On October 27, 2020, the San Diego County Water Authority held a Regional Conveyance System Study Virtual Public Economic Session from 10:00 am to noon. This virtual meeting included Water Authority economic consultants Rodney T. Smith, Ph.D., president of *Stratecon Inc*. and Robert Campbell, principal of *Water Resource Consultants Inc.,* discussing Economic Analysis and Risk Assessment of the Regional Conveyance System within the context of the Water Authority conducting further study of the alternatives for conveying the Water Authority's independent Colorado River water supplies. Kevin Davis, vice president, Black and Veatch Corporation, was also available to address questions about the Water Authority's Phase A study cost estimates. The session was moderated by Cindy Gompper-Graves, retired president and chief executive officer of the South County Economic Development Council.

Over 120 people participated in the meeting, which included more than an hour of the session's participants answering questions submitted by email. While time prevented addressing all submitted questions, all submitted questions are included in the two Q&A tables presented below. The first table includes questions addressed to Dr. Smith and Mr. Campbell. The second table includes questions addressed to Mr. Davis.

The questions use the exact language submitted to the Water Authority. The Water Authority's consultants have prepared written responses based on the answers provided at the Study Session, with supplemental responses for completeness, further context and additional information and perspective.

The questions in Table 1 have been placed in the following categories:

- Contract extension with IID
- Economic Analysis
- MWD Exchange
- Member Agency study
- MWD and Water Authority Rates
- Risk Assessment
- Partnerships
- MWD Relationship
- Study Session Administration

The ordering of the categories (other than the last) reflects when the first question in a category was asked at the Study Session. Questions about the Study Session's administration were placed in the final category.

Table 1: Questions on Economic Analysis and Risk Assessment

QUESTION	ANSWER
Contract extension with IID	
The economics of regional conveyance assume approval and cooperation with the IID Board. How certain is the Water Authority of this happening?	The Regional Conveyance System (RCS) requires an extension of the Water Authority's agreement with the Imperial Irrigation District (IID). The agreement with IID was signed in 2003 and has been mutually beneficial to both agencies. The Imperial Valley is receiving funds for its conservation program and San Diego County has gained a highly reliable water supply that helps to diversify and ensure the reliability of the region's supply for generations to come. The transfers protect against shortages and stabilize the price of a significant portion of the Water Authority's overall supplies, while reducing demand on the Bay Delta. A successful contract extension could also expand the scope of cooperation between the Water Authority and Imperial Valley to include use of geothermal power, cooperative storage facilities and potential use of project infrastructure to address exposed playa at the Salton Sea.
The economics of regional conveyance assumes the IID Board approves the continuation of the QSA in 2047. What if this does not happen?	If the contract with IID is not extended, the Regional Conveyance System will not be constructed. There would be other consequences as well. The transfer has been a vital component allowing California to achieve its obligation under the California Limitation Act enacted in 1929 to limit its use of Colorado River water to an annual apportionment of 4.4 million acre-feet. Imperial Valley would lose the benefit of funding that has helped in diversifying its economy. San Diego County would lose a significant portion of the water supply that has served as a low cost and reliable base supply. There would also be additional strain on the Bay Delta supply, contrary to state policy.
Could IID decide in 2047 to no longer supply the QSA water to CWA?	Yes. However, the agreement with IID provides either party may request to renew the agreement on identical terms and conditions for a renewal term of 30 years well in advance of 2047.

QUESTION	ANSWER
This whole project consists of Imperial Irrigation District's approval on an extension. What if such extension is not approved?	See above
What discussions have been undertaken between CWA and IID in terms of extending agreement and for how long?	See above
If CWA was to try to renegotiate/extend the Exchange Agreement with MWD, what concurrent efforts would be required with the QSA Transfer Agreement to ensure there is a cost effective product to transport?	The price of transfer water is determined by the existing contract through 2047. The price of transfer water after 2047 would be determined by negotiation of a contractual extension. Placing these negotiations within the economic context of water supply and transportation alternatives would assure that the Water Authority enters into cost-effective agreements and is an essential and necessary component of long-term planning by the Water Authority's Board of Directors.
What are the projected water costs of QSA water from IID after the present agreement expires in 2047	See above
Your risk analysis to compare future costs between renting and owning the conveyance system does not include the possibility of IID saying no to extending the QSA agreement. Can you comment on this?	See above
How can SDCWA determine that the RCS is economically feasible if QSA water prices from IID are unknown after 2047?	By negotiating and ultimately reaching an agreement with IID on a contract extension.

QUESTION	ANSWER
What if IID's pricing on QSA water doubles after 2047? Is RCS feasible at that point?	Contract extension must be mutually agreeable to all parties
Economic Analysis	
Please describe in detail the economic issues CWA plans to investigate in Phase B studies: Phase A studies investigate the feasibility of RCS and project construction costs but say little about RCS economic feasibility as they neither address externalities nor associated probabilistic risks; will Phase B studies address economic issues associated with favored route 3A? For example, route 3A through Borrego appears from Phase A studies to place an annual multi-million dollar burden on Borrego irrigators and create potentially tens of millions of dollars in capital costs and additional annual O&M expenses for use of the 20,000 AFY turnout for Borrego.	Please review Slides 15 through 26 of the Campbell/Smith Presentation which identify the key drivers of MWD rates and charges and the economic analysis and risk assessment proposed for Phase B. The project description does not include a partnership with Borrego Water District. Phase A provides flexibility to accommodate potential partnerships should they emerge from Phase B discussions, should Phase B move forward. The financial terms of any agreement would be determined through negotiations of a mutually acceptable agreement among the parties in a fully transparent public process.
Why does CWA view "engineering viability and cost estimate" as remotely proving "economic viability? Isn't this an incomplete and relatively naive way to define "economic viability?	Phase A focused mainly on engineering viability and a preliminary cost estimate for the RCS. All parties including Water Authority staff and consultants and consultants retained by some Water Authority member agencies agree with the conclusions reached in Phase A, namely, that the project is feasible from an engineering perspective at the relative cost estimated in Phase A. Phase A included a high-level sensitivity analysis that compared the estimated cost of the RCS to negotiating a new Exchange Agreement with MWD under the financial provisions of the existing Exchange Agreement, where financial projections assumed that MWD's rates will continue to increase at its historic rate of increases. Phase B was always planned to provide a more expansive and detailed economic analysis and risk assessment of MWD's future to determine the economic viability of the RCS.

QUESTION	ANSWER
	The bottom line is that the Water Authority has two alternatives available for transportation of its QSA supplies, namely, continued use of MWD facilities or construction of a Regional Conveyance System. This is all part of the long-term planning responsibility the Water Authority Board of Directors has to protect the generational interests of the San Diego region, its ratepayers and taxpayers.
Via email: Why does CWA view "engineering viability and cost estimate" as remotely proving "economic viability? Isn't this an incomplete and relatively naive way to define "economic viability?"	See above.
MWD rent cost versus CWA RCS system dollar projections have been criticized as being inaccurate by other outside consultants. How do we evaluate who is right and who is wrong.	The assessment of any projection should be judged on the accuracy and factual and analytic basis of the projection. The goal of future rate projections in Phase B will be to develop a common understanding of the facts, risk factors and consequences, and alternatives for RCS, which are continued use of MWD's Colorado River Aqueduct under the current agreement, a potential amended agreement and/or hybrid agreement in which the Water Authority acquires a direct ownership interest in the Colorado River Aqueduct. Slide 26 describes the complexity of the integrated decision model that will be employed to accomplish this goal. The long length of the project development period for the RCS provides ample opportunity for testing the accuracy of projections going forward, including continued off ramps for the Water Authority Board based on changed circumstances or conditions.
Your presentations focused on MWD risks, like potentital (sic) declines in MWD demands. Did the study also look on SDCWA risks like declining demands on SDCWA?	Phase B includes an updated analysis based on updated MWD and Water Authority demands (see slide 26 of Campbell/Smith presentation).

QUESTION	ANSWER
How do you put an economic number on the intangible value of having ownership of the conveyance infrastructure to move the IID water.	There are tangible values of having ownership of the RCS. First, the financial savings (if any) from the costs of ownership being less than the costs of an exchange agreement and generational benefits of ownership that do not exist under the Exchange (rental) Agreement. In addition, Phase B intends to analyze partnership potentials that expand the RCS to beyond just a Water Authority project, but one with multi-benefits to the Southwest.
What would a 1% per year difference on the MWD rate projections do to the economic feasibility of this project?	If MWD's rates annually increase 1% faster than anticipated, the economic feasibility of the Regional Conveyance System would be greater than anticipated. If MWD's rates annually decrease 1% more than anticipated, the economic feasibility of the Regional Conveyance System would be less than anticipated. While sensitivities in rate projections must be considered, a rigorous process must be undertaken that considers multiple key drivers such as obligations in MWD's pending State Water Project contract extension, MWD and state project asset replacements, Delta conveyance costs, regional local resource programs, deteriorating Colorado River and State Water Project yields, reduced MWD water demands, and cost allocation disputes. Water Authority staff and consultants will be conducting such analyses across a wide range of purposes including providing feedback to MWD as part of the IRP and rate review processes.
There's no expectation for a significant increase of water from the Colorado River. The MWD has sufficient transmission capacity to move all of SDCWA's IID water. So building the RCS would overbuild water transmission capacity. How can overbuilt transmission infrastructure be economically attractive?	The RCS could be economically attractive if its costs are less than the exchange payments to MWD and new partnership opportunities provide additional economic benefits to the Water Authority. Additional conveyance capacity could also provide resiliency for the waters distribution system in the event of unforeseen emergencies or outages.
Wouldn't it be more cost effective and reliable to look to desal which has proven to be successful and can be staged as demand increases or decreases?	The Water Authority's Colorado River water supplies are part of the Water Authority's base supply. The delivered Calendar Year 2021 cost of the Water Authority's IID transfer water and Canal Lining water is $1,028/AF, which is

QUESTION	ANSWER
	substantially less than the cost of desalination water, competitive with the purchase of MWD untreated full service water currently at $1,076/AF for Calendar Year 2021 and projected in the future to cost less than MWD water.
what is useful economic life of a RCS pipeline?	The useful life of infrastructure depends on maintenance and renewals. MWD's Colorado River Aqueduct was built in the 1930s, remains operational today and is anticipated to remain operational in the future. With proper investments in maintenance and renewals, infrastructure may be considered indefinitely lived. For depreciation purposes, typical water pipelines and aqueducts such as the Water Authority's pipelines has a useful life of 80 years.
I'm not familiar with the financial vehicles to own. What are the options - rate increases to support municipal bonds, selling capacity?	The impact on Water Authority rates and charges depends on the ultimate package of components of the RCS including partnership opportunities and third-party participation and finance plan to be considered in Phase B.
With rates increasing so fast, isn't the Water Authority concerned its sales will decline to a level where it would no longer need the capacity planned for the RCS?	Currently, the Water Authority's transfer and canal lining supplies provide about 50% of the region's current demands and it still purchases about 11% or 59,000 AF of water annually from MWD. This QSA supply is a base load and designed to be complementary to local supply development, with MWD water purchases expected to be further reduced in the future. Phase A results project that post 2047, the Water Authority will need its QSA supplies in addition to the supplies produced under planned member agency projects and additional water from MWD. Phase B analysis will be updated to reflect the Water Authority's 2020 Urban Water Management Plan Update.
If the IID decides not to continue its transfer agreement with SDCWA past 2047, how does this impact the many other QSA agreements?	Analysis of agreements is included in Phase B.
Has CWA compared the return on investment (ROIC) of spending $5 billion on demand and supply management versus building the RCS?	No. The scope of the study to compare conveyances options for the region's highly reliable, cost effective QSA supplies which help to meet 50 percent of the region's demands.

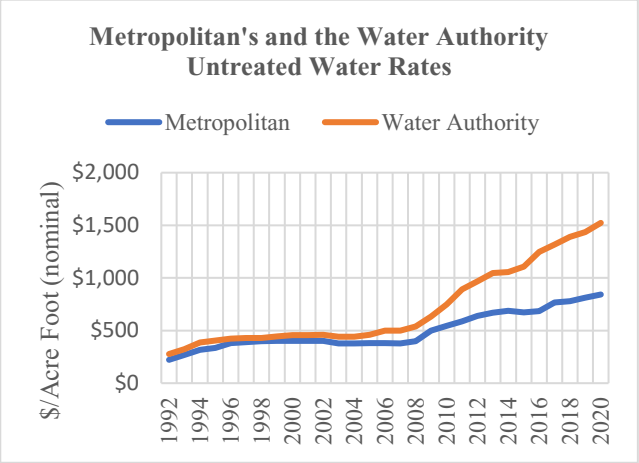
QUESTION	ANSWER
How much would this project impact my water bill?	This will be addressed in Phase B, see slide 26 of Campbell/Smith presentation
What regional water usage was projected for the study (static, decreasing or increasing)? Is there a break point where owning makes significantly more sense than renting?	This will be investigated in Phase B.
I would suggest that the forecasted $28 B to rent versus the $26 B to build a new conveyance system is the more or less the same given the inaccuracy of trying to project such a large scale capital project and the variability unknowns of renting fir over almost a 100 years. So, under a break-even scenerio (sic) what is the advantage and disadvantage under each opiton (sic)?	See above.
How realistic are expectations for potential state and federal funding assistance for a project of this magnitude, and how do you think would that affect the economics of the project generally?	Third party partnerships and access to state and federal funding will only improve the economics of the RCS and drive down the total cost for San Diego ratepayers. As noted earlier, Governor Newsom's 2020 Water Resilience Portfolio encourages multi-benefit projects such as the RCS. The project may also very well qualify for federal infrastructure programs being discussed regardless of which candidate is elected in order to improve the economy and create jobs.
If CWA is 18% of MWD water revenue, why must they pay 25% of new new (sic) project costs (e.g. Delta Conveyance project)	See above
Can we handle more development? At what point does it make sense to control growth?	This is not a decision to be made by the Water Authority's Board of Directors. Under an MOU with SANDAG, the Water Authority must base its projections on data provided by SANDAG.
The CWA has access to an infinite quantity of sea water, wouldn't the best long term plan to be desalination? There's no supply side risk.	Phase B would assess the RCS within the context of the San Diego region's water supply alternatives and water demands.

QUESTION	ANSWER
You have indicated that there is unused capacity in MWD's existing aqueduct. Do you see any inconsistency in building a new conveyance system when one - with excess capacity already exists? What does that say to the public who have aleady (sic) funded the existing system?	The Water Authority Board of Directors has a fiduciary responsibility to its ratepayers to investigate all prudent and viable options for economically conveying its water in order to provide a safe and reliable supply of water to its member agencies serving the San Diego region.
What items do you think are critical for the Water Authority to address in Phase B if that moves forward?	Economic analysis and risk assessment presented in the Campbell/Smith presentation, negotiation of terms sheets with IID and other potential partnership opportunities which would be covered
At the heart of this issue is a projection on MWD's future rates. Has the Water Authority been unreasonable in projecting rate increases for MWD?	No. See Mr. Campbell's and Dr. Smith's August letters included in materials for the August 27th Board meeting and posted on the Water Authority's website here: https://www.sdcwa.org/colorado-river-supplies-management. These projections are based on historical averages. Unfortunately, it is also extremely difficult to forecast MWD rates because it does not include the cost of water supply investments it is planning to make—the single tunnel for the Bay Delta and regional recycled water program, together many billions of dollars—in even its ten-year rate forecast. It also lacks a long range finance plan.
MWD Exchange	
Is there a hybrid between owning and leasing?	Yes. In the case of interstate natural gas pipelines, for example, users of transportation facilities have a sub-divided interest providing them with a defined exclusive right of use of designated capacity. The pipeline owner operates its facilities in accordance with the user's exercise of its sub-divided interest. Both parties benefit as one secures transportation of its supply and the pipeline owner secures a firm source of revenue for what might otherwise be unused capacity. One hybrid option would be for the Water Authority to acquire an ownership interest in an undivided, proportionate share of MWD's

QUESTION	ANSWER
	Colorado River Aqueduct, under an agreement by which MWD would continue to operate the aqueduct for the mutual benefit of both parties. The Water Authority does not have the legal right to use of MWD's Colorado River Aqueduct as a result of its member agency status (even though it has paid billions of dollars to MWD over the years). Similar to a rental agreement allowing a lessee the use of premises, the Water Authority's current right to use the CRA is established under an Exchange Agreement in which the price is set in accordance with the requirements of state wheeling law.
There's a lot of effort to determine the MWD rates, why don't you start now and negotiate a new exchange agreement with MWD -- that way you'll find out SDCWA's costs	The Water Authority's discussions with MWD on wheeling/exchange fees date from the late 1990s. After years of negotiations and litigation, the parties almost reached an agreement last year. One outstanding issue was the Water Authority's request for protection if there were fundamental changes in MWD's rate structure in order to avoid the risk of having to pay twice for the same costs—once as part of a fixed charge and then again under MWD's changed rate structure. This request was rejected by MWD. It is common practice for pricing provisions in long-term agreements based on an entity's rates to address the consequences of a changed rate structure. For example, the Water Authority's agreement with IID addressed how the calculation of the Base Contract Price defined in Article 5 would be adjusted if MWD changed its rate structure. Without this type of provision, there is no way of ensuring that the Water Authority and its ratepayers would obtain the benefit of its bargain.
Why not try to re-negotiate the current agreement with MWD with more favorable terms to SD and use the proposed SD project as negotiating leverage?	A full assessment of alternatives is a critical component not only to prepare for negotiations but also for long term decision-making by the Water Authority Board of Directors. Negotiations of a new exchange agreement with MWD remains an alternative.

QUESTION	ANSWER
It seems like it is advantageous for MWD to regnegotate (sic) the wheeling rate for the QSA water. Since it would cost a lot of money to MWD if they lose the wheeling money from the CWA for the QSA water	See above.
Isn't there a third supply option, to negotiate a new exchange agreement with Met in a manner that detaches QSA conveyance costs from the Met rate structure as offered by Met in its November 2019 settlement offer? The Independent Consultant report documented cost savings to the Water Authority of $15 billion in comparison to the RCS, when using all of the Water Authority's default economic assumptions. Given the magnitude of the cost advantage, shouldn't the Water Authority give priority to negotiating with Met to put that into effect?	See above
According to an email from Jim Madaffer, Water Authority Board Chair sent 8/14/2020: CWA won $44.4 million award from MWD. Would it be less expensive for CWA to plan for ongoing litigation to control MWD costs versus building the RCS?	The Water Authority Board of Directors would strongly prefer to reach mutually beneficial agreements with MWD rather than relying on litigation. This is why, following a decision in the 2010-2012 cases, the Board chose to dismiss certain remaining claims, without prejudice, in an effort to resolve issues as part of the IRP and rate review processes now underway at MWD. While the Board is hopeful of reaching agreements in 2021, it will of course hold all options open in order to protect San Diego ratepayers and taxpayers.
What happens if you do nothing?	Operate under the existing terms of the Exchange Agreement with MWD, which provides for the exchange of conserved water transfer from IID through 2047 and conserved canal lining water through 2112.
Member Agency Study	

QUESTION	ANSWER
Hello. Why is the County Water Authority not discussing the independent Member Agency Study that comes to very different conclusions than the Black and Veatch and the staff are presenting? When will that be presented to the public?	Campbell and Smith provided written comments on the Member Agency Study in letters that were included in the packet for the Water Authority's August 27th Board meeting, also available on the Water Authority's website with the other Phase A reports. The Water Authority invited the authors of the member agency study to participate in the economic session. To do so, they asked that the Water Authority both hire them and indemnify them. The Water Authority did not believe this to be appropriate. The Water Authority welcomes continued participation by the member agencies and consultants but cannot speak for them.
The Water Authority's member agencies retained an independent consultant to review the Water Authority's project report. That report identified a likelihood that if Met variable rate components were to continue to escalate as forecast by the Water Authority, the rates would be unsustainable in the marketplace, resulting in Met member agencies rolling off of Met supplies and developing their own in their place. Consequently, Met would have no choice but to reallocate a portion of its cost recovery to unavoidable fixed charges, at a level sufficient to maintain variable rate components at competitive levels. This would eliminate the economic benefit of an RCS. Can the Water Authority address this obvious and fundamental concern?	See Campbell's and Smith's August reports on this study, which were included in the materials for the Water Authority's August 27th Board Meeting and are posted on the Water Authority's website here: https://www.sdcwa.org/colorado-river-supplies-management
18 of the CWA's 24 member agencies commissioned an independent economic feasibility study. How did this study differ from the Phase A report.?	See above

QUESTION	ANSWER
Hello. Why is the County Water Authority not discussing the independent Member Agency Study that comes to very different conclusions than the Black and Veatch and the staff are presenting? When will that be presented to the public?	See above.
Metropolitan and Water Authority Water Rates	
On slide 14, can you overlay the SDCWA rate increases over the same time period?	 Before 2003, Water Authority's water rates followed Metropolitan's water rates. Since then, the Water Authority's water rates have increased faster than Metropolitan's reflecting increasing quantities of senior Colorado River water from IID and development of the Carlsbad desalination plant.
Slide 14: MWD rate increase also result of adding new water supply and storage option post 1960s. This is consistant with the CWA rates which also exceeded normal inflation by adding new water supply reliability.	We concur that both MWD and the Water Authority have made investments in new water supply and infrastructure projects and this is one of the causes of increased water rates of both agencies. Dollar for dollar, however, we believe the Water Authority has a stronger track record of actually adding reliability assets to its balance sheet for its ratepayers. While the Water Authority is now moving into a period of "maintenance," with water supplies deemed to be sufficient to meet the long term planned base load demand of its member agencies, MWD still has billions of dollars of planned supply investments yet to be added including the $15.9 billion Bay Delta tunnel and the $3.4 billion regional recycled water projects.

QUESTION	ANSWER
it was unclear to me what CWA is paying per AF to MWD for the annual transport of the 280,000 AF of IID water to San Diego	The Exchange Fee is $534 per acre foot for Calendar Year 2021.
Even with a RCS, we would still have to pay our share of the MWD costs for the Delta Conveyance Project, Recycling Regional water, and others?	The Delta tunnel and regional recycled project are water supply programs. If the RCS is constructed, the Water Authority would no longer be paying MWD's delivery (transportation) charges and would be protected against MWD improperly shifting water supply costs to transportation. The Water Authority would continue to pay MWD rates and charges for its water supply purchases, currently primarily volumetric rates. If MWD should seek to increase its fixed charges in the future, the charges must under cost-of-service and Proposition 26 legal requirements, bear a reasonable relationship to the actual services MWD is providing to the Water Authority.
How much would this impact my water bill?	This will be addressed in Phase B, see slide 26 of Campbell/Smith presentation.
If the SDCWA builds its own conveyance system but remains a member of MWD, wouldn't it still be apportioned costs that MWD encumbers in the future? How are those costs allocated to members? On water purchases?	MWD is legally obligated to charge no more than the costs it incurs to provide services to its member agencies. Under MWD's current rate structure, except for MWD's tax levy and standby charge, an agency that does not purchase water from MWD does not pay MWD's volumetric water rates which recover a large percentage of its costs. It is possible that the MWD Board would find it necessary to impose more fixed charges in the future, but the member agencies currently very strongly favor volumetric rates based on the amount of water supply each agency buys from MWD. Rather than relying on more fixed charges to endure its fiscal sustainability, the Water Authority has urged that MWD control its spending and cease making investments if there is no identified demand for the water by individual MWD member agencies.
Risk Assessment	

QUESTION	ANSWER
Are there stranded cost to own your own vs leasing and were those costs factored?	It is standard practice for economic valuations to address the "terminal value" of assets at the end of a valuation horizon. The concept of "stranded costs" relates to the economic consequences from early termination of project use. This economic analysis and risk assessment is included in Phase B.
The Colorado River's annual flow is expected to diminish as much as 30% by 2050 due to climate change, and all of its water is currently spoken for. How did the consultants factor in the risk of there not being enough water in future decades? Is it not assured that SDCWA will need to pursue other sources and related infrastructure to make up for the drop in available water from the Colorado River? Or, alternatively, will we not have to pay for demand management (buy and dry) in areas of the Colorado River basin? Were those potential costs factored in?	The question does not account for the priority system for Colorado River water. Under its agreement with IID, the Water Authority's QSA supplies share IID's Priority 3 water rights, that are senior to MWD's 550,000 acre-foot Priority 4 rights. Provided that the priority system remains intact, any loss of the Water Authority's Colorado River water supplies would occur only after Metropolitan receives no Colorado River water under its Priority 4 water right. Additionally, the transfer agreement provides for a pro rata sharing of reductions in conserved water as a result of shortage conditions on the Colorado River. For example, in the unlikely event that IID were to be cut back by 300,000 acre feet, the amount the Water Authority would be reduced by equals approximately 19,000 acre feet or less than 10% of the Water Authority's 200,000 acre feet in a normal flow year. For these reasons, the Water Authority's QSA supplies are and will remain highly reliable in the future.
I haven't heard any risk assessment for what happens if QSA parties don't agree to extend agreement past 2047	The Phase A study stated that a contract extension with IID is a pre-condition for a successful project. See discussion of Contract Extension with IID
What happens to water allocation between MWD and SDCWA if Colorado River supplies decrease by 50% over next 100 years. Climate change was referenced as a financial risk to alternate B model. Is there a potential the infrastructure is provided, but there is no water left to convey?	See discussion of priority system above.

QUESTION	ANSWER
"Risk factors require rigorous analysis," For CWA to justify spending $1.5B recently on local storage to assure continuance of service in case of supply disruption from MWD due to earthquakes, it must have done a probabilistic risk assessment. 1) What does CWA assess as the probability of supply disruption from MWD transported supplies due to earthquakes?	This was addressed in detailed studies and analyses done for the Water Authority's' Emergency and Carryover Storage Project. The analysis looked at a 2-month total outage and 6-month partial outage at a reduced level of service.
Could you speak to the risk of projecting out water rates and infrastructure decisions 27 to 92 years in the future? Like any forecasting effort, the farther in the future we predict, the more inaccurate it will be. Are we overcompensating for pereceived (sic) costs that may not materialize?	It is common for the uncertainty of projections to grow with the length of the time horizon. However, the lengthy project development period of the Regional Conveyance System will provide ongoing opportunities to confirm or refute projections prepared in 2020. Whether one is overcompensating for costs that may not materialize depends on the economic fundamentals driving MWD's future rates and charges.
Is there no chance at all that the state will impose "rent control" on MWD's wheeling rates in the future?	We are unaware of any such proposed legislation. The prospect that the State of California will impose "rent control" on MWD seems remote; so far, the only relief the Water Authority has been able to obtain has been by litigation. Unlike privately owned public water utilities, MWD is not currently subject to regulation of its rates and services by the independent California Public Utilities Commission.
What are the fatal flaws of owning?	Fatal flaw screening is step one in evaluating alternatives based on their ability to satisfy the specific criteria contained in the project's purpose and need statement. For example, is the project feasible and constructible, does it avoid or mitigate for environmental impacts, is the cost benefit ratio within an acceptable range, and does it reduce risk of other uncertainties. Some of these have already been determined in Phase A such as project feasibility and constructability while others will be a part of Phase B.

QUESTION	ANSWER
	While not a fatal flaw, ownership does carry the responsibility of operating and maintaining the asset. This is typically addressed through preventative maintenance programs, asset management and replacement plans, and a financial plan that maintains adequate reserves and financial flexibility to address unforeseen or unplanned events.
How would Fallbrook Public Utility District and Rainbow Municipal Water District's proposal to be detached from the Authority be considered in further economic studies?	Economic analysis and Risk Assessment of the Water Authority's future would include multiple alternative scenarios including with regard to the proposed detachment.
Annual flow variability from the Colorado River is a significant supply risk. Many of the regional climate models project Colorado River flows will be able to meet annual allocations less than 50% of the time by 2045. Yet, we find no adjustment to potential RCS costs/benefits analysis or recognition of this fact in CWA economic studies. From a risk management perspective, the probabilistic risk of flow allocation variability is a probability close to 1.00. 1) Why isn't this annual allocation supply risk factored into your analysis of RCS route 3A?	See discussion of priority system.
The priority system question: doesn't the Human Right to Water act give people priority over agriculture? Assembly Bill No. 685 CHAPTER 524 http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0651-0700/ab_685_bill_20120925_chaptered.pdf	See above discussion of priority system
To the topic of hedging. Are there financial instruments available to ensure can rates can be stabelized (sic) for rate payers over	Hedging strategy starts with identifying the key cost drivers of a project and then finding financial instruments related to the cost drivers. Phase B provides the first step. Consultation with

QUESTION	ANSWER
a long term whether the CWA owns or leases?	project financiers would access the effectiveness of proposed hedging instruments.
Is there no chance at all that the state will impose "rent control" on MWD's wheeling rates in the future?	See above
Partnerships	
Will Phase B get more real in terms of finanical (sic) partnerships. Would would (sic) that look like? MOU?	Phase B includes dialogue with potential partners. Negotiations of agreements commonly start with term sheets before proceeding to Memorandum of Understandings and could begin as a result of discussion with potential partners.
Considering that the losers in the QSA water supply to SDCWA and other beneficiaries are the residents, environment, and wildlife at the Salton Sea with losses estimated by the Pacific Institute at $29 to $70 billion, and given that the State has failed for 17 years to implement any significant restoration, or even mitigation, at the Salton Sea, does damage to the Salton Sea from loss of inflow figure into the risk analysis and how?	The Water Authority is part of the QSA Joint Powers Authority (JPA) which continues to meet its environmental mitigation obligations to the Salton Sea. These efforts are separate and distinct from the state's restoration obligations. The QSA JPA coordinates closely with the state to ensure their respective efforts are complimentary. Phase B of the RCS study will continue to look at partnership opportunities to enhance these efforts at the Salton Sea.
With which landowners in Borrego Springs have you had conversations?	This is not a part of Campbell and Smith's scope of work for the economic analysis.
You mentioned "partnership opportunities " with Borrego Springs landowners - what would be the nature of those partnerships?	One potential would be to expand the Regional Conveyance System to provide Borrego Water District with an opportunity to secure cost-effective water supplies to replenish its groundwater basin and meet the needs of its community.
The State of California has after 17 years failed to meet its responsibilities under the QSA at the Salton Sea. Does this factor into the Water Authority's analysis?	See above

QUESTION	ANSWER
So, are you saying we can expect "Term Sheet" with potential partners as the result of Phase B?	Discussions with potential partners will commence in Phase B which could potentially lead to the drafting of term sheets for viable partnerships.
The Borrego Springs Community has been told that SDCWA was told we support the RCS. We are just beginning to grapple with the RCS and there is no community consensus on this matter at all. So the idea that future studies on local to Borrego Springs risks and costs would be studied in partnership between SDCWA and a local partner doesn't answer our concerns about this. It doesn't explain what kinds of costs and risks are likely to be involved and implies that some entity in Borrego Springs would have to help pay for such a study. Why can't your report take into account concerns that have been expressed by BWD and local community members without expecting us to pay for such a study, when we cannot decide to spend limited funds to support such a study before we have information about what have already been identified as major risks and costs for our town?	See above
Could you discuss the extent of how a collateral energy component to the project (owning) can be incorporated to manage down rates?	Partnership agreements (power purchase agreements) with energy providers contain financial terms favorable to the energy rates used in Phase A. Reduction of energy rates would lead to reduction of annual RCS operations costs.
How could various partnerships impact the economics of the Regional Conveyance System?	See above.
Will partnerships lower costs? How?	As an example of a partnership opportunity, a public-private partnership with a solar, wind, or geothermal developer could yield costs savings for the operations of the RCS

QUESTION	ANSWER
	through reduced energy costs and economic stimulus to the Imperial Valley through job creation.
MWD Relationship	
Does the Authority still have access to MWD water if we build our own delivery system?	Provided that the Water Authority remains as a member agency of MWD, it would have access to MWD water in accordance with its "preferential rights" which is a formula contained in MWD's Act enabling calculation of the amount of water to which each member agency is legally entitled. The Water Authority has already paid for these water rights and would continue to hold and seek beneficial use and value from its preferential rights even if it chose to transport its Colorado River water via an RCS.
If SDCWA leaves MWD is there a cost impact or a detrimental water flow use impact due to the reduction of water to MWD?	RCS is an alternative way for the Water Authority to receive delivery of its transfer water and canal lining water. The project does not require the Water Authority to leave MWD. In fact, Phase A results show that the Water Authority would still need to purchase water from MWD beyond 2047. The Water Authority's Exchange Agreement with MWD provides that the Water Authority provide MWD with 5 years advance written notice should it determine to transport transfer water through alternative facilities. The cost impact to MWD would be the loss of significant fixed revenue provided by the Water Authority. While we believe this should be an incentive for MWD to negotiate more favorable terms for this water supply delivery, it has thus far been unwilling to do so in a manner that protects the Water Authority. MWD must adjust its planning and spending in order to account for the reduced demand for MWD water as part of MWD's ongoing IRP and rate review processes.
How badly does MWD need to get the revenue represented by fees charged to SDCWA for conveyance?	MWD's General Manager, Jeff Kightlinger, has publicly stated on Twitter on September 1, 2020 that MWD is "agnostic" about the project.
Where does MWD sit on SD County WA owning?	See above
Study Session Administration	

QUESTION	ANSWER
will these slides be available to webinar participants?	Yes. They are posted on the Water Authority's website.
Will these slides be available to webinar participants?	See above
Unlike Zoom mtgs, attendees can't see questions asked by other viewers? Is there a setting I am missing on Microsoft Teams where other attendee questions can be seen? This is helpful for both sharing ideas and reducing redundancy of question topics. It also eliminates the perception that moderators are "controlling" the direction of audience participation.	This Q&A document includes all questions submitted in exactly the form they were submitted (see introduction).
Why can't attendees at least SEE all the questions being asked as they come in?? Is there a setting to do that? Or, are the moderators withholding questions from attendee view? I can see nothing under "Featured Questions." ? Thank You.	See above

Table 2: Questions About the Water Authority's Phase A Work

QUESTION	ANSWER
On Page 43 of the Kleinfelder Report, it is stated that the depth of the RCS tunnel is twice the depth where gasketed segmental lining was used in the Arrowhead tunnels. Also, the report (page 22) stated that the example given in the San Jacinto River tunnel (with a high static pressure) was determined to be a permanent problem and couldn't be fixed. In such a case environmental impacts to springs water sources providing drinking water to the Endangered Peninsular Big Horn Sheep would be significant and unmitigable and could result in a "taking" under the Endangered Species Act. Note that Peninsular Bighorn sheep and several other sensitive species are found in and around Tubb Canyon, which is the proposed eastern portal of the 47-mile water tunnel. 1) On what basis does CWA believe it would not encounter the same "unfixable" problems in the RCS tunnel as currently proposed? 2) How was the greater difficulty of constructing and operating the proposed RCS tunnel accounted for in the estimates for both	1) · There are numerous tunnels around the world that have greater cover, most notably the Gotthard Base Tunnel in Switzerland, which was recently completed, and has a maximum depth of cover of 2.3 km (approximately 7,500 feet). · A gasketed precast concrete segmental tunnel liner is one of many available methods for controlling groundwater infiltration into tunnels, such as those used on the Arrowhead Tunnels Project. For tunnels that may experience high groundwater pressures, other mitigation methods will need to be utilized in conjunction with gasketed precast concrete segmental tunnel linings, such as probe drilling, pre-excavation grouting, formation grouting, and installation of a secondary steel lining inside the initial gasketed precast concrete segmental tunnel lining in order to handle the higher groundwater pressures, especially for portions of the tunnel alignment within fault and fault zone areas. This is further discussed in subsection entitled "Geologic Issues" of Section 2.4.5 and in detail in subsection entitled "Groundwater Concerns" of Section 2.4.7 of the Regional Conveyance System Study – Phase A dated June 11, 2020 prepared by Black & Veatch. · The San Jacinto Tunnel was constructed in the 1930s. The Kleinfelder Report notes that "unstable sections [of the San Jacinto Tunnel] were supported with horseshoe and circular steel sets and gunite for temporary tunnel support [and] some sections of the tunnel were self-supporting and not lined initially." Further, the report indicates that "efforts to reduce the groundwater pressures during construction and shut off the water flow included driving pioneer tunnels parallel to the main tunnel to reduce groundwater pressures and perform pressure grouting by injecting cement into drill holes." It should be noted that there have been significant advancements in tunnel lining and grouting technologies since this tunnel was constructed, mainly to prevent negative impacts of groundwater intrusion. The means and methods utilized almost a century ago in an attempt to control groundwater intrusion are

QUESTION	ANSWER
construction and operating costs? How much was the difference between the estimated cost for RCS, and the cost that would be the case if conditions were the same as prior projects having less difficult parameters of excavation, lining, groundwater pressure and other cost drivers on which the cost estimates were based? 3) In the event that a significant negative impact were found to be the case of the proposed project on the endangered Peninsular Bighorn Sheep and other sensitive species, what cost was assumed in the cost estimate to cover legally-required mitigating actions to offset such impacts?	completely different from those utilized in the tunnel industry of today. 2) Costs associated with the modern methods for handling groundwater were incorporated into the tunneling costs in the RCS Study, Phase A Black & Veatch report. 3) The RCS Study, Phase A cost estimates include legal costs for the project as well as mitigation costs. Should the project move forward, all environmental constraints and risks would be further assessed based on more detailed information.
In the RCS cost estimate, what were each of the specific cost elements estimated, and their specific amounts, that add up to the estimated total? Are these in a backup slide? What fraction of the total estimate was specific as unallocated reserves to cover unknowns and surprises that inevitably arise as a concept matures for any complex project, and as unanticipated difficulties arise during	The RCS Study, Phase A report by Black & Veatch includes several tables in Chapter 6 and Appendix G. This study is located on the Water Authority's website.

QUESTION	ANSWER
implementation and operations?	
Why was storage not included in the first phase of the RCS study? How can storage not be considered essential to transmission of the IID water to SDCWA?	The RCS Study, Phase A report by Black & Veatch describes taking full advantage of the existing Water Authority assets, including the San Vicente Reservoir that provides over 250 KTAF of water storage. Both Alternatives 5A and 5C would terminate at that reservoir. While Alternative 3A terminates near the Twin Oaks Water Treatment Plant, north of the San Vicente Reservoir, the existing aqueduct system has sufficient capacity to transfer water to the San Vicente Reservoir for annual storage needs. In addition, the RCS Study identified a need for local (in San Diego County) storage of 3,500 AF for Alternative 3A, which is included in the alternative and in the project costs. All alternatives in
What are the economic impacts of RCS on the Salton Sea?	The RCS does not take any water away from the Salton Sea, therefore should have no adverse economic impacts to it. Potential partnerships were identified in the RCS Study, Phase A, related to habitat restoration utilizing brine from the RCS treatment plant. The brine concentration would likely range between approximately 6,000 to 11,000 mg/l which is much lower than the background salinity of the Salton Sea which is around 60,000 mg/l.
Via Email: Jeff Plourd - Will the IID infrastructure be fully analyzed to handle the extra volume of water needs at each delivery point? What happens if the system won't handle it?	The only existing infrastructure in the IID service area conveying QSA water is the All American Canal (AAC). The AAC has been analyzed and the two options were identified to resolve a capacity constraint between the siphon at the New River and the west end of the AAC. One option is to construct a parallel conveyance system in that area. The second option is to build a surface water storage facility on the west side of the West Side Main canal near the Fox Glove Check. The second option was used as the baseline approach in the RCS Study, Phase A. Both options were coordinated with IID.
Going back to a previous question. Why has the SDCWA NOT done a seismic risk assessment yet? The current preferred route, Alternative 3A, proposes a 47 mile tunnel across multiple	Please refer to subsection entitled "Faults" of Section 2.4.7 of the Regional Conveyance System Study – Phase A dated June 11, 2020 prepared by Black & Veatch. This subsection describes the special considerations that would need to be made to construct tunnels through fault and fault zone areas, an excerpt of which is as follows: "Specialized designs

QUESTION	ANSWER
faults, including the sizable Elsinore fault. The tunnel would be at unprecedented depths and pressures. The costs of failure would be enormous. Please answer later in writing if need be.	would be developed for fault crossings [to mitigate the potential for damage (breakage) caused by earthquakes]. These designs could include, but are not limited to: 1) over-excavation or enlargement of the tunnel to provide for future movement of the fault where the tunnel crosses the fault; 2) filling of the annular space between the initial tunnel excavation and the exterior of the tunnel final lining with low strength material such as cellular concrete; 3) grouting the faulted ground to increase the strength and ductility of the faulted ground; and/or 4) using flexible joints to increase the longitudinal flexibility of the tunnel final lining." These specialized designs for fault crossings would incorporate information gathered in subsequent geotechnical investigations (as further discussed in Appendix A of the Geotechnical Desktop Study dated April 8, 2020 prepared by Kleinfelder that is included as Appendix C to Regional Conveyance System Study – Phase A dated June 11, 2020 prepared by Black & Veatch) in order to understand the potential for movement at such fault and fault zone areas along the tunnel alignment for the design life of the tunnel in order to minimize such risk of damage.
Given that the proposed RCS is a relatively immature concept, having had only a little more than $1M spent to define the project, what is the typical percentage cost growth for such projects of similar estimated magnitude, between an estimate made using the first $1M of study funding, and the actual completed cost of several $Bs? How does this uncertainty compare with, for example, the cost estimate for California's proposed version of the high-speed rail project to link Northern and Southern California, which, while much larger, also involves considerable tunneling of a similar diameter and	The RCS Study, Phase A includes contingencies. Cost estimates include contingencies that are intended to account for uncertainties. Contingencies, as a percentage of project cost, typically go down as the project is further defined. Recognizing the early nature of the project development, the Water Authority performed some minor economic sensitivities to include projects with costs +/- 40% of the cost estimates in the RCS study. These ranges were in addition to the contingencies added in the RCS study.

QUESTION	ANSWER
acquisition of rights-of-way that do not exist today? Thank you.	
Would the projected pipeline up Tubb Canyon be above or below ground?	All pipelines and tunnels would be below ground except in localized areas where they connect to treatment facilities, pump stations, and other related facilities.
What would the impact be to homeowners and real estate along Tubb Canyon? Would the RCS infrastructure be visible?	Since the actual alignments are not well defined, it is difficult to answer at this stage of conceptual design. However, the only above ground project features in the Tubb Canyon area would be the pump station, if the alignment ultimately traversed through the area. That facility can be designed to blend with the surrounding area.
Could you discuss the extent of how a collateral energy component to the project (owning) can be incorporated to manage down rates?	Partnership agreements with energy providers contain financial terms favorable to the energy rates used in Phase A. Phase A of the RCS Study assumed no energy partnerships in order to provide a conservative operations cost.