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Exhibit No.: UCAN-06
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Exhibit UCAN-06

SDG&E Response to UCAN Data Request 01, Question 47, Supplemental Response
Palomar Energy Center Tour Guide
(June 29, 2026)

Tour

1. Conference room
    a. One of the few in the country with this many use cases, at this size of electrolyzer
2. Use Cases
    a. Blending
    b. Cooling
    c. Fueling
3. Solar
    a. 274KWdc (233KWac) of solar added to the site
    b. Where is the solar connected: Solar is connected to 480V bus at Admin Building.
    c. Wanted to put more but were constrained. Why?
4. Controls
    a. Tied into DCS, through Ovaition, which is the control system for the power plant.
    b. There is no internet access to the site.
    c. Brain of the system
5. HFCEV & Fueling
    a. Open the car hood, show the hydrogen fuel cell, show high voltage orange lines.
    b. Must let Sugandi know if we want the car, most of the time the car is being used.
    c. Pressure at the pump is 10,000 PSI, this is just the dispenser unit.
    d. How many minutes does it take to fuel? 5-10 minutes because the compressor has to kick in
    e. Show the nozzle
    f. Piping is under the site
    g. H2 is cooled to -40 for fueling
6. Electrolyzer
    a. 1.25 mw
    b. 22 kg per hour
    c. How does an electrolyzer work? Electrolyzer takes deionized water and electricity (dc) and makes hydrogen and oxygen. Oxygen gets vented out and H2 gets stored.
    d. Nel manufacturer
    e. PEM
    f. Containerized system
    g. Can open the back door to see the water circulation system, the pressure, do not let them in (tight space and chance of someone touching the controls out of curiosity.)
        i. The electronic controls are in the back door
    h. Talk about why we have the fueling station further away from the dispenser. Done this way because of NFPA 2 safety standards.
    i. Hydrogen pressure at the outlet of the electrolyzer? 480PSI (30 bar).
    j. Deionizer inside of the equipment
    k. What is the water usage? 4 gallons per 1kg of h2
    l. Heat transfer on top of the system
7. Fueling station module
    a. Where all the cooling happens for the hydrogen before it gets to the pump.
    b. The pressure gets up to 10000 PSI for the pump

8. Compressor
    a. H2 gets compressed then moved to storage tanks (from 480 psi to 7000 psi)
    b. Two stage compressor.
    c. H2 goes into the compressor at 480psi, then the car is filled up to 10,000psi?
    d. Layout is due to space constraints but it is a little funky. Bound by the crane and the necessity of having the fueling station over there.
9. Valve Panels
10. Storage Tanks
    a. Can fuel the h2 storage tanks from an outside tank
    b. Show the overhead pipes
    c. Crane
    d. Storage pulls 250kg of h2
    e. Walk to the back of the storage tanks to show the valve panel
    f.
11. Blending Skid
    a. 2% H2 blend into the natural gas
    b. No modifications to the turbine were necessary
    c. Two gas turbines then one steam cycle
    d. Full capacity of the power plant is around 580 MW. Two 170 MW gas turbines (GE Frame 7) and one steam turbine around 230MW. The blending happens at one of the gas turbines.
        i. Summertime afternoons it might hit full capacity
    e. 60% efficiency as best-case scenario
    f. Blending skid controls the amount of h2 going into the system
    g. Gas analyzer on other side – tells the percentage of h2 gas in the turbine
12. Power plant
    a. H2 reduces the co2 going into the atmosphere
    b. Up to 2% by volume, manufacturer only allows up to 5%
    c. Think of an airplane engine, it produces a lot of heat, that heat then goes through a heat recovery steam generator which makes steam that goes into another turbine
    d. 480mw
    e. Goes back to the grid through the substation
13. Tax credits
    a. Registered the solar into WREGIS
    b. Prevailing wage – this system was built in 2022 so this was exempt from the prevailing wage requirements. Any project constructed after 2024 will have to abide, ARCHES will have the same requirements.

System Specifics

Electrolyzer:

Electrolyzer is NEL MC-250, produces around 500 kg of hydrogen per day. The unit is a 1.25 MW class electrolyzer. Average power consumption at stack per mass of H2 gas produced is 51 kWh per kg.

System	Electricity consumption	Water Consumption	Discharge Pressure	Size
NEL MC-250	51 kWh/kg	58 gal/hr	435 psig (30 bar)	40ft x 8ft x9.9 ft

MODEL	MC250	MC500
Class	1.25 MW	2.5 MW
Description	Fully-automated MW-class on-site hydrogen generator utilizing a modular containerized design for ease of installation and integration Tri-mode operation (selectable): • Command-following mode allows operation based on available input power • Load following mode automatically adjusts output to match demand • Tank filling mode operates with power-conservation mode during standby	
Electrolyte	Proton Exchange Membrane (PEM) – caustic-free	
HYDROGEN PRODUCTION		
Net production rate Nm^3/h @ 0° C, 1 bar SCF/h @ 70° F, 1 atm kg/24 h	246 Nm^3/h 9,352 SCF/h 531 kg/24 h	492 Nm^3/h 18,704 SCF/h 1,062 kg/24 h
Delivery pressure – nominal	30 barg (435 psig); full differential pressure H_2 over O_2	
Average power consumption at stack per volume of H_2 gas produced[1]	4.5 kWh/Nm^3	
Average power consumption at stack per mass of H_2 gas produced[1]	50.4 kWh/kg	
Purity (concentration of impurities)	99.95% [H_2O < 500 ppm, N_2 < 2 ppm, O_2 < 1 ppm, all others undetectable]	
Purity (concentration of impurities with optional high purity dryer)	ISO 14687:2019(E) Type I, Type II Grade D and SAE J-2719 Type I Grade L 99.9995% [H_2O < 5 ppm, N_2 < 2 ppm, O_2 < 1 ppm, all others undetectable]	
Start-up time (from off state)	< 5 min	
Ramp-up time (minimum to full load)	< 15 sec	
Ramp rate (% of full-scale)	≥ 15% per sec (power input mode)	
Production capacity dynamic range	10 to 100%	
DI WATER REQUIREMENT		
Consumption rate at maximum production	222 l/h (58 gal/h)	444 l/h (116 gal/h)
Temperature	5 to 40°C (41 to 104°F)	
Input water quality	Required: ASTM Type II Deionized Water, < 1 µS/cm (> 1 MΩ-cm) Preferred: ASTM Type I Deionized Water, < 0.1 µS/cm (> 10 MΩ-cm)	
Water purification system (included)	Reverse Osmosis/Electronic DI (RO/EDI)	

MODEL	MC250	MC500
ELECTRICAL SPECIFICATIONS		
Electrical requirements	Typical installation: 6.6 to35 kV, three phase 50 Hz/60 Hz Low voltage, three phase required for balance of plant and ancillary equipment	
Power quality	Total harmonic distortion: < 5%, power factor: > 0.9 nominal power, at normal power	
PHYSICAL CHARACTERISTICS		
Electrolyser container[2] W x D x H	12.2 m x 2.5 m x 3 m (40 ft x 8 ft x 9.9 ft)	12.2 m x 2.5 m x 3 m (40 ft x 8 ft x 9.9 ft)
Rectifier/transformer container[2] W x D x H	6.1 m x 2.5 m x 2.6 m (20 ft x 8 ftx 8.5 ft)	12.2 m x 2.5 m x 3 m (40 ft x 8 ft x 9.9 ft)
ENVIRONMENTAL CONSIDERATIONS – DO NOT FREEZE		
Standard siting location	Outdoor, pad mounted Flatness 35/25 per ACI-117-10 Bottom access for AC and DC electrical connections, water and drains	
Storage/transport temperature	5 to 60°C (41 to 140°F)	
Ambient temperature	-20 to 40°C (-4 to 104°F)	
Altitude range-sea level	1,000 m (3,281 ft)	
OPTIONS		
• Medium voltage input 4.16 to 6.6 kV	• Thermal control unit	• High purity hydrogen dryer with dew point meter

Storage:

10 vessels are used for the storage of hydrogen. The two vessels on top are only used for the hydrogen fueling. Maximum stored pressure of 7,252 psig.

System	Number of Cylinders	Amount of Hydrogen per vessel	Volume of each vessel	Highest pressure, psig	Size
Tenaris	10	29 kg (64 lbs)	996 L	7,252	30ft x 10ft x8 ft

Hydrogen Supply Compressor:

Hofer is the manufacturer of hydrogen supply compressors. The compressor takes 480 psi hydrogen from the electrolyzer and pressurizes up to 7250 psi.

Hydrogen Station Module:

Hydrogen station module will include chiller, control system for the dispensing of hydrogen.

Hydrogen Vehicle Fueling Dispenser:

Hydrogen vehicle fueling dispense hydrogen at 10,000 psi.

Blending Skid: (PSM)

Hydrogen gets to 600 psig for the blending skid. The output pressure of the blended natural gas and hydrogen is at 475 psig.

Generator Cooling:

The pressure of hydrogen for generator cooling is set at 125 psig.

Frequently Asked Questions

- How many kilograms of h2 are stored on-site?
    - 250 kg
    - Electrolyzer can produce 500kg, why not store more? Space and budget constraints
- Volume of h2 that is the blended into the gas?
    - Up to 2% and only in one turbine
- Were any modifications to the turbines necessary?
    - No, OK up to 5%
    - GE Frame 7 Turbine
- What is the footprint of the system?
    - Around 4,600 sq ft
- Water & power consumption
- Efficiency numbers of h2 per kilowatt hour
- What does maintenance of the system look like?
    - Long term service agreements with the different equipment manufacturers. There is 3 month, 6 month, and annual maintenance. Filters, lubricants, etc.
- Hydrogen vs batteries
    - Plant operator has said that he prefers the hydrogen system because it is more similar to the other gas systems, unlike other battery systems which are more black box