

**Exhibit H**



**Cost of Capital**

**Direct Testimony of Tim Treloar  
Vice President of Operations  
California Water Service Company**

**March 2017**

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1 **I. INTRODUCTION**

2 **Q. What is the purpose of this testimony?**

3 A. The purpose of this testimony is to outline the water quality risks that Cal  
4 Water faces apart from the financial risks.

5

6 **Q. What are the water quality risks unique to Cal Water?**

7 A. The water quality risks unique to Cal Water are primarily related to Cal  
8 Water's reliance on groundwater supply.

9

10 **II. QUALIFICATIONS**

11 **Q. What are your qualifications for this testimony?**

12 A. I've held numerous positions with California Water Service Company  
13 beginning in January 1994. I spent nearly 20 years in Bakersfield as General  
14 Superintendent, Assistant District Manager, and became District Manager in  
15 2002. I became Director of Water Quality in 2013, then Vice President of  
16 Operations in August 2013, and as of January 1, 2017 am Vice President Water  
17 Quality and Chief Utilities Operations Officer. I have spent nearly 30 years  
18 working in a regulated utility setting.

19

1 **III. RISKS ASSOCIATED WITH GROUNDWATER EXTRACTION**

2 **Q. Does Cal Water rely upon groundwater to serve its customers?**

3 A. Yes. Cal Water obtains approximately half of its water supply from  
4 groundwater wells. Statewide, Cal Water owns more than 650 wells. Cal Water  
5 employs approximately 150 active treatment processes. Some wells may require  
6 multiple treatment processes for contaminants.

7  
8 **Q. Does Cal Water’s use of groundwater provide a rate saving to Cal Water  
9 customers?**

10 A. Using local groundwater supplies has been, and in most case continues to  
11 be, a benefit to the ratepayers because Cal Water is typically able to keep retail  
12 water rates lower by utilizing groundwater supply sources. Cal Water’s 2015  
13 total groundwater pumping approximated 136,000 acre feet. Cost benefits range  
14 by district. Taking an average cost savings of \$250 per acre foot, water costs  
15 savings to Cal Water customers therefore amounts to approximately \$34 million.  
16 In 2015 Cal Water purchased approximately half of its water supply requirements  
17 for \$164.85 million.<sup>1</sup>

18

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<sup>1</sup> Admittedly, there are other costs associated with groundwater pumping, such as additional testing, which are not captured in these accounts.

1 **Q. Are risks associated with groundwater extraction proportionately shared**  
2 **between ratepayers and the utility?**

3 A. No. Ratepayers significantly benefit from lower costs due to Cal Water's  
4 use of groundwater, but Cal Water faces additional risks associated with  
5 uncertainty and operation of groundwater facilities. Not all costs associated with  
6 these risks are timely or fully recovered by the Commission's modified costs  
7 balancing accounts ("MCBA"). Unless Cal Water's rate of return is adjusted to  
8 reflect these additional risks, Cal Water will bear those risks alone.

9

10 **Q. What are the specific risks associated with groundwater extraction?**

11 A. A reliance on groundwater well supply adds to Cal Water's risk because  
12 there are issues with groundwater that are not generally found in imported  
13 surface water. These issues include: potential contamination problems, transient  
14 levels of contamination, a lack of responsible parties for many contaminants,  
15 complicated and expensive treatment, potentially declining water levels, well  
16 rehabilitation, a large number of decentralized supply sources to manage,  
17 changing laws and regulations and lastly Cal Water's rights to extract  
18 groundwater to meet customer demand.

19

1 **Q. Can you give examples of Cal Water costs that have not been fully**  
2 **recognized in rates?**

3 A. Yes. Cal Water has been involved in litigation in several districts to protect  
4 its rights to continue pumping groundwater to the benefit of ratepayers. Since  
5 the timing of litigation cannot be predicted, these costs are not always  
6 anticipated in GRCs. Even though the MCBA captures the additional costs  
7 associated with switching between groundwater and purchased imported surface  
8 water, Cal Water's legal efforts to continue its use of lower-cost groundwater are  
9 not always captured in GRCs.

10

11 **Q. Focusing on water quality, what is Cal Water's most commonly occurring**  
12 **groundwater contaminant, and what health risks are associated with this**  
13 **contaminant?**

14 A. One of the more widespread contaminants found in groundwater sources  
15 in California is nitrate. The current maximum contaminant level ("MCL") for  
16 nitrate has been set at 45 parts per million ("ppm").<sup>2</sup> Nitrate over this level is  
17 considered an acute health risk because it can cause methemoglobinemia or blue  
18 baby syndrome. Cal Water has an internal action level of 40 ppm, where it will  
19 normally take a well off-line if possible.

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<sup>2</sup> Levels established in the US Environmental Protection Agency safe drinking water act of 1974 and became effective in 1992.

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**Q. What does Cal Water do to remediate nitrate contamination?**

A. Cal Water has several methods to mitigate nitrate contamination. One option is to blend water containing higher levels of nitrate with water containing lower nitrate levels. This requires dedicated pipelines and specialized facilities, such as on-line nitrate monitoring equipment, reliable flow control and measuring devices, and mixing manifolds. Blending is not always feasible, especially if a low-nitrate source is not readily available for blending purposes. In addition, blending is not always a desirable treatment option because of the dependence on multiple sources of lower nitrate water and other operational constraints. In addition, blending still delivers nitrate in the final product, albeit at lower concentrations.

Another approach that Cal Water utilizes is ion-exchange systems installed at the Company’s wells. These systems use a resin technology that allows for nitrogen ions to be extracted from the source water and collected on resin beds, resulting in lower nitrate levels in the finished water. While this technology works well, it also generates large quantities of wastewater, and the energy and equipment costs are high, as well as the high cost of disposal of waste brine.

1 **Q. Who is responsible for nitrate contamination and can Cal Water pursue**  
2 **legal action to recover the expensive treatment costs for nitrate mitigation?**

3 A. Nitrate contamination of groundwater occurs from a variety of sources.  
4 Usually it is the result of fertilizer application from past agricultural uses. Nitrate  
5 contamination can also be caused by improper disposal of animal wastes, such as  
6 often found at dairies. Because there is often a long time between when the  
7 surface activity (fertilizer application or disposal of animal wastes) occurs and  
8 when nitrate contamination is detected in the groundwater, it can be difficult  
9 and expensive to pursue potentially responsible parties (“PRPs”). Unlike other  
10 organic chemicals, there may not be a chemical signature of nitrate  
11 contamination that can be linked to specific manufacturers. Pursuit of  
12 manufacturers or PRPs is complicated by balancing the best available science and  
13 legal considerations.

14  
15 **Q. Is groundwater contamination predictable and something you can plan**  
16 **for?**

17 A. No. In rural agricultural-based communities, there is a greater likelihood  
18 of contamination from nitrate and other agricultural chemicals. However, it is  
19 very difficult to determine what will happen to the concentration levels in the  
20 groundwater at specific locations. In some cases, the levels remain elevated and



1 constant for a long time, while in other cases, the contaminant levels spike  
2 without a predictable pattern. Cal Water trends the contaminants it has  
3 detected at each well, and certain levels require more frequent monitoring.  
4 Unfortunately, contamination does not always follow its trend lines. In addition,  
5 health effects of contaminants are constantly reevaluated, and new maximum  
6 contaminate levels are set. With a three-year general rate case cycle,  
7 contamination costs cannot always be estimated. This variability in levels of  
8 constituents makes utilizing groundwater sources more difficult due to  
9 uncertainty over long-term use.

10

11 **Q. Is Chromium 6 a concern to Cal Water's groundwater supplies?**

12 A. Yes. Chromium 6 is of significant concern to Cal Water. Chromium 6 is a  
13 good example of unanticipated costs. Even though Chromium 6 has been a  
14 known contaminate, recent legislation and setting of a maximum contaminate  
15 level caused Cal Water to design and install treatment in Salinas, Willows and  
16 Dixon on a very short time schedule.

17 Chromium 6 is similar to nitrate contamination in that identifying and  
18 pursuing PRPs for the recovery of treatment costs can be difficult, expensive, and  
19 time-consuming. In most cases, Chromium is a naturally occurring metal that is  
20 commonly found in the earth's crust. Most detection of low levels is due to this

1 fact. Chromium 6 may also result from industrial pollution, however. The  
2 likelihood of success of undertaking litigation for the low levels present in Cal  
3 Water wells is therefore questionable. Identifying PRPs is complicated again by  
4 the best available science and legal considerations.

5

6 **Q. Is Cal Water at risk of being named a responsible party in groundwater**  
7 **contamination litigation?**

8 A. Yes. In its Chico District, Cal Water was named partially responsible for a  
9 contaminated groundwater plume. The purported rationale for this was that, by  
10 using its groundwater wells, Cal Water potentially altered the plume of  
11 contamination through subsurface flows in the aquifer. Accordingly, Cal Water's  
12 general reliance on groundwater as a lower-cost source of supply also exposes it  
13 to greater risk, as compared to using surface water supplies, in that it may be  
14 held responsible for contamination.

15

16 **Q. What other variables are there to consider when utilizing groundwater**  
17 **sources?**

18 A. When utilizing groundwater sources, there are often many variables that  
19 are out of the control of the water company. Recently, due to the extended  
20 drought, attention has been called to declining groundwater levels in many cities

1 Cal Water serves, particularly in the Central Valley and the San Joaquin Valley.  
2 Declining groundwater levels require more electricity to pump water from  
3 deeper levels. While the increased electrical costs are recorded in the Company's  
4 MCBA, there are also factors that are not recovered, such as maintenance  
5 expenses and other costs associated with lowering pumps and columns. In  
6 addition, lowered groundwater levels may cause a well to pump from  
7 groundwater of different quality or may cause water-surface contaminants to be  
8 drawn toward the well. There are many groundwater pumpers in the basins we  
9 draw from, and declines in water levels are not usually attributable only to urban  
10 use.

11 Wells also become less efficient over time. Wells require rehabilitation to  
12 maintain their pumping capacity, which may include expensive electrical service  
13 and panel board upgrade to deliver increased horsepower demand for water lift.  
14 Unfortunately, a well's behavior is not predictable. Well rehabilitation is more of  
15 an art than a science. Again, these costs cannot be predicted in GRCs.

16

17 **Q. Doesn't Cal Water include treatment facilities in rate base after approval**  
18 **in a GRC?**

19 A. Cal Water proposes water treatment equipment in its GRCs. However, in  
20 many cases, since the appropriate treatment method for a contaminated source

1 is unclear, or the costs associated with a treatment project are uncertain at the  
2 time of the GRC, these projects are often given advice letter treatment subject to  
3 a cap. Unfortunately, Cal Water outlays the capital costs for these projects first,  
4 and then files for inclusion into rates after the projects are in service. Since the  
5 water treatment projects are dependent on a number of items, including DDW  
6 permitting, there is often a significant lag between when the projects are  
7 constructed, and when Cal Water can include them in rates. For the projects  
8 whose ultimate costs exceed the advice letter “cap”, there is a much longer delay  
9 for full recovery as these projects need to be examined in the course of the next  
10 GRC. Therefore, this significant lag in recovering the costs for water treatment  
11 projects leads to a long-term under-recovery of equity returns. This is among the  
12 factors discussed in Mr. Townsley’s testimony.

13

14 **Q. Should Cal Water be rewarded in this proceeding for pursuing litigation**  
15 **against polluters?**

16 A. In many Commission proceedings, it has determined that the proceeds of  
17 contamination litigation that are used to remediate or replace contaminated  
18 plant, less transactional expenses, are to be considered Contribution in Aid of  
19 Construction (“CIAC”). When proceeds are treated as CIAC, there is only a

1 benefit to the ratepayer and no corresponding benefit to the Company for the  
2 risks it undertook in pursuing litigation.

3 In the Commission's contamination proceeds proceeding, the Commission  
4 stated, "[w]here a utility can show that it is assuming an above normal risk  
5 related to contamination litigation, the Commission shall, where appropriate,  
6 take that risk into account in setting the company's rate of return in the cost of  
7 capital proceeding for class A water utilities and in the general rate case for the  
8 Class B, C and D water utilities."<sup>3</sup>

9 Cal Water was very aggressive in pursuing MtBE polluters and was able to  
10 achieve a settlement with some of the MtBE manufacturers to be used for  
11 replacement facilities for the benefit of the ratepayers. More recently Cal Water  
12 filed a lawsuit and has been aggressively pursuing responsible parties of 1,2,3-  
13 trichloropropane ("1,2,3-TCP") contamination. This demonstrated stance should  
14 be factored into Cal Water's overall return on equity equation. In the case of  
15 MtBE, Cal Water recovered a net of approximately \$34 million from PRPs, of  
16 which \$28.5 million was used to reduce rate base. In setting Cal Water's equity  
17 return, the Commission should consider the increased likelihood of water  
18 contamination due to Cal Water's large number of distributed groundwater wells.

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<sup>3</sup> Rulemaking 09-03-014 at 65, Ordering Paragraph 9.

1 It should also consider Cal Water's substantial efforts to pursue potentially  
2 responsible parties.

3

4 **Q. Does this conclude your testimony?**

5 A. Yes