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### TULAROSA BASIN WATER RECLAMATION ACT

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SEPTEMBER 20, 2004.—Ordered to be printed

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Mr. DOMENICI, from the Committee on Energy and Natural Resources, submitted the following

### R E P O R T

[To accompany S. 1211]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 1211) to further the purposes of title XVI of the Reclamation Projects Authorization and Adjustment Act of 1992, the “Reclamation Wastewater and Groundwater Study and Facilities Act”, by directing the Secretary of the Interior to undertake a demonstration program for water reclamation in the Tularosa Basin of New Mexico, and for other purposes, having considered the same, reports favorably thereon with an amendment and an amendment to the title and recommends that the bill, as amended, do pass.

The amendments are as follows:

1. Strike out all after the enacting clause and insert in lieu thereof the following:

**SECTION 1. TULAROSA BASIN FACILITY.**

(a) **IN GENERAL.**—The Secretary of the Interior (referred to in this Act as the “Secretary”) shall construct, manage, and maintain a test and evaluation facility (referred to in this Act as the “facility”) at the Tularosa Basin, located in Otero County in the State of New Mexico capable of processing at least 100,000 gallons of water per day.

(b) **OBJECTIVES OF FACILITY.**—The facility shall be used to carry out research on, and to test, demonstrate, and evaluate new desalination technologies to produce potable water from saline or other unsuitable water, including analysis of effects on energy consumption, byproduct disposal, and operations and maintenance costs to determine the most technologically-efficient and cost-effective means to produce potable water from saline or other unsuitable water using desalination technologies.

(c) **TECHNOLOGY PLAN DEVELOPMENT.**—The Secretary shall contract with Sandia National Laboratory (referred to in this Act as “Sandia”) to develop a desalination technology plan (referred to in this Act as the “plan”) not later than 1 year after the date on which funds are made available for the purposes of this Act. The plan shall—

(1) be developed in consultation with the Secretary and the Secretary of Energy;

(2) consider the experience of similar facilities and research programs operated by the Federal government and by other research institutions; and

(3) include recommendations for the siting and configuration of the facility and the research and development program to be undertaken at the facility.

(d) REVIEW OF PLAN.—The Secretary shall review the plan and may modify or change any recommendation after consultation with the Secretary of Energy.

(e) CONSTRUCTION OF FACILITY.—Not later than 3 years after the date of completion of the plan, the Secretary shall construct the facility in accordance with the recommendations contained in the plan, including any modifications or changes. The Secretary may contract with other Federal agencies, State agencies, educational institutions, and private entities for construction of the facility.

(f) MEMORANDUM OF AGREEMENT FOR OPERATION.—The Secretary and the Secretary of Energy shall enter into a Memorandum of Agreement for the operation of the facility and the conduct of research under this Act. Research may be conducted at the facility and may also be carried out at any laboratory facility determined to be suitable by Sandia. The Secretary and the Secretary of Energy shall establish a technical advisory panel drawn from Federal or State agencies, academic institutions, and private or public entities to provide program guidance and technical assistance in the operation of the facility and conduct of research.

(g) PROVISION OF WATER.—

(1) IN GENERAL.—The Secretary shall dispose of all water produced by the facility under contract with 1 or more communities located in Otero County, New Mexico where the water would be supplementary to water provided by public water systems or wells in the communities and only after Sandia notifies the Secretary that the water is of a consistent, reliable quality.

(2) COST.—Any water provided by the Secretary to a community under paragraph (1) shall be provided at a cost not to exceed the fair market value of the water.

(3) USE OF REVENUE.—The Secretary may use the amounts collected under paragraph (2) to assist in paying the operational costs of the facility.

#### SEC. 2. RESEARCH AND DEVELOPMENT PROGRAM.

The Secretary and the Secretary of Energy may undertake research and development of desalination technologies in addition to the program carried out at the facility directly or by contract, interagency agreement, cooperative agreement, or grant. Any agreement or grant may be made only on the basis of a competitive, merit-reviewed process. The Secretary and the Secretary of Energy may carry out the program at a location outside the United States after consultation with and approval by the Secretary of State.

#### SEC. 3. AUTHORIZATION OF APPROPRIATIONS.

Appropriations may be made to the Secretary and to the Secretary of Energy. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, but not to exceed—

(1) \$1,500,000 for development of the plan under section 1(c);

(2) \$3,000,000 (January 2003 price levels), plus or minus such amounts, if any, as may be required by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the types of construction involved for the construction of the facility;

(3) \$6,000,000 for each of fiscal years 2005 through 2010 for transfer to Sandia to carry out research programs associated with the facility; and

(4) \$10,000,000 for each of fiscal years 2005 through 2010 for research and development activities under section 2 of which not more than \$1,500,000 in any fiscal year may be for research undertaken directly by the Secretary and not more than \$1,000,000 in any fiscal year may be for grants to institutions of higher education (including United States-Mexico binational research foundations and interuniversity research programs established by the 2 countries).

2. Amend the title so as to read: “A bill to direct the Secretary of the Interior to undertake a demonstration program for water reclamation in the Tularosa Basin of New Mexico, and for other purposes.”.

## PURPOSE OF THE MEASURE

The purpose of S. 1211 is to direct the Secretary of the Interior to undertake a demonstration program for water reclamation in the Tularosa Basin of New Mexico, and for other purposes.

## BACKGROUND AND NEED

Continued shortage of water in the Western United States has led many communities to investigate desalination as a method of transforming previously unuseable water to potable water. Saline or brackish water exists in aquifers underlying large portions of the United States, and many of these areas coincide with areas facing future water shortages. Inland desalination, while providing an opportunity faces several critical issues including: (1) difficulty in the disposal of concentrate or brine removed from the brackish or saline water; (2) reducing the overall cost of water production which is highly correlative with energy costs; and (3) lack of technology that can be cost-effectively implemented for small communities. While the cost of desalination is high for all users, inland areas do not have the benefit of economies-of-scale and ocean release of concentrate.

The U.S. Bureau of Reclamation began conducting desalination research over 30 years ago. As the pioneer in this field, much of the research produced continues to be today's state of the art membrane technology used in the reverse osmosis process. Funding, however, for the U.S. Bureau of Reclamation desalination research program has progressively decreased.

In the 2001 Energy and Water Appropriations Act, Congress appropriated funds to begin a partnership between the Bureau of Reclamation and Sandia National Laboratories. Together, these two entities jointly led a multi-agency effort to develop a desalination technology roadmap which was completed in early 2003. The roadmap identifies in detail, the operational hurdles that hinder wider application of desalination technology to water supply problems in the United States and articulates a research agenda that can be implemented to overcome these hurdles. A key element of that research agenda is the Tularosa Basin Desalination Facility.

The Tularosa Basin is a groundwater basin that occupies much of south-central New Mexico and extends through Texas toward the Mexican border. The great majority of water in the basin is of brackish to saline quality. This location was chosen for the demonstration facility for several reasons. Primarily, the basin is an excellent area for demonstration projects to access an array of water qualities over short geographic areas. Additionally, the large quantities of native water allow the facility to have a design capacity of 100,000 gallons per day without impacting other communities or water rights holders. Finally, the local communities have been active partners, providing land and rights-of-way, and helping with well and facility permitting. The community engagement is based on the growing realization that the Tularosa basin groundwater is currently an unused but potentially valuable long-term resource.

## LEGISLATIVE HISTORY

S. 1211 was introduced by Senator Domenici on June 9, 2003 and referred to the Energy and Natural Resources Committee. Senator

Bingaman is a co-sponsor. The Subcommittee on Water and Power held a hearing on S. 1211 on June 17, 2004. The Committee on Energy and Natural Resources ordered S. 1211, as amended, favorably reported on July 14, 2004.

#### COMMITTEE RECOMMENDATION

The Senate Committee on Energy and Natural Resources, in an open business meeting on July 14, 2004, by unanimous voice vote of a quorum present, recommends that the Senate pass S. 1211, if amended as described herein.

#### COMMITTEE AMENDMENT

During the consideration of S. 1211, the Committee adopted an amendment in the nature of a substitute. The substitute amendment addresses concerns raised during the Subcommittee hearing and in written submissions.

The first change provides that water produced by the demonstration facility shall be sold to surrounding communities at fair market value and the proceeds from the sale of the water will be used to help pay the operational costs of the facility.

The second change strikes from the title of the Act reference to title XVI of the Reclamation Projects Authorization and Adjustment Act of 1992.

There were also several technical amendments.

#### SECTION-BY-SECTION ANALYSIS

Section 1 subsection (a) directs the Secretary of the Interior to construct and manage a test and evaluation facility at the Tularosa Basin located in Otero County, New Mexico.

Section 2 subsection (a) sets forth the purposes of the Act.

Subsection (b) provides that the objectives of the facility are to perform research on and test new desalination technologies.

Subsection (c) directs the Secretary of the Interior, in collaboration with Sandia National Laboratory and the Secretary of Energy, to develop a desalination technology plan, recommend a location for the facility, and recommend research to be carried out at the facility.

Subsection (d) directs the Secretary of the Interior to review the plan and make any necessary modifications to the plan after consulting with the Secretary of Energy.

Subsection (e) directs the Secretary of the Interior to construct a facility consistent with the recommendations contained in the plan no later than three years after the date of completion of the plan.

Subsection (f) directs the Secretary of the Interior and Secretary of Energy to enter into a Memorandum of Agreement for operation of the facility and research to be undertaken pursuant to the Act. Research may be carried out at the facility or other laboratory facilities determined to be suitable by Sandia National Laboratory. The Secretary of the Interior and the Secretary of Energy shall establish a technical advisory panel to provide technical assistance in the operation of the facility and the conduct of research.

Subsection (g) directs the Secretary of the Interior to sell water produced by the facility to surrounding communities located in

Otero County, New Mexico after Sandia National Laboratories notifies the Secretary that the water is of consistent, reliable quality. The water shall be sold at fair market value and proceeds from the sale shall be used for operation of the facility.

Section 2 provides that the Secretary of the Interior and Secretary of Energy may undertake research and development of desalination technology in addition to research carried out at the facility. The additional research may be carried out directly, by contract, interagency agreement, cooperative agreement, or grant.

Section 3 authorizes to be appropriated \$1,500,000 for development of the plan, \$3,000,000 for construction of the facility, and \$6,000,000 for each fiscal year, 2005 through 2010, for Sandia National Laboratory to carry out research programs associated with the facility. The Act also authorizes to be appropriated \$10,000,000 for each fiscal year, 2005 through 2010, for research in addition to the Sandia-led research carried out at the facility.

#### COST AND BUDGETARY CONSIDERATIONS

The Congressional Budget Office estimate of the costs of this measure has been requested but was not received at the time the report was filed. When the report is available, the Chairman will request it to be printed in the Congressional Record for the advice of the Senate.

#### REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 1211. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 1211.

#### EXECUTIVE COMMUNICATIONS

On June 16, 2004, the Committee on Energy and Natural Resources requested legislative reports from the Department of the Interior and the Office of Management and Budget setting forth executive views on S. 1957. These reports had not been received at the time the report on S. 1211 was filed. When the reports become available, the Chairman will request that they be printed in the Congressional Record for the advice of the Senate. The testimony provided by the Department of Interior at the Subcommittee hearing follows:

#### STATEMENT OF JOHN W. KEYS III, COMMISSIONER OF RECLAMATION, U.S. DEPARTMENT OF THE INTERIOR

Madam Chairman and members of the Subcommittee, I am John Keys, Commissioner of Reclamation. I am pleased to be here today to present the Department of Interior's views on S. 1211, a bill to undertake a demonstration program for desalination of brackish inland groundwater in

the Tularosa Basin of New Mexico, as well as to provide Reclamation additional authority to undertake desalination research through a variety of institutional arrangements, or outside the United States.

The Tularosa desalination test and evaluation facility will be capable of processing at least 100,000 gallons of water per day at the Tularosa Basin in New Mexico. In the FY 2002 Energy and Water Appropriations Act, Congress directed the Bureau of Reclamation, in cooperation with Sandia National Laboratories, to evaluate the potential for developing such a desalination research facility in the Tularosa Basin of New Mexico. The facility study began in January 2002. Reclamation entered a phased design/build contract with Laguna Construction Company, Inc. in July 2003. Congress provided \$4 million for the continuation of this project in fiscal year 2004. Construction will begin this month.

The Administration supports Congressional interest in pursuing avenues of research that look at potential long-term methods of augmenting scarce water supplies, including both technical and market approaches. We are interested in working with the Congress to determine whether the research program identified in S. 1211 meets the federal Research and Development Investment Criteria. These criteria were developed over several years through a process of intense, thorough consultation with the research community. They include four main elements:

- Relevance;
- Quality;
- Performance; and
- Criteria for R&D Programs Developing Technologies That Address Industry Issues.

Applying the criteria to the proposed research will help determine the appropriate federal R&D role, if any. As the Administration considers the appropriate level of federal involvement, there are a few provisions of the bill that we would like to work with the Committee on.

Reclamation's Science & Technology program, which plans and coordinates the bulk of our research activities, is our main program for identifying and implementing our research priorities. This program received a high rating during its recent evaluation under the Administration's Program Assessment Rating Tool (PART), which rated it as 'Effective'. This recently revamped program should play a central role in the determination of which research priorities the Bureau should pursue. We are concerned that the bill as currently written does not make use of this well-established expertise. If we are to build, manage, and maintain the facility, as provided for in Section 1(a) of the bill, the legislation should also clarify that we will have more than a physical custodial role, i.e., our underlying program responsibility should be delineated, and that should include a central role in determining research priorities. Our process, in turn, is subject to the federal R&D Criteria sketched out above.

Additionally, while we welcome opportunities to partner with other agencies of the federal government, particularly where we have complementary missions and capabilities, we are concerned that, as originally drafted, our role under the bill could be reduced to a funding path through the Department of the Interior to other government agencies and laboratories. If funds are ultimately appropriated to Interior, we want to take more direct stewardship responsibility for the underlying work. We suggest that funds for other agencies should be appropriated directly to those agencies, for there is no compelling reason to funnel them through Reclamation.

The Administration suggests that the portion of the bill that would provide treated water to local communities at no cost be rewritten to say that any such sale of water must be for fair market value.

Furthermore, facility operation and maintenance should be based on user fees. Larger demonstration projects, in most cases, would be conducted off-site at urban and rural locations under field conditions, and are not contemplated in the construction of Tularosa.

While some facility users would be funded out of Reclamation's research budget, supplemental fees could come from the many other agencies currently funding desalination research, such as the Office of Naval Research or the Department of Energy when they perform work at Tularosa. In the future we would hope that additional agencies would join the list of desalination researchers using the facility.

We would be happy to work with the Subcommittee to further develop these concepts.

Madam Chairman, our thinking on desalination will continue to grow and mature as the research field does, and as the federal government further subjects desalination research to scrutiny under the federal R&D criteria. We welcome the opportunity to work closely with the Committee as that process unfolds, beginning with adjustments to S. 1211.

Madam Chairman, this concludes my remarks and I would be happy to answer any questions.

#### CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee notes that no changes in existing law are made by the bill S. 1211, as ordered reported.