

Wastewater Wars: Implications of Reuse Projects in Texas

by

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I. Introduction

Surface water rights in Texas are acquired through a permitting process pursuant to Chapter 11 of the Texas Water Code. The state owns and controls the “water of the ordinary flow, underflow, and tides of every flowing river, natural stream and lake, and of every dam or arm of the Gulf of Mexico, and the storm water floodwater and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state.” TEX. WATER CODE § 11.021(a) (Vernon 2000). This definition of state water includes municipal return flows discharged to a state watercourse. The reuse of water supplies has increasingly been viewed as a means by which a water supplier can supplement its water resources. Such flows have literally created and sustained the base flow in many rivers and streams in Texas, and have often been the source of water during drought conditions that have sustained the aquatic environment in such water bodies. These flows also represent an abundant, and growing supply of water—often a supply that is relatively drought-proof. Significantly, regional water planning groups consider water reuse a potential strategy for meeting water supply needs. Thus, the possible reuse of such return flows has become increasingly important to water suppliers.

Despite the obvious benefits to water reuse, there are major legal implications for indirect reuse projects, such as environmental sustainability concerns, water quality issues, and the potential negative impact on downstream water right holders, some of whose rights may have been granted based on an assumption of municipal return flows. Although the interest in and application for indirect reuse projects has grown in recent years, TCEQ has only issued a limited number of such authorizations. Thus, whether from third party protests or from TCEQ policy concerns, the law surrounding indirect reuse project is vastly unsettled and currently evolving.

II. Direct vs. Indirect Reuse

Both legally and practically, the direct and indirect reuse of such water supplies in Texas is treated differently. Under the Water Code, once a water right has been granted, “direct reuse” projects (i.e., the use of effluent directly from a wastewater treatment facility to an end user, also known as “flange-to-flange” reuse) are generally possible without seeking an additional, separate water right authorization from the Commission.² Specifically, the Water Code provides that

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² See Tex. Water Code § 11.046(c) (Vernon 2000).

“except as specifically provided otherwise in a water right, appropriated water may, prior to its release into a water course or stream, be beneficially used and reused by the holder of the right for the purposes and locations of use provided in the permit, certified filing, or certificate of adjudication.”³ Despite this general authority for direct reuse projects, water quality issues surrounding such reuse are regulated in Chapter 210 of the Commission’s regulations. Thus, a water supplier pursuing a direct reuse project must first obtain water quality authorization from the Commission, which, generally, regulates the quality of the reused water and the place and manner of use.⁴

Once water has been returned to a watercourse or stream of the state, such water is legally considered "surplus water" and, arguably, becomes subject to appropriation by others.⁵ Thus, in order for a water supplier to obtain “indirect reuse” authorization (i.e. the use of effluent after it has been discharged from a wastewater treatment facility to a state stream), the producer must seek a permit from the Commission to obtain a surface water right for such water, and to use the bed and banks of a states stream to transport such water to a proposed point of diversion.

III. Reuse as a Water Supply

Regional Water Planning Groups and the Texas Water Development Board consider water reuse as a significant potential strategy for meeting our state’s immediate and long-term water supply needs.⁶ Reuse is important to water suppliers for a variety of reasons. Principal among these, and one that the Commission fully considers as it pursues its development of new or revised reuse protocol, relates to the significant investment that generators of these water supplies have made. That investment often includes the costs associated with the initial development of raw water resources from which return flows are ultimately generated, as well as the sizeable costs associated with the collection and treatment of wastewaters resulting from the initial use of water in order to meet water quality parameters associated with the discharge of such waste streams.

When addressing indirect reuse, a fundamental question is whether such reuse should be considered as a new appropriation of state water or merely an authorization to use state streams to transport water supplies that may have already been appropriated by the agency or which are privately owned by the developer of the resource. To fully address this question, it is important to note the different treatment afforded by the Legislature between the transport of certain waters through the bed and banks of state streams and the subsequent diversion of same (addressed in Water Code § 11.042), and the permitting of indirect reuse projects associated with the proposed diversion of surface water-based return flows (addressed in Water Code § 11.046).

IV. Indirect Reuse as an Appropriation

³ *Id.*

⁴ See 30 TEX. ADMIN. CODE § 210.1 *et seq.*

⁵ “Once water has been diverted under a permit, certified filing, or certificate of adjudication and then returned to a watercourse or stream, however, it is considered surplus water and therefore subject to reservation for instream uses or beneficial inflows or to appropriation by others unless expressly provided otherwise in the permit, certified filing, or certificate of adjudication.” TEX. WATER CODE § 11.046(c) (Vernon 2000).

⁶ See *Water For Texas – 2002*, Texas Water Development Board (January 2002).

Texas has a prior appropriation system for the issuance of water rights to both individuals and entities across the state, following the principle that the “first in time is the first in right.”⁷ An “appropriative right” is defined in Commission rules as “the right to impound, divert, store, take or use a specific quantity of state water acquired by law.”⁸ In order to obtain an appropriative right, the agency must find, in part, that i) unappropriated water is available in the source of supply, ii) the proposed appropriation will be put to a beneficial use and will not impair existing water rights, and iii) such appropriation addresses a water supply need in a manner that is consistent with regional and state water plans.⁹ Additionally, proposed appropriations must be considered in light of the environmental impacts they may have on instream uses and the applicable bay and estuary system.¹⁰ Therefore, when assessing any water rights application that contemplates a new appropriation of water, the Commission performs water availability and environmental analyses to determine whether water is available for appropriation and whether such an appropriation will be harmful to downstream interests and the environment.¹¹ Additionally, appropriations of state water are authorized pursuant to the state’s prior appropriation system -- a priority date is assigned to surface water rights based on the date an application is determined to be administratively complete.¹² The Commission must, generally, issue basin-wide notices for all applications for new appropriations and provide for public hearings, if necessary and as requested.¹³

For a number of reasons, the issuance of some indirect reuse authorizations do not always fit neatly within the Commission’s traditional framework for analyzing and issuing surface water rights. The Legislature appears to have created a distinction between the reuse of surface water-based return flows (i.e., Water Code § 11.046(c) appropriations) and the reuse of groundwater-based return flows (i.e., Water Code § 11.042(b) authorizations). This distinction has not, as yet, been fully defined. Additionally, the manner in which the Commission addresses and authorizes the diversion of future return flows from either of these sources has not yet been determined.

Pursuant to the express provisions of Texas Water Code Section 11.046, to the extent that return flows are released into the bed and banks of state watercourses, such water becomes “state water” available for appropriation. This legal framework is required by Texas Water Code Section 11.046, despite the fact that the water right holder, in originally obtaining the right to such water, might have been authorized to fully consume water under that water right and was, therefore, not legally required to release unconsumed water back into a state watercourse. Thus, an appropriation for return flows is, in essence, based upon the premise that such flows will be released (i.e. returned to the stream) and therefore will become “state water” subject to appropriation. Therefore, while TCEQ’s water availability analyses for a non-reuse water right generally include a water availability assessment that assumes no return flows from appropriations already made within the basin, when TCEQ issues a reuse authorization, such authorization is based upon the discharge of return flows. The water availability analysis therefore incorporates the return flows that will form the basis of the reuse authorization.

⁷ See TEX. WATER CODE § 11.027 (Vernon 2000).

⁸ 30 TEX. ADMIN. CODE § 297.1(4).

⁹ TEX. WATER CODE § 11.134(b) (Vernon’s Supp. 2005).

¹⁰ TEX. WATER CODE § 11.147 (Vernon’s Supp. 2005).

¹¹ 30 TEX. ADMIN. CODE §§ 297.42, 297.55 and 297.56.

¹² See 30 TEX. ADMIN. CODE § 297.44.

¹³ TEX. WATER CODE §§ 11.132 and 11.133 (Vernon 2000).

Reuse rights that appropriate return flows are also subject to the state's traditional prior appropriation scheme. Thus, the imposition of the prior appropriation protocol makes reuse water rights subject to priority "calls" for flow from senior water right holders, including other more senior reuse authorizations. Therefore, the reuse appropriation arguably does not alter the priority system such that downstream senior water right holders can continue to rely on such return flows to "firm up" their rights. The limited number of reuse applications granted by TCEQ for both in-basin surface water-based return flows and developed water-based return flows, have been issued with priority dates.

Although the interest in and application for indirect reuse projects has grown in recent years, the Commission has only issued a limited number of such authorizations. Thus, whether from third party protests or from the Commission policy concerns, the law surrounding indirect reuse project is vastly unsettled and currently evolving.

V. Water Supply Planning

Despite the subtleties of appropriating return flows and the various issues that arise concerning the Commission's current and future treatment of indirect reuse applications, there is no doubt that a supply of treated effluent is considered as a growing commodity among water suppliers. Although having issued only a handful of reuse authorizations, the Commission has many pending reuse applications for water supply projects across the state. In order to be granted, these reuse applications will not only need to address the requirements of the Water Code Sections 11.042 and 11.046, but unless expressly waived, the Commission will also need to ensure that such applications are "consistent" with applicable regional and state water plans.

Pursuant to 11.134(b)(3)(E) of the Water Code, the Commission can only grant a water rights application if the proposed water supply project "addresses a water supply need in a manner that is consistent with the state water plan and an approved regional water plan for any area in which the proposed appropriation is located." While the Water Code provides that the Commission can waive this requirement, no such waiver has yet been requested or granted by the agency. Fortunately, the Texas Water Development Board has identified reuse as a preferred water management strategy for addressing the water supply deficits predicted for Texas in 2050.¹⁴ Although most indirect reuse project applications pending at the agency are not specifically identified as "recommended water management strategies" within their respective regional water plans, such projects are, arguably, consistent under the state water plan's call and recommendation for reuse projects to help address projected water shortages.

VI. Possible Limitations on Indirect Reuse

In addition to the permitting requirements that are placed on indirect reuse projects (i.e., time priority of authorizations), there are many other factors a water supplier should consider when seeking indirect reuse authorizations. To the extent that a water supplier must reapply with the Commission for approval to indirectly reuse its treated effluent, such appropriations will be subject to environmental flow analyses and possible restrictions. As noted above, the Legislature has directed the Commission to consider, when issuing water right permits, the effects of such an issuance on the bays and estuaries of Texas and on the maintenance of existing instream uses and

¹⁴ See *Water for Texas – 2002*, Texas Water Development Board (January 2002).

water quality of the stream.¹⁵ Some applicants seeking a legal right to reuse their in-basin surface water-based return flows argue that the bed and banks authorization of Texas Water Code Section 11.042(c) possibly provides double protection of the environment and downstream water rights, at least to the extent that the source of any in-basin surface water-based return flows may have been subject to environmental restrictions in the original appropriation. Texas Water Code Section 11.042(c) allows a bed and banks authorization so long as carriage losses, senior water rights, and instream environmental uses are taken into consideration, and, indeed, Commission staff, in issuing reuse authorizations, have performed environmental analysis.¹⁶ Thus, the ability of a water supplier to make full use of its return flows may be limited by environmental flow restrictions, despite the restrictions that may have been placed on the original water right authorization, to the extent that an indirect reuse application is seeking “state water” subject to the provisions of the Texas Water Code.

The discharge of return flows was once considered to be a major environmental hazard to the state’s rivers and streams. Indeed, protests to wastewater discharge permits continue to be pursued across the state. Ironically, such effluent discharges are now being considered as a means through which instream flows and aquatic life uses of receiving streams can be maintained, particularly in over-appropriated stream segments. However, with dependence upon effluent-dominated streams as new water supplies, following the diversion of return flows to meet new demands, a growing concern exists regarding possible contamination resulting from pharmaceuticals and personal care products. Currently, both drinking water and wastewater treatment facilities neither test for such products nor treat for them. As water supplies are supplemented through indirect reuse authorizations, water quality issues surrounding such water may become a concern for water suppliers.

As addressed above, the Legislature has created a distinction between in-basin surface water-based return flows and groundwater-based return flows that has not, as of yet, been fully defined. Additionally, how TCEQ addresses and authorizes the diversion of future return flows is not altogether clear. Texas Water Code Section 11.042(b) specifically addresses the diversion of return flows “derived from privately owned groundwater” and distinguishes between the authorization to divert existing discharges from future discharge of such return flows. For such future flows, the Legislature has appeared to direct TCEQ to require a new appropriation when such flows become available, thereby possibly limiting a water supplier’s reliance on being able to make full use of the return flows generated. Inherent in the concern over future return flows is the idea that a third party would seek to appropriate those return flows before the water supplier whose supplies produced such flows is able to do so. With TCEQ apparently treating such applications as new appropriations under the prior appropriations doctrine, return flows appear to be up for grabs to the first applicant who seeks them, possibly without regard to the investment or the ownership interest that the base water right holder may have.

VII. Recent Commission Action

¹⁵ TEX. WATER CODE § 11.147(b) and (d) (Vernon Supp. 2005) and 30 Tex. Admin. Code § 297.54.

¹⁶ See Tarrant Regional Water District’s Permit No. 08-4976C, and San Jacinto River Authority’s Permit No. 5809.

On February 16, 2005 and August 12, 2005, the Commission held work sessions regarding indirect reuse issues in water rights permitting. Significantly, the Commissioners put potential permittees on notice as to possible policy changes for indirect reuse projects filed after February 16, 2005. The major issues discussed at these work sessions included how indirect reuse projects fit within Texas' prior appropriation protocol, the nature and character of the water availability and environmental assessments conducted by the agency in response to such applications, who is able to apply for such authorizations, and what the appropriate notice protocol should be for such applications. Commissioners continue to keep reuse in the forefront of water rights policy and have been considering comments filed by the regulated community. Additional work sessions are planned and interested parties will continue to play a key role in shaping how indirect reuse policy will evolve.

VIII. Conclusion

The current discourse over how best to permit, allocate, address, and evaluate indirect reuse projects is just beginning. Clarification is needed to determine how indirect reuse projects fit within the Commission's current water rights permitting protocol, and how environmental flow considerations will be addressed as these newly found sources of supply are permitted.

Below is a chart outlining the distinctions between reuse and water transfer projects under the Texas Water Code.

Reuse/Transfer Summary

<p>Transfer of stored or conserved water, <u>Section 11.042(a)</u> July 10, 2008 Page 7</p>	<ul style="list-style-type: none"> • No additional “appropriation” of state water, as this is a source that is already appropriated to the supplier. • Supplier of stored or conserved water may seek transfer by filing contract with agency. • No separate bed and banks transfer authorization required, as 11.042(a) authorizes the transfer pursuant to agency regulations. • No priority date change, as the base right maintains its priority. • No water availability analysis necessary, as interjacent and downstream rights were taken into account when base right was granted. • Limited notice, to interjacent diverters, pursuant to 30 TAC 295.160. • Carriage losses associated with the transfer of water to be declared by parties. 	<p>No distinction between historical and future.</p>
<p>Transfer of groundwater-based return flows, <u>Section 11.042(b)</u></p>	<ul style="list-style-type: none"> • No “appropriation” of state water. • Only discharger or assignee may seek transfer. • No priority date—authorization issued outside of priority. • Assessment performed to identify impacts on downstream rights, if any. • Limited notice, to downstream water rights holders, pursuant to 30 TAC 295.161. • Special conditions related to protection of other water rights (if justified) and the environment may be appropriate. • Carriage losses associated with the transfer of water to be considered by agency. 	<p>Same as historical, except:</p> <ul style="list-style-type: none"> • No water availability assessment necessary. • No special conditions for the environment or other water rights necessary. • Notice limited to interjacent diverters, pursuant to 30 TAC 295.161.
<p>Transfer of raw water (i.e., in-basin surface water transfers, groundwater transfers, imported surface water transfers), <u>Section 11.042(c)</u></p>	<ul style="list-style-type: none"> • No “appropriation” of state water. • Any person may seek transfer. • No priority date—authorization issued outside of priority. • Assessment performed to identify impacts on downstream rights, if any. • Limited notice, to downstream water rights holders, pursuant to 30 TAC 295.161. • Special conditions related to protection of other water rights (if justified) and the environment may be appropriate. • Carriage losses associated with the transfer of water to be considered. 	<p>No distinction between historical and future.</p>
<p>Appropriation and transfer of surface water-based return flows, <u>Section 11.046(c)</u></p>	<ul style="list-style-type: none"> • New “appropriation” of state water pursuant to Section 11.121 or 11.122(a). • No bed/banks authorization required. • No carriage loss calculation necessary. • Anyone may seek to appropriate (special conditions should limit diversions to actual discharges of return flows). • Priority date assigned. • Full water availability assessment and environmental assessment performed 	<p>No distinction between historical and future.</p>
<p style="text-align: center;">Lloyd Gosselink, Rochelle & Townsend, P.C.</p>		

