

Power System Planning Division, Resource Planning and System Resiliency

Scattergood Modernization - Studies Update

Date: May 15, 2023

Purpose:

Provide an update to the reporting and analysis required by City Council in Council File No. 23-0039.

Background:

On February 8, 2023, as part of the Los Angeles City's Council (Council) approval of the LADWP's Scattergood Modernization Project ordinance, the Council included and passed a Motion No. 23-0039 requiring the Los Angeles Department of Water and Power (LADWP) to address a list of topics that included potential alternatives considered for the project; public health and safety impacts; the public engagement process for the project; the role of green hydrogen at large in the City's transition to 100% renewable energy; and to, "conduct a new or updated assessment of non-combustion alternatives to the project, including the use of green-hydrogen powered fuel cells, high levels of energy storage, large-scale multi-day demand response programs, new and upgraded transmission lines to import higher levels of renewable energy, and others that considers the public health benefits, safety risks, and costs and benefits."

Agreement Progress to Date:

LADWP is actively forging the groundwork for a new single-source agreement with the National Renewable Energy Laboratory (NREL) and developing the necessary documentation required under LADWP's procurement process. The proposed agreement will be foundational to LADWP's efforts to ensure the Scattergood Modernization Project is evaluated across the range of items introduced in the Motion. Table 1 provides the latest status of the items required under LADWP's procurement process to secure an agreement with NREL. Figure 1 details the items that are included in the proposed agreement's Scope of Work, consistent with the Motion. LADWP has designated this agreement as a top priority and is targeting final award in Fall 2023.

After the agreement has been awarded, specific task orders will be issued to study the items included in Figure 1. In addition to the agreement, some of the studies will be addressed as part of the Air Permitting Process.

Throughout the 2023–2024 Strategic Long-Term Resource Plan (SLTRP) process, LADWP plans to engage the Advisory Group (AG) which consists of stakeholders such as Neighborhood Councils and Community-Based organizations (CBOs). This will provide opportunities for the AG to review results from the studies and provide feedback to guide subsequent analyses and programs. These engagement opportunities are anticipated to begin in Fall 2023.

The proposed studies will require extensive collaboration between NREL, the broader industry, and internal teams to ensure that the studies are comprehensive and responsive to the instructions of the City Council in File No. 23 0039. LADWP plans to update City Council and all relevant stakeholders of the progress of the studies on a regular basis.

Table 1: Procurement Tasks and Milestones

	Status	Target Start Date	Target Completion Date
Request for Approval to Solicit for Professional/Personal Services (SCS-100)	Completed	2/15/2023	–
Scope of Work	Completed	2/15/2023	–
Single Source Justification	Completed	2/15/2023	–
Notice of Compliance Memo	In Progress	2/21/2023	6/30/2023
Contract Cost Estimate	In Progress	2/27/2023	5/19/2023
Proposal Questionnaire (SCS-102)	In Progress	2/27/2023	5/26/2023
Insurance Checklist	In Progress	2/27/2023	5/26/2023
Request for Sole Source Proposal (RSSP) Development	In Progress	5/22/2023	6/30/2023
RSSP Advertised		7/3/2023	7/14/2023
Proposal Review, Negotiations, and Approval		7/17/2023	9/1/2023
Board Approval		–	10/10/2023

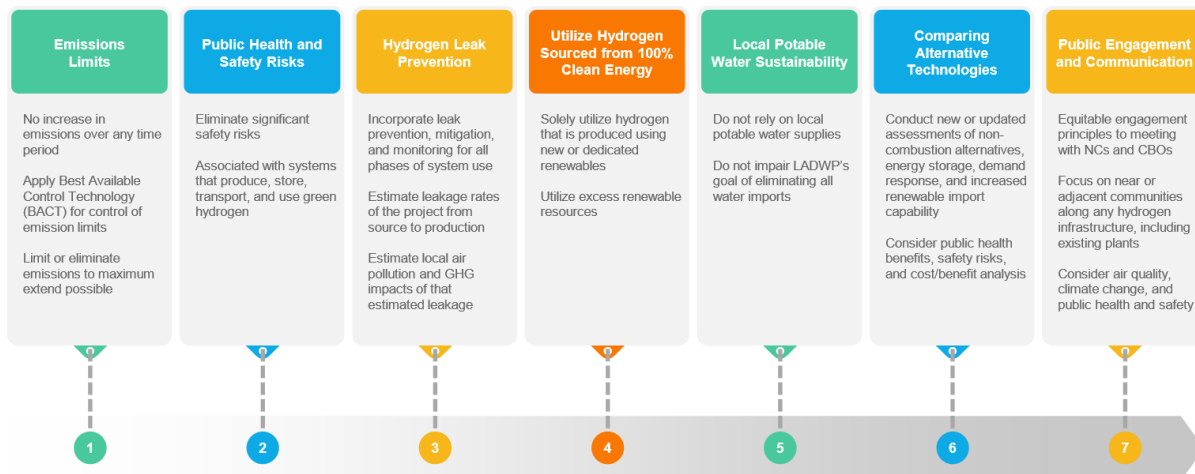


Figure 1: City Council Motion Items Included in Agreement Scope

Detailed Background:

Diverse clean energy resources are required in order to achieve a clean energy future that is reliable, resilient, financially sustainable, and environmentally responsible. The Los Angeles City Charter requires the LADWP's electrical system to be reliable 24/7, financially sustainable in an environmentally responsible manner. In addition, there are reliability standards that must be met per North American Electric Reliability Corporation (NERC).

To address the potential alternatives, since 2019, the LADWP has taken numerous steps to evaluate alternatives as a potential solution towards LADWP's clean energy future, and is summarized below as follows:

- In 2019, the LADWP initiated its planning efforts to accelerate the transition towards clean energy and adopted the Mayor's Green New Deal targets. This resulted in a paradigm shift, where LADWP began planning for a combination of clean energy resources by 2030 and 2045.
- In September 2020, LADWP issued a distributed energy resources request for proposals as a way of exploring the potential of distributed energy resources for replacing a portion of the capacity of the once-through cooling units. Evaluation of these proposals began in May 2021 and are currently being negotiated for award.
- In March, 2021, the LA100 Study was completed, and one of the key findings was that across all 100% renewable scenarios, firm, dispatchable capacity was required for reliability and resiliency at all of LADWP's generating stations, even in a decarbonized future.
- In May 11, 2021, the LADWP presented its "Clean Grid LA Plan Update" to the Board, which details high level initiatives to address once-through cooling units' phase-out and align with LA100 Study scenarios. Scattergood Generating Station Green Hydrogen project was a key element in the "Clean Grid LA Plan."
- In September 2021, LADWP reconvened the AG with over 50 stakeholders, and commenced the 2022 SLTRP. The 2022 SLTRP process was a one-and-a-half-year process that was collaborative and transparent, with 11 AG meetings and 3 public outreach meetings, in addition to a dozen ad-hoc meetings with stakeholders. Throughout the process, potential alternatives to green hydrogen were discussed and presented to stakeholders as part of the SLTRP process (www.ladwp.com/SLTRP).
 - SLTRP AG Meeting #3 (October 8, 2021): LADWP presented on Green Hydrogen in LA to the SLTRP AG, and NREL presented on requirements for achieving 100% carbon free by 2035 as part of the LA100 Study.
 - SLTRP AG Meeting #5 (November 10, 2021): NREL presented on the LA100's "no in-basin combustion" scenarios and sensitivities and provided key takeaways as to why these scenarios and sensitivities were not viable solutions as part of the LA100 Study. The key findings were that although "no in-basin combustion" were reliable during normal grid conditions, they were not reliable and resilient under stressed grid conditions, in the events like wildfire or transmission system outages.
 - SLTRP AG Meeting #7 (December 17, 2021): LADWP presented on energy storage updates and emerging technologies to highlight the pros and cons, and how LADWP is tracking emerging technologies.

- As LADWP developed scenarios and sensitivities for the 2022 SLTRP, LADWP included a “no in-basin combustion” scenario that would utilize green hydrogen fuel cells instead of green hydrogen combustion turbines.
- SLTRP AG Meeting #9 (June 30, 2022): LADWP presented preliminary results on the 2022 SLTRP and no-in basin combustion sensitivity. These tradeoffs were presented to the AG.
- SLTRP AG Meeting #10 (September 22, 2022): NREL presented their preliminary results of LADWP Power Plant Emissions under SLTRP cases. NREL found and reported the SLTRP power sector emissions are ~23,000 times less than total emissions from all other sectors. In addition, any future green hydrogen projects must meet the strict air quality standards under the South Coast Air Quality Management District.
- In August 2021, LADWP issued a green hydrogen Request for Information (RFI), asking the industry-at-large about all areas of the green hydrogen value chain including production, storage, transportation, electricity generation, safety, and environmental impacts.
 - Green hydrogen is rapidly emerging as a necessary solution to decarbonize hard-to-abate sectors in which direct electrification is not possible (e.g., heavy duty trucking, aviation, maritime applications, etc.) and to serve as a source for firm dispatchable power generation back up. LADWP currently views green hydrogen as the leading clean fuel that could enable clean, firm dispatchable capacity at its generating stations that will also provide the necessary voltage support to balance the grid system. Due to support from Federal, State, and Local agencies, as well as private and public entities, there is a rapidly developing landscape with supporting policies, subsidies, and emerging technology innovations. In November 2021, Congress passed the Bipartisan Infrastructure Bill which provides \$8 billion for regional hydrogen hubs. In August 2022, Congress passed the Inflation Reduction Act which provides valuable subsidies for the production and investment in “clean” hydrogen that may be worth over \$100 billion.
- In May 2022, the City Council voted to instruct the LADWP and the Port of Los Angeles (POLA) to coordinate a local effort to create and submit a proposal to the Department of Energy proposing the Greater Los Angeles area for consideration as a regional green hydrogen hub. To fully understand the opportunities for developing a comprehensive green hydrogen economy in California, the LADWP engaged with the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES). ARCHES is a public-private partnership led by the California Governor’s Office of Business and Economic Development (GO-Biz)—and broadly supported by the California legislature—that is seeking to secure and maximize federal, state, and private funding for a California hydrogen hub. Most significantly, ARCHES is seeking federal funding through the Department of Energy’s Regional Clean Hydrogen Hubs program. Through the ARCHES framework and additional exploratory opportunities, LADWP is collaborating with partners across the region and advocating for the development of local green hydrogen economy.
- Hydrogen safety considerations and water consumption are important factors for the Project that LADWP is continuously evaluating. LADWP received various approaches via the Request for Information (RFI), for the Scattergood Modernization Project, to ensure safety with hydrogen, namely through advanced leak prevention and detection technologies and best operating practices. LADWP is confident that hydrogen can be safely used as a clean fuel with all the

necessary designs, technologies, and operating procedures implemented. LADWP is currently evaluating hydrogen codes and standards to ensure they are consistent with LADWP’s thorough safety and design principles. And, while LADWP does not anticipate to be a large-scale green hydrogen producer, it recognizes the importance of evaluating the full lifecycle impacts of utilizing green hydrogen. These impacts include water consumption and sourcing, “well-to-gate” carbon intensity of the electrolytic hydrogen, and hydrogen leaks. LADWP will continue working with its partners and the broader industry to understand the impacts, and advocate for solutions that are environmentally responsible and consistent with LADWP values.

LADWP continues to engage with its stakeholders as technologies develop in order to chart its path towards a clean energy future. This process is iterative, and LADWP will continue to adapt and refine its resource plans as uncertainties are better understood, and policy direction and other requirements are solidified.

Public Engagement

There will be several opportunities for public engagement throughout the Scattergood Modernization Project process:

- 1) The SLTRP and NREL studies as described above, pages 1 and 2.
- 2) The California Environmental Quality Act (CEQA) Process – there will be at least three public engagements throughout the CEQA process, 1) The Notice of Preparation public meeting scheduled June 6, 2023. 2) Draft EIR public meeting, 3) Board of Water and Power Commissioners adoption meeting of the CEQA document. See Table 2 below:

Table 2: CEQA Process and Public Outreach

Initiate Scoping Process – IS/NOP	Preparation of Draft EIR	Draft EIR	Final EIR
30 day comment period begins 5/15/2023 to 6/14/2023.	Prepare Draft EIR targeting Summer/Winter 2023	Notice of Availability, 45-day public comment period – targeting Winter 2023/Spring 2024	Prepare Response to Comments Finalize EIR and Board package targeting Spring/Summer 2024
Public Scoping meeting scheduled June 6, 2023		Public meeting on Draft EIR targeting February/ March 2024	Board package to LADWP Commissioners public adoption meeting targeting Fall/Winter 2024

- 3) The Air permitting process: All dates are target and subject to change
 - Draft Permit Application preparation – Winter 2022 – Fall 2023
 - Draft Permit Application Submittal to SCAQMD – Fall 2023
 - SCAQMD Permit Application Review and Submittal to EPA – Fall 2023 – Spring 2024
 - 45-day public comment period on draft permit application – Summer 2024
 - LADWP submits final CEQA document to SCAQMD – Fall/Winter 2024
 - SCAQMD Finalizes and Issues Air Permit to LADWP – Summer 2025