BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

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RESPONSE OF GEOSCIENCE SUPPORT SERVICES, INC. TO ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING DATA ON RATEMAKING AND GEOSCIENCE PATENTS

Dated: July 28, 2015

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I. INTRODUCTION

On July 14, 2015, Administrative Law Judge ("ALJ") Gary Weatherford issued a ruling requesting data from GEOSCIENCE Support Services, Inc. ("GEOSCIENCE") about patents held by GEOSCIENCE and relating to the Monterey Peninsula Water Supply Project ("MPWSP").[1] In a subsequent ruling dated July 15, 2015, ALJ Weatherford clarified that GEOSCIENCE should file and serve the requested data within fifteen days of the date of the July 14 ruling.[2]

II. REQUEST FOR DATA

In response to the Administrative Law Judge's Ruling Requesting Data on Ratemaking and GEOSCIENCE Patents, Dr. Dennis Williams, the president of GEOSCIENCE, provides the following data to the Commission as stated below:

[1] *Administrative Law Judge's Ruling Requesting Data on Ratemaking and Geoscience Patents*, issued July 14, 2015, p. 2, item 1.

[2] *E-mail Ruling with Errata for Ruling Filed July 14, 2015 Regarding Data on Ratemaking and Patents*, issued July 15, 2015. This ruling also made other minor clarifications to the July 14, 2015 ruling.

REQUEST NO. 1.a.

Describe each of his patents, including a brief explanation of all valid and assertable claims, including claims related to MPWSP.

RESPONSE TO REQUEST NO. 1.a.

GEOSCIENCE's services in connection with the MPWSP use certain systems and methods that the United States Patent and Trademark Office ("USPTO") has recognized as innovative. These systems and methods are disclosed and claimed in two patents that the USPTO has awarded to GEOSCIENCE—U.S. Patent No. 8,056,629 ("the '629 patent") and U.S. Patent No. 8,479,815 ("the '815 patent"). The '629 patent is titled "Slant Well Desalination Feedwater Supply System and Method for Constructing Same" and has 46 patent claims, of which claims 1, 10, 22, 24, 34 and 41 are independent patent claims. The '815 patent is titled "Desalination Subsurface Feedwater Supply and Brine Disposal" and has 52 patent claims, of which claims 1, 10, 18, 24, 36 and 46 are independent patent claims.

The '629 Patent

Claim 1 of the '629 patent defines a telescoping slant well feedwater supply system for supplying water from a subsurface aquifer system. The feedwater supply system comprises (1) a primary well screen for initially admitting water from the aquifer system, the primary well screen oriented along an axis angled less than ninety degrees below horizontal and having a substantially uniform cross-sectional area; (2) a filter pack substantially surrounding and adjacent to the primary well screen; (3) a pump house casing oriented along the axis, upward of the primary well screen, and having a substantially uniform cross-sectional area; and (4) a submersible pump contained within the pump house casing for pumping water admitted through the primary well screen. The cross-sectional area of the pump house casing is greater than the cross-sectional area of the primary well screen. **Claims 2-9** of the '629 patent depend, directly or indirectly, from claim 1 and specify further limitations on the subject matter claimed.

Claim 10 of the '629 patent defines a method of constructing a slant well feedwater supply system for supplying water from an aquifer. The method comprises the steps of (1) placing a telescoping plurality of casings below a land surface so that the telescoping plurality of casings extends along an axis angled below horizontal to beneath a water body, wherein the telescoping plurality of casings comprises one or more temporary casings; (2) placing a well screen along the axis within the one or more temporary casings so that a space is formed between the well screen and the one or more temporary casings, the well screen comprising a first portion having a substantially uniform cross-sectional area and a second portion having a substantially uniform cross-sectional area greater than the cross-sectional area of the first portion; and (3) placing a filter pack in the space between the well screen and the one or more temporary casings. **Claims 11-21** of the '629 patent depend, directly or indirectly, from claim 10 and specify further limitations on the subject matter claimed.

Claim 22 of the '629 patent defines a method for reducing salinity variation in feedwater supplied from a slant well system. It is not believed that claim 22 or its dependent **claim 23** relate to the MPWSP.

Claim 24 of the '629 patent, like claim 10 of the '629 patent, defines a method of constructing a slant well feedwater supply system for supplying water from an aquifer. In the method of claim 24, the telescoping plurality of casings comprises a pump house casing, and the well screen extends upwardly through the downward end of the pump house casing. **Claims 25-33** of the '629 patent depend, directly or indirectly, from claim 24 and specify further limitations on the subject matter claimed.

Claim 34 of the '629 patent, like claims 10 and 24 of the '629 patent, defines a method of constructing a slant well feedwater supply system for supplying water from an aquifer. Claim 34 recites additional limitations pertaining to the step of placing the filter pack. **Claims 35-40** of the '629 patent depend, directly or indirectly, from claim 34 and specify further limitations on the subject matter claimed.

Claim 41 of the '629 patent, like claim 1 of the '629 patent, defines a telescoping slant well feedwater supply system for supplying water from a subsurface

aquifer system. Among other things, the system of claim 41 comprises a dual-packer assembly contained within the pump house casing. It is not believed that claim 41 or its dependent **claims 42-46** relate to the MPWSP.

The '815 Patent

Claim 1 of the '815 patent defines a telescoping slant well system for returning water to a subsurface aquifer system. It is not believed that claim 1 or its dependent **claims 2-9** relate to the MPWSP.

Claim 10 of the '815 patent defines a telescoping horizontally directionally drilled well system for supplying water from or returning water to a subsurface aquifer system. The well system comprises (1) a primary well screen for initially admitting water from or injecting water into the aquifer system, the primary well screen extending substantially non-vertically within the aquifer system and having a substantially uniform cross-sectional area; (2) a filter pack substantially surrounding and adjacent to the primary well screen; (3) a pump house casing located upward of the primary well screen and having a substantially uniform cross-sectional area; and (4) a submersible pump contained within the pump house casing for pumping water admitted or to be injected through the primary well screen. The cross-sectional area of the pump house casing is greater than the cross-sectional area of the primary well screen. **Claims 11-17** of the '815 patent depend, directly or indirectly, from claim 10 and specify further limitations on the subject matter claimed.

Claim 18 of the '815 patent defines a telescoping slant well system for supplying water from or returning water to a subsurface aquifer system. Among other things, the system of claim 41 comprises a dual-packer assembly contained within the pump house casing. It is not believed that claim 18 or its dependent **claims 19-23** relate to the MPWSP.

Claim 24 of the '815 patent defines a method of constructing a well system for supplying water from or returning water to an aquifer. The method comprises the steps of: (1) placing a telescoping plurality of casings below a land surface so that the

telescoping plurality of casings extends substantially non-vertically beneath a water body, wherein the telescoping plurality of casings comprises one or more temporary casings; (2) placing a well screen within the one or more temporary casings so that a space is formed between the well screen and the one or more temporary casings, the well screen comprising a first portion having a substantially uniform cross-sectional area and a second portion having a substantially uniform cross-sectional area greater than the cross-sectional area of the first portion; and (3) placing a filter pack in the space between the well screen and the one or more temporary casings. **Claims 25-35** of the '815 patent depend, directly or indirectly, from claim 24 and specify further limitations on the subject matter claimed.

Claim 36 of the '815 patent, like claim 24 of the '815 patent, defines a method of constructing a well system for supplying water from returning water to an aquifer. In the method of claim 36, the telescoping plurality of casings comprises a pump house casing, and the well screen extends upwardly through the downward end of the pump house casing. **Claims 37-45** of the '815 patent depend, directly or indirectly, from claim 36 and specify further limitations on the subject matter claimed.

Claim 46 of the '815 patent, like claims 24 and 36 of the '815 patent, defines a method of constructing a well system for supplying water from or returning water to an aquifer. Claim 46 recites additional limitations pertaining to the step of placing the filter pack. **Claims 47-52** of the '815 patent depend, directly or indirectly, from claim 46 and specify further limitations on the subject matter claimed.

REQUEST NO. 1.b.

Describe whether the work done on the MPWSP will likely fall within the scope of the claims of any of his patents?

RESPONSE TO REQUEST NO. 1.b.

The work done on the MPWSP falls within the scope of at least independent claims 1, 10, 24, and 34 of the '629 patent, and within the scope of at least independent claims 10, 24, 36 and 46 of the '815 patent.

REQUEST NO. 1.c.

Explain each potential patent claim and its integration into the MPSWP.

RESPONSE TO REQUEST NO. 1.c.

The MPWSP involves constructing and using slant well systems for supplying water from a subsurface aquifer system, as defined in at least independent claim 1 of the '629 patent, and as defined in at least independent claim 10 of the '815 patent. To construct the slant well systems, GEOSCIENCE and California-American Water Company ("Cal-Am") are using the methods defined in at least independent claims 10, 24 and 34 of the '629 patent, and as defined in at least independent claims 24, 36 and 46 of the '815 patent.

REQUEST NO. 1.d.

Disclose any pending patent applications with claims that, if granted, the project would potentially infringe.

RESPONSE TO REQUEST NO. 1.d.

GEOSCIENCE's services in connection with the MPWSP further use an innovative half-moon well screen design for angled wells that is patent-pending with the United States Patent and Trademark Office as U.S. Provisional Patent Application No. 62/158,382 ("the '382 application"). This U.S. provisional patent application has patent claims that, if granted, would apply to the MPWSP.

REQUEST NO. 1.e.

Disclose any pending patent applications that will become relevant to MPSWP now or in the future?

RESPONSE TO REQUEST NO. 1.e.

Please see GEOSCIENCE's response to Request No. 1.d., above.

REQUEST NO. 1.f.

State anything else necessary for a reasonably complete statement regarding the relationship of his patents to the MPWSP.

RESPONSE TO REQUEST NO. 1.f.

Dr. Williams never intended to request royalties or payments regarding his patents for slant wells on the Coastal Water Project or the MPWSP. To allay any concerns about the patents, GEOSCIENCE, Dr. Williams, and Cal-Am have entered into a Patent License and Non-Assertion Agreement in order to make clear that Cal-Am, along with its contractors, the overseeing public entity, and end-users, are fully licensed to use, in connection with the MPWSP and for no additional charge, the technology that GEOSCIENCE has provided and is providing to Cal-Am, including the technology disclosed and claimed in the '629 patent, the '815 patent, and the '382 application. Per the terms and conditions of the Agreement, GEOSCIENCE and Dr. Williams have granted a royalty-free, fully paid-up license to make and use the slant well systems and methods disclosed and claimed in the '629 patent, the '815 patent, and the '382 application in connection with the MPWSP. Also per the terms and conditions of the Agreement, GEOSCIENCE and Dr. Williams have covenanted not to assert, under the claims of the '629 patent, the '815 patent, and the '382 application, any claim of patent infringement respecting the slant well systems and methods being made and used as part of the MPWSP. GEOSCIENCE and Dr. Williams received no direct or indirect compensation from Cal-Am or anyone else in connection with the license and covenants provided under the Agreement. Attached hereto as **Exhibit A** is a copy of the Agreement.

Dated: July 28, 2015

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

By *_/s/ Darren M. Franklin_*
DARREN M. FRANKLIN

Attorneys for GEOSCIENCE Support Services, Inc.

EXHIBIT A

PATENT LICENSE AND NON-ASSERTION AGREEMENT

This Patent License and Non-Assertion Agreement ("Agreement") is effective as of July 27, 2015 ("Effective Date"), by and among Geoscience Support Services, Inc., a California corporation ("Geoscience"), Dennis Williams, in his personal capacity ("Williams"), and California-American Water Company, a California corporation ("Cal-Am") (collectively, the "Parties").

RECITALS

WHEREAS, Cal-Am is in the business of serving the water needs of the Monterey County District in California. As part of Cal-Am's business, Cal-Am is engaged in the design, construction, and operation of the Project (defined below) to replace existing supplies that are constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. For the Project, Cal-Am investigated and evaluated various technologies for supplying feedwater to a desalination plant and related facilities to serve the Monterey County District. Cal-Am has commissioned the Test Well (defined below) to gather technical data related to the potential hydrogeologic and water quality effects of the Project, and ultimately to determine whether subsurface slant wells are feasible for use as production intake wells for a desalination facility in the area.

WHEREAS, after completing its investigation and evaluation, Cal-Am determined that the use of the slant-well technology offered by Geoscience would be optimal in connection with the Project and the Test Well. The advantages of slant-well technology include avoiding entrainment and impingement impacts to marine life, reducing or eliminating costly reverse-osmosis pretreatment of the feedwater, reducing or eliminating permanent visual impacts on the land surface, providing a reliable supply of feedwater, and minimizing impacts to inland water sources and sensitive habitat.

WHEREAS, the Parties acknowledge that the benefits and results of Geoscience's services in connection with the Project and Test Well use certain systems and methods that the United States Patent and Trademark Office has recognized as innovative by awarding two patents to Geoscience—U.S. Patent No. 8,056,629, titled "Slant Well Desalination Feedwater Supply System and Method for Constructing Same" ("the '629 patent"), and U.S. Patent No. 8,479,815, titled "Desalination Subsurface Feedwater Supply and Brine Disposal" ("the '815 patent").

WHEREAS, Geoscience's services in connection with the Project and Test Well further use an innovative half-moon well screen design that is patent-pending with the United States Patent and Trademark Office as U.S. Patent Application No. 62/158,382 ("the '382 application"). The '629 patent, '815 patent, and '382 application resulted from inventions created by Williams with the rights in such inventions assigned in their entirety to Geoscience.

WHEREAS, the Parties wish to enter into this Agreement in order to make clear that Cal-Am and its Authorized Licensee(s) (defined below) are fully licensed to use, in connection with the existing Project and to the extent necessary the Test Well, the technology

that Geoscience has provided and is providing to Cal-Am in connection with the Project and Test Well, including the technology disclosed and claimed in the '629 patent, the '815 patent, and the '382 application.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I
DEFINITIONS

1.1 "Affiliate" means any entity that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with the specified entity. For purposes of the definition of Affiliate, the terms "control," "controlling," and "controlled" as to any entity mean the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through ownership of voting securities, the right or ability to appoint directors, by contract or otherwise, and the ownership of 50 percent or more of the voting securities of an entity or the ability to elect a majority of its board of directors (or equivalent governing body).

1.2 "Authorized Licensee" means a contractor of Cal-Am that provides services to Cal-Am in connection with the Project, and to the extent necessary the Test Well, as well as any public entity that oversees the Project or Test Well, and any end-users of water supplied from the Project or Test Well.

1.3 "Covered Patents" means all patents issued at any time in the United States which are owned or controlled by Geoscience or any Affiliate of Geoscience, including without limitation the '629 patent, the '815 patent, and the '382 application.

1.4 "Project" means the Monterey Peninsula Water Supply Project and consists of a source water intake system consisting of slant wells; a desalination plant; a brine discharge system; water conveyance pipelines and storage facilities; and an Aquifer, Storage and Recovery system. The Project includes initial construction and any subsequent construction, re-construction, replacement, rehabilitation, and renewal of Cal-Am's slant wells to feed water to the desalination project for Monterey County along the coast of Monterey County.

1.5 "Test Well" means Cal-Am's test slant well project at the CEMEX Lapis Plant sand mining facility on Lapis Road in Marina, California. The Test Well includes the constructed facilities, temporary operation, and decommissioning of a test slant well, monitoring well clusters, and related infrastructure.

ARTICLE II
LICENSE AND COVENANTS

2.1 In consideration of the terms and conditions of this Agreement, each of Geoscience and Williams hereby grants to Cal-Am, and its Authorized Licensee(s) for the Project and to the extent necessary the Test Well, a royalty-free, fully paid-up, non-exclusive, non-transferable, non-assignable license, without right to sublicense, to make and use, in connection with the Project and to the extent necessary the Test Well, the slant well systems and methods disclosed and claimed in the Covered Patents.

2.2 In consideration of the terms and conditions of this Agreement, each of Williams and Geoscience hereby covenants not to assert, under the claims of the Covered Patents, any claim of patent infringement against Cal-Am, or its Authorized Licensee(s) for the Project and to the extent necessary the Test Well, respecting the slant well systems and methods being made and used in connection with the Project and Test Well.

2.3 In Sections 2.1 and 2.2 above, Cal-Am and its Authorized Licensee(s) for the Project and to the extent necessary the Test Well are provided the specified license and covenant only for the purposes of the Project and the Test Well. No other licenses or covenants are granted, whether by implication, estoppel, or otherwise.

ARTICLE III
TERM

3.1 This Agreement, including the license and covenant set forth herein, shall continue until the expiration of the last-to-expire of the Covered Patents.

3.2 For the avoidance of doubt, each of Geoscience and Williams agree that it is receiving no direct or indirect compensation from Cal-Am in connection with the license and covenants provided under this Agreement.

ARTICLE IV
WARRANTIES

4.1 Geoscience represents and warrants that it owns the entire right, title, and interest in and to the '629 patent, the '815 patent, and the '382 application. Geoscience makes no representations or warranties that any of the Covered Patents are valid, or that the slant well systems and methods being made and used in connection with the Project and Test Well do not infringe upon any patent or other rights of a third party.

4.2 Williams represents and warrants that Williams has assigned all right, title and interest that Williams might have in and to the '629 patent, the '815 patent, and the '382 application to Geoscience.

4.3 GEOSCIENCE MAKES NO WARRANTIES WHATSOEVER, EITHER EXPRESS OR IMPLIED, AS TO THE MERCHANTABILITY OF OR FITNESS

OF THE COVERED PATENTS OR LICENSED TECHNOLOGY FOR A PARTICULAR PURPOSE.

ARTICLE V
MARKING

5.1 Cal-Am agrees to mark all slant well systems covered by the claims of the Covered Patents made and used in connection with the Project and to the extent necessary the Test Well with an identification of the '629 patent, the '815 patent and patent pending, as applicable.

ARTICLE VI
MISCELLANEOUS

6.1 This Agreement may not be amended except by written agreement signed by both Parties. This Agreement is the complete and exclusive statement of the mutual understanding of the Parties and supersedes all previous written and oral agreements and communications relating to the subject matter of this Agreement.

6.2 The Parties shall comply with all federal, state, and local laws, regulations, rules, and orders applicable to the license granted hereunder and the subject matter set forth herein. The Parties agree that they are each independent contractors, and nothing in this Agreement will be deemed to establish a joint venture, partnership, agency, or employment relationship between the Parties. Neither Party has the right or authority to assume or create any obligation or responsibility on behalf of the other.

6.3 Neither this Agreement nor any licenses or other rights granted under this Agreement may be transferred, assigned, or otherwise hypothecated by Cal-Am, directly or indirectly, voluntarily or involuntarily, in whole or in part, by operation of law or otherwise, without the express prior written consent of Geoscience, which shall not be unreasonably withheld, and any attempted transfer or assignment without such consent shall be void.

6.4 This Agreement shall be governed by and construed under the laws of the State of California and the United States without regard to conflicts of laws provisions thereof. Both parties consent to the jurisdiction and venue of the California state and U.S. federal courts in Los Angeles County for all actions related to the subject matter hereof.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in duplicate originals by their authorized representatives.

GEOSCIENCE SUPPORT SERVICES, INC.

By: _____
Name: Dennis E. Williams
Title: President

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CALIFORNIA-AMERICAN WATER COMPANY

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DENNIS E. WILLIAMS

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