

Alaskan Water for California? The Subsea Pipeline Option

INTRODUCTION

Over the years, few issues in California have evoked more passion and debate than water issues. The continued vitality of California's major cities, as well as the vitality of its agricultural sector, depends on having an adequate and reliable water supply. The people of southern California, in particular, must import a significant proportion of the water they use. It is not surprising that the current California drought has accentuated the concern of many people in the State about the future adequacy of California's water supplies. Three major factors contribute to the importance of planning for the State's future water demands: a projected continuing high rate of population growth, the impending loss to Arizona of some water that California currently receives from the Colorado River, and a greater appreciation in recent years of the need to ensure that sufficient water is allocated to wildlife and other environmental purposes.

Congressmen Edward Roybal and George E. Brown, Jr. of California and Don Young of Alaska recently asked the Office of Technology Assessment to undertake a brief investigation of one option for ensuring that California will continue to have adequate supplies of water for its future demands—that of importing water from Alaska by means of a subsea pipeline. The idea for such a pipeline initially came from Governor Walter Hickel of Alaska. To help carry out its assignment, OTA organized a workshop in Los Angeles, California. The workshop was held on August 14, 1991 and included representatives from the California Department of Water Resources, Metropolitan Water District of Southern California, Los Angeles County Department of Public Works, Western States Water Council, Bureau of Reclamation, Army Corps of Engineers, and Santa Ana Watershed Project Authority. Experts from major engineering firms, environmental groups, and academia also participated. The Governor of Alaska made a presentation on the pipeline,

and the Chairman of the House Resources Committee of the Alaska State Legislature was present.

Building an underwater pipeline from Alaska to California would be one of the most complex and costly engineering projects ever attempted, rivaling (or surpassing) in scope the building of the Panama Canal, the Trans Alaska Pipeline, or the Channel Tunnel. Depending on where the pipeline started and ended (several possibilities have been identified), it would be between 1,400 and 2,100 miles long. Some have suggested that it be built to carry 4 million acre-feet of water annually.¹ Before a decision could be made to build such a pipeline, a number of considerations would have to be thoroughly investigated. Engineering feasibility and cost are important considerations, though by no means the only important ones. Also important to evaluate would be:

1. the future needs for water in California;
2. how much Alaskan water could be available and the willingness of Alaskans to export it;
3. alternatives for supplying additional water to California, including the relative costs of such alternatives;
4. alternatives for reducing demand for water and for better managing existing supplies;
5. the environmental impacts associated with removing water from Alaska, with the pipeline itself, and possibly with the accelerated growth the increased supply of water to southern California could stimulate;
6. legal, political, and institutional issues;
7. financing options; and, last but encompassing all of the above,
8. long-range policy addressing California's water needs and related growth problems.

Politics will, without question, continue to play an important role in all California water issues. Some of the above considerations are addressed in more detail below.

¹One acre-foot equals 325,851 gallons, the amount of water it takes to cover 1 acre to a depth of 1 foot. An acre-foot Of Water is enough to sustain two average households for a year.