic or permitted groundwater use in the basin. Unless otherwise determined by the Board, minimum spacing requirements shall be:
- (A) Within bedrock groundwater basins, no new or proposed well(s), excluding observation and monitoring wells, shall be drilled and completed within one thousand three hundred twenty feet (1320') of an authorized existing well or proposed well location on lands of another.
 - (B) Within alluvium and terrace groundwater basins, no new or proposed well(s) shall be drilled and completed within six hundred sixty feet (660') of an authorized existing well or proposed well location on lands of another.
 - (C) These well spacing provisions shall not be applicable to plugged or abandoned wells.
- (b) The delivery of stored water and the recovery of such water must occur within the same subsurface watershed unless otherwise determined by the Board.
- (c) The proposed site-specific aquifer storage and recovery plan shall be reviewed and approved by Board staff prior to the ASR permit application being submitted to the Board for approval. Corrections, changes, or amendments to site-specific ASR plan. If the site-specific ASR plan is found defective, the board shall advise the applicant of the corrections, changes, or amendments required and the applicant shall be allowed to refile within sixty (60) days from the date of notification of deficiency. If the site-specific ASR plan is not corrected, amended, or changed within the time required, the board may inactivate the application.

(d) Final approvable site-specific aquifer storage and recovery plan shall be reviewed and approved by the Board as part of the ASR permit application.

785:32-3-3. Well spacing

(a) **Spacing.** Within bedrock groundwater basins where the maximum annual yield has been determined, no new or proposed well(s) shall be drilled and completed within one thousand three hundred twenty feet (1320') of an authorized existing well or proposed well location on lands of another, provided that the well on lands of another is capable of taking water from the same basin. Within alluvium and terrace groundwater basins where the maximum annual yield has been determined, no new or proposed well(s) shall be drilled and completed within six hundred sixty feet (660') of an authorized existing well or proposed well location on lands of another, provided that the well on lands of another is capable of taking water from the same basin. These well spacing provisions shall not be applicable to plugged or abandoned wells or wells authorized pursuant to a provisional temporary permit if no regular, temporary, special or limited quantity permit application requesting authorization to use the same wells is filed.

(b) **Location exceptions.** A location exception shall be granted if the person requesting the exception shows and the Board determines in an individual proceeding that drilling or completing the new or proposed well at the location required to comply with the established well spacing set forth in subsection (a) of this section would be inequitable or unreasonable, and that notice of the location exception request is provided. The following situations are examples to show that compliance with well spacing would be inequitable or unreasonable:

(1) No objection is received from any landowner having a well located within the established well spacing distance of the proposed well requested to be authorized.

(2) The amount or dimensions of the land dedicated to the permit precludes the drilling of a well in compliance with the spacing requirement set forth in (a) of this section.

(3) The well requested to be authorized is a well which was drilled, completed and used prior to the date of the maximum annual yield determination and which does not meet the spacing requirements of (a) of this section.

(c) **Well spacing within a sensitive sole source groundwater basin.**

(1) Within a sensitive sole source groundwater basin where the maximum annual yield has been determined:

(A) No new or proposed well shall be drilled and completed within a one thousand three hundred twenty feet (1320') radius of a spring that flows 50 or more gallons per minute, emanates from the basin and is identified in Appendix D to this Chapter;

(B) No new or proposed well shall be drilled and completed within a two (2)-mile radius of a spring that flows 500 or more gallons per minute, emanates from the basin and is identified in Appendix D to this Chapter, unless the Board first determines that the total amount of groundwater authorized to be used from all wells within that radius is no more than 1600 acre feet per year; and

(C) No new or proposed well shall be drilled and completed within one (1) mile of a stream segment considered to be perennial in the U.S. Geological Survey's National Hydrology Dataset and with a base flow of 500 gallons per minute that emanates from the basin.

- (2) Provided, an applicant may obtain an exception from the provisions of paragraph (1) of this subsection (c) if:
- (A) The applicant first demonstrates to the satisfaction of the Board that the cumulative impact of pumping from the new or proposed well together with authorized pumping from existing and proposed wells will not cause a reduction of more than 25% of the base flow of the subject spring or stream; or
 - (B) The amount or dimensions of the land dedicated to the permit precludes the drilling of a well in compliance with the provisions of paragraph (1) of this subsection (c).
- (3) Notwithstanding any other provision of this subsection (c), the Board shall not authorize any new or proposed well within a sensitive sole source groundwater basin where the maximum annual yield has been determined if the use of that well is likely to degrade or interfere with springs or streams emanating in whole or in part from the basin.

785:32-3-4. Fees

Fees required in filing for ASR permits and other matters will be charged in accordance with Chapter 5 of this Title.

785:32-3-5. Acceptance of application for filing; when applications deemed withdrawn

- (a) The date of receipt of an application in the office of the Board shall be endorsed thereon and the application noted in the records.
- (b) If an applicant does not correct an application or publish notice as instructed by the Board, and no further proceedings are initiated by the applicant for six (6) months or more after last contact with the Board, the application shall be deemed withdrawn. The Board shall provide notice to the applicant that the application has been deemed withdrawn.

785:32-3-6. Notice of application

- (a) **Application notice.** Notice of the application, including hearing date, time, and place if scheduled prior to notice, shall be provided by the applicant as required by law and Board instructions. Such notice shall be published once a week for two consecutive weeks in a newspaper of general circulation in the county where each existing or proposed well is located. Notice shall also be provided by certified mail to all surface estate owners of lands located within one-thousand three hundred twenty feet (1,320') from actual locations of existing or proposed recharge well(s), withdrawal well(s), or infiltration basins shown on the application plat. Accuracy and adequacy of notice shall be the responsibility of the applicant. If deemed necessary by the Board, notice may be required to surface estate owners within one-thousand three hundred twenty feet (1,320') from the outside boundary of the area of hydrologic effect.
- (b) **Proof of notice.** Adequate proof that notice was provided as instructed by the Board shall be submitted to the Board by the applicant within fifteen days after the last date of newspaper publication, or as otherwise directed by the Board. Such proof shall show the dates on which said notice was published in such newspaper and that the applicant did properly notify the surface estate owners as instructed.
- (c) **Failure to give adequate notice.** If adequate notice and proof of notice is not provided by the applicant, the application may be dismissed and the application fee forfeited.
- (d) **Revised published notice of hearing.** The Board may require a revised notice to be published at the applicant's expense in case material error or deviation is made in the description

of the land, the well location, or the manner in which a protest to the application may be made [82:1020.8], or if the applicant makes substantial amendments to his application after notice of the original application, or fails to effect proper publication in any manner.

(e) **Protests and hearings.**

(1) If the Board does not schedule a hearing on the application before instructing the applicant to provide notice, a hearing on the application shall be scheduled by the Board upon receipt of a protest that meets the requirements of Section 785:4-5-4, and the Board shall notify the applicant and protestant of such hearing [82:1020.8].

(2) Any interested person shall have the right to protest said application and present evidence and testimony in support of such protest. Such protests shall be made in accordance with Chapter 4 of this Title.

(3) Even if no protest is received, the applicant shall be advised and given opportunity for hearing if the application cannot be recommended for approval to the Board.

785:32-3-7. Approval of application

(a) A permit to take and use water stored in an aquifer pursuant to a site-specific aquifer storage and recovery plan shall only be granted if substantial, competent evidence accompanying the application demonstrates:

(1) The Board has approved a site-specific aquifer storage and recovery plan;

(2) The applicant has legal access to the water stored in the aquifer pursuant to the plan;

(3) The applicant stored or caused to be stored said water pursuant to and in compliance with any required authorization issued by the Oklahoma Department of Environmental Quality that is intended to protect water quality;

(4) The stored water is available for use in the applied for amount during the period covered by, and in the manner described in, the proposed permit;

(5) The use to which the applicant intends to put the water is a beneficial use; and

(6) That waste by depletion and waste by pollution as specified in 82 O.S. § 1020.15 will not occur.

(b) In making the determination of whether applicant has legal access to the stored water, the Board will only consider language on the face of legal instruments used to support or oppose this element.

(c) In determining whether waste [82:1020.15] will occur, the Board shall consider the following:

(1) Evidence concerning the manner and method of use proposed, efficiency of system proposed to be used, history and incidents of past waste, and applicant's response thereto and the amount of groundwater needed for the purpose proposed in relation to the amount allocated to the land dedicated to the application may be considered by the Board.

(2) The Board may consider relevant and admissible evidence regarding the manner and method of all of applicant's uses of groundwater; applicant's well and water distribution system; history and incidents of permitting or causing pollution of groundwater or failure to properly plug abandoned fresh water wells in accordance with rules of the Board and file reports thereof; and anything else that tends to prove that the applicant will or will not cause or allow groundwater pollution. Provided, however, if the

activity for which the applicant intends to use the water is required to comply with rules and requirements of or is within the jurisdictional areas of environmental responsibility of the Department of Environmental Quality, the Board shall be precluded from making a determination whether waste by pollution will occur as a result of such activity.

SUBCHAPTER 5. AQUIFER STORAGE AND RECOVERY PERMITS

785:32-5-1. Contents of permits

- (a) An ASR permit issued by the Board shall contain substantially the following:
 - (1) Date of filing.
 - (2) The county or counties in which the ASR activity is located.
 - (3) The permit number and date issued, which shall be the date the permit is approved by the Board or where appropriate, by the Executive Director.
 - (4) The name and address to whom issued.
 - (5) The amount of stored water in acre-feet authorized to be withdrawn annually.
 - (6) Annual total water, in acre-feet, in storage.
 - (7) The purpose for which the stored water will be used and the legal description of the land dedicated to the permit.
 - (8) The number and legal description of the recharge well location(s).
 - (9) The number and legal description of extraction well location(s).
 - (10) The level of perforating and the level of sealing the well.
 - (11) Description of storage method.
 - (12) Groundwater basin(s) from which stored water is to be withdrawn.
- (b) In addition to the above, the permit shall contain any additional terms, conditions, limitations, or restrictions the Board may prescribe and on which the applicant agrees or as ordered after notice and hearing.

785:32-5-2. Annual reports

- (a) ASR reports describing the amount of stored water and amount of water withdrawn in the previous calendar year shall be provided to the Board no later than January 31st of each year. Stored water use reports shall be submitted in a form approved by the Board. These reports shall become a part of each permit record.
- (b) The report shall contain a methodology for determining the proportion of stored water to ambient groundwater in recovery and the results thereof.
- (c) The report shall demonstrate that stored water was withdrawn in compliance with the methods and volumes described in OAC 785:32-3-2.
- (d) Additional reporting may be requested at the discretion of the Board.

785:32-5-3. Cancellation or suspension of permits

Any permit for ASR may be reopened, amended, suspended, or cancelled by the Board at any time for failure to comply with the site-specific aquifer storage and recovery plan, permit terms, limitations, or restrictions, or any provision of the relevant statutes or rules, upon proper notice and hearing as provided in the Administrative Procedures Act and the Board's rules.