

# Power Up Energy Expo 2024

## Workshop 7: EO14057: A Case Study on Plan to Meet CFE, ZEV and Building Electrification Requirements

Stanley Lam, RE, CEM  
Project Manager, HDR



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**Presidential Documents**


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Title 3—

Executive Order 14057 of December 8, 2021

The President

**Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability**

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to reestablish the Federal Government as a leader in sustainability, it is hereby ordered as follows:

**Section 101. Policy.** The Federal Government faces broad exposure to the mounting risks and costs already posed by the climate crisis. In responding to this crisis, we have a once-in-a-generation economic opportunity to create and sustain jobs, including well-paying union jobs; support a just transition to a more sustainable economy for American workers; strengthen America's communities; protect public health; and advance environmental justice. As the single largest land owner, energy consumer, and employer in the Nation, the Federal Government can catalyze private sector investment and expand the economy and American industry by transforming how we build, buy, and manage electricity, vehicles, buildings, and other operations to be clean and sustainable.

We also must build on past progress and pursue new strategies to improve the Nation's preparedness and resilience to the effects of a changing climate, including advancing the Federal Government's strategic planning, governance, financial management, and procurement to ensure climate resilient operations.

It is therefore the policy of my Administration for the Federal Government to lead by example in order to achieve a carbon pollution-free electricity sector by 2035 and net-zero emissions economy-wide by no later than 2050. Through a whole-of-government approach, we will demonstrate how innovation and environmental stewardship can protect our planet, safeguard Federal investments against the effects of climate change, respond to the needs of all of America's communities, and expand American technologies, industries, and jobs.

**Sec. 102. Government-wide Goals.** (a) Leading the Nation on a firm path to net-zero emissions by 2050 and achieving the policy set forth in section 101 of this order will require bold action to transform Federal procurement and operations and secure a transition to clean, zero-emission technologies. Through a coordinated whole-of-government approach, the Federal Government shall use its scale and procurement power to achieve:

(i) 100 percent carbon pollution-free electricity on a net annual basis by 2030, including 50 percent 24/7 carbon pollution-free electricity, as defined in section 603(a) of this order;

(ii) 100 percent zero-emission vehicle acquisitions by 2035, including 100 percent zero-emission light-duty vehicle acquisitions by 2027;

(iii) a net-zero emissions building portfolio by 2045, including a 50 percent emissions reduction by 2032;

(iv) a 65 percent reduction in scope 1 and 2 greenhouse gas emissions, as defined by the Federal Greenhouse Gas Accounting and Reporting Guidance, from Federal operations by 2030 from 2008 levels;

(v) net-zero emissions from Federal procurement, including a Buy Clean policy to promote use of construction materials with lower embodied emissions;

# EO 14057 Overview

## Government Wide Goals

- 100% Carbon pollution-free electricity on a net annual basis by 2030, 50 percent 24/7 CFE
- 100% zero-emission vehicle (ZEV) acquisitions by 2035, 100% ZEV light-duty by 2027
- Net-zero emissions building portfolio by 2045, 50 percent emissions reduction by 2032
- 65% Reduction in scope 1 and 2 greenhouse gas emissions, from Federal operations by 2030 from 2008 levels
- Net-zero emissions from Federal procurement



# Installation Overview

## DLA Distribution San Joaquin, CA (DDJC)

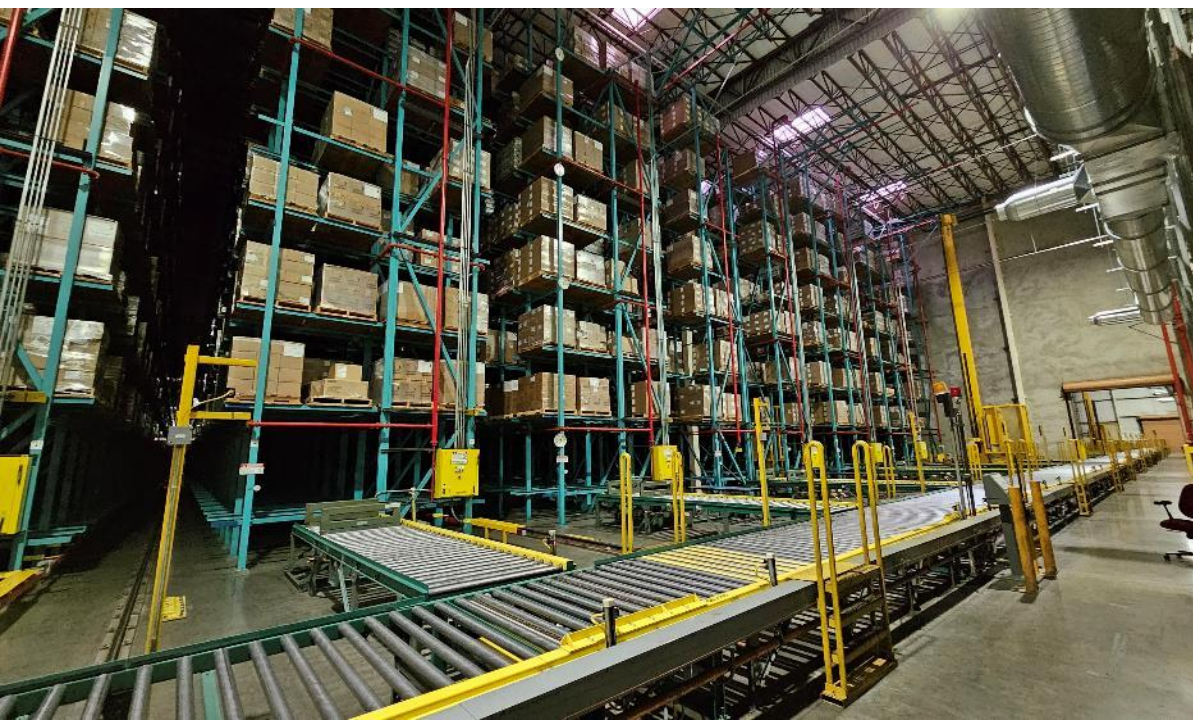
- Installation is owned and operated by DLA
- Logistics hub for global storage and distribution services
- Tracey Annex: 442-Acre DLA owned land currently leased for agriculture
- PG&E is local utility
- Power is provided by Western Area Power Administration (WAPA)



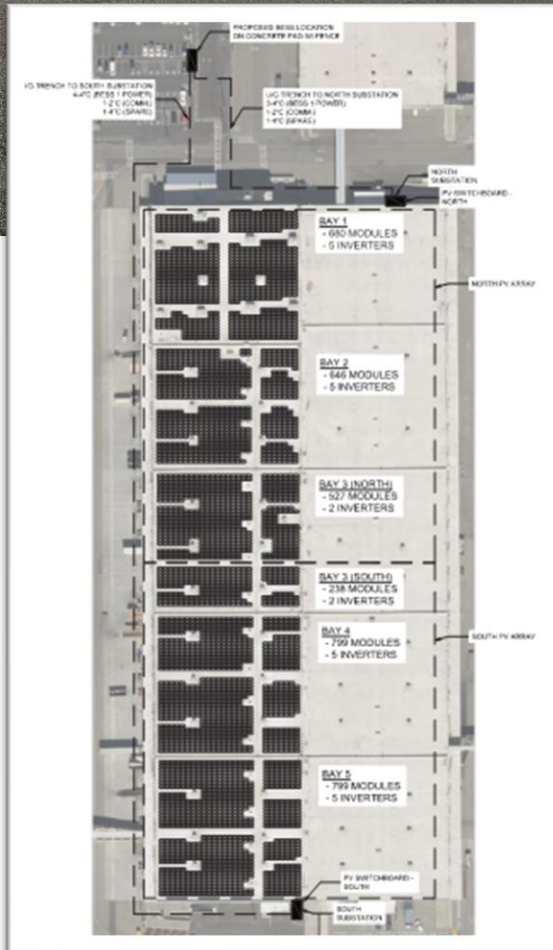


# Project Overview

- Net Zero Warehouse
  - Energy conservation measures
  - On-site CFE generation, battery energy storage system
- Vehicle Fleet Electrification
  - EVSE infrastructure
- Installation Electrification
  - Conversion of fossil fuel building systems to electric
  - Electrical infrastructure upgrades
- CFE Procurement
  - On-Site/Off-Site







# Net Zero Warehouse

- Assess existing energy use and identify energy conservation measures
  - Consumption between electric and gas end use roughly equal
  - Lighting systems upgraded LED w/occupancy
  - Identified ECMs energy savings 9%
- Developed on-site generation and energy storage to offset energy consumption
  - Rooftop photovoltaic able to supply more energy than consumed
  - Battery Energy Storage System included





# Vehicle Fleet Electrification

- Assess vehicle and MHE fleet inventory, operations and electric conversion phasing
  - Availability of battery electric replacement of vehicle types currently in operations
  - Developed electric load profile
  - Considerations for expansion to support POVs
- Developed EVSE deployment plan
  - Siting of EVSE to support operations
  - Electrical infrastructure upgrades



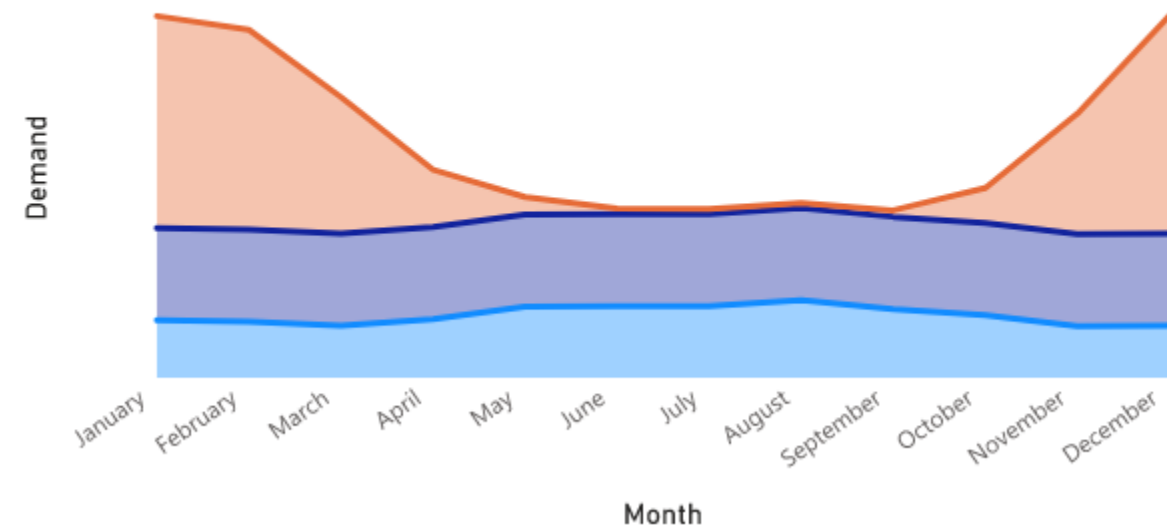


# Installation Electrification

- Analyze existing natural gas building equipment inventory and electrical infrastructure
  - Assumed equipment conversion with electric heating element
  - Estimate electric demand
  - Peak demand increase to 4.6 times of existing peak
- Developed required electrical infrastructure upgrades and natural gas equipment replacement
  - Replace Gas Equipment: \$16.18 /SF
  - Substation & Distribution System: \$5.52 /SF

Monthly Peak Demand

● Existing Electric Load ● EV ● Gas Equipment





# CFE Procurement

- Evaluated all options available to DDJC
  - Discussions with PG&E and WAPA
  - On-Site – DDJC Preference
    - Government-Owned: Appropriations (O&M, MILCON, ERCIP), Performance Contracting (ESPC, UESC\*)
    - Privately-Owned: PPA, Real-Property Arrangements, ESPC ESA
  - Off-Site:
    - Competitive supplier, Utility Green Pricing/Tariff\*, Community Choice Aggregation\*, Community Solar\*, Power Purchase Agreement, Energy Attribute Certificates Purchase
- Potential 18% premium on electric rate for 100% CFE through WAPA
- Interest in PV development of Tracy Annex to meet 100% CFE goals







**Stanley Lam, PE, CEM**  
Project Manager, HDR

[stanley.lam@hdrinc.com](mailto:stanley.lam@hdrinc.com)  
[www.hdrinc.com](http://www.hdrinc.com)