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THE STATE OF CALIFORNIA

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

ADMINISTRATIVE HEARINGS OFFICE

IN THE MATTER OF: CALIFORNIA DEPARTMENT OF WATER RESOURCES' PETITIONS FOR CHANGE OF WATER RIGHTS PERMITS 16478, 16479, 16481, AND 16482	**TESTIMONY OF CHARLES CENTER** July 11, 2025 CL-002 Hearing Officer: Nicole L. Kuenzi

Introduction

1. My name is Charles Center. I am providing this testimony as a concerned California resident and business owner in El Dorado County, and on behalf of a coalition of recreational and upper watershed interests[1] who support this testimony to oppose the Delta Conveyance Tunnel (Delta Tunnel) and the impacts to upstream beneficial uses.
2. Camp Lotus is a small business established in 1969 in the Coloma/Lotus Valley. I took over operations in 2017. The Coloma/Lotus Valley lies in the heart of El Dorado County and is home to numerous small businesses and a thriving community that rely on the flows of the South Fork American running through the heart of the Valley. The South Fork American is one of the most floated rivers in the United States and is home to amazing recreation as well as thriving ecological diversity along the riparian corridor. My Statement of Qualifications is included as CL-001.

Purpose of Testimony

3. The purpose of my testimony is to present the risks of the Delta Tunnel to the upper watersheds of the Sacramento-San Joaquin Delta. The Delta Tunnel will increase the capacity to take water from these watersheds and transport it to other geographical locations to the south of the Delta. The interconnected system of rivers, reservoirs, and canals that the Delta Tunnel would become a part of allows water sales between virtually any water provider in the state. The impacts from changes and increases in exports from these watersheds to other locations will create impacts to beneficial uses that have not been disclosed. This testimony focuses on the risks of harmful impacts to the rivers and streams flowing between smaller high elevation streams, rivers, and reservoirs, to low elevation canals, aqueducts, and dams. This is an important issue because the many counties, communities, and economies of the upper watersheds are dependent upon these high-altitude streams and watersheds' economic, aesthetic, recreational, and ecosystem values.
4. The dams, diverted flows, streams, and operations of the upper-elevation watersheds and the proposed operations of the Delta Tunnel, along with other aspects of California water management

[1] Camp Lotus, Friends of the River, All-Outdoors California Whitewater Rafting, American Whitewater, California Canoe and Kayak, California Outdoors, Foothill Conservancy, Mother Lode River Center, OARS California Rafting, Restoring the Stanislaus River, Sierra Mac River Trips, South Yuba River Citizens League, and Tuolumne River Trust

have a significant impact on the recreation and economies of the surrounding towns and cities. The construction of the Delta Tunnel project will significantly expand the existing freeway to take more water from these watersheds and likely fuel an increased demand for water south of the Delta Estuary. This presents a substantial new risk to the continued beneficial uses of these watersheds, including the impacts on impounded water and flows in the upper-elevation watersheds, dams, and streams. My focus is not on the storage, flows, operations and downstream impacts of the large, lower-elevation dams which are discussed by other protestants. And my focus is not on the microscopic water operations to explain the physical journey of any individual water molecule through the system. I organize my assessment around three broad questions that encompass basic principles defining California water rights:

1. What risks does the Delta Tunnel create for public trust resources and beneficial uses of the upper watershed?
2. What are the risks from the Delta Tunnel to the economies of rural, upper watershed communities?
3. Have the risks from this transfer of water wealth from these upper watersheds to other areas through the Delta Tunnel project been adequately assessed?

5. Based on my review, both under current conditions and relative to future climate change, the Delta Tunnel presents significant and unacceptable risks to the public trust resources, beneficial uses, and public interest of the upper watershed streams. These risks have not been adequately assessed to date. In the following sections, I provide further explanation for my conclusions.

The upper watersheds provide benefits to all California and beyond

6. The unique geography and climate of California naturally generates, conveys, and stores water in ways few places on earth can match. The mountains of the Sierra Nevada and coast ranges cool the moist pacific air masses and store water as snow, later released through the watersheds' rivers to feed groundwater storage. The great Sacramento and San Joaquin River systems convey a combination of snow melt, rain runoff, and ground water to lower elevations. Historically the great Sacramento-San Joaquin River Delta of interconnected lakes, flood plains and wetlands served as a

groundwater recharge system, building vast groundwater reserves through much of the State. Today, the higher elevation watershed benefits flow as water from mountain crests to cities throughout the state, to agricultural lands, feeding the Bay Delta Estuary and transporting nutrients and fish to the ocean.

Upper watersheds support both upstream rural and downstream urban economies

7. The importance and value of the upper elevation watersheds cannot be overstated. For example, the valuation analysis of a single watershed, the ecosystem goods and services of the upper American River, estimates the capital asset worth to be between $731 billion and $1.6 trillion, and provides more than $14.8 billion annually in goods and services to people in the watershed, in Sacramento, throughout California and beyond.[2] Forests comprise over one million acres of the watershed and thus provide by far the largest annual flow of benefits. However, surface water presents the highest value per acre, largely due to the value of recreation among other benefits.[3] These ecosystem goods and services are the foundation of both upstream rural and downstream urban economies.
8. Tourism, agritourism, and outdoor recreation depend on healthy rivers and water, and are critical for the economies of the rural upper watershed counties of the Sacramento-San Joaquin watershed. The local farms and wineries, and the expansive recreational lands and waters in these counties attract tens of millions of visitors each year. This visitor spending brings crucial jobs and dollars to the local economies. As one example of the magnitude of this economic contribution, the El Dorado Water Agency conducted a study of the value of outdoor recreation in the upper American watershed, finding direct visitor / consumer spending of $382 million supported wages for 2500 jobs in 2022.[4] Another report, The Economic Impact of Travel in California , from 2024, prepared by Dean Runyan Associates, reports 17% of total taxable sales in El Dorado County are travel generated.[5] Several other upper watershed counties had significant outdoor recreation and

[2] CL-004 Batker, D., Soares, J., Sun, Y-H. and Batker-Pritzker, A. 2024. Working Landscapes: The Natural Capital of the Upper American River Watershed. Batker Consulting, Tacoma, WA. (pES1)
[3] Ibid (p38 Table 5)
[4] CL-005 Outdoor Recreation in the Upper American River Watershed: An Analysis of Economic Impact and Value, February 20, 2024, prepared by Radbridge Incorporated for the El Dorado Water Agency (pES-2)
[5] CL-006 The Economic Impact of Travel in California / 2024p, Dean Runyan Associates, (p25-27)

tourism economies as reported by the travel generated percent of total taxable sales in 2024: Amador; 14.5%, Calaveras; 22.9%, Mariposa; 64%, Nevada; 13.6%, Tuolumne; 13.9%.[6]

Water brings value wherever it flows

9. While California is fortunate to enjoy abundant water resources, various factors can combine to create demand which is greater than available supply, especially in times of drought. Growing contamination, new water-intensive industries, agriculture, shifts and growth in population, and climate change all drive the demand for fresh water in California. When demand is greater than supply, prices increase for marginal supplies, creating strong incentives for suppliers to sell water.
10. Water sales are used by many water agencies such as Placer County Water Agency,[7,8] El Dorado Irrigation District,[9] Yuba County Water Agency,[10] and Modesto Irrigation District,[11,12] to augment revenues. Yet sales often are exempted from environmental review-including impacts to local farming operations, groundwater recharge, fisheries, and recreational beneficial uses.

The Delta Tunnel will allow and incentivize increased North to South water transfers

11. The Delta Conveyance Project Final Environmental Impact Report (DCP FEIR) Table 6-0 shows a 22% increase in State Water Project deliveries due to the proposed project.[13] However, I conclude that the increase is likely to be greater than projected in the FEIR.

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[6] Ibid
[7] CL-007 Placer County Water Agency 2020 Reservoir Release Water Transfer, https://ceqanet.lci.ca.gov/2020100062/2
[8] CL-008 2021 Water Purchase Agreement with Placer County Water Agency, https://ceqanet.lci.ca.gov/2021060457#:~:text=On%20May%2010%2C%202021%2C%20Governor,Fresno%2C%20Kings
[9] CL-009 EID Water sale gets preliminary OK, https://www.mtdemocrat.com/news/water-sale-gets-preliminary-ok/article_efdd0b0c-c692-5037-afb2-1d05be7ce7de.html
[10] CL-010 Yuba Water extends agreement to transfer water, https://www.yubawater.org/CivicAlerts.aspx?AID=371#:~:text=It%20also%20directly%20benefits%20Yuba,the%20people%20of%20Yuba%20County.
[11] CL-011 Modesto CA irrigation board to sell excess water to farmers, Modesto Bee, https://www.modbee.com/news/business/agriculture/article278045333.html
[12] CL-012 Modesto Irrigation District Sales Proposal Roils the Waters, Valley Citizen, July 25, 2023 https://thevalleycitizen.com/modesto-irrigation-district-sales-proposal-roils-the-waters/
[13] AHO-1050 Delta Conveyance Project FEIR, Chapter 6, page 6-3, Table 6-0 Available at https://cadwr.app.box.com/s/00zai3z0u56rfowjsf0ckxioeje8kcl5

12. DCP FEIR Appendix 3H is a water transfer analysis.[14] It assumes transfers will not increase because they are 1) supply-limited, 2) demand-limited, 3) not capacity-limited now, and 4) regulation-limited. I address each of these assumptions as follows:

1) Supply Limitations

Sellers have available water. DCP FEIR Table 3H-2 shows potential for 647 thousand-acre-feet (TAF), plus 117 TAF of that the maximum historical amount from the FRSA (2008-2020) and 180 TAF from the Yuba River Accord (2008-2020), for a total of 927 TAF. This is more than double the maximum cross-Delta transfer of 415 TAF that occurred from 1995-2020 (shown in Table 3H-5, with 332 TAF the maximum exported after carriage water was subtracted). The water supply for senior water right holders is currently limited by demand and hydrology and storage and conveyance capacity, not how much water they claim the right to use. These water districts possess excess (non-hydropower) water rights that cannot currently be utilized.[15] Sources of transferred water can include not only crop fallowing, reservoir reoperation, and groundwater substitution, but also unused water rights, and that supply is vast.

2) Demand Limitations

DCP FEIR Appendix 3H shows that water transfers from the Sacramento Valley to south of Delta users increase in Below Normal, Dry, and Critical years, and decrease in Above Normal years. Since 1995 they have not occurred in Wet years, when allocations are minimally curtailed. However this will undoubtedly change. I believe that the increase in surface water demand as groundwater pumping will be curtailed and aquifer recharge increased by 2040 under the Sustainable Groundwater Management Act (SGMA) renders assumption #2 obsolete. DCP FEIR Appendix 3H states that the U.S. Bureau of Reclamation's Long Term Transfers Record Of Decision (ROD) has a maximum of 250 TAF per year of water transfers based on buyer demand, and Appendix 3H claims there is little or no demand for transfers in Wet and Above Normal years. However Table 3H-5 shows 70 TAF in 2003, an Above Normal year. It is clear that as SGMA's 2040 deadline

[14] AHO-1016 Delta Conveyance Project FEIR, Appendix 3H. Available at https://cadwr.app.box.com/s/tr23y725hjanigvuux1k8hr9krp3ykwv

[15] CL-013 Grantham and Viers 2014. 100 years of California's water rights system: Patterns, trends, and uncertainty. Environmental Research Letters 9(084012)

approaches, demand for water transfers in all years will increase.

3) Capacity Limitations

The DCP FEIR Appendix 3H concludes "…even though the project may add additional export capacity, it is unlikely to increase the amount of water transfers because the current capacity is not fully utilized." But increased supplies from proposed new and expanded reservoirs plus increased demand from over drafted groundwater basins render assumption #3 obsolete. Water transfers are likely to increase dramatically under the DCP. A 6,000 cubic-feet-per-second (cfs) conveyance can carry 4,384 TAF per year. The DCP FEIR Table 6-0 shows that SWP deliveries would increase by 543 TAF per year on average. This leaves 3,841 TAF of new capacity available for water transfers, in addition to the 1,697 TAF of capacity already available in Critical years according to DCP FEIR Table 3H-7. Based on the information in DCP FEIR Appendix 3H, I conclude that the DCP will facilitate an increase of up to 5 MAF of water transfers in many years.

4) Regulatory Limitations

Once a new conveyance is built, it is soon followed by political pressure to keep it full (we frequently see complaints about Endangered Species Act regulations limiting Delta exports and about water "wasting" to the ocean, with the intention of increasing Delta exports). DCP FEIR Appendix 3H projects that the 2019 Biological Opinion and 2020 Incidental Take Permit (ITP) would allow during July-November a maximum of 600 TAF of transfers in Critical and multiple Dry years and 360 TAF in other years. However, the current federal administration's efforts to maximize water deliveries and minimize environmental regulations renders assumption #4 at a minimum threatened and most likely obsolete. In addition, the 2024 ITP, which includes these conditions, expires in 2034.[16]

Conclusion:

The entire analysis in DCP FEIR Appendix 3H assumes transfers are 1) supply-limited, 2) demand-limited, 3) not capacity-limited, and 4) regulation-limited. The presence of unused water rights renders assumption #1 obsolete. The increase in surface demand as groundwater pumping is

[16] AHO-061 Incidental Take Permit No. 2081-2023-054-00. Long Term Operation of the State Water Project in the Sacramento-San Joaquin Delta

curtailed under SGMA renders assumption #2 obsolete. The DCP's vast increase in capacity combined with increasing demand renders #3 obsolete. The current federal efforts to maximize water deliveries and minimize environmental regulations renders #4 obsolete. I conclude that DCP FEIR Appendix 3H is no longer relevant, and its conclusion that water transfers won't increase under the vastly expanded capacity of DCP is wrong.

The demand and plans for more dams and diversions are large and growing

13. There are many projects that are currently proposed, in planning, or in process throughout the Central Valley watershed which are intended to increase diversions and water sales. The following active projects serve as important examples that if constructed will increase water extractions and diversions from already oversubscribed watersheds: Del Puerto dam,[17] Pacheco Dam,[18] raising Shasta dam,[19] constructing the Sites dam,[20] and raising San Luis dam.[21] A project to raise Pine Flat dam on the Kings River is also under study.[22] The following projects, while currently dormant, have potential to be revived if Delta Tunnel conveyance becomes available; raising Los Vaqueros,[23] revisiting the Auburn dam and associated higher elevation Sugar Pine Dam,[24] and constructing Temperance Flat Dam.[25] Recently the proponents of raising the Los Vaqueros Dam found that the costs outweighed the benefits. However, with increase demand to generate billions to pay for the Delta Tunnel, this calculus could change in the future.

14. Additionally, there are several proposed projects that if approved could increase water sales. The El Dorado Irrigation District plans additional water sales and diversions under a program dubbed the

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[17] CL-014 Del Puerto Canyon Reservoir Project Know the Facts, https://delpuertocanyonreservoir.com
[18] CL-015 Pacheco Reservoir Expansion Project, SWRCB, https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pacheco.html
[19] CL-016 Shasta Enlargement, USBR, https://www.usbr.gov/mp/ncao/shasta-enlargement.html
[20] CL-017 Sites Project, CWC, https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Sites-Project
[21] CL-018 BF Sisk Dam USBR, https://www.usbr.gov/mp/sccao/sisk/raise.html
[22] CL-019 Raising-Pine-Flat-Dam, Kings River Conservation District, https://krcd.org/wp-content/uploads/2022/12/Raising-Pine-Flat-Dam-1-pager-final.pdf
[23] CL-020 Los Vaqueros Expansion Investigation, https://www.usbr.gov/mp/vaqueros/
[24] CL-021 Auburn-Folsom South Unit Project, USBR, https://web.archive.org/web/20150202214338/http://www.usbr.gov/projects/Project.jsp?proj_Name=Auburn-Folsom+South+Unit+Project
[25] CL-022 Temperance Flat Reservoir Project, CWC, https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Temperance-Flat-Reservoir-Project

"Water Reliability Program".[26] Long-term water sales under the Yuba Accord.[27] [28] is another example. El Dorado Irrigation District's plan to divert even more water out of the South Fork American River at an off-stream dam known as the Alder Creek Reservoir is yet another example of a proposed high elevation dam.[29] If constructed, this off stream dam would increase the potential volume of water taken from downstream recreational uses and sold. Irrigators claim in their recent Water Blueprint for the San Joaquin Valley a goal to increase water extraction and diversions by 9 million acre feet by 2040, largely through increased upper watershed extractions and diversions from the Delta Estuary.[30]

15. With the exception of the Pacheco project, the active projects have been included in the appendix 3C of the Final EIR listing of projects analyzed for cumulative effects.[31] However, in general the risks of increasing storage capacity and increasing diversions and transfers to South of Delta customers, to the rivers, streams, and communities of the upper watersheds has not been adequately assessed.

Increased storage, sales, and transfers will further disrupt the natural flow regime of the upper-elevation, inter-reservoir streams

16. Rivers need a natural flow regime to be healthy. They need variability, with high flows from rain and snowmelt maintaining geomorphic and riparian health and low flows providing fish habitat. We need to avoid disrupting the natural cycles of our rivers. But storing water during high flows and conveying that stored water during low flows flatlines our rivers, eliminating the variability and magnitude of flows that maintains riverine ecosystems. The operation of the great many high-altitude dams to accommodate increased storage and transfers will further alter the rivers' natural

[26] CL-023 El Dorado Water Reliability Project EDWA, https://www.edwateragency.org/Programs-Projects/Water-Security/El-Dorado-Water-Reliability-Project
[27] CL-024 Yuba Long Term Transfer Notice, SWRCB https://www.waterboards.ca.gov/waterrights/water_issues/programs/petitions/docs/2024/a5632-lttransfer-notice.pdf
[28] CL-025 https://www.yubawater.org/DocumentCenter/View/7262/Petition-for-Change-Involving-Water-Transfers-and-Attachments-PDF
[29] CL-026 EDWA Alder Creek Reservior Overview, https://www.edwateragency.org/files/assets/wateragency/v/1/documents/edwa-alder-creek-reservoir-overview.pdf
[30] CL-027 Water Blueprint for the San Joaquin Valley, Press Release 6-23-25, https://waterblueprintca.com/news/water-blueprint-for-the-san-joaquin-valley-takes-bold-steps-to-address-californias-water-crisis/
[31] AHO-1008 DCP FEIR Appendix 3C Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions

cycles. The Delta Tunnel would make this worse. The Delta Tunnel would increase the capacity to move water across the Delta, which would increase the demand for water from the upper watersheds. The increased ability to sell water south of the Delta would incentivize more storage, diversion, and conveyance for anyone who controls a storage reservoir, further impairing the natural seasonal rise and fall of our rivers and streams, and the ecology that is now dependent upon the altered hydrology.

17. Climate changes demand that water be conserved in these upper watershed and groundwater recharged in Sierra meadows and wetlands to ensure sufficient cold water supplies to serve these watershed beneficial uses.

Concluding Comments: Degradation of the upper watersheds has profound environmental, aesthetic, and economic risks

18. The cumulative effects of the Delta Tunnel on upper watershed ecosystems and communities have not been adequately assessed. The Delta Tunnel risks to the public trust resources and beneficial uses of the upper watersheds are serious. The Tunnel risks to these areas of origin and public interests of the upper watershed economies must be avoided and mitigated to ensure water quality, drinking water supplies, fish and wildlife and recreational economies are not harmed from the cumulative impacts of further water extractions and diversions.

DATED: July 11, 2025

Charles Center