

**FOLLOW UP ON UNANSWERED SECTIONS OF INITIAL SERF DATA REQUEST**

<p><b>NO ACTION:</b> Existing SERF would be made functional to treat a portion of the SWSS effluent as envisioned earlier. The treated SERF effluent would be reused at the SCC. No treated effluent would be released to Sandia Canyon (new water quality standards would not be met). No Outfalls would be eliminated.</p>	<p><b>EXPANDED SERF (PARTIAL REUSE):</b> Upgrade SERF to treat greater amount of SWSS effluent and wastewater from the Power Plant, LDCC, and SCC; continue reuse of treated SERF effluent at SCC only. Eliminate Outfalls 03A027 and 03A199, and discharge excess treated water from Outfall 001 (new water quality standards would be met and may be exceeded to meet reuse requirements).</p>	<p><b>EXPANDED SERF (TOTAL REUSE - ZLD):</b> Upgrade SERF to treat SWSS effluent and wastewater from the Power Plant, LDCC, and SCC and meet reuse requirements. Install distribution pipeline for return of treated water to Power Plant, LDCC, and SCC. Eliminate Outfalls 03A027 and 03A199. Move up to zero discharge from Outfall 001.</p>
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1. **AIR QUALITY:** Please indicate the type and quantity of any air emissions generated under the:

- a. No Action Condition None Deleted: \_\_\_\_\_
- b. Expanded SERF (Partial Reuse Condition) None Deleted: \_\_\_\_\_
- c. Expanded SERF (Total Reuse Condition - ZLD Condition) None Deleted: \_\_\_\_\_

NOTE: If no air emissions are generated under the current No Action Condition, nor projected to be generated under either Expanded SERF Conditions, please indicate that to be the case.

2. **CHEMICAL STORAGE AND WASTE MANAGEMENT:**

a. Please provide estimates of how much MgCl<sub>2</sub>, FeCl<sub>3</sub>, NaOH, HCl, and other chemicals would be stored at the existing SERF and Expanded SERF facilities. see attached chemical quantity sheet. The expanded SERF will not change the amount or types of chemicals presently stored at the facility. The additional processing rate will, however, increase the chemical usage per day in a somewhat linear amount. Deleted: \_\_\_\_\_

NOTE: The data request response indicates that the maximum treated effluent will increase from 100 gpm (under the No Action Condition) to approximately 400 gpm (under the Expanded SERF Conditions), but no information was provided on the increased quantities of treatment chemicals that would be required. We need to know the projected on-site chemical storage to conduct our analysis.

b. The schematic of SERF operations shown on the scoping meeting poster indicates that a biocide would be added as needed prior to reverse osmosis treatment. Please indicate the type of biocide that would be used and the estimated quantity that would be stored on site. While on the schematic, biocide is not currently being used and has not been used at the SERF facility. It is not anticipated that biocide will be necessary as no biofouling of the RO membranes has manifested either previously or currently.

c. How much sludge from evaporative pond use is generated from existing SERF operations Previous SERF operators/owners went to evaporative ponds located on Sigma Mesa and measured/quantified material in the evaporative ponds. From those measurements, it was calculated that approximately 1 inch of solids, as contributed from SERF and dust/dirt from the environment, would be present after 10 years of operations. \_\_\_\_\_? Where is the sludge disposed evap ponds located on Sigma Mesa. \_\_\_\_\_? What is the projected sludge increase under the Expanded SERF Conditions If evaporative pond size is expanded proportionately to the SERF processing rate, then the 1 inch per 10 years calculation would be maintained. Note: it will be necessary to field validate this calculation once the current, or expanded, SERF is operational for an extended period fo time. \_\_\_\_\_?

Deleted: \_\_\_\_\_An increase in a linear amount.\_\_\_\_

d. Please indicate the quantity of filter cake generated from the filter press at the existing SERF and the projected quantity for the expanded SERF. Discussions with the previous SERF operators indicate that approximately 360 lbs/day filter cake is produced at current SERF processing capability. It is reasonable to assume a proportional relationship between filter cake quantities of current versus expanded SERF operations. As such, an increase to approximately 1000 lbs per day. Note: these mass values are as wet filter cake with water content approximating 50%; however, dependent upon the frequency of filter press operations relative to frequency of solids removal from site, this mass value could lower significantly as the filter cake material will dry with time. \_\_\_\_\_, and also: 1) where these wastes are stored at LANL prior to removal off-site these wastes will be stored in drums at the SERF site. \_\_\_\_\_; (2) how often wastes are removed off site Discussions with current and previous SERF operators, as well as calculated solids production rate, results in an estimated 1 roll-off bin per 10 million gallons. Roughly, one roll off bin per month. \_\_\_\_\_; (3) name and location of off site disposal facilities. Rio Rancho waste disposal site. \_\_\_\_\_

e. What other waste streams are generated at the SERF? If no other types of wastes are generated, please indicate that to be the case. No other waste streams indicated at this time. \_\_\_\_\_

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Question: How do sludge from filter press, and salts/solids at evaporation ponds, relate to this EA?

### 3. SERF COMPONENTS

NOTE: In the initial data request response, no Expanded SERF footprint information was provided, which will make comparison with the Existing SERF difficult. More specifically, we still need data on:

a. How much additional space for parking, storage tanks, and other Expanded SERF components? Please indicate their location (preferably on a map) 2 additional storage tanks (approximately 40' dia. And 40 high), an addition to the facility (preferably in the rear of approximately 20' x 40' size.) An additional tank or lagoon may be constructed at TA46 SWWS plant near the present storage lagoon. Lagoon or tank would havr approximately 500,000 gal. size. \_\_\_\_\_

b. Additional piping or pipeline requirements:

(Please provide details on how much additional piping will be required in linear feet, as well as any refurbishing of existing piping. If trenching is required, please indicate the linear feet of trenching required. Please indicate their location, preferably on a map.): Approximately 1000 l.f. to connect LDCC to the SCC transfer lines. An additive alternate may add another 1000 l.f. along the South side of the power plant to connect the steam generators to the SERF.

c. Will the existing evaporative pond be adequate to meet evaporation requirements for the Expanded SERF? If not, will its size need to be increased, or another evaporative pond be constructed, and what would its dimensions be? (Please provide a map on where the current evaporative pond is located, and that for any new evaporative pond(s) that may be required)

No. the evaporative ponds will need to be increased. Current water balance calculations result in determination that a doubling of evaporative pond capability/size is adequate for SERF expansion.

**Deleted:** We have two ponds now, we may need 5 more.

d. How many megawatts of electricity are required (or projected) for:

Existing SERF operations \_\_\_\_\_ megawatts

Expanded SERF (Partial Reuse Condition) \_\_\_\_\_ megawatts

Expanded SERF (Total Reuse Condition - ZLD Condition) \_\_\_\_\_ megawatts

The SERF facility is not metered for electrical consumption. The electrical requirements are not definitively known.

e. Please confirm that no natural gas is required for existing and Expanded SERF operations, if that is correct There is no natural gas line to the SERF, and none is anticipated as required for existing or expanded SERF operations.

How does energy consumption at this facility (natural gas or electricity) relate to this EA? What is scope of EA?

I haven't seen any questions related to various flow scenario's. For example, expected effects on wetlands/wildlife at 10, 50 or 100% reduction in current flows. Nor have I seen questions related to potential mitigating measures that may be enacted for a given increase or decrease in current flows. Further, no inter-communication seems to have been initiated on potential adaptive management strategies. What is scope of this EA again?

4. **NOISE:** If hearing protection is required for existing SERF activities, please indicate which SERF operations require hearing protection and the level of noise (in decibels) generated during those operations. If no hearing protection is required under the existing SERF Condition (or projected under Expanded SERF Conditions), please confirm that to be the case \_\_\_\_\_.

5. **STAFFING:**

a. For existing SERF operations under the No Action Condition, please indicate:

Operations Workers: \_\_\_\_

Maintenance Workers: \_\_

Management Staff: \_\_\_\_

Work Schedule: 8 hrs/day for 5days/week ??

b. For the Expanded SERF operations, please indicate:

Operations Workers: \_\_\_\_

Maintenance Workers: \_\_

Management Staff: \_\_\_\_

Work Schedule: 8 hrs/day for 5days/week ??