

COMPACT RULES GOVERNING IMPROVEMENTS TO SURFACE WATER
IRRIGATION SYSTEMS IN THE ARKANSAS RIVER BASIN IN COLORADO

ORDER OF THE STATE ENGINEER

BY THIS ORDER the State Engineer adopts the following rules and regulations to govern improvements to surface water irrigation systems in the Arkansas River Basin in Colorado to comply with Article IV-D of the Arkansas River Compact.

Rule 1. Title

The title of these rules is "Compact Rules Governing Improvements to Surface Water Irrigation Systems in Arkansas River Basin in Colorado." The short title for these rules is "Irrigation Consumption Rules," and they may be referred to herein collectively as the "rules" or individually as a "rule."

Rule 2. Authority

These rules are promulgated pursuant to the authority granted the State Engineer in § 37-80-102(1)(a), § 37-80-104, and § 37-92-501, C.R.S., to ensure compliance with the terms of the Arkansas River Compact, 63 Stat. 145; § 37-69-101, *et seq.*, C.R.S. (Compact).

Rule 3. Purpose

- A. The purpose of these rules is to ensure that improvements to surface water irrigation systems in the Arkansas River Basin in Colorado comply with Article IV-D of the Compact.
- B. These rules have as their objective the optimum use of waters of the Arkansas River in a manner consistent with preservation of the priority system of water rights while ensuring that the State of Colorado complies with the terms of the Compact.

Rule 4. Scope and Exceptions

- A. Upon the effective date of these rules, water users must file an application and obtain approval from the Division Engineer before making an improvement to a surface water irrigation system. In addition, water users with a surface water sprinkler or surface water drip system installed on or after October 1, 1999 within the H-I Model Domain must file an application and obtain approval from the Division Engineer in order to continue using that sprinkler or drip system.
- B. These rules apply throughout the drainage basin of the Arkansas River Basin in Colorado except: (1) within the boundaries of a designated ground water basin

formed under § 37-90-101, *et seq.*, C.R.S.; and (2) in the Horse Creek Basin above the Box Springs Ditch headgate.

- C. These rules apply to any person or entity using, claiming, or in any manner asserting any right to use waters of the Arkansas River, as defined in Article III of the Compact, which includes its tributaries, under the authority of the State of Colorado in whole or in part for irrigation or for the replacement of depletions caused by ground water diversions, except as provided in paragraph D, E and F of this rule.
- D. These rules do not apply to diversions of ground water or to structures, facilities, equipment, or works used exclusively for the diversion, conveyance, or application of ground water.
- E. These rules do not apply to surface water irrigation systems that serve less than one acre.

- F. *[NOTE: The revisions to 4F are still under consideration; here is a current draft for discussion on Feb 24.]*

~~These rules do not apply to improvements to a surface water irrigation system within the Trinidad Dam and Reservoir Project that are authorized by the Operating Principles for the Trinidad Dam and Reservoir or have been approved pursuant to amendment of the Operating Principles for the Trinidad Dam and Reservoir and the five Kansas conditions set forth in the letter from Governor William H. Avery of the State of Kansas to H.P. Dugan, Director Region 7, Bureau of Reclamation, dated December 30, 1966.~~
These rules apply to improvements to surface water irrigation systems within the Trinidad Dam and Reservoir Project, except that they do not apply to:
(1) increases in transportation efficiency, including but not limited to the lining of canals and off-farm laterals, installation of underground pipelines to replace off-farm earthen ditches or laterals, or application of chemicals to reduce canal or off-farm lateral losses, as long as these increases in transportation efficiencies are in compliance with the conditions of Paragraph B(8) of the "Purgatoire River Water Conservancy District Operating Criteria," or (2) any improvement that becomes expressly approved after the effective date of these rules by duly-authorized amendment of the "Operating Principles - Trinidad Dam and Reservoir Project."

Rule 5. Definitions

A. As used in these rules:

1. "Division Engineer" means the Division Engineer for Water Division 2.

2. “H-I Model” means the Hydrologic-Institutional Model that has been used to determine Compact compliance in *Kansas v. Colorado*, No. 105, Original, United States Supreme Court, and that will be used to determine Compact compliance in the future as described in Appendix C to the Decree in *Kansas v. Colorado*, which includes the model documentation. The term “H-I Model” also includes any future updates and revisions to said model under the terms of said Decree.

3. “H-I Model Domain” means the geographic area in which the hydrologic and institutional processes simulated in the H-I Model occur, as shown on the attached map.

4. “Historical seepage losses or return flows” means the seepage losses and return flows that would occur from use of a surface water irrigation system in the absence of an improvement to the surface water irrigation system.

5. “Improvement to a surface water irrigation system” or “Improvement” means a man-made change to a surface water irrigation system, including lining of canals and off-farm laterals; installation of underground pipelines to replace off-farm earthen ditches or laterals; application of chemicals to reduce canal or off-farm lateral losses; installation of head stabilization ponds and tailwater [recovery pits, including those that facilitate reuse of surface water](#); installation of sprinkler systems, drip systems, or other irrigation technologies to replace flood and furrow irrigation methods; and upgrading of sprinkler systems [to increase efficiency](#), such as replacing an impact sprinkler system with a low energy precision application (“LEPA”) system. The following are not considered “improvements to surface water irrigation systems” under these rules: lining of on-farm ditches and laterals, installation of on-farm underground pipe or gated pipe; crop selection; crop rotation; changes to plant population; irrigation scheduling; cultivation; application of fertilizers; and general maintenance activities, such as the control or eradication of vegetation; dredging of canals, ditches, laterals and reservoirs; repair or replacement of deteriorated pipe; repair or replacement of existing lining of canals or laterals; sluicing operations to remove sediment from canals; and similar practices.

6. “Irrigation” means the application of waters of the State in excess of natural precipitation to grow crops or other plant life for production of food, forage, or other uses, including revegetation and sod production but not including lawn irrigation.

7. [Irrigation System Analysis Model \(ISAM\) means the computer model developed by the Division Engineer’s Office to evaluate whether an improvement to a surface water irrigation system will increase consumptive use or will reduce the amount or change the timing or location of historical](#)

seepage losses and return flows from waters of the Arkansas River diverted, conveyed, stored, applied, or returned by the surface water irrigation system. For surface water irrigation systems within the H-I Model Domain, the ISAM incorporates applicable information derived from the H-I Model. For surface water irrigation systems outside the H-I Model Domain, the ISAM shall be adapted to the hydrologic and institutional circumstances of the surface water irrigation system to be evaluated, based upon sufficient and reliable engineering and/or scientific information. The ISAM may incorporate or be used in conjunction with other models that already meet this standard. The Division Engineer may update or revise the ISAM as new data and/or engineering information become available.

8. “Off-farm” means ditches, laterals, underground pipe, and gated pipe that are not “on-farm.”

89. “On-farm” means ditches, laterals, underground pipe, and gated pipe that are used to transport irrigation water within or along the borders of irrigated fields. On-farm ditches and laterals do not include the main canal that conveys water from the decreed source to farm turnouts on the main canal or ditches and laterals that serve more than one water user.

910. “Subject water right” means the water right or rights, or shares in a mutual ditch company, used with a surface water irrigation system to which an improvement has been made or is proposed. “Subject water right” includes the portion of a water right or water rights that a water user is entitled to use by contract or as the beneficial owner.

1011. “Surface water irrigation system” means any and all structures, facilities, equipment, or works used to receive, deliver, control, apply, or return surface water for irrigation, including, but not limited to: dams; diversion works; canals; off-farm laterals; reservoirs; and ~~irrigation management practices to control or apply surface water~~farm-scale irrigation application facilities, such as ~~furrows~~, sprinkler systems, drip systems, and head stabilization ponds. “Surface water irrigation system” includes systems that also receive ground water in addition to surface water and systems that receive, deliver, control, or return surface water for the purpose of replacing depletions caused by diversions of tributary ground water.

- B. Any term used in these rules that is defined in Articles 69, 80, and 92 of Title 37, C.R.S., shall have the same meaning given therein unless the context requires otherwise.

Rule 6. Principles and Findings

- A. Article IV-D of the Compact states as follows: “This Compact is not intended to impede or prevent future beneficial development of the Arkansas River basin in Colorado and Kansas by Federal or State agencies, by private enterprise, or by combinations thereof, which may involve construction of dams, reservoirs and other works for the purposes of water utilization and control, as well as the improved or prolonged functioning of existing works: Provided, that the waters of the Arkansas River, as defined in Article III, shall not be materially depleted in usable quantity or availability for use to the water users in Colorado and Kansas under this Compact by such future development or construction.”
- B. Article VII-A of the Compact states as follows: “Each State shall be subject to the terms of this Compact. Where the name of the State or the term ‘State’ is used in this Compact these shall be construed to include any person or entity of any nature whatsoever using, claiming or in any manner asserting any right to the use of the waters of the Arkansas River under the authority of that State.”
- C. The State Engineer is responsible for discharging the obligations of the State of Colorado imposed by the Compact.
- D. Future beneficial development of the Arkansas River basin within the meaning of Article IV-D of the Compact includes improvements to surface water irrigation systems within the scope of these rules. In making this finding, the State Engineer has been guided by the terms of the Compact and the decisions of the United States Supreme Court and its Special Master interpreting the Compact. See, e.g., Kansas v. Colorado (No. 105 Original), 514 U.S. 673 (1995); 533 U.S. 1 (2001); 543 U.S. 86 (2004); First Report (1994); Second Report (1997); Third Report (2000); Fourth Report (2003); and Fifth and Final Report (2008).
- E. Improvements to surface water irrigation systems within the scope of these rules can materially deplete the waters of the Arkansas River in usable quantity or availability for use to the water users in Colorado and Kansas in violation of Article IV-D of the Compact by increasing beneficial consumptive use and reducing historical seepage losses or return flows to the Arkansas River.
- F. The Compact is deficient in establishing standards for administration within Colorado to provide for meeting its terms with respect to improvements to surface water irrigation systems and these rules are necessary to ensure that the State of Colorado meets its Compact obligations.
- G. Compact Compliance Plans under these rules do not authorize out-of-priority use of water and do not authorize replacement of depletions caused by out-of-priority use of water. See Simpson v. Bijou, 69 P.3d 50 (2003); § 37-92-308, C.R.S.

H. In adopting these rules, the State Engineer has been guided by the recognition that the Arkansas River Basin is a separate entity (§ 37-92-501(2)(a), C.R.S.); that the purpose of the Compact was to equitably divide and apportion between the States of Colorado and Kansas the waters of the Arkansas River and their control, conservation, and utilization for irrigation and other beneficial purposes (Article I-A); that the Compact deals only with the waters of the Arkansas River as defined in Article III of the Compact (Article IV-A); and that the Compact establishes no general principle or precedent with respect to any other interstate stream (Article VII-B).

Rule 7. Requirement for Division Engineer Approval of Improvements to Surface Water Irrigation Systems

- A. On or after the effective date of these rules, no improvement to a surface water irrigation system within the scope of these rules shall be made unless the user makes an application in writing to the Division Engineer for approval of the improvement and receives written approval from the Division Engineer allowing the improvement.
- B. On or after the effective date of these rules, any person who wants to continue using a sprinkler or drip irrigation system to apply surface water within the H-I Model Domain that was installed on or after October 1, 1999, but before the effective date of these rules, must file an application in writing to the Division Engineer for approval of the sprinkler or drip irrigation system and must receive written approval from the Division Engineer allowing the use of the sprinkler or drip irrigation system in accordance with these rules. Ninety days after the effective date of these rules, no sprinkler or drip irrigation system that is used to apply surface water within the H-I Model Domain and was installed on or after October 1, 1999, but before the effective date of these rules, shall be used unless the user has received written approval from the Division Engineer to use the sprinkler or drip irrigation system in accordance with these rules.
- C. In the event written approval of an improvement to a surface water irrigation system has not been given by the Division Engineer in accordance with Rule 7.A, 7.B, or Rule 10 and is not permitted under a General Permit as provided in Rule 11 below, the State or Division Engineer shall order the total or partial discontinuance of any diversion or use of the subject water right (but only to the extent that the water being diverted is used in connection with such improvement) or take other appropriate action authorized by law to prevent a violation of Article IV-D of the Compact. If the subject water right is based on contract or shares in a mutual ditch company, any such order will be issued to the person or entity responsible for the improvement.

Rule 8. Application Contents, Notice and Comment Period, and Timeline for Review

- A. An application for approval of an improvement under Rule 7 shall be in a form to be prescribed by the State Engineer. The application shall describe the surface water irrigation system and the improvement in sufficient detail to allow the Division Engineer to evaluate the effect of the improvement. An applicant is not required to submit an engineering report with an application, but the applicant may submit any relevant information, including a report from a licensed professional engineer, information pertinent to the leaching requirement to prevent soil salinity from reaching harmful levels for land irrigated by the improvement, or information from the manufacturer describing the improvement and its effect on consumptive use of water or seepage losses and return flows. The application may also propose terms and conditions to be imposed on the use of the improvement or the use of the subject water right that will prevent a violation of Article IV-D of the Compact.

- B. On the day the application is filed, the Division Engineer shall send a copy of the application to all persons on the Division Engineer's Notification List. Anyone may join the Notification List by submitting an email address to the Division Engineer's Office. The Division Engineer will consider comments on pending applications if they are received within 30 days after the application was filed. [The Division Engineer will also inform those on the Notification List of any hearing on an application and of any decision approving or denying an application or Compact Compliance Plan.](#)

- C. Within ninety (90) calendar days of the receipt of an application, the Division Engineer will provide the applicant with a written decision that may be in the form of approval, denial, or approval with terms and conditions. If the Division Engineer requires additional information from the applicant to evaluate the improvement, the applicant shall have up to 90 calendar days from the date of the notification to provide the additional information and the time for the Division Engineer to provide the applicant with a written decision shall be extended for 90 calendar days from the date of the receipt of the additional information.

- D. In making the determinations necessary to approve or deny an application, the Division Engineer shall not be required to hold or conduct a hearing, but the Division Engineer may hold or conduct a hearing if he determines a hearing is necessary or useful to make any such determination. All hearings will be conducted under the State Engineer's Procedural Regulations for adjudicatory procedures (2 CCR 402-5, Section 1.1.4).

Rule 9. Standards for Division Engineer Review of Applications

- A. If the Division Engineer determines that an improvement will not materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact, he shall approve the application and allow the improvement. If the Division Engineer determines that an improvement will materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact, he

shall deny the application and disallow the improvement unless terms and conditions can be imposed under Rule 9(C) below that will prevent such material depletion or the Division Engineer approves a Compact Compliance Plan in accordance with Rule 10 below.

- B. To determine whether an improvement will materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact, the Division Engineer shall use the ISAM to determine whether the improvement will increase consumptive use or will reduce the amount or change the timing or location of historical seepage losses and return flows from waters of the Arkansas River diverted, conveyed, stored, applied, or returned by the surface water irrigation system. ~~This determination shall be based on an appropriate method or methods to determine consumptive use, seepage losses, and return flows, including, if appropriate, information derived from the H-I model for surface water ditch systems represented in the H-I model.~~ The Division Engineer may also consider any water savings that would result from elimination of non-beneficial consumptive use due to an improvement to a surface water irrigation system to the extent permitted by law. There shall be a rebuttable presumption that the version of the ISAM in use at the time an application is filed accurately determines whether an improvement will increase consumptive use or will reduce the amount or change the timing or location of historical seepage losses and return flows.
- C. The Division Engineer may approve an application and allow an improvement that would otherwise violate Article IV-D of the Compact if the Division Engineer determines that terms and conditions can be imposed on the use of the improvement or the use of the subject water right that will prevent a violation of Article IV-D of the Compact. Such terms and conditions may include a limitation on the use of the subject water right, including a limitation on the time, place, or method of use of the subject water right or the surface water irrigation system, or such other terms and conditions as may be necessary to maintain historical seepage losses and return flows, including removal of land from irrigation. If delayed effects on historical seepage losses or return flows from an improvement are projected, the Division Engineer's approval shall specify the time period for which such terms and conditions must remain in effect in the event the applicant discontinues use of the improvement.
- D. In determining whether an improvement will cause a material depletion of Stateline flow under Article IV-D of the Compact, no reduction for usability shall be applied; provided, that no person or entity subject to these rules shall be required to maintain historical seepage losses or return flows at the state line if John Martin Reservoir is spilling and stateline water is passing Garden City, Kansas.

Rule 10. Compact Compliance Plans

- A. In lieu of filing an application under Rule 7, any person subject to these rules or an entity acting on behalf of a group of such persons may submit a proposed Compact Compliance Plan to the Division Engineer to prevent a violation of Article IV-D of the Compact from an improvement or group of improvements subject to Rule 7(A) or 7(B). The Plan must specifically describe all improvements it is intended to cover and contain the information required by Rule 8(A). The person or entity submitting the proposed Compact Compliance Plan shall send a copy of the proposed Plan to all persons on the Division Engineer's Notification List.
- B. A Compact Compliance Plan may include use of water other than the subject water right to prevent a violation of Article IV-D of the Compact if the other water is imported water or other fully consumable water and the use for this purpose is not inconsistent with the decree controlling the use of said water.
- C. If a proposed Compact Compliance Plan ~~involves~~requires a change of water right or plan for augmentation, the Division Engineer will deny the application and direct the applicant to file an application for approval of a change of water right or plan for augmentation in accordance with § 37-92-302, C.R.S. If this occurs, the applicant must cease use of the improvement to the surface water irrigation system until an application has been approved under Rule 7 above, a substitute water supply plan has been duly approved under section 37-92-308, C.R.S., or the water judge has entered a decree approving a change of water right or plan for augmentation allowing the use of the surface water improvement.
- D. Within ninety (90) calendar days of the receipt of a proposed Compact Compliance Plan, the Division Engineer will provide the Plan applicant with a written decision that may be in the form of approval, denial, or approval with terms and conditions. If the Division Engineer requires additional information from the Plan applicant to evaluate the Compact Compliance Plan, the applicant shall have up to 90 calendar days from the date of the notification to provide the additional information and the time for the Division Engineer to provide the Plan applicant with a written decision shall be extended for 90 calendar days from the date of the receipt of the additional information.
- E. If the Division Engineer determines that a proposed Compact Compliance Plan will prevent a violation of Article IV-D of the Compact from the improvement(s), he shall approve the Plan and allow the improvement(s). If the Division Engineer determines that a proposed Compact Compliance Plan will not prevent a violation of Article IV-D of the Compact from the improvement(s), he shall deny the Plan and disallow the improvement(s) unless terms and conditions, including but not limited to those described in Rule 9(C), can be imposed that will prevent such violation.

- F. If the Compact Compliance Plan includes the use of a source of water owned by the applicant and does not involve a change of water right or plan for augmentation, the Division Engineer may approve the Plan for so long as the applicant owns the source of water and controls or has the right to use any storage space necessary to prevent a violation of Article IV-D of the Compact. Otherwise, the Compact Compliance Plan shall be subject to annual review and approval unless the Division Engineer determines that a longer period of approval is warranted, for example, where a water user has a multiple-year lease of a water right.

Rule 11. General Permits

- A. The State Engineer may issue general permits to approve any type or category of improvements, including in specific locations of the Arkansas River Basin, that the State Engineer determines will not materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact. The State Engineer has determined that the general permits attached to these rules will be issued with the adoption of these rules.
- B. The State Engineer may modify or revoke a general permit, in whole or in part, if the State Engineer determines, based upon sufficient and reliable engineering and/or scientific information, that the continued use of improvements authorized under the general permit will materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact without compliance with these rules. However, no person or entity that made an improvement in reliance on a general permit shall be required to submit an application pursuant to these rules for that improvement unless these rules are amended to require such an application or as necessary to comply with an order of the United States Supreme Court.
- C. ~~Notice~~The State Engineer shall provide notice of the issuance, revocation, or modification of any general permit to the water clerk for Water Division 2, so that such notice shall be included in the resume prepared by the water clerk ~~for Water Division 2~~ and shall be included in the copy of the resume posted on the water court's web site prior to its effective date.

Rule 12. Effect Of An Evaluation Under The Rules On A Determination Of The Historical Consumptive Use Of The Subject Water Right

- A. An evaluation of an improvement to a surface water irrigation system under these rules to determine whether an improvement will materially deplete the waters of the Arkansas River in violation of Article IV-D of the Compact is not intended to be an evaluation of the historical consumptive use or return flows of the subject water right for the purpose of changing the subject water right.

- B. The Division Engineer's evaluation of an improvement to a surface water system pursuant to these rules shall have no precedential effect in any proceeding to change the subject water right, including use of the subject water right in an exchange or plan for augmentation.

Rule 13. Process to Appeal a Decision Under These Rules

- A. If the Division Engineer denies an application or approves the application with terms and conditions, the applicant or any person adversely affected or aggrieved by the decision may appeal the Division Engineer's decision to the State Engineer within 30 days after the Division Engineer issues the decision. If the Division Engineer has not held a hearing on the application, the applicant or any person adversely affected or aggrieved by the decision may file a request for an adjudicatory hearing under the State Engineer's Procedural Regulations (2 CCR 402-5). The State Engineer may refer the matter to a Hearing Officer. If the Division Engineer has already held a hearing on the Application, the applicant or any person adversely affected or aggrieved by the decision may file a request for rehearing or reconsideration under the Procedural Regulations.
- B. If the State Engineer issues, revokes or modifies a general permit, any person adversely affected or aggrieved by the decision may file a request for an adjudicatory hearing under the State Engineer's Procedural Regulations, provided the request is filed by the end of the month following the month in which the notice of the issuance, revocation or modification of the general permit is included in the copy of the resume posted on the water court's web site. The State Engineer may refer the matter to a Hearing Officer.
- C. The intent of this rule is to provide a more timely and less expensive alternative to an applicant or person adversely affected or aggrieved by a decision of the Division Engineer or the State Engineer. Nothing herein is intended to preclude de novo review by the water judge of a decision by the Division Engineer to deny or approve an application under these rules or a decision of the State Engineer to issue, revoke or modify a general permit.

Rule 14. Effect of Rules

Improvements to a surface water irrigation system subject to these rules are not exempt from the requirements of any other lawful rules or statutes governing the use of waters of the state in Water Division 2, whether now existing or hereafter adopted.

Rule 15. Variance

When the strict application of any provisions of these rules would cause unusual hardship, the Division Engineer may grant a variance. [No variance shall waive the](#)

requirement for Division Engineer approval of an improvement to a surface water irrigation system. Any request for a variance shall be made in writing and shall state the basis for the requested variance. If the Division Engineer finds that the request is justifiable, the Division Engineer may issue a written order granting the variance and setting forth the terms and conditions on which the variance is granted.

Rule 16. Severability

If any rule or part thereof is found to be invalid by a court of law, the remaining rules shall remain in full force and effect, including any part thereof not found to be invalid.

Rule 17. Effective Date

These rules shall take effect January 1, 2010, or sixty calendar days after publication in accordance with § 37-92-501(2)(g), C.R.S., whichever is later, and shall thereafter remain in effect until amended as provided by law. In the event that protests are filed with respect to these rules in the time frame set by § 37-92-501(3), C.R.S., the effective date of such rules shall be stayed until such protests are judicially resolved pursuant to the procedures set forth in § 37-92-304, C.R.S.

IT IS FURTHER ORDERED that any person who wishes to protest these proposed rules may do so by filing a protest in writing with the Division 2 Water Clerk in Pueblo, Colorado, in the same manner as for the protest of a ruling of the referee. Any such protest must be filed by the end of the month following the month in which these rules are published.

Dated this ____ day of _____, 2009, by:

Dick Wolfe,
State Engineer/Director of
Colorado Division of Water
Resources