Option Submittal Form

Contact Information (optional): ☐ Keep my contact information private

Contact Name: _____ Title: _____

Affiliation: _____

Address: _____

Telephone: _____ E-mail Address: _____

Date Option Submitted: 02/01/2012

Option Name:

Geyser Flow Control Device

Description of Option:

This is a demand side application. This patented metal disk device is inserted in new and existing residential/commercial sprinkler risers of lawn and shrub irrigation systems. The design of the device limits the amount of water wasted due to sprinkler head and riser malfunctions (contingent benefit), and reduces the amount of lawn irrigation water wasted into the air as the result of "high pressure misting" (continuous benefit). High pressure misting is the result of excess water psi delivered to the spray nozzle of a sprinkler head. Most residential/commercial sprinkler heads are designed for optimal performance at 25 psi, while the municipal water districts in the Las Vegas Valley supply between 50 and 80 psi.

The device is currently being featured in the Southern Nevada Business Plan Competition, and the San Diego State University global new Venture Challenge and advanced by a team of UNLV MBA/MIS students. It will also be entered into the Governor's Cup Competition. The device is also being tested on the UNLV grounds.

Location: Describe location(s) where option could be implemented and other areas that the option would affect, if applicable. Attach a map, if applicable.

The Las Vegas Valley and Southern Nevada. It also can be implemented anywhere that water is used to irrigate lawns.

Quantity and Timing: Roughly quantify the range of the potential amount of water that the option could provide over the next 50 years and in what timeframe that amount could be available. If option could be implemented in phases, include quantity estimates associated with each phase. If known, specify any important seasonal (e.g,. more water could be available in winter) and/or frequency (e.g., more water could likely be available during above-average hydrologic years) considerations. If known, describe any key assumptions made in order to quantify the potential amount.

Based on an estimate of 211,000 residences with lawns in the Southern Nevada Water Authority, and each residence saving as much as 10,000 gallons per year, there can be a savings of 5,000 acre feet of water or more per year. The implementation/installation of the devices can start with common areas of HOA's, apartment buildings/complexes, and commercial/industrial locations. Once established, a push would be made into the residential market.

Additional Information

Technical Feasibility: Describe the maturity and feasibility of the concept/technology being proposed, and what research and/or technological development might first be needed.

The Geyser Flow Control Device was reviewed by the Center for Irrigation Technology, University of California, Fresno. Devices are currently being tested at UNLV. Some additional lab work can be done to better quantify the savings from use of the device.

Costs: Provide cost and funding information, if available, including capital, operations, maintenance, repair, replacement, and any other costs and sources of funds (e.g., public, private, or both public and private). Identify what is and is not included in the provided cost numbers and provide references used for cost justification. Methodologies for calculating unit costs (e.g., $/acre-foot or $/million gallons) vary widely; therefore, do not provide unit costs without also providing the assumed capital and annual costs for the option, and the methodology used to calculate unit costs.

Retail pricing for 20 devices and installation/removal tools is about $20. It is estimated to take approximately 10 minutes to install one device in each sprinkler riser. There are no ongoing maintenance costs associated with the device. We hope that rebates will be offered by SNWA.

Permitting: List the permits and/or approvals required and status of any permits and/or approvals received.

n/a

Legal / Public Policy Considerations: Describe legal/public policy considerations associated with the option. Describe any agreements necessary for implementation and any potential water rights issues, if known.

n/a

Implementation Risk / Uncertainty: Describe any aspects of the option that involves risk or uncertainty related to implementing the option.

There is always the risk of improper installation of the devices.

Reliability: Describe the anticipated reliability of the option and any known risks to supply or demand, such as: drought risk, water contamination risk, risk of infrastructure failure, etc.

n/a

Water Quality: Identify key water quality implications (salinity and other constituents) associated with the option in all of the locations the option may affect.

n/a

Energy Needs: Describe, and quantify if known, the energy needs associated with the option. Include any energy required to obtain, treat, and deliver the water to the defined location at the defined quality.

Energy Required	Source(s) of Energy
n/a	

Hydroelectric Energy Generation: Describe, and quantify if known, any anticipated increases or decreases in hydroelectric energy generation as a result of the option.

Location of Generation	Impact to Generation
n/a	

Recreation: Describe any anticipated positive or negative effects on recreation.

Locations	Anticipate Benefits or Impacts
n/a	

Environment: Describe any anticipated positive or negative effects on ecosystems within or outside of the Colorado River Basin.

Locations	Anticipated Benefits or Impacts
n/a	

Socioeconomics: Describe anticipated positive or negative socioeconomic (social and economic factors) effects.

n/a

Other Information: Provide other information as appropriate, including potential secondary benefits or considerations. Attach supporting documentation or references, if applicable.

While the device concentrates on the demand side of the equation, allowing more water to remain in the source of water (Lake Mead) is a significant benefit.