

**BEFORE THE DIVISION OF WATER RESOURCES
KANSAS DEPARTMENT OF AGRICULTURE**

**In the Matter of the Review of the
Intensive Groundwater Use Control Area
in the Vicinity of Burrton, Kansas**

Pursuant to K.S.A. 82a-1036 and K.A.R. 5-20-2

The Chief Engineer, Division of Water Resources, Kansas Department of Agriculture (“Chief Engineer”), after having given due consideration to all evidence, testimony, and other information presented at a hearing in Hutchinson, Kansas, on October 4, 2016 and received before the hearing record was closed on February 1, 2017, regarding the review of an existing intensive groundwater use control area in the vicinity of Burrton, Kansas (“Burrton IGUCA”), makes the following findings and conclusions:

I. Background Findings Regarding the Burrton IGUCA

1. By letter dated June 10, 1982, the Board of Directors (“Board”) of the Equus Beds Groundwater Management District No. 2 (“GMD2”) requested that the Chief Engineer initiate proceedings for the designation of an intensive groundwater use control area (“IGUCA”) within a 36 square mile area described as follows:

an area in the vicinity of Burrton, Kansas, including Sections 14 through 23 and 26 through 35, Township 23 South, Range 3 West; Sections 2 through 11, Township 24 South, Range 3 West; Sections 13, 24, 25, and 36, Township 23 South, Range 4 West; and Sections 1 and 12, Township 24 South, Range 4 West, all located within the boundaries of GMD2.

2. GMD2 requested this action in that area because high chloride concentrations had been detected in the groundwater, and it felt that this constituted unreasonable water quality deterioration.
3. On August 4, 1982 and February 21, 1984, the Chief Engineer held public hearings at the office of the Superintendent of Schools, Burrton, Kansas, regarding the proposed designation of an IGUCA in the Burrton area. Oral and written evidence was received for consideration at the hearings.
4. Based upon the evidence and recommendations received, it was the decision and order of the Chief Engineer to establish an IGUCA in the vicinity of Burrton, Kansas, within the boundaries set forth below, and the following corrective control provisions have been and are in full force and effect within the area described since June 1, 1984:
 - a. The boundaries of the IGUCA are an area of approximately 36 square miles in Harvey and Reno Counties, Kansas, generally located in the vicinity of Burrton,

Kansas, which include the following described tracts of land: Sections 15 through 22 and 27 through 34, Township 23 South, Range 3 West; Sections 3 through 10, Township 24 South, Range 3 West; Sections 13, 14, 23, 24, 25, 26, 35, and 36, Township 23 South, Range 4 West; and Sections 1, 2, 11, and 12, Township 24 south, Range 4 West, all located within the boundaries of GMD2.

- b. This IGUCA is subject to the following corrective control provisions:
 - i. Within the IGUCA, all applications to appropriate water for beneficial use and all applications for change in point of diversion shall be reviewed on an individual basis, which may include computer modeling analysis.
 - ii. The Board shall annually review all hydrologic data in the IGUCA, including static water level, water use, and water quality data and may annually, no later than April 1, request a rehearing before the Chief Engineer on any matter related to this IGUCA.
 - iii. Effective July 15, 1984, flow meters shall be installed and maintained on all water wells in the IGUCA, except on wells used solely for domestic use and wells authorized by temporary permits. These meters shall meet or exceed specifications required by the Chief Engineer.
 - iv. Each water right holder in the IGUCA shall file water use reports no later than March 1 of the year following the usage, and in addition to the information normally required in water use reports, they shall also report the depth to static water level in each well in the IGUCA.
 - v. A copy of this order shall be provided to GMD2, the Kansas Corporation Commission, KDHE, KGS, the Kansas Independent Oil and Gas Association, the Kansas Water Authority, and KWO with a request that the remaining recommendations of the Burrton Task Force be carried out by the agencies or entities which have jurisdiction in those areas.
 - vi. In all other respects not inconsistent with this order, the Chief Engineer shall continue to administer water rights in accordance with the Kansas Water Appropriation Act and the rules, regulations, and policies in effect in GMD2.
 - vii. The Chief Engineer specifically retains jurisdiction and authority to make any changes to any provisions of this IGUCA order which he deems to be in the public interest.
5. On July 24, 1984, it was the decision and order of the Chief Engineer to correct the June 1, 1984 Burrton IGUCA designation order so that the requirement to install and maintain flow meters on all water wells in the IGUCA would become effective August 15, 1984.

II. Procedural Background of Review Hearing

6. K.S.A. 82a-1036 through K.S.A. 82a-1038 provides for the designation of IGUCAs under specific circumstances and states that such IGUCAs shall be in full force and effect from the date of entry in the records of the Chief Engineer's Office.
7. K.A.R. 5-20-2 provides for periodic formal review of IGUCA orders by the Chief Engineer.

8. K.A.R. 5-20-2 further provides that written notice of the public review hearing shall be given to each water right holder in the affected area, as well as published in one or more newspapers of general circulation within the affected area at least 30 days before the date set for the hearing; requires that documentary and oral evidence shall be taken and a full and complete record of the hearing shall be kept; and requires review of the following:
 - a. Whether one or more of the circumstances specified in K.S.A. 82a-1036, and amendments thereto, exist; and
 - b. Whether the public interest requires that the IGUCA designation be continued. The state shall have the burden of proving the need for continuance of the IGUCA designation.
9. Upon completion of the required review, K.A.R. 5-20-2(f) provides that, based on the review, one of the following actions shall be taken by the Chief Engineer:
 - a. Continue the IGUCA with its original or current corrective control provisions;
 - b. Reduce the restrictions imposed by one or more corrective control provisions within the scope and goals specified in the original IGUCA order;
 - c. Reduce the IGUCA boundaries;
 - d. Increase any allocations within the IGUCA;
 - e. Address any other issues that have been identified in the review; or
 - f. Revoke the IGUCA order and, if necessary, implement alternative measures to address water issues in the affected area.
10. By letter dated May 2, 2011, Tim Boese, Manager of GMD2, informed the Chief Engineer of the Board's decision for the Board and GMD2 staff to be fully involved in the review of the Burrton IGUCA and to participate with staff of the Division of Water Resources, Kansas Department of Agriculture ("DWR") to the greatest extent possible in such review.
11. Pursuant to K.A.R. 5-20-2(d), DWR provided timely written notice of a public review hearing to each water right holder in the Burrton IGUCA, and notice of the public review hearing was published in the Hutchinson News, a daily newspaper printed and published in Hutchinson, Kansas in Reno County, Kansas on September 2, 2016. Notice was also published in the McPherson Sentinel, a daily newspaper of general circulation in McPherson County, Kansas, on September 3, 2016. Notice was also provided by the Kansas Department of Agriculture ("KDA") by a news release dated September 9, 2016. Notice was also published in Volume 38, No. 2 of GMD2 Groundwater News, a newsletter of GMD2.

III. Summary of Findings from Review Hearing

12. Pursuant to K.A.R. 5-20-2, a public review hearing was held on October 4, 2016 at the Kansas Department of Transportation conference room, 1220 W 4th Ave, Hutchinson, Kansas, to review the Burrton IGUCA designation order.

13. At the public review hearing, the Chief Engineer took administrative notice of the following materials to be included in the hearing record:
 - a. The June 1, 1984 Burrton IGUCA designation order and all documents referenced therein;
 - b. The July 24, 1984 Burrton IGUCA correctional order and all documents referenced therein;
 - c. The May 1, 1995 GMD2 management program;
 - d. A template of the written notice provided by DWR to water right holders in the Burrton IGUCA;
 - e. An affidavit of publication for the September 2, 2016 notice published in the Hutchinson News;
 - f. An affidavit of publication for the September 3, 2016 notice published in the McPherson Sentinel; and
 - g. GMD2 Groundwater News Volume 38, No. 2.
14. No written comments or documentary testimony were provided to the Chief Engineer prior to the October 4, 2016 public review hearing.
15. Ginger Pugh, Engineering Associate, testified on behalf of DWR. She presented the evidence and analyses relied upon by DWR in their review and evaluation of the performance of the Burrton IGUCA, which had been prepared by a team of DWR staff with assistance from GMD2 and Kansas Geological Survey (“KGS”) staff. Ms. Pugh also presented recommendations developed by DWR regarding the IGUCA designation and corrective control provisions. The DWR review was prepared in the form of an October 2016 report entitled “Burrton IGUCA Review” (“Review Report”). The Review Report was prepared independently from and without counsel or direction from the Chief Engineer.
16. Ms. Pugh submitted the following materials for inclusion in the hearing record:
 - a. The October 2016 Review Report;
 - b. The June 1, 1984 Burrton IGUCA designation order;
 - c. The July 24, 1984 Burrton IGUCA correctional order;
 - d. United States Geological Survey (“USGS”) Open-File Report 2014-1162: “Preliminary Simulation of Chloride Transport in the Equus Beds Aquifer and Simulated Effects of Well Pumping and Artificial Recharge on Groundwater Flow and Chloride Transport near the City of Wichita, Kansas, 1990 through 2008” by Brian J. Klager et al., 2014;
 - e. KGS Open-File Report 2012-1: “Distribution and Change in Salinity in the Equus Beds Aquifer in the Burrton Intensive Groundwater Use Control Area” by Donald O. Whittemore, April 2012;
 - f. “Report of the Burrton Task Force to the Chief Engineer-Director of the Kansas State Board of Agriculture, Division of Water Resources, Concerning the Proposed Burrton Intensive Groundwater Use Control Area” by the Burrton Task Force, February 1984; and

- g. A template of the written notice provided by DWR to water right holders in the Burrton IGUCA.
17. The Chief Engineer admitted the materials submitted by Ms. Pugh, as well as Ms. Pugh's statement, into the hearing record.
 18. The Review Report discusses the sources of chloride contamination within the Burrton IGUCA in Section II. From the early 1930s to the mid-1950s, the primary methods of oil production brine disposal used in the area allowed brine to enter the Equus Beds Aquifer, causing groundwater quality deterioration due to chloride contamination, which the Burrton IGUCA was established to address. Prior to the development of the oil and gas industry in the Burrton area, chloride concentrations in groundwater ranged from 10 to 100 mg/L. By 1948, chloride concentrations in excess of 1,000 mg/L had been detected, and the highest chloride concentration reported in the 1984 Burrton Task Force report was 2,450 mg/L. Figure 14 in Section V, Part E provides a map of the Burrton IGUCA which includes locations of active and formerly active oil and gas wells, showing the extent of oil and gas production activity in the Burrton area.
 19. The Review Report discusses groundwater level changes within the Burrton IGUCA in Section V, Part A and Section X, Part A. Although the Burrton IGUCA was established to address water quality deterioration, changes in groundwater level can increase or decrease the rate of contaminant plume movement with the increase or decrease, respectively, of hydraulic gradients. Figure 22, prepared by GMD2, provides a map depicting the elevation of the groundwater table as of January 2016, which illustrates the easterly direction of groundwater flow. The municipal water supply well field of Wichita, Kansas ("Wichita well field"), located in southwest Harvey County, Kansas and northwest Sedgwick County, Kansas, lies to the southeast of the Burrton IGUCA, in the path of migration of the Burrton chloride plume. Groundwater level declines caused by withdrawals made by water users within the Wichita well field have been identified as likely to increase the rate of movement of the Burrton chloride plume.
 20. The Review Report examines annual groundwater level measurements from the 22 monitoring well locations depicted in Figure 2. Whenever possible, the Review Report considers only those water level measurements which were collected during the winter months (December, January, or February), also called static water level measurements, for consistency in year-to-year comparisons. The entire selected data record from each monitoring well, from the earliest measurements to the most recent measurements collected no later than February 2015, is shown in Figures 3, 4, and 5. A majority of the monitoring wells are located in Harvey County, Kansas and have been measured annually since 1939, as depicted in Figures 3 and 4. The remaining four monitoring wells are located in Reno County, Kansas and have only been measured annually since 1981, as depicted in Figure 5. Figure 6 provides three maps, one for the pre-IGUCA period (1960-1984), one for the post-IGUCA chloride plume analysis period (1984-2010), and one for the entire post-IGUCA period (1984-2015), which depict average annual groundwater level change in the IGUCA in inches per year for each period, as interpolated from the selected data records of monitoring wells both within and beyond the existing boundaries of the Burrton IGUCA.

During the pre-IGUCA period, Figure 6 shows groundwater decline rates of 0 to 3 inches per year. During the two post-IGUCA periods, Figure 6 shows both groundwater declines and increases, with decline rates of 0 to 2 inches per year and increase rates of 0 to greater than 2 inches per year. The overall conclusion of the Review Report with regards to groundwater levels is that, between the pre- and post-IGUCA periods, groundwater levels were relatively stable, and there was little variation in the rate of groundwater level change.

21. The Review Report discusses precipitation within the Burrton IGUCA in Section V, Part B. Precipitation data was obtained from the records of the National Climatic Data Center for the Newton 2 SW weather station, located 16 miles from the Burrton IGUCA in Harvey County, Kansas, and the Hutchinson 10 SW weather station, located 19 miles from the Burrton IGUCA in Reno County, Kansas. Data from the Burrton weather station within the Burrton IGUCA were not considered because the data record was not long enough to cover the desired analysis period. An analysis of 54 years (1960-2014) of precipitation data from both selected weather stations, presented in Figure 7, demonstrates that there is no statistically significant variation in precipitation trends between the pre-IGUCA (1960-1984) and post-IGUCA (1984-2014) periods.
22. The Review Report describes groundwater rights within the Burrton IGUCA in Section V, Part C. As of September 20, 2016, there were 72 active groundwater rights in the IGUCA. These groundwater rights represented a total quantity of 7,754.09 acre-feet authorized for annual diversion, as reported in Table 1. As of September 20, 2016, there were no surface water rights within the IGUCA boundaries. The following table describes the distribution of water rights within the IGUCA between different beneficial uses of water.

Use Made of Water	Water Right Count	% of Rights	Authorized Quantity (AF)	% of Quantity
Irrigation	61	84%	7,124.60	92%
Recreation	9	12%	325.00	4%
Hydraulic Dredging	1	1%	220.0	3%
Industrial	1	1%	84.33	1%
Municipal	1	1%	0.16	0.002%
Total	72¹		7754.09	

23. The Review Report discusses groundwater use within the Burrton IGUCA in Section V, Part D. The quality of groundwater use records within the IGUCA was improved by the June 1, 1984 designation order, which mandated both the installation of flow meters and annual water use reporting. Groundwater use records were obtained from the DWR Water Right Information System database. Figure 8 depicts all 15 years (2000-2014) of water use data for all active points of diversion within the IGUCA. Average annual reported groundwater use within the IGUCA was 3,150 acre-feet per year from 2000-2010 and 4,818 acre-feet per year from 2005-2014 and was primarily for irrigation use. Figure 9

¹One of the water rights is associated with two uses made of water, so the total number of water rights in the IGUCA remains 72, rather than 73.

provides a map of average annual reported groundwater use within the IGUCA by section and shows that most groundwater use occurs in the southern and eastern portions of the IGUCA.

24. The Review Report summarizes and analyzes groundwater quality within and near the Burrton IGUCA in the Executive Summary; Section V, Part E; and Section VII, Part (8). The Review Report considers water quality data which was collected by GMD2 and the USGS following the June 1, 1984 IGUCA establishment, with a particular focus on groundwater salinity (chloride concentration). Figure 10 provides a map which includes locations of monitoring wells from which water quality data was collected. Water quality sampling was typically conducted at three or four different depths to provide a representation of groundwater quality at different depths within the Equus Beds Aquifer.
25. The Review Report provides groundwater quality data summaries and analyses prepared by KGS (Whittemore, 2012) and GMD2. Figures 11-13 provide maps prepared by DWR from data provided by KGS which depict 2012 chloride concentrations within and near the Burrton IGUCA. Figures 15-17 provide maps prepared by GMD2 which depict 2015 chloride concentrations within and near the Burrton IGUCA. By letter dated February 1, 2017, GMD2 provided updated versions of these maps, prepared using 2016 chloride concentrations, to the Chief Engineer. In addition to the KGS and GMD2 analyses summarized in the Review Report, the USGS conducted a series of computer simulations of the broader Burrton area, including the Burrton IGUCA, to predict the movement of the front of the Burrton chloride plume under various groundwater withdrawal scenarios and one artificial groundwater recharge scenario (Klager et al., 2014). In each of these three analyses, water quality data is temporally and spatially characterized according to upper, middle, and lower regions of the Equus Beds Aquifer, although there is no common definition of these regions among GMD2, KGS, and the USGS. Water quality data used in all these analyses demonstrate significant groundwater quality variability over the post-IGUCA period (1984-2016) and the generally easterly movement of the Burrton chloride plume.
26. The overall conclusions of the Review Report with regards to the nature and movement of the Burrton chloride plume rely primarily upon the work of KGS as described in KGS Open-File Report 2012-1 (Whittemore, 2012), which finds the following:

“The Burrton plume has migrated eastward and into the deeper portion of the aquifer with time. Substantial clay layers within the aquifer restricted the rate of vertical movement of saltwater and promoted a lateral and vertical ‘stair-stepping’ migration of salinity. The front of the plume, as indicated by the 500 mg/L chloride isosurface, is about a mile away from the nearest municipal supply well in the Wichita well field. During 1982-2010, the plume front advanced at a rate of about 0.8-1.0 ft/day to the east, for a total migration of approximately 1.5 to over 2 miles.” (Whittemore, 2012, Executive Summary, pg. 1.)

According to Whittemore (2012), the nearest municipal water supply well within the Wichita well field was within about a mile of the 500 mg/L front of the Burrton chloride

plume as of 2012. This characterization of the movement of the Burrton chloride plume is corroborated by USGS Open-File Report 2014-1162 (Klager et al., 2014). Figures 15-17 of the USGS report show the eastern migration of the plume, especially in the middle and lower regions² of the Equus Beds Aquifer.

27. The Review Report discusses the GMD2 procedures for review of new applications to appropriate groundwater within the Burrton IGUCA in Section VI. Each new application filed within the boundaries of GMD2 is evaluated by GMD2 staff to determine whether the proposed appropriation complies with the rules, regulations, and management program of GMD2. As of April 13, 2004, GMD2 evaluates the following criteria for new applications and change in point of diversion applications filed within the Burrton IGUCA:
- a. Applications filed for proposed points of diversion located down-gradient from the maximum contamination areas of the chloride plumes shall not be recommended for approval; and
 - b. Applications filed for proposed points of diversion located up-gradient from the maximum contamination areas of the chloride plumes shall be reviewed on an individual basis by the Board to determine site-specific effects on senior water rights and the Equus Beds Aquifer.

GMD2 uses computer groundwater modeling to determine whether proposed groundwater withdrawals would have adverse effects on groundwater quality, natural migration of the Burrton chloride plume, and senior water rights. If, as a result of this analysis, the application is recommended for approval, the new or changed water right may include well depth restrictions, water quality monitoring requirements, or other limitations intended to protect groundwater quality. Well construction within the Burrton IGUCA is subject to well grouting requirements established by KDHE.

28. The Review Report provides the recommendations of DWR concerning the provisions of K.A.R. 5-20-2 (f), (g), and (h) regarding the potential actions of the Chief Engineer following the review hearing.
- a. *Continue the IGUCA with its original or current corrective control provisions.* Yes. The corrective control provisions of the Burrton IGUCA order are essential to protect the public interest in groundwater quality. The current corrective control provisions of the IGUCA should be maintained, subject to the future implementation of additional corrective control provisions.
 - b. *Reduce the restrictions imposed by one or more corrective control provisions within the scope and goals specified in the original IGUCA order.* No. The corrective control provisions of the Burrton IGUCA order are essential to protect the public interest in health and environmental quality. The implementation of stronger or more specific provisions may need to be considered.
 - c. *Reduce the IGUCA boundaries.* No. Although chloride concentrations in the western portions of the Burrton IGUCA may be decreasing, those areas should

²The upper, middle, and lower regions of the Equus Beds Aquifer correspond to USGS model layers 1, 2, and 3, respectively.

continue to be monitored to determine whether continued or increased groundwater withdrawals induce the chloride plume to return to those areas.

- d. *Increase any allocations within the IGUCA.* No. There were no allocations written into the Burrton IGUCA order. The IGUCA is not closed to new groundwater appropriations and was only established to address groundwater quality problems.
- e. *Address any other issues that have been identified in the review.* Yes. The current corrective control provisions of the Burrton IGUCA order do not address chloride concentrations detected in previously authorized wells. As the plume moves, wells in its path should be increasingly monitored, and their associated water rights may need to be modified if their withdrawals are shown to increase the rate of plume migration. Operators of wells in the path of the plume should consider well grouting practices beyond the requirements established by KDHE.
- f. *Revoke the IGUCA order and implement alternative measures, if necessary, to address the water issues in the affected areas.* No. The Burrton IGUCA is necessary to protect the public interest.
- g. *The restrictions imposed by current corrective control provisions may need to be increased, or additional corrective control provisions may be needed.* Yes. Additional corrective control provisions, such as stricter well grouting requirements or modifications to water rights which authorize groundwater withdrawals from wells in the path of the chloride plume, should be considered to further protect the public interest. The GMD2 procedures for review of new applications should be applied to existing water rights associated with wells in the path of the plume.
- h. *The boundaries of the IGUCA may need to be increased.* Yes. Considering the current rate of plume movement, the current boundaries of the Burrton IGUCA should be expanded by about 1 mile along the eastern and southern boundaries of the IGUCA, adding nine Public Land Survey System sections to the IGUCA as shown in Figure 21, in order to continue to protect the public interest in groundwater quality in the broader Burrton area.

29. Mr. Boese testified on behalf of GMD2. He reported that the Board had reviewed and accepted the Review Report. Mr. Boese stated that GMD2 agreed with the conclusion that the Burrton IGUCA was necessary to protect the public interest and with the recommendation that the IGUCA be continued with its existing corrective control provisions. He also reported that the Board and GMD2 staff intended to review the additional recommendations of the Review Report and would provide their written recommendations to the Chief Engineer following the review hearing.

30. Mr. Boese reported on the water quality data collection, chloride plume analyses, and application reviews conducted within the Burrton IGUCA by GMD2. He noted that GMD2 recommends that proposed points of diversion within the IGUCA located in the path of the chloride plume not be authorized, so as not to increase the rate of movement of the plume. New water rights and/or points of diversion which are approved within the IGUCA are sampled biannually for groundwater chloride concentration. This water quality data is then combined with data collected annually from GMD2 water quality monitoring wells, creating a valuable data resource for tracking the movement of the Burrton chloride plume. With regards to the chloride plume analyses prepared by GMD2, Mr. Boese clarified that

the KGS definition of upper, middle, and lower regions of the Equus Beds Aquifer is based on depth alone, while GMD2 bases their definition of the same regions on differences in the lithology of the clay layers present in different regions of the aquifer. The Chief Engineer admitted Mr. Boese's statement into the hearing record.

31. Scott Macey, Water Resources Engineer, testified on behalf of the City of Wichita, Kansas ("Wichita"). He reported that Wichita supported the continuation of the Burrton IGUCA with its current corrective control provisions, so long as the IGUCA designation would not limit Wichita's ability to withdraw groundwater from any of its municipal water supply wells, including groundwater withdrawn for artificial groundwater recharge credits. Mr. Macey also reported that Wichita would support the expansion of the IGUCA boundaries if Wichita received a guarantee that they could transfer the point of withdrawal of artificial recharge credits to a well outside the expanded IGUCA boundaries. This would be done with the intent of withdrawing less groundwater from the IGUCA and strategically moving recharge withdrawals to other wells in order to continue to protect the public interest in groundwater quality within the IGUCA.
32. Mr. Macey submitted a letter dated October 4, 2016 from Alan King, Director of the Department of Public Works and Utilities of the City of Wichita, containing the information he had presented, to be included in the hearing record. The Chief Engineer admitted the letter into the hearing record.
33. Following the October 4, 2016 public review hearing, the Chief Engineer left the hearing record open through November 2, 2016 to receive written comments or documentary testimony.
34. On November 2, 2016, the Chief Engineer, at the request of the Board, extended the deadline to submit written comments or documentary testimony to be included in the hearing record to December 2, 2016.
35. On December 1, 2016, the Chief Engineer, at the request of the Board, extended the deadline to submit written comments or documentary testimony to be included in the hearing record to February 1, 2017.
36. By letter dated February 1, 2017, Mr. Boese provided to the Chief Engineer the recommendation of GMD2 concerning the proposed boundary expansion for the Burrton IGUCA. It was the recommendation of the Board that the IGUCA boundaries be expanded to the east, to include the area due east of the IGUCA recommended in the Review Report, but that the IGUCA boundaries not be expanded to the south. The letter provided maps depicting the IGUCA boundary expansion recommended by the Board.
37. There being nothing further to be brought before the Chief Engineer regarding the review of the Burrton IGUCA designation, the hearing record was declared closed on February 1, 2017.

IV. Conclusions

1. Based on the findings contained herein, the Chief Engineer concludes that one or more of the circumstances specified in K.S.A. 82a-1036, and amendments thereto, exist in the Burrton IGUCA. Specifically, an unreasonable deterioration of the quality of water is occurring within the area.
2. The Chief Engineer concludes that the public interest requires that the Burrton IGUCA be continued with its current corrective control provisions, which provide for continued groundwater quality monitoring and individual evaluations of proposed points of diversion with regards to the effects of withdrawals on groundwater quality and the movement of the Burrton chloride plume. In addition, the June 1, 1984 IGUCA designation order provides that the Board may annually request a hearing before the Chief Engineer on any matter related to the IGUCA, allowing any potential expansions of the IGUCA boundaries or corrective control provisions which may be deemed necessary in the future to be addressed.
3. The Review Report recommended that the Chief Engineer consider expanding the corrective control provisions of the Burrton IGUCA order to increase well grouting requirements and provide for the review and modification of water rights which authorize groundwater withdrawals from wells in the path of the chloride plume, according to the current GMD2 procedures for the review of new applications. The Review Report also recommended that the Chief Engineer consider expanding the boundaries of the Burrton IGUCA to include areas to the south and east of the IGUCA. GMD2 gave no recommendation regarding expanded corrective control provisions. With respect to the proposed IGUCA boundary expansion, GMD2 recommended that the IGUCA boundaries be expanded to the east but not to the south. After giving due consideration to these recommendations, and in light of the findings contained herein, the Chief Engineer concludes that the public interest is best served by continuing the Burrton IGUCA designation with its current boundaries and corrective control provisions. While there is compelling justification for an expansion of the IGUCA boundaries to the east, as recommended by GMD2, the delay in consideration of these matters will provide an opportunity for GMD2 to determine whether any potential boundary expansion and/or additional corrective control provisions to protect the public interest would be best accomplished by initiating an IGUCA proceeding, developing additional rules and regulations, and/or initiating proceedings to develop a Local Enhanced Management Area, now allowed pursuant to K.S.A. 82a-1041 as an alternative to an IGUCA.

SUBMITTED THIS 28 DAY OF FEBRUARY 2020.

David W. Barfield

David W. Barfield, P.E.
Chief Engineer, Division of Water Resources
Kansas Department of Agriculture

