Narrative and Budget

SAWS ASR HCP Measure 5.5.1

Long Term Objective – Replace SAWS pumping from the Edwards Aquifer with water stored in the Aquifer Storage and Recovery (ASR) facility during the Drought of Record (DOR) to maintain minimum spring flow at Comal and San Marcos Springs.

Target for 2013 – To input/inject the water obtained by regional leasing subject to the EAA's critical period management cutbacks for the purpose of up to a maximum of 16,667 acre-feet that is the initial leasing goal. Options on leases will also be obtained to the extent that it is feasible to do so.

Description of SAWS ASR Conservation Activity – The SAWS Twin Oaks ASR (SAWS ASR) is an underground storage reservoir in the Carrizo sand aquifer in Southern Bexar County. As a SAWS Water Management Project it is designed to store Edwards water when demand is less than available supply. The stored water is returned to San Antonio for use in critical period when demand is high.

The capacity and capabilities of the SAWS ASR are such that it can be used to meet SAWS ratepayer expectations and, if operated as described in the Habitat Conservation Plan, to play a significant role as one of the Phase I, activities proposed for the Edwards Aquifer Habitat Conservation Plan (HCP) to protect the Endangered Species at Comal and San Marcos Springs (the Regional portion).

The water to fill the ASR will be provided by 50,000 acre-feet of leases entered into by the Edwards Aquifer Authority (EAA). One-third of the water will be leased with implementation of the HCP (16,667 acre-feet) and two-thirds of the rights will be held in reserve through options (33,333 acre-feet). One-half of the option amount to be activated when the 10-year recharge average reaches 572,000 acre-feet and the second half to be activated when the recharge average reaches 472,000 acre-feet.

Edwards Aquifer Authority (EAA) intends to use the San Antonio River Authority (SARA) as its agent to acquire through lease and option the 50,000 acre-feet of water. Water rights acquired by the EAA through such leases will be provided to SAWS to use to inject into the ASR or to idle as conditions warrant. Water stored through rights provided by the EAA will be available to return to San Antonio during the DOR, subject to the limitations discussed elsewhere in this document.

The leased water is at least as important for its impact on modeled pumping by being temporarily retired during DOR-like conditions, as it is for topping-off or refilling the ASR.

The capacity of the ASR and the implementation scheme also means that the ASR can be used to help protect spring flow during droughts less severe than the DOR.

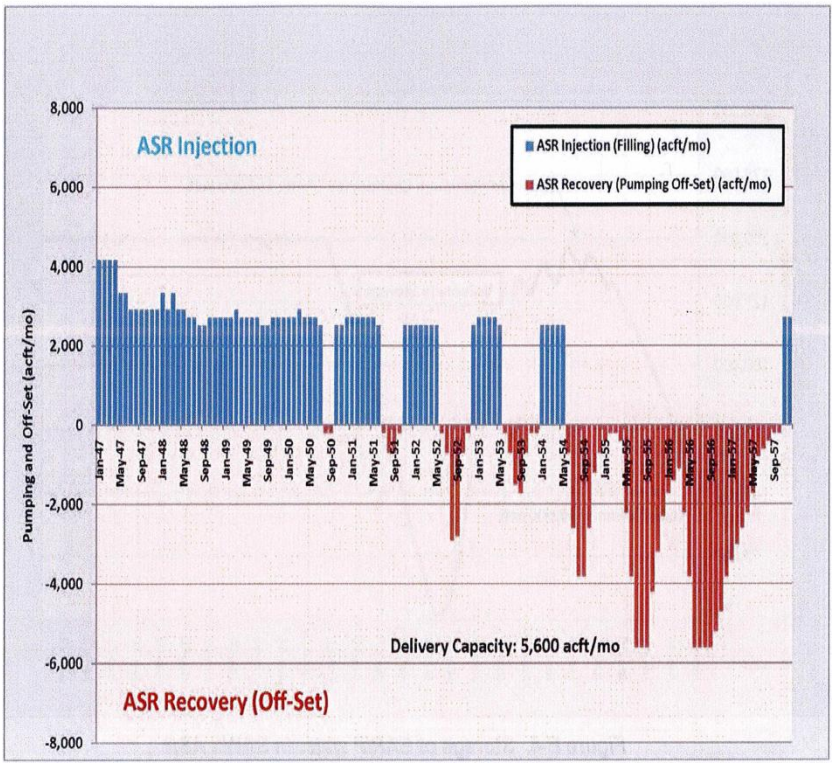
The DOR is in place when the 10-year rolling average recharge as determined each year by United States Geological Survey and published for the EAA's Hydrologic Data Report falls

below 500,000 acre-feet based on the current measuring methodology and the J-17 level is 630 feet msl or less.

SAWS will use up to 100 percent of its conveyance capability to offset SAWS pumping of Edwards water up to a maximum of the amount of water stored through rights provided by the EAA or 126,000 acre-feet during the 10-year DOR period. In any one year, the maximum potential conveyance requirement is 46,300 acre-feet.

SAWS to the extent possible will mimic the pattern of delivery developed by HDR (HDR 2011) (Graph 1 – Appendix K / HCP) with recognition that the next DOR may not be the same as the 1950's DOR and that SAWS makes all management decisions.

GRAPH 1



The management of the ASR to protect spring flow necessarily involves some judgment and flexibility. SAWS will make the day to day decisions necessary to fulfill the ASR commitment. An Advisory Group representing the Edwards Aquifer Recovery Implementation Program (EARIP) with membership described in the HCP will serve as a communication link to the EARIP constituents and will provide input to SAWS.

Injection (BLUE Graph 1) into the ASR – Modeling by HDR indicates that SAWS can fulfill its commitments as per the HCP if it uses its full capability to inject after the DOR begins.

The goal will be that SAWS attempts to inject all of the water available for injection from the Regional sources up to the goal of 16,667 acre-feet until at least 40,000 acre-feet of Regional

water is injected and available prior to the DOR. SAWS at that point may continue to inject water until the full complement of 126,000 acre-feet is reached or it can wait until the DOR is declared and then inject to its full capability until which ever happens first the trigger levels of 630 feet at J-17 are reached or a volume representative of the injection as depicted in Graph 1 is attained.

Recovery (RED Graph 1) – After the 10-year rolling average recharge falls to 500,000 acre-feet and J-17 well levels reach 630 feet, SAWS is committed to return water to San Antonio for use by SAWS ratepayers to replace an equal amount of Edwards Aquifer pumping. Within the limits of its infrastructure capabilities Graph 1 represents an approximate pattern of what that pumping may look like. The amount of water returned to San Antonio during that 10-year DOR period may be limited to 126,000 acre-feet with no more than 46,300 acre-feet in any one year.

Advisory Board – The HCP necessarily gives SAWS final say in the management of the ASR within the parameters dictated by the HCP.

To assist SAWS in making decisions and to communicate the basis of those decisions to their constituencies SAWS is charged with the responsibility of organizing and staffing an ASR Advisory Group.

The minimum membership of the group to include the HCP Program Manager; an EAA representative; four SAWS representatives; a downstream representative; a Springs community representative; a representative of the Edwards agricultural irrigators; an environmental representative that could be Texas Parks and Wildlife Department; a small community representative; and an individual pumper. The group must meet a minimum of every three months.

Access to SAWS Water in the ASR – With the mutual agreement of SAWS and EAA, SAWS may lease water it has stored in the ASR for use in the DOR at the current lease rate plus the calculated return fee at the time when this special source of water is used. The use of this water does not require that SAWS offset it with SAWS pumping.

Phase II – SAWS ASR will have an increased capability after the Water Resources Integration Pipeline is completed. If the Phase II requirement does not involve more than 40 percent of the capacity of that pipeline during the worst part of the drought, and if water requirements from the ASR are not increased over the Phase I commitments (46,300 acre-feet per year, 126,000 acre-feet over the 10-year drought), the use of the increased capability of the ASR would be the presumed Phase II measure if such a measure is needed.

Budget – The Edwards Aquifer HCP budgets $$32,910,000 over the 15-year term of the HCP to cover actual costs of injecting and returning Regional water from the SAWS ASR. The costs will be expensed based on a per acre-foot injection fee and a per acre-foot return/recovery pumping fee.

The costs reflected in the HCP (Table 7.1) were calculated based on actual expenses in the operation of the SAWS ASR over the period 2005-2011 applied to the injection and recovery patterns modeled to reflect probabilities of ASR operation over the next 50 years.

- Overview of Cost Determination

    - Recoverable ASR operating costs will be separated into costs for injection and for production, respectively and be assessed on a per acre-foot basis or fraction thereof.
    - It is also proposed that the injection and production costs per acre-foot each be further separated into a Commodity Charge component per acre-foot and a Fixed Costs component per acre-foot.
    - ASR activities in any year may include both EARIP injection/production or SAWS injection/production. Actual costs will be assigned to the appropriate funding source.
    - Additionally, if it is decided to use SAWS-acquired water already residing in the ASR for production in support of the EARIP, it is proposed that SAWS lease the water to the EAA at the current lease cost per acre-foot. To this cost will be added the injection rate of $75 per acre-foot established for the period 2005-2011.

- Commodity Charge: Charge per acre-foot would change based on actual electricity costs billed by CPS Energy to either inject or produce water from the ASR as well as reflect the frequently changing costs of chemicals per acre-foot used by SAWS to treat water being injected or produced.

    - On average over the past six years fully 86% of SAWS non-salary operating costs for the ASR have been for energy.
    - Electricity costs are subject to frequent adjustment to allow for the recovery by CPS Energy of the changing costs of each type of fuel used in the mix to generate electricity needed at any given time.
    - CPS Energy is also anticipating several rate increases over the coming years.
    - Additionally, the costs of chemicals used at the ASR to treat water both being stored through injection or being produced for distribution changes frequently.
    - It is proposed that actual CPS Energy billings and actual chemical costs incurred during a given period be divided by the amount of water being injected and/or produced for the EARIP during the same period to result in separate Commodity Charges per acre-foot for injection and production, respectively, to be invoiced to EAA at the end of each year.

- Fixed Costs Charge: It is proposed that all other non-salary ASR expenses incurred during a period of injection and/or production for the EARIP be divided by the amount of water being stored or produced to result in separate Fixed Charges per acre-foot for injection and recovery, respectively, to be invoiced to the EAA at the end of each period, appropriately prorated as to SAWS activities on behalf of the Region to fulfill commitments of the HCP.

- The Fixed Cost Charges per acre foot for recharge and production, respectively, would be established and re-set at the beginning of each SAWS fiscal year at the time the annual SAWS budget is approved.

- Example of Commodity Charges and Fixed Cost Charges (calculations use the above six-year cost averages for illustration purposes only):

Average Annual ASR Costs (Non-Salary) for Prior Six Years	$ 2,005,185
Average Annual Energy Costs	$ 1,725,202
Average Annual Chemical Costs	$ 42,028
Energy Cost Percentage	86.0%
Chemical Cost Percentage	2.1%
Recharge Commodity Charge per Acre-Foot	$ 66.10
Recharge Fixed Cost Charge per Acre-Foot	$ 8.90
Total Cost per Acre-Foot for Recharge	$ 75.00
Production Commodity Charge per Acre-Foot	$ 134.84
Production Fixed Cost Charge per Acre-Foot	$ 18.16
Total Cost per Acre-Foot for Production	$ 153.00

- Costs assessed if EAA uses SAWS-acquired water already residing in the ASR for production in support of the EARIP

    - Additionally, the SAWS-acquired water would be leased to the EAA at the current lease cost per acre-foot plus the $75 injection cost. The production per acre-foot cost would be determined for the year it was retrieved.

- Allocated funds for 2013 from HCP Table 7.1: $2.194 million

- Estimated budget for 2013: 16,667 acre feet of EAA-acquired water rights injected into the ASR at a cost of $75.00 per acre-foot for a total of $1.25 million (assuming that the Recharge Commodity Charge per Acre-Foot remains consistent with the average cost of the past six years).

2013 Budget for Leasing Table 7.1 of the Edwards Aquifer HCP budgets $71,385,000 over the 15-year term of the HCP ($4,759,000 annually) for the expenses related to leasing water for re-filling the ASR. The estimate for the leases is based on a probabilistic analysis and averaged

annually to include initial leases, two additional batches of leases and options for the two batches. In 2013, 16,667 acre-feet of leases will be acquired at an average cost of $125/acre-foot ($2,083,375) for immediate e-filling of the ASR. In addition to the leases for re-filling the ASR, 33,334 acre-feet of options must be obtained for re-filling that will be added according to specified ten-year rolling recharge averages. Priority will be given to securing the initial leases. The current targeted option price is $40/acre-foot or a total of $1,333,360 if all of the water were placed under option in 2013. Thus, the maximum total cost of the leases will not exceed $3,416,735 ($40/acre-foot x 33,334 acre-feet) for 2013. The difference between the budgeted average annual lease cost based on the probabilistic analysis ($4,759,000) and the actual cost of the leases and options obtained in 2013 (no more than $1,342,265) will be used to pay the actual costs incurred by SARA in obtaining the leases and the remainder will be deposited in the Fund Balance account.