

## SDS DEIS Issues Paper SDS Project Need

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The Draft Environment Impact Statement (DEIS) discussed three major reasons Project Participants are seeking approval for the Southern Delivery System (SDS): (1) to meet the needs of an increasing population, (2) to provide system redundancy or backup, and (3) to use existing water rights.

Population forecasts estimate that El Paso County will be the most populous county in Colorado by the year 2030, with most of that growth occurring in the SDS Participants' cities and towns (Colorado Springs, Fountain and Security). Participants' water needs are projected to almost double between 2007 and 2046. Current system capacity will not provide enough water for this expected growth and a new source of water will be needed.

Community growth will also increase the stresses on an aging water delivery infrastructure. Adding a water delivery system would reduce the risks associated with outages for delivery, treatment and storage of water. SDS would ensure water availability for safety reasons (e.g., for fire suppression) during potential system shutdowns for the following reasons: (1) aging infrastructure (e.g., key existing systems are up to 50 years old); (2) required major maintenance activities; (3) unplanned outages from system failures; and (4) future pipeline replacement.

Water rights activities at Colorado Springs Utilities over the past 30 years have resulted in a healthy portfolio of water rights in the Arkansas River Basin. These water rights are partially conditional, meaning that the rights depend on the ability to deliver water from the Arkansas River for use. SDS would enable Colorado Springs Utilities to use these rights.

Project need dates for Colorado Springs Utilities were developed using a demand forecast model that incorporates population growth, historical use trends, price, economic activity, weather and seasonal factors. Two demand scenarios were developed – the “planning forecast” and the “revenue forecast.” The planning forecast reflects historical changes in weather and economic growth, and typically predicts a higher demand than the revenue forecast, which uses average (or normal) weather and water use. The planning forecast predicts a need date (or the date when demand surpasses supply) of 2012, while the revenue forecast predicts a need date of around 2022.

The planning forecast was used because, unlike electricity where a utility can go to the grid for additional power if needed, there is no water grid. Colorado Springs Utilities must ensure that there is enough water to meet peak demand at all times. The planning forecast considers the possibility that hot, dry weather and high economic growth could drive up demand. The system is then planned to be there to meet the entire projected demand at least 95 percent of the time. The revenue forecast assumes normal weather in order to determine the amount of revenue that will be collected on average. Actual demand is expected to be higher than the revenue forecast half the time and lower than the revenue forecast half the time. Therefore, the revenue forecast is not the forecast to use for planning capacity additions to ensure a reliable water supply because a 50 percent chance of running out of water is unacceptable.

**Key DEIS Finding:** Fountain and Security need SDS by 2009 to 2012; Colorado Springs needs SDS by 2012 based on the planning forecast or the date when demand for the water will surpass supply.

### **Key Points**

- Colorado Springs planning forecast projects water demand will exceed current capacity in 2012.
- Fountain, Security and Pueblo West's need dates are between 2009 and 2012.
- Future water supply is uncertain in a changing environment (global warming). The amount, type (snow / rain), and timing (early snow melt) of water is changing over time. The additional capacity SDS would provide mitigates some of these unknown factors.

## Expected Growth and Demand

Area	Population 2000	Population 2010	Population 2020	Population 2030	Average Annual Growth Rate 2000-2030
<b>Colorado Springs</b>	360,890	410, 502	463,645	517,788	1.2%
<b>Fountain</b>	15,197	26,470	38,380	49,970	4.0%
<b>Security</b>	18,000	24,300	26,900	27,700	1.4%
<b>Balance of Which? County</b>	122,842	144,030	170,341	204,260	1.7%
<b>El Paso County</b>	516,929	605,302	699,266	799,018	1.4%
<b>Pueblo West</b>	16,853	33,443	47,205	47,205	3.5%

*Southern Delivery System Draft Environmental Impact Statement, U.S. Bureau of Reclamation, 2008, Table 2, p. 8.*

### **Redundancy**

Redundancy or system backup is needed to reduce the risks associated with the loss of water supply due to aging infrastructure, the need for major maintenance and unplanned outages.

- In the past, Colorado Springs Utilities has experienced long-term outages on both the Otero and the Fountain Valley Authority (FVA) pipelines due to system failures, landslides and other weather events.
- The Otero Pipeline is more than 40 years old and provides more than 50 percent of Colorado Springs' water supply. As the population grows, Colorado Springs' reliance on Otero creates an unacceptable level of risk, as outages could cause severe water shortages.
- Pine Valley and McCullough Treatment Plants produce about 70 percent of the city's drinking water supply. As demand grows, SDS would provide adequate backup if one of the plants had to shut down because there would be an additional water treatment plant with SDS.
- The FVA Pipeline, built in the 1970s and 1980s, provides water to Fountain, Security and Colorado Springs. It provides Fountain with 56 percent of its water and as growth continues, Fountain will need another delivery system to ensure an adequate water supply.
- Security relies on shallow groundwater from the Widefield Aquifer and the FVA pipeline for its water supply. SDS would reduce its reliance on groundwater in the future.

### **Water Rights**

- For the past 30 years, Colorado Springs Utilities has proactively purchased water rights in the Arkansas River Basin. These water rights are partially conditional, meaning that the rights depend on the ability to deliver water from the Arkansas River. SDS provides that ability.