ATTACHMENT B

NM Produced Water Research Consortium

BE BOLD, Shape the Future.

Information Sharing Plan

This plan identifies the minimum information required by NMED on all projects dealing with the potential use of produced water or treated produced water outside the oil and gas industry or uses conducted on oil and gas sites that are not directly related to development, production, or reclamation activities for oil and gas.

The information is necessary to make initial determinations regarding jurisdictional responsibilities and requirements for proposed projects.

1. Initial information requirements for all projects
   a. Name of Company
      SolMem LLC

   b. Address
      5252 Hollister Street STE 501A, Houston, TX 77040

   c. Contact person and info
      (1). Person #1
      Name: Ruikun Xin
      Work Phone: 832-331-2929
      Cell/Home Phone: 832-331-2929
      Fax: N/A
      Email: rxin@solmem.com

      (2). Person #2
      Name: Andrew Ibarra
      Work Phone: 719-918-9450
      Cell/Home Phone: 719-918-9450
      Fax: N/A
      Email: aibarra@solmem.com

      (3). Person #3
      Name: Roxy Evans
      Work Phone: 832-691-9126
      Cell/Home Phone: 832-691-9126
      Fax: N/A
      Email: revans@solmem.com

   d. Type of Project (lab, bench scale, pilot, field, combination, other)
      Bench scale

   e. Affirmation: There is no discharge of produced water or treated produced water to the

surface or groundwater.
We confirm that there will be no discharge of produced water or treated produced water to thesurface or groundwater.

f. Affirmation: The project will be conducted as a closed loop system.
We confirm that the project will be conducted as a closed loop system.

g. Basin of origin of produced water to be used: San Juan or Permian Basin
Permian Basin

h. Project: does technology testing take place inside or outside of the oil/ gas field?
Outside (at BGNDRF)

i. Project: is treated produced water to be used inside or outside of the oil/gas field?
Outside.

j. Project: what is the proposed use of the treated produced water?

SolMem would like to work with New Mexico Produced Water Research Consortium (NMPWRC) and BGNDRF to evaluate the feasibility of using the treated produced water for a greenhouse study (i.e., Within closed and controlled agriculture lab space). For the purposes of this test, there will be no discharge of the produced water. .

k. Funding source and amount of PWRC funding (self-funded, PWRC funded (amount), or combination

A combination of private funding and research grant funding from USDA (proposal number: 2022-04357).

l. Company description/biography (experience, types of technology, primary work of company, website)

Founded in 2017, SolMem (www.solmem.com) focuses on innovative and low-cost engineering solutions to water and wastewater challenges. SolMem jointly developed the Solar Multi-Effect Membrane Distillation (SolarMEMD) technology with Rice University in 2021 and a global PCT application was filed in 2022. SolMem has been leading the R&D and commercialization efforts since 2019.

Solar Multi-Effect Membrane Distillation (SolarMEMD) technology is a novel process that can efficiently extract high-purity water from saline wastewater using only solar energy. The innovation utilizes a novel nano-photonics enabled photothermal membrane to simultaneously harvest sunlight, realize solarthermal conversion, and desalinate and purify water; a novel spiral-wound membrane configuration achieves multi-effect operation to recover and reuse thermal energy while providing cooling for condensation in a simple low-cost reactor. SolarMEMD offers a low-cost, zero-carbon footprint solution to produced water treatment and reuse.

The produced water treatment from the oil and gas industry is one of the top markets for the SolarMEMD technology. SolMem has worked with Rice and oil and gas partners such as Occidental, and Shell to test produced water with our lab-scale unit and pilot unit. Additionally, we have conducted over 50 interviews with key stakeholders in the oil and gas industry to understand their pain points and market needs. These interviews confirmed there is a pressing need in the industry for innovative, reliable, and cost-saving solar desalination technologies.

To prepare for our testing at BGNDRF, 6 gallons of produced water samples were obtained from BGNDRF in spring 2023, and water quality analysis (i.e., TDS, pH, TOC, alkalinity, and Ca2+/Mg2+ concentration), pre-treatment experiments, and treatability experiments were performed at lab scale. Although new challenges will occur, we believe that our past experience and a well-thought-out testing plan will prepare us for

the upcoming testing at BGNDRF.

m. Executive Summary (one to two paragraphs describing the general purpose of the project and expected benefits of proposed technology process)

SolMem will conduct field testing using three sources of wastewater at BGNDRF with 1). Brackish water from any of the 4 wells at BGNDRF, 2). Water from BGNDR's evaporation pound, 3). Produced water from the industry members of the NMPWRC. The expected usage of the feed water is 300~600 L/day (i.e., batch mode).

The success testing of SolMem's system will provide a novel low-cost and energy-efficient method to convert wastewater (i.e., produced water) to clean permeate water using only solar energy. The clean permeate water is expected to reach a water quality for beneficial reuse, which will reduce the water stress issue posed by the oil and gas industry.

n. Project Goals (one to two paragraphs describing what the goals are for the project to accomplish-days operational, stability, quality & quantity of distillate, barrels of distillate produced, etc.)

The pilot project is expected to operate for up to '12' weeks, treating up to '3.8' bbls/day of produced water of a water quality compatible with reuse for '0' bbls/day (i.e agricultural irrigation). It is expected the concentrate and distillate will have the following beginning and final qualities.

Parameter	Feed Water	Brine	Clean Distillate
TDS, mg/L	109,000 ~ 140,000	200,000	0 ~ 10
pH	6 ~ 8	6 ~ 8	7
Water Volume	Up to 3.8 bbls/day	Up to 1.9 bbls/day	Up to 1.9 bbls/day

o. Site location/ identification (identify locations where all phases or parts of the project are to be conducted including address, Section, Township, Range, GPS coordinates, site description). Include an aerial map with basic design features on the map, including adjacent roads, north arrow, scale, equipment, fencing and other pertinent information.

The testing will be conducted within the BGNDRF's campus. The address is 500 Lavelle Rd, Alamogordo, NM 88310. Shown below is the aerial photo acquired from BGNDRF (i.e., the testing site host). SolMem's system will be located within the BGNDRF facility, at testing pad #9.

p. Provide written driving instructions on how to reach the site from Albuquerque.

The testing will be conducted within the BGNDRF's campus. The address is 500 Lavelle Rd, Alamogordo, NM 88310. A navigation software can be used to guide the driving from Albuquerque.

q. Site description type of facility where all parts of the pilot are to be conducted – BGNDRF, university laboratory, permitted recycling facility, well pad, other)

Pad #9 at BGNDRF will be used for SolMem's testing.

r. Land status: (identify ownership status for all project locations.

Federal.

s. Are any parts of the project conducted or sourced within the exterior boundaries of a Native American Reservation?

No.

t. Provide list of all landowner's adjacent to proposed project locations and provide confirmation that adjacent owners have been notified regarding the proposed project. Provide the source of the adjacent landowner data.

N/A. The testing will be conducted within the BGNDRF's campus.

u. Proposed schedule

The testing is expected to start on 9/1/2023, and is expected to last for 12 weeks. Please note that the starting date may change, as SolMem is still in the testing preparation stage.

v. Technology performance objectives

The pilot project is expected to operate for up to '12' weeks, treating up to '3.8' bbls/day of produced water of a water quality compatible with reuse for '0' bbls/day (i.e agricultural irrigation). It is expected the concentrate and distillate will have the following beginning and final qualities.

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w. Treatment system design and process

As shown in the schematic below, our system is comprised of a treatment skid located inside of a 20-ft shipping container and a SolarMEMD reactor mounted on top of a parabolic trough collector. The treatment skid is equipped with the control unit, sensors, pumps, CIP, feed, permeate, and thermal storage brine tanks.

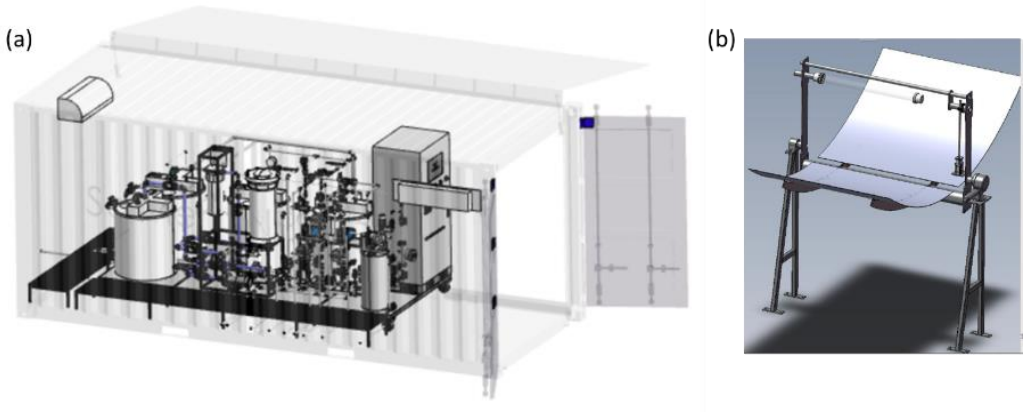

Figure 1. 3D schematics of (a). skid, and (b). parabolic trough collector.

A simplified process diagram illustrating the treatment process is shown in **Fig 2**. Before the treatment process, the feed water will be transported from the produced water tank at BGNDRF to the feed tank (i.e., batch mode) every day. During the treatment process, the feed water will be pumped from the feed tank to the SolarMEMD reactor. Inside the SolarMEMD reactor, the feed water is heated by the concentrated sunlight from the parabolic trough collector. The hot feed water then gets treated via evaporation and condensation process inside the SolarMEMD reactor. As a result, the feed water becomes brine and distillate after passing through the SolarMEMD reactor. The brine and distillate will be pumped back to the treatment skid and stored in the thermal storage brine tank and permeate tank respectively.

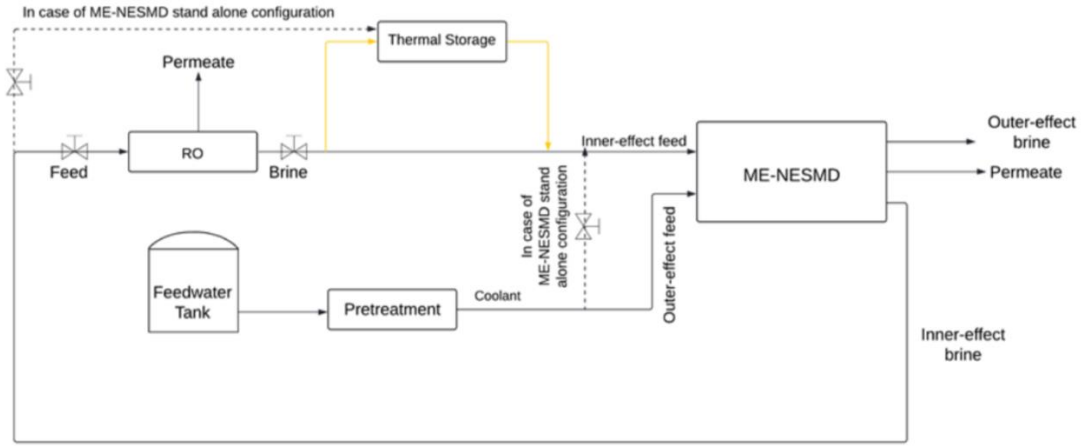

Figure 2. Simplified process diagram of ME-NESMD (i.e., SolarMEMD) process. Note that only stand-alone mode will be used, so the RO unit will not be installed, and it will be by-passed.

x. Emergency response plan for spills or releases of produced water or treated produced water

The entire SolMem's system will be located inside of a secondary containment. The secondary containment will have a capacity larger than the total volume of the water (i.e., feed, brine, and permeate) inside SolMem's system.

y. Disposal and decommissioning plan

- Equipment: N/A – After test is done, we will ship the equipment back to Houston or deploy it for more tests at other sites.
- Material: Secondary containment will be reused; other expendables of the treatment system will be disposed based on the requirements from BGNDRF and NMPWRC.
- Water: All water will be disposed based on the requirements from BGNDRF and NMPWRC.
- Soil: We do not expect to generate any contaminated soil. In case there is any, the contaminated soil will be disposed based on the requirements from BGNDRF and NMPWRC.

z. Certification that applicant will fully comply with all consortium requirements and guidance documents related to the following:

aa. Guidance on Produced Water Sampling Procedure

bb. Guidance on Produced Water Treatment Research, Development, and Demonstration Testing and Evaluation.

We certify that we fully comply with all consortium requirements and guidance documents related to the following:
Guidance on Produced Water Sampling Procedure
Guidance on Produced Water Treatment Research, Development, and Demonstration Testing and Evaluation.

2. Submital Schedule for proposed projects
    a. Initial project proposal summary must be submitted to NWPWRC at least 90 days prior to proposed start date to allow for review by NMWD, EMNRD/OCD, and government advisory board.
    b. Monthly status report to NWPWRC to report schedule or changes, status of project, and other pertinent information
    c. Final project summary and closeout report to NMPWRC within 30 days of project completion.