



Winter 1999

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Recommended Citation

Sherry J. Tippett & Craig O'Hare, *Using Price to Limit Water Use: A Case Study of the City of Santa Fe*, 39 Nat. Resources J. 169 (1999).

Available at: <https://digitalrepository.unm.edu/nrj/vol39/iss1/16>

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Using Price to Limit Water Use: A Case Study of the City of Santa Fe

On July 5, 1995, the city of Santa Fe purchased the Sangre de Cristo Water Company from Public Service Company of New Mexico (PNM). Shortly thereafter, a twelve-month long drought began in northern New Mexico. The city of Santa Fe experienced one of the driest years on record, causing the city to adopt a very stringent Emergency Drought Management Ordinance.

ORDINANCE OVERVIEW

The city of Santa Fe adopted Ordinance No.1996-16 in March of 1996 to establish the City of Santa Fe's Emergency Water Regulations. The purpose of the ordinance is to provide the city the means to implement measures for controlling water use in response to water system related emergencies or catastrophic events that may disrupt the operation of the system. It is designed to cover situations where a water service emergency exists resulting from a general water supply shortage due to increased demand or diminished supply as well as a situation where a water emergency emanates from distribution or storage facility disruption. The city manager is authorized to determine and declare that a water emergency exists within the water service area, and to promulgate rules, regulations and conditions after making the determination. The ordinance is organized in Water Emergency Management Stages 1 through 4, with Stage 1 being the least severe.

A Stage 1 water emergency exists during periods when the city of Santa Fe's water utility is not able to meet all of the water demands of its customers by up to 15 percent of the annual demand projection. Stage 1 is defined as a "Water Watch" and applies on a voluntary basis only.

Stage 2 is declared when the probability exists that the city of Santa Fe's water utility will not be able to meet between 16 percent and 35 percent of its customers' water demands. Stage 2 was declared during the 1996 drought emergency. Implementation of Stage 2, known as a "Water Alert," triggers the following mandatory compliance requirements:

1. Lawn watering and landscape irrigation during the 1996 drought was limited to three days per week and prohibited from 8 AM to 7 PM.

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2. The filling or re-filling of private swimming pools and spas is prohibited.
3. All restaurants are prohibited from serving water to customers except when specifically requested by customers.
4. Water cannot be used to wash down sidewalks and other hard surfaces.

Stage 3 of the ordinance applies during periods when the city of Santa Fe water utility will not be able to meet between 36 percent and 50 percent of the water demands of its customers. The city came very close to declaring a Stage 3 emergency in the summer of 1996, but significant rain events mitigated the crisis. Stage 3 is defined as a "Water Warning." While the city manager did not formally declare a Water Warning in 1996, it was discussed in length, and, had it been adopted, stringent limitations on the use of water would have been instituted. In addition to all the limitations on uses of a Stage 2 emergency, the following mandatory requirements apply in Stage 3:

1. Outdoor watering must be limited to one time per week.
2. Commercial nurseries must reduce water use by a specific amount to be determined by the city manager or his designee.
3. The washing of automobiles, trucks and other vehicles is permitted only during designated hours.
4. The filling or re-filling of private swimming pools and spas is prohibited, except when this use is for water supply storage.
5. Watering golf courses, parks, school grounds and recreation fields is limited.
6. The number of new construction meters is limited to the number authorized by the governing body using the criterion of the Stage 3 implementation plan. New water service will be approved only if it meets specific criteria, including evidence that the project is necessary to protect the public's health, safety and welfare; or where the applicant demonstrates no net increase in water use will occur.
7. Use of water for commercial manufacturing shall be reduced in volume by an amount determined by the governing body.

Stage 4 is deemed a "Water Emergency" and occurs where there is a major failure of any water supply or distribution system. Stage 4 requires implementation by the city manager and publication of notice that the city is in a state of "Water Emergency." In addition to the water use limitations adopted during a Stage 3 "Water Warning," a Stage 4 Water Emergency mandates that:

1. All outdoor irrigation of turf and ground cover is prohibited with the exception of plant materials classified to be rare, exceptionally valuable, or essential to the well being of the public at large. Grey water may be used in accordance with regulations to irrigate fruit trees and ground cover.
2. Use of water at commercial nurseries and similarly situated establishments must be reduced in value established by an amount determined through approval of the Stage 4 implementation plan.
3. Washing of automobiles and other motor vehicles is prohibited. This includes commercial car washes.
4. The watering of all golf course areas is prohibited.
5. No new construction meters will be issued.
6. All sales of non-reclaimed water outside of the water service area shall be discontinued.
7. No new building permits shall be issued except where necessary to protect the public's health, safety, and welfare and where the use is strictly reclaimed water.
8. Only the governing body may terminate Stage 4 emergencies.

All mandatory conservation phase implementations (Stages 2-4) are made by public announcement and must be published a minimum of three consecutive days in a daily newspaper of general circulation. On May 29, 1996, the day the Water Emergency Ordinance was adopted, the governing body of the city of Santa Fe also declared a Stage 2 Emergency and adopted the Stage 2 Implementation Plan. This plan documented the city's need for a total reduction of overall water use of 25 percent to avoid shortages. Commercial and residential water users were required to reduce their use by 25 percent as measured against the water bills during the same month of the previous year. The 25 percent reduction goal gave each water user a "Conservation Target." A \$10.00 "Target Exceedance Surcharge" was assessed for each 1,000 gallons a customer used in excess of his or her target. In addition, a "High Use Surcharge" was levied on single-family residential customers that used over 12,500 gallons per month. The High Use Surcharge ranged from \$15.00 to \$50.00 per 1,000 gallons for use over 12,500 gallons. The combination of a Target Exceedance Surcharge and a High Use Surcharge resulted in many residential water bills exceeding \$1,000 per month.

No single family home was required to reduce its water use below a minimum "base level" of 6,000 gallons per month. This provision prevented residential water users that had been "water misers" in 1995 from having to further reduce their usage.

In addition to creating an obvious pricing incentive to encourage customers to conserve, the surcharges also played a critical role in

stabilizing revenue for the city's water utility. The reduced water demand, and thus reduced water sales, culminated in a more than one million dollar revenue shortfall for the utility department. The surcharges helped that shortfall significantly.

In addition to the surcharges, the penalty provision of the Stage 2 Implementation Plan authorized the city water utility to assess a \$150.00 penalty when a water user does not show progress toward the 25 percent water use reduction goal after three months of comparative review. A flow restriction may be placed on the meter after a second penalty is assessed.

RESULTS

Residential water use dropped by 28 percent as a result of the adoption of the Emergency Water Regulation Ordinance. In August of 1996, 91 percent of the residential water users in Santa Fe used less than 12,500 gallons a month as compared with 75 percent in August of 1995. In addition to reducing water use, and surpassing the goal of a 25 percent reduction, the Ordinance had the positive effect of "jump starting" the idea of water conservation in the city of Santa Fe. The local press was enormously helpful in hammering home the concept. Without the severity of the 1996 drought it is highly doubtful the city of Santa Fe could have come so far in such a short time.

HOT SPOTS

Initially, the Ordinance did not include domestic wells (known as "72-12-1 wells") which permit up to three acre-feet of water to any permittee who wishes to drill a well. The inequity between well owners and water utility customers was brought to light when the press quoted some individuals as stating that they would "sink a well to avoid the city's Ordinance." In fact, until the Ordinance was amended on June 13, 1996, to include domestic wells within the jurisdiction of the city of Santa Fe, well owners could water whenever they wanted, subject only to the three acre-foot limitation under state law.

According to Ordinance No. 1996-16, the Emergency Water Regulations apply to any customer of the city's water utility. While some of the utility's customers reside or are located outside of the Santa Fe city limits, they are still to be held accountable under the Ordinance, and surcharges, when appropriate, will be levied. It is the city's position that the provisions of the Ordinance apply to all customers served by the city water utility, regardless of whether or not they reside or are located within the city limits. The city of Santa Fe is confident it will prevail in the pending appeal of this issue.

CONCLUSION

Looking back to 1996, it is clear that the drought was responsible for a number of very positive activities by environmental groups, elected officials, citizen groups, the business community, and neighboring local governments. Santa Fe, a city notorious for its divisiveness, came together as a strong community united around this serious issue. That is why the city of Santa Fe has succeeded in lowering use to such a great extent. That is also why today Santa Fe has one of the strongest Comprehensive Water Conservation Ordinances in the West.