## BEFORE THE STATE ENGINEER, STATE OF NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES

IN THE MATTER OF SOUTHERN
NEVADA WATER AUTHORITY
APPLICATION NOS. 53987
THROUGH 53992 AND 54003
THROUGH 54021, FILED TO
APPROPRIATE THE UNDERGROUND
WATERS OF THE CAVE VALLEY,
DRY LAKE VALLEY, DELAMAR
VALLEY AND SPRING VALLEY
HYDROGRAPHIC BASINS (180, 181, 182, 184), LINCOLN AND WHITE PINE
COUNTY, NEVADA

SUMMARIES OF WITNESSES'
TESTIMONY SUBMITTED BY
SOUTHERN NEVADA WATER
AUTHORITY FOR THE
HEARING SCHEDULED TO
BEGIN ON SEPTEMBER 26,
2011

COMES NOW, SOUTHERN NEVADA WATER AUTHORITY (hereinafter referred to as "SNWA"), by and through its attorneys, PAUL G. TAGGART, ESQ., of the law firm of TAGGART & TAGGART, LTD., DANA R. WALSH, ESQ., Deputy Counsel, SOUTHERN NEVADA WATER AUTHORITY, ROBERT A. DOTSON, ESQ., of the law firm of LAXALT & NOMURA, LTD., and STEVEN O. SIMS, ESQ., of the law firm of BROWNSTEIN HYATT FARBER SCHRECK, LLP., and hereby submits its summary of witnesses' testimony for the hearing before the State Engineer beginning September 26, 2011, as required by the State Engineer's Notice of Pre-Hearing Conference and Hearing dated April 1, 2011.

The following are summaries of the proposed testimony of SNWA's witnesses.

1. Jeremy Aguero. Mr. Aguero is a principal analyst with Applied Analysis. Mr. Aguero may testify on the importance of additional water resources to southern Nevada and the relationship water resources have with growth and recovery in

the local and state economies. Mr. Aguero may testify regarding the importance of the SNWA Clark, Lincoln, and White Pine Counties Groundwater Development Project ("GWD Project") to the future of Nevada as a whole and how the GWD Project will not threaten to prove detrimental to the public interest in Nevada.

- 2. Doug Bennett. Mr. Bennett is the Conservation Division Manager in the SNWA Environmental Resources Department. Mr. Bennett may testify regarding the SNWA Conservation Plan and activities, the ordinances and water service rules of the SNWA member agencies, water use and conservation data for the Las Vegas Valley, including gallons per capita per day, and the SNWA drought response activities. He may testify regarding the adequacy and implementation effectiveness of SNWA's Conservation Plan and SNWA's progress in accordance with the Conservation Plan.
- 3. John Bonow. Mr. Bonow is Managing Director of the Pacific Northwest and western U.S. environmental utilities practices at The PFM Group. Mr. Bonow serves as a financial advisor to cities, counties, states, special districts, and other municipalities. Mr. Bonow may testify regarding SNWA's financial ability and its reasonable expectation to construct the GWD Project and apply the water to beneficial use.
- 4. Kay Brothers. Ms. Brothers was the Deputy General Manager for SNWA Engineering and Operations and currently serves as a consultant to SNWA. Ms. Brothers may testify regarding the recommendations from the Integrated Water Planning Advisory Committee and the chronology of activities that culminated in the filing of the GWD Project applications, in addition to the SNWA and the Las Vegas Valley Water District ("LVVWD") efforts that have occurred since the filing to develop these water resources. She may testify regarding the purpose and justification of need for the GWD

Project. Ms. Brothers may testify regarding the past and present development of water resources in the Las Vegas Valley and the development of water resources in municipalities in the western United States. She may testify to the SNWA management plan for the GWD Project. She may testify regarding the importance of the GWD Project to the future of Nevada and how the GWD Project will serve the public interest in Nevada. She may testify regarding the use of water resources from the GWD Project in conjunction with other water resources in the SNWA portfolio, including Colorado River water resources. Ms. Brothers may testify regarding the variability and uncertainty in Colorado River flows, the modeling of future flows, and how the amount of water applied for is necessary and reasonably required to meet the present and future water demands in the Las Vegas Valley.

5. Andrew Burns. Mr. Burns is the Water Resources Division Manager in the SNWA Groundwater Resources Department, and was previously the Senior Hydrologist. Mr. Burns may testify regarding the water resource assessment for the Delamar, Dry Lake, Cave, and Spring Valleys (collectively, the "Basins of Origin") and other basins in the White River Flow System. He may summarize the results of previous investigations that were used in his analysis. He may testify regarding aquifer properties, precipitation, natural recharge, perennial stream and spring flows, evapotranspiration, interbasin groundwater flow, groundwater occurrence and movement, water resources, and the groundwater budget for the Basins of Origin. He may testify regarding the region's geologic and hydrogeologic framework. Mr. Burns may testify to the existence of unappropriated groundwater as it relates to perennial yield and uncommitted

groundwater resources. Mr. Burns may also testify regarding potential water-related effects from the GWD Project.

- 6. John Candelaria. Mr. Candelaria is a Senior Associate at Aspen Environmental Group and specializes in power production, electric and gas resource planning, regulatory policy, and utility regulation. Mr. Candelaria may testify regarding the economic viability of potential solar and other renewable energy development in the Basins of Origin, as well as estimated water use for renewable energy development. Mr. Candelaria may testify regarding the potential markets for renewable energy resources from the Basins of Origin and the extent to which projects in the Basins of Origin can compete in various energy markets. This may include whether the potential renewable energy resources in the Basins of Origin are likely to be utilized to serve Nevada's Renewable Portfolio Standards, as well as the needs of regional markets. Mr. Candelaria's testimony is expected to provide a relative ranking of renewable energy resources within Nevada and in the western interconnection, as well as provide a description of the transmission access availability and challenges, and cost issues associated with accessing potential renewable energy resources in the Basins of Origin.
- 7. George Carter. Mr. Carter is an economist who works for Utility Resources, Inc. Utility Resources, Inc. provides consulting on a number of economic, financial, and engineering matters including resource planning and financial analyses for utilities. He may testify regarding the future development potential of agriculture in White Pine and Lincoln Counties, with an emphasis on the Basins of Origin. In particular, he may testify regarding the potential for growth in either livestock or alfalfa hay operations in the Basins of Origin.

- 8. Frank D'Agnese, Ph.D. Dr. D'Agnese is a geological engineer and President of Earth Knowledge, Inc. He may testify regarding the use of groundwater models in the Basins of Origin and surrounding basins. He may also testify regarding development of a numerical groundwater flow model of the Central Carbonate-Rock Province of Nevada and Utah ("CCRP Model") in support of the U.S. Bureau of Land Management analysis of rights-of-way applications for the GWD Project. Dr. D'Agnese may testify regarding appropriate uses for the CCRP Model.
- **9. Gary Dixon.** Mr. Dixon is a geologist and founder of Southwest Geology, Inc. Mr. Dixon may testify about the geologic and hydrogeologic framework of the Basins of Origin, as well as adjacent areas in Nevada and Utah. He may testify about geophysics, including gravity studies, audiomagnetotellurics, and seismic studies. Mr. Dixon may testify regarding geologic formations as they relate to stream flows, spring flows, water level data, groundwater occurrence and movement, interbasin groundwater flows, and water-related effects. He may testify regarding the likelihood of groundwater occurrence and movement in the Basins of Origin and surrounding area based upon the region's geologic and hydrogeologic framework.
- 10. Warda Drici. Ms. Drici is a Hydrologist II for the Water Resources Division in the SNWA Groundwater Resources Department. Ms. Drici may testify regarding the water resource assessment for the Basins of Origin and other basins in the White River Flow System. Ms. Drici may testify about the aquifer properties, precipitation, natural recharge, perennial stream and spring flows, evapotranspiration, interbasin groundwater flow, groundwater occurrence and movement, water resources, and the groundwater budget for the Basins of Origin. She may testify regarding the

existence of unappropriated groundwater in the Basins of Origin as it relates to perennial yield and uncommitted groundwater resources. Ms. Drici may also testify regarding groundwater modeling in the Basins of Origin and surrounding area, and may summarize development of the CCRP Model. She may also testify about the potential water-related effects of the GWD Project, as simulated by the 2009 version of the CCRP. She may testify regarding whether the GWD Project will conflict with existing senior water rights or protectable interests in existing domestic wells, and will describe management and mitigation opportunities to address any potential conflicts or unreasonable adverse effects to environmental resources.

11. John Entsminger, Esq. Mr. Entsminger is Assistant General Manager for Strategic Initiatives at the SNWA. Mr. Entsminger may testify regarding the purpose and justification of need for the GWD Project and SNWA's intention in good faith to construct the GWD Project and to put the water to beneficial use with reasonable diligence. He may testify regarding the past and present development of water resources in the Las Vegas Valley and the development of water resources in municipalities in the western United States. He may testify regarding issues related to the Colorado River, and cooperation and negotiations between state, federal, and international parties regarding water use from the Colorado River. He may testify regarding the importance of the GWD Project to the future of Nevada and how the GWD Project will serve the public interest in Nevada. He may testify regarding the use of water resources from the GWD Project in conjunction with other water resources in the SNWA portfolio to meet the current and future water demands of southern Nevada, and how the amount of water applied for is necessary and reasonably required to meet those demands. Mr. Entsminger

may testify regarding the number of persons to be served by the GWD Project and population projections for southern Nevada in the future. He may also testify regarding estimated construction and beneficial use timelines and a cost estimate for the GWD Project. He may testify regarding water monitoring, management, and mitigation plans in the Basins of Origin and surrounding basins, and the SNWA environmental commitment for the GWD Project. He may also testify regarding SNWA's stipulations with various Department of Interior bureaus. Mr. Entsminger may testify regarding the agreements and cooperative relationship regarding water development in Lincoln County with the Lincoln County Water District and Vidler Water Company.

- 12. Lynn Fenstermaker, Ph.D. Dr. Fenstermaker is an Associate Research Professor and Director of the Nevada Desert Research Institute, Division of Earth and Ecosystem Sciences. Dr. Fenstermaker may testify regarding the use of remote sensing and empirically derived relationships to estimate evapotranspiration in the White River, Spring, and Snake Valleys.
- County Water District ("LCWD"). Mr. Frehner may testify regarding the Cooperative Agreement among Lincoln County, SNWA, and LVVWD, and how that agreement affects the development of water resources in the Basins of Origin located within Lincoln County. Mr. Frehner may testify regarding LCWD's plans to serve potential future growth and development in Lincoln County, and where any growth may occur. He may also testify regarding the March 2011 Agreement among LCWD, Vidler Water Company and SNWA regarding the parties' water right permits and applications in Dry Lake Valley.

- 14. Guy Hobbs. Mr. Hobbs is a co-founder and current partner at Hobbs, Ong & Associates, Inc. Mr. Hobbs serves as a financial advisor to Nevada municipalities and is a policy advisor to the Nevada legislature. He may testify regarding SNWA's financial ability and reasonable expectation to construct the GWD Project and apply the water to beneficial use.
- 15. **Richard Holmes.** Mr. Holmes is the Deputy General Manager for SNWA Engineering and Operations, and is the former Assistant County Manager and former Planning Director for Clark County. He may testify regarding the purpose and justification of need for the GWD Project, and SNWA's intention in good faith to construct the GWD Project and to put the water to beneficial use with reasonable diligence. He may testify regarding the importance of the GWD Project to the future of Nevada and how the GWD Project will serve the public interest in Nevada. He may testify regarding the use of water from the GWD Project in conjunction with other water resources in the SNWA portfolio to meet the current and future needs of southern Nevada, and how the amount of water applied for is necessary and reasonably required to meet those demands. Mr. Holmes may testify regarding the number of persons to be served by the GWD Project and population projections for southern Nevada in the future. He may also testify regarding estimated construction and beneficial use timelines and a cost estimate for the GWD Project. Mr. Holmes may testify regarding the factors which define the potential for economic growth and development in the Basins of Origin. Mr. Holmes may testify regarding historical water needs and projected future water demands in the Basins of Origin, and whether or not granting the SNWA applications is an appropriate long-term use that would not unduly limit future growth and development in

the Basins of Origin. Mr. Holmes may also testify regarding water monitoring, management, and mitigation plans in the Basins of Origin and surrounding basins, and the SNWA environmental commitment for the GWD Project.

- 16. Carl Linvill, Ph.D. Dr. Linvill is Director of the Integrated Planning and Analysis Division at Aspen Environmental Group. The Division conducts integrated systems analyses of energy, climate, and natural resource issues in California, Nevada and the Western Electricity Interconnection. He may testify regarding the economic viability of potential solar and other renewable energy development in the Basins of Origin, as well as estimated water use for such development. He may testify regarding the potential markets for renewable energy resources from the Basins of Origin and the extent to which projects in the Basins of Origin can compete in various energy markets. This may include whether the potential renewable energy resources in the Basins of Origin are likely to be utilized to serve Nevada's Renewable Portfolio Standards, as well as the needs of regional markets. Dr. Linvill's testimony is expected to provide a relative ranking of renewable energy resources within Nevada and in the western interconnection, as well as provide a description of the transmission access availability and challenges, and cost issues associated with accessing potential renewable energy resources in the Basins of Origin.
- 17. Lisa Luptowitz. Ms. Luptowitz is the Environmental Resources Division Manager in the SNWA Environmental Resources Department. Ms. Luptowitz may testify regarding the SNWA environmental compliance activities related to the GWD Project, including, but not limited to, activities associated with SNWA's U.S. Bureau of Land Management rights-of-way application and the related National Environmental

Policy Act process. Ms. Luptowitz may testify regarding an evaluation of environmental resources in the Basins of Origin and adjacent basins, environmental compliance activities related to the GWD Project, and monitoring, management and mitigation activities in the Basins of Origin and adjacent basins. Ms. Luptowitz may testify regarding field investigations of the environmental resources in the Basins of Origin and adjacent basins, and may provide testimony on whether the GWD Project is environmentally sound as it relates to the Basins of Origin. She may also testify regarding the biological studies and activities related to SNWA's stipulations with various Department of Interior bureaus. Ms. Luptowitz may testify about whether the GWD Project threatens to prove detrimental to the public interest based on environmental factors.

Department Director and previously a Senior Biologist for SNWA. Mr. Marshall may testify regarding an evaluation of environmental resources in the Basins of Origin and adjacent basins, environmental compliance activities related to the GWD Project, and monitoring, management and mitigation activities in the Basins of Origin and adjacent basins. Mr. Marshall may testify regarding field investigations of the environmental resources in the Basins of Origin and adjacent basins, and may provide testimony on whether the GWD Project is environmentally sound as it relates to the Basins of Origin. He may also testify regarding the biological studies and activities related to SNWA's stipulations with various Department of Interior bureaus. Mr. Marshall may testify about whether the GWD Project threatens to prove detrimental to the public interest based on environmental factors.

- 19. Terry McLendon, Ph.D. Dr. McLendon is Principal Scientist at KS2 Ecological Field Services and serves as affiliate faculty at Colorado State University and Texas Tech University. Dr. McLendon has more than 35 years of research and consulting experience in the areas of plant ecology, restoration of disturbed lands, ecological modeling, ecological risk assessment, range and land management, watershed dynamics, and statistical ecology. He may testify regarding field investigations and mapping for plant communities in Spring Valley. Dr. McLendon may testify regarding range science, plant ecology and possible ecological effects associated with groundwater withdrawal related to the GWD Project.
- 20. Patricia Mulroy. Ms. Mulroy is the General Manager of LVVWD and SNWA. Ms. Mulroy may testify regarding the role of SNWA in the management of water resources in southern Nevada, the relationship between SNWA and its seven member agencies, and the Cooperative Agreement that formed SNWA. She may testify regarding development and evolution of the SNWA water resource plan, and SNWA's responsibility to forecast water demand and supply for the next 50 years in southern Nevada. She may testify regarding the chronology of activities that culminated in the filing of the GWD Project water right applications, and the SNWA and LVVWD efforts that have occurred since the filing to develop these water resources. Ms. Mulroy may testify regarding the purpose, justification of need, and financial feasibility of the GWD Project. Ms. Mulroy may testify regarding the past and present development of water resources in the Las Vegas Valley and the development of water resources in municipalities across the western United States. She may testify regarding the importance of the GWD Project to the future of Nevada as a whole and how the GWD

Project will serve the public interest in Nevada. She may testify regarding the use of water resources from the GWD Project in conjunction with other water resources in the SNWA portfolio, including Colorado River water resources, to meet the current and future needs of southern Nevada. Ms. Mulroy may testify regarding the historic, current, and future SNWA initiatives related to the Colorado River, and cooperation and negotiations between state, federal, and international parties regarding water use from the Colorado River.

- 21. Dennis Peseau, Ph.D. Dr. Peseau is an economist and President of Utility Resources, Inc. Utility Resources, Inc., provides consulting on a number of economic, financial and engineering matters including resource planning and financial analyses for utilities. He may testify regarding the future development potential of agriculture in White Pine and Lincoln Counties, with a particular emphasis on the Basins of Origin. In particular, he may testify regarding the potential for growth in either livestock or alfalfa hay operations in the Basins of Origin.
- 22. James Prieur. Mr. Prieur is a Senior Hydrologist for the Water Resources Division in the SNWA Groundwater Resources Department. Mr. Prieur is expected to testify regarding the development, implementation, sustainability, and effectiveness of the SNWA Hydrologic Management Program for the Basins of Origin, as well as the scientific framework and administrative structure for the Hydrologic Management Program. Mr. Prieur may testify regarding the hydrologic activities undertaken pursuant to SNWA's stipulation with various Department of Interior bureaus.
- **23. Peter Rowley, Ph.D.** Dr. Rowley is a geologist and President of Geologic Mapping, Inc. Dr. Rowley may testify about the geologic and hydrogeologic framework

of the Basins of Origin, as well as adjacent areas in Nevada and Utah. He may testify about geophysics, including gravity studies, audiomagnetotellurics, and seismic studies. Dr. Rowley may testify regarding geologic formations as they relate to stream flows, spring flows, water level data, groundwater occurrence and movement, interbasin groundwater flows, and water-related effects. He may testify regarding the likelihood of groundwater occurrence and movement in the Basins of Origin and surrounding area based upon the region's geologic and hydrogeologic framework.

- 24. Michael Stanka, P.E. Michael Stanka is the President and Senior Engineer of Stanka Consulting, LTD. Stanka Consulting, LTD, is a Nevada Professional Engineering Corporation that specializes exclusively on projects relating to evaluation of water rights in the State of Nevada. He may provide a summary and quantification of all existing groundwater rights within the Basins of Origin. He may testify as to the quantity of groundwater rights supplemental to other groundwater rights and surface water rights within the Basins of Origin. He may testify regarding the consumptive use of groundwater rights and domestic wells. He may testify regarding the total quantity of committed groundwater rights within the Basins of Origin as adjusted based on supplemental and consumptive use analyses.
- **25. James Thomas, Ph.D.** Dr. Thomas is a Research Professor of the Nevada Desert Research Institute, Division of Hydrologic Sciences. Dr. Thomas may testify regarding geochemistry, water isotopes, and groundwater age and travel time in the area of SNWA's GWD Project. Dr. Thomas may present an analysis of water chemistry and isotopic data to evaluate potential groundwater flow paths and source water for certain springs and discharge areas.

26. **James Watrus.** Mr. Watrus is a Senior Hydrologist for the Water Resources Division in the SNWA Groundwater Resources Department. Mr. Watrus may testify regarding the water resource assessment for the Basins of Origin and other basins in the White River Flow System. Mr. Watrus may testify about the aquifer properties, precipitation, natural recharge, perennial stream and spring flows, evapotranspiration, interbasin groundwater flow, groundwater occurrence and movement, water resources, and the groundwater budget for the Basins of Origin. He may testify regarding the likelihood of groundwater occurrence and movement in the Basins of Origin and surrounding area based upon the region's geologic and hydrogeologic framework. He may testify regarding the existence of unappropriated groundwater in the Basins of Origin as it relates to perennial yield and uncommitted groundwater resources. He may testify regarding the quantity of committed groundwater rights within the Basins of Origin, as adjusted based on supplemental and consumptive use analyses. He may also testify regarding groundwater modeling in the Basins of Origin and surrounding area, and may summarize development of the CCRP Model. Mr. Watrus may also testify about the potential water-related effects of the GWD Project, as simulated by the 2009 version of the CCRP. Mr. Watrus may testify regarding whether the GWD Project will conflict with existing senior water rights or protectable interests in existing domestic wells, and will describe management and mitigation opportunities to address any potential conflicts or unreasonable adverse effects to environmental resources.

SNWA witnesses may also testify regarding the factual basis, conclusions, and opinions provided by the protestant witnesses. SNWA reserves the right to call any witness from the witness lists submitted by any other party.

Submitted this  $30^{1/4}$  day of June, 2011.

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## **CERTIFICATE OF SERVICE**

I hereby certify that I am an employee of the SOUTHERN NEVADA WATER AUTHORITY, and that on this date, I served or caused to be served, a true and correct copy of SNWA'S SUMMARY OF WITNESSES' TESTIMONY, EXHIBIT LIST, and EXHIBITS via FEDERAL EXPRESS OVERNIGHT SERVICE, by placing the above-identified documents in a box, addressed as follows with shipping pre-paid, at Las Vegas, Nevada, in the ordinary course of business:

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DATED this 30 day of June, 2011.

Employee of SOUTHERN NEVADA
WATER AUTHORITY