

KDA-DWR Summary
Wichita Aquifer Storage and Recovery project proposed changes
December 11, 2018

Background

- Aquifer Storage and Recovery (ASR) projects allow for the diversion, treatment, and storing of source water into an aquifer for later recovery for a beneficial use.
- The City of Wichita's ASR project was developed and approved in two phases within the Equus Beds Aquifer.
 - Phase I was approved in August 2005, to allow the recharge of treated surface water from the Little Arkansas River and adjacent bank storage water for recharge credits and to slow the migration of salt water contamination from the Burrton area.
 - Phase II of the ASR project was approved in 2009 and 2010 to allow the recharge of treated surface water from the Little Arkansas River into the Equus Beds wellfield to accumulate recharge credits for subsequent use by the City.
- With water levels dropping in the Wichita wellfield area during the 2011-12 drought, the City became concerned that ASR permit limits for the minimum index levels might prevent the City from accessing their recharge credits during drought periods.
- With the recent recovery of the Equus Beds Aquifer in the Wichita wellfield area to near full conditions, recharge activities are being hampered by limited recharge capacity, leading to the City's proposal for a new way to develop recharge credits.

The City of Wichita's Proposals — On March 12, 2018, the City forwarded to DWR a proposal for modifications to the conditions associated with the City's existing Phase II permits, requesting:

- **the lowering of the minimum index levels** used to determine when the City can withdraw its recharge credits, and
- authorization for a **new type of recharge credit** from project operations, **Aquifer Maintenance Credits (AMCs)**. AMCs would be accumulated during times of limited aquifer recharge capacity, where the City would receive recharge credits for treating surface water diverted at its ASR Project on the Little Arkansas River and sent directly to town, offset by reduced Equus Bed Aquifer use.

Draft, Proposed Terms and Conditions Contemplated

Draft, proposed permit conditions include the following proposed modifications and additions:

1. The basin storage area (BSA) shall remain as set forth in Attachments 3 and 4 to the Phase I ASR approval, **except for lower minimum index cell levels** that will be changed to those indicated in Table 2-11 of the City's proposal (minimum of 78% of aquifer full).
2. **Physical recharge activities will continue** to occur when there is adequate recharge capacity within the aquifer.
3. The **AMCs may be accumulated only when** index cell water levels are at elevations that **limit physical recharge** into the BSA as provided in the ASR's operating plan.
4. The **AMC accumulation rate** will be dependent on the **quantity of water treated and sent to the City** within the authorization of File No. 46,627.
5. **AMC accounting:** AMCs will be assigned annually to index cells equally among the City's points of diversion in service that year (excluding Phase I) with a one-time 5% initial loss deducted as well as a recurring loss as provided in Figure 15 of the City's proposal.

6. The **total accumulation of recharge credits** through physical recharge and AMCs combined cannot exceed **120,000 acre-feet**. Permits limit recovery of recharge credits to approx. 19,000 AF/year.
7. If **water quality** in an **existing domestic well, within 660 feet of an existing or new ASR well** is subsequently changed by the ASR project such that it no longer meets the current drinking water standards, then the City will remedy the problem without additional cost to the resident.
8. If a **domestic water well**, existing before the filing of these permit applications and within 660 feet of an existing or new ASR well, is **adversely impacted** by drawdown from such ASR well, then the City will re-drill or take other appropriate, affirmative action to restore productivity of such domestic well to the same rate and quality as existed before.
9. The draft, proposed approval documents include additional details on conditions when AMCs may be withdrawn, along with details regarding metering, reporting, and accounting related to AMCs.

Process Ahead

- The Chief Engineer has made no decision with respect to the City’s requests. The hearing process will determine if and under what conditions one or more of the City’s requests can be approved.
- The City’s proposal will be subject to two hearings, first a public comment hearing today; and second, a formal hearing with the parties in the near future, as well as a recommendation by GMD 2. The hearings provide an opportunity for the public to provide their input, on the record, for the Chief Engineer’s consideration. A decision will be made based on the record established at the hearing. It will be subject to administrative and judicial review.

For More Information

Details can be found on DWR’s web site at: <http://www.agriculture.ks.gov/WichitaASR>.

Written testimony may be submitted by mailing a copy to Ronda Hutton, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas, 66502, Attn: Wichita ASR Project Testimony, or an electronic copy may be submitted via email to ronda.hutton@ks.gov.

