

Prize Competitions Recap

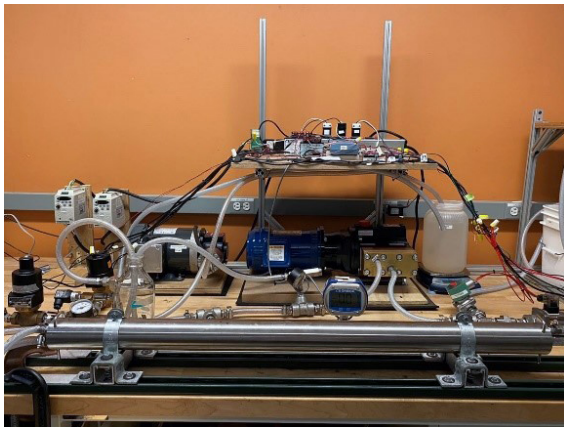


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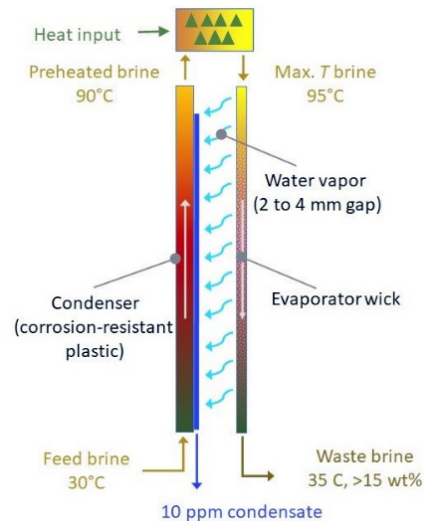
September 2021

In the Spotlight: More Water, Less Concentrate

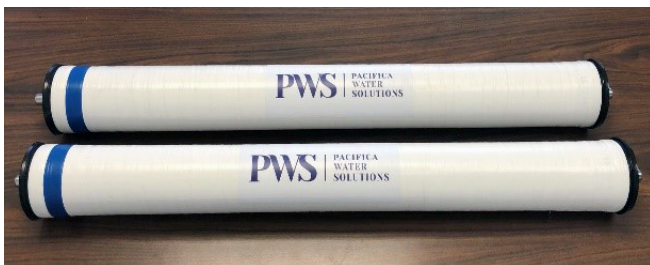
Five finalists have been selected; each will receive up to \$115,000 for prototype development. Meet the finalists:



Olin – Harmony – MIT proposed a batch reverse osmosis processes to recover water from scaling-prone reverse osmosis concentrate by operating in brief cycles that are too short for scalants to nucleate. (Cambridge, MA)



AIL Research proposed an innovative, highly efficient thermal distillation process with the managed precipitation of sparingly soluble salts. (Hopewell, NJ)



Pacifica Water Solutions proposed a membrane technology that minimizes the scaling and fouling potential of challenging feed waters while maintaining stable flux and salt rejection. (Northridge, CA)



Membrion proposed electro dialysis reversal enhanced by scaling resistant ceramic ion exchange membranes. (Seattle, WA)



University of Texas at El Paso Center for Inland Desalination Systems proposed salt-free electro dialysis metathesis to produce two very high salinity concentrate streams and product water that can be blended with reverse osmosis product. (El Paso, TX)

The goal of this prize competition is to demonstrate innovative, affordable, and environmentally sound solutions to reduce the volume of concentrate and generate more usable water from inland desalination plants. Finalists are developing their prototypes for demonstration and testing in Phase II of the competition. The demonstration event, planned for Summer 2022, will take place at the Water Quality Improvement Center at Reclamation's Yuma Desalting Plant. Finalists are competing for their share of \$250,000 Phase II prize purse.

Competition Updates:



Canal Safety: Prototype development is on-going for the three teams competing in Phase II! The Hydraulics Laboratory at Reclamation's Technical Service Center has solicited input on the Phase II demonstration design from industry experts. Construction of a model test canal will be completed in the next few months. Phase II competition demonstration of prototypes planned for November 2021.



Rust Busters: Field and laboratory evaluations are now underway. Field testing began in July with installation of four field-ready prototypes at Parker Dam, California, in the Lake Havasu reservoir on the Colorado River. These prototypes will remain in field exposure to test their corrosion resistance and receive bi-monthly evaluations of their performance by Reclamation staff. The laboratory testing at Reclamation's Technical Service Center in the Materials and Corrosion Laboratory concluded in August, and evaluation is underway to determine the best laboratory submission.



Guardians of the Reservoir: Prototype development is ongoing for five teams competing in Phase II. Also, a new exciting resource is being provided to the teams. Reclamation contracted with **FedTech** (non-governmental website) to provide teams additional support during the competition to accelerate a reservoir dredging business plan, develop opportunities to connect with mentors, stakeholders and partners, and provide guidance for the teams to create impactful strategies to integrate their new sediment removal solutions in the market.



Imperfection Detection: Detect Me If You Can: Reclamation received nineteen submissions for the Imperfection Detection prize competition. While submission evaluation is in progress, prize partners Jesse Garant Metrology Center and Clemson Composites Center made great progress toward production of characterized composite panels for Phase II. One composite panel containing specified defects will be sent to each prize competition finalist advancing to Phase II for analysis and support of their prototype development.



Divide and Conquer: Modeling Large-Scale Hydraulics Faster: Launched on September 8, 2021, this competition seeks a new, stable, fast, and parallelizable algebraic linear equation solver for Reclamation's SRH-2D model. Solutions should significantly improve the execution speed of the SRH-2D model that simulates hydraulics and sediment transport for rivers and reservoirs.

Click [here](#) to learn more about all of Reclamation's Prize Competitions
Interest in partnerships, potential topics, or questions can be emailed to prize@usbr.gov.

About Reclamation

Established in 1902, Reclamation is best known for the dams, powerplants, and canals it constructed in the 17 western states. The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Reclamation is leveraging prize competitions to help solve some of the most critical water resource problems in the areas of Water, Infrastructure, and Environment.