

COST

1. What is your current estimate for the pre-construction costs of the plant? ...for construction of the desal plant? Are plans for greenhouse gas mitigation included in these estimates?
2. What is your current plan for financing the plant construction?
3. What is the estimated cost per gallon of desalinated water, and how does that compare with our current cost per gallon of water?
4. Do you plan on conducting a cost per gallon analysis of other water sources besides desalination, for example, water received from Soquel Creek Water District during drought years, water saved through conservation measures, and augmented off-stream storage?
5. How will that cost impact ratepayers at each tier of water use? For example, will customers whose use stays in the lowest two tiers of use experience an increase in water rates?
6. What items on the current Capital Improvement Plan (CIP) will be funded in addition to desal? What items will NOT be funded?
7. What are the comparative costs of the alternatives to desal that the City has previously studied and rejected (such as expanding Loch Lomond, creating additional off-stream storage at another location (such as a decommissioned quarry), etc.)? On what assumptions were those costs based?
8. What are the detailed operating-cost estimates for the plant, including scheduled maintenance, and what is the planned operational life of the plant?
9. What are the plans and costs for restoring the site of the plant after it's decommissioned at end of life? How will that restoration be paid for?

DROUGHT RISK

1. The *Draft Urban Water Management Plan* assumes that water demand will rebound from 2010 levels and rise by 500 million gallons by 2030. The estimate for our future drought risk is based on that assumption. What is the estimate for our drought risk if water demand stayed at 2010 levels and was prevented from rising through adoption of a water-neutral development policy?
2. How much additional water would be available in the second year of a worst case drought if the City set a policy of keeping Loch Lomond at 72% or 80% at the end of a normal year dry season, rather than the current target of 64%?

HABITAT CONSERVATION PLAN

1. Table 2 on appendix page K-5 of the draft *Urban Water Management Plan* indicates that with no HCP constrains and current levels of demand, the probability of drought curtailment over 25% is zero. Table 4 indicates that if Tier 2 flows are required in all years, the probability of curtailment over 25% ranges from 1-4 years in 73 years. [This assumes current demand is 3.5- 4.0 billion gallons/year rather than the actual 2010 demand of 3.2 billion gallons] What would the probability of drought curtailment be if the fisheries agencies approve the City's proposal to revert to Tier 1 flows in critically dry years? What would that probability be with Tier 1 and Tier 2 assuming demand of 3.2 billion gallons/year?

ACCEPTABLE LEVEL OF DROUGHT CURTAILMENT

1. In developing the *Integrated Water Plan* (2003) the Water Commission indicated that customers were willing to tolerate curtailments of 25% in a drought year.¹ However, the City Council set a tolerable level of curtailment at 15% with the rationale that if we were going to the trouble of building a desalination plant, why not reduce the burden of curtailment to that level. Would it make sense to re-evaluate what curtailment levels are acceptable to our water customers, given new information about cost and environmental impact of desalination? Should citizens be polled if they prefer building a desal plant to curtailing their water use by X amount in X number of years?

PLAN B

1. There is a distinct possibility that the desal plant is not approved by voters or regulatory agencies or the City Council. What is the Water Department's "Plan B" in the event the desal plant is not approved?
2. The Soquel Creek Water District recently sent a letter to the City Council saying, "SqCWD is willing to negotiate transferring some winter surplus from the San Lorenzo River back to the City during drought periods. When the City is able to verify yield estimates, then SqCWD will evaluate how much groundwater we could supply the City during drought periods to supplement your other sources." When will the Water Department have a yield estimate available for Soquel Creek District? What other progress has been made in advancing this strategy?
3. According to County Water Resources Director, John Ricker, the fisheries agencies negotiating the City's habitat plan believe that "intraregional transfer of water should be further explored to maximize use of available water resources."² Has the Water Department asked fisheries agencies support for water rights revisions on the San Lorenzo River that would increase water available to neighboring districts under high flow conditions? Has the Water Dept. asked fisheries agencies support for water rights revisions that would allow
 - recharge of the Santa Margarita Aquifer from Felton Diversion?
 - recharge of Beltz wells?
 - a 4 foot dam extension at Loch Lomond?
 - diversion for storage at abandoned quarries?If not (in any of these cases), why not?
4. Is the Water Dept. willing to convene a discussion process involving neighboring water districts, fisheries agencies, and citizen groups in order to explore ways of maximizing use of available water resources in ways that benefit fish habitat?

¹ *Integrated Water Plan* (2003): "Based on this examination and the results of the Water Curtailment Study, the Integrated Water Plan Committee, and subsequently the Water Commission, determined that the highest level of worst peak-season shortage that is tolerable for Santa Cruz water customers is 25%." -p ES-6

² May 5, 2011 letter to County Board of Supervisors

Questions for November 1 Santa Cruz City Council Study Session on water issues

5. The Soquel Creek Water District's *Urban Water Management Plan* estimates that they will be able to achieve a decline in water consumption of 8% between 2015 and 2030. How could Santa Cruz match that achievement?
6. The Soquel Creek Water District has a water neutral development policy that effectively prevents water demand from increasing with new development. The City's draft UWMP predicts growth in water demand of 500 million gallons by 2030 and does not indicate how much of that growth could be offset by conservation. Is there any reason why we should not implement a water neutral policy that guarantees that water demand due to growth is fully offset by conservation strategies paid for by water hook-up fees?
7. The County is drafting a water-neutral development ordinance that will apply to unincorporated areas in the County. If the City does not yet have an equivalent ordinance, how will the Water Department deal with different development requirements in unincorporated areas like Live Oak?
8. The Council received an 18 page report from a coalition of groups including Santa Cruz Desal Alternatives offering input for the *Urban Water Management Plan*. Can you indicate which of the report's recommendations have been included in the draft Urban Water Management Plan? In particular, could you describe any plans to
 - promote graywater and rainwater catchment;
 - offer free installation of toilets in multi-residential buildings;
 - increase water rates in Tiers 3-5 to discourage inefficient landscape use;
 - partner with community groups to campaign for a sustainable water use goal that protects fish habitat and drought reserves.

TECHNOLOGY

1. Santa Cruz Desal Alternatives has reported that there are only a handful of publically-owned reverse osmosis plants serving municipal customers in this country. Except for the trouble-plagued Tampa Bay plant, these facilities process brackish water or use beach wells as their water source, rather than open seawater intake. Could you provide a list of any successful publically-owned reverse osmosis plants serving municipal customers in the US, including their construction/operating costs, potable water output, and water source?
2. The Marina Coast Water District has a .3mgd desalination plant with a beach well intake. Their website reports, "With the recent rise in energy costs and the fact that the additional water supply is currently not needed, the desalination plant is not being operated." Could you comment on that? Are there other desalination plants that staff has visited? Which of these plants are considered models for the proposed scwd2 regional facility?
3. What neighborhoods of Santa Cruz would be receiving desalinated water and what areas would be receiving mixed desalinated and surface water? What are the plans to test for tri-halomethanes in neighborhoods where the water is mixed?

ENERGY USE

1. The City has adopted Climate Action goals that call for a 30% reduction in greenhouse gas emissions by 2020 and a 80% reduction by 2050. Could you describe how the Water Department plans to meet these goals with and without a desalination plant?