Adelanto Developments - Adelanto_Cassia Rd. & Koala Rd. 22 acre Community Solar CoGen

IDG & Tesoro Sol

Developer: IDG Group - CIOproUSA

City: Adelanto, CA

APNs: [3129-261-14-0000, 3129-361-69-0000, 3129-261-70-0000]

Use Case

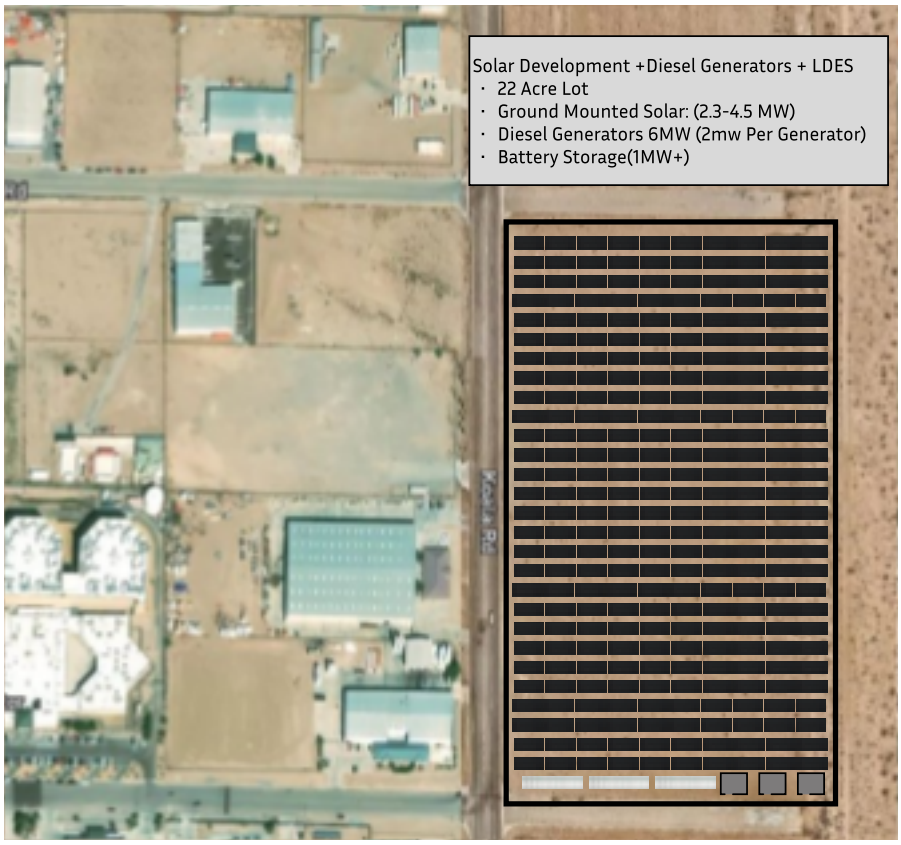
Solar + Large-Scale Energy Storage (LDES): The Cortez Avenue Project lends itself to best use as a Solar PV Plant with accompanying LDES. We can provide a stable and sustainable power solution to the surrounding residential customers. In addition, this site is located in good proximity to the local SCE Substation, and can become a distributed generation project with the potential to resell power back to the grid.

Co-Gen: This site has potential to host CoGen as well with either Diesel Generators or Natural Gas. With container sizes (50 ft x 12.5) for 2MW Output via Diesel we can multiply the potential output 2 times over with minimal space taken. Martin Energy Group has reviewed this site and recommends a 6MW CoGen Build.

Highlights:

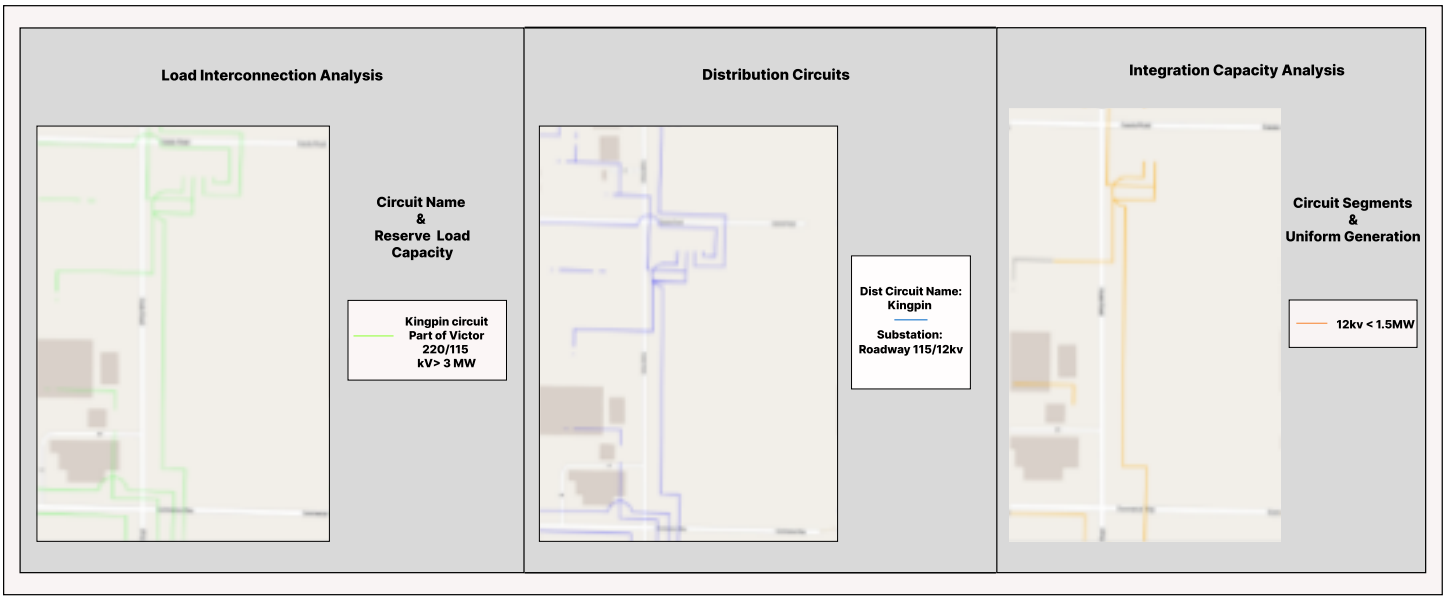
(Justice40 Disadvantaged; Opportunity Zone 91.16; Likely to pass Rule 21 Screening for Photovoltaic (DRPEP))

Example



***Refer to system spec for solar, diesel and battery estimates

Drpep Distribution Information



The Circuit has enough reserve capacity for the system, the interconnection queue for this site has yet to be investigate

Financing

Equity Investment: Imperial Development Group and limited partners

PPA Financing: GreenRock financing

Other Loans: Potential Construction Loan if needed

Project Quote		
Component	Smaller System	Larger System
PV+LDES+DG	3MW+12MWh+2MW	5MW+15MW+4MW
Solar	$990,000	$1,650,000
Battery	$3,000,000	$15,000,000
Diesel Generators	TBD	TBD
Interconnection	TBD	TBD
Total	$3,990,000	$16,650,000

Tax Credit

Green implicates that the site is eligible for the 30c boosted tax credits through 2030

MIP

Micro-grid Incentive Program Eligibility		
Vulnerable to outages(needs 1 of 3 to qualify)		
Tier 2 or Tier 3 high fire-threat district:	No	
Area That experienced prior PSPS outage(s):	Yes	
Elevated earthquake Risk Zone:	Weak (Level 2)	
Disadvantages and Vulnerable Community(Need 1 of 3 to qualify)		
Census Tract median household Income:	$25,448	
California Native American Tribal Community:	No	
Community in the top 25% most	Yes	
A rural area	Yes	
Technical Eligibility		
Microgrid boundary load profile	Will Meet SCE Standards	
Interconnect on a distribution line that is at 50kV or below	Yes	
Have aggregate emissions, along with non-Project Resources, no greater than equivalent grid power when operating in Island Mode	Will Meet SCE Standards	Must meet SCE Standards for MIP

Scoring Section

Customer and Community Benefits

Subcategory	Scoring Parameter/Criteria	Validation	Points	Points Cap
Low Income Customers	Number of CARE/FERA customers within MIP Project	Utility Records		8
Vulnerable Customers	Number of AFN/Medical Baseline/Life Support customers within MIP Project	Attestation from authority with jurisdiction		10
Critical Facilites	Number of Critical Facilities within MIP Project Boundary	CPUC Definition		30
	Number of Critical Facilities within MIP Project Boundary Serving DVC	CPUC Definition		
Community Services	Community Resilience Service facilities within MIP Project (min. of 1)	Attestation from authority with jurisdition		2

Resilience Benefits

Subcategory	Scoring Parameter/Criteria	Validation	Points	Points Cap
Location Outage Risk	HFTD 2	CPUC HFTD Map		6
	HFTD 3	CPUC HFTD Map		
	Prior PSPS Events - 2 points per historical PSPS event (any year) that has not been substantially mitigated at the time of MIP application	Utility Records		14
	1% Worst Performing Circuits (past 2 years)	Appears in either of prior 2 years of Utility Annual Electric Reliability Report		4
Island Duration	Duration of Islanded Operation provided by MIP Project Beyond 24hr minimum requirements	Each subsequent 6-hour period of operation beyond 24 hours determined by typical load profile of the microgrid.		6

Environmental Benefits

Subcategory	Scoring Parameter/Criteria	Validation	Points	Points Cap
	100%	% of installed IFOM clean energy Project Resource capacity in relation to the total installed IFOM resource capacity within MIP Project. Points given for MIP Projects “where percentage exceeds 80%. Installed capacity for resources using inverters will be based on the Alternatic Current (AC) output capability		17
	95-99%			
	90-94%			
	80-89%			
	<79%	Application Attestion		3

Interconnection & System Specification

Interconnection Distance

Remaining Load Capacity	< 0.25 MI	0.25-0.5 MI	0.5-1.0 MI	1.0- UL MI
< 0.3 MW				
0.3-1 MW				
1-30 MW				
30-500 MW				
500+ MW				

Power Line Distance

Line Voltage	< 0.25 MI	0.25-0.5 MI	0.5-1.0 MI	1.0- UL MI
< 1 kV				
1 - 30 kV				
30-150 kV				
>150 kV				

Variable	Value	Notes
Interconnection		
Name:	**Roadway**	SSID: 1829
Distance:	2.36 Miles	
Regulator:	CPUC/SCE	
Total Load Capacity:	22.34MW	
Available Load Capacity:	3.83MW	
Substation Upgrade:	Not planned	Interconnection studies in this area have identified ***adequate*** deliverability.
Obstacles:	Residential Buildings, Existing Load on ICA Segment	This is a potentially constrained circuit. Load was aggregated for this circuit due to failure of the 15/15 rule.
Power Lines		
Power Line Voltage	12kV/220kV	
Power Line Distance	Onsite	
Power Line Connected Substation	Roadway	**System Name: Victor 220/115 System**

Solar System		
Solar System Min.(MW):	2.7	5,040 panels (35 feet row seperation)
Solar System Max.(MW):	5.5	10,080 panels (15 feet row seperation)
Price Per MW:	330,000	
Annual Energy Production:		
Panels Power Output(W):	550	

Diesel Generators allow us to scale the energy output of the site significantly.

Diesel Generators		
Generator Output Min.(MW):	2	1 Generators(expecting one generator)
Generator Output Max.(MW):	20	10 Generators
Output Per Generator(MW)	2	
Oil Tank Size:	200 Gallons	
Annual Energy Production:		
Generator Width	12.5 ft	3.81 Meters
Generator Length	50 ft	15.24 Meters
Engine:	Siemens SGE-100EM 1200 RPM Engine (2MW)	Cummins: HSK78G Natural Gas (2MW)

Battery Energy Storage System		
Battery Size Min(MW):	3	(12MWh)
Battery Size Max(MW):	15	(60MWh)
Price Per MW:	1.12 Million USD	Based on Powin 30 MW Quote
DC Scope	DC Stacks + Enclosure	
AC Scope	PCS + MV Transformer	Power conversion system with medium voltage transformers
System Duration:	4MWh	
Charge Type:	Asymmetric	Does not need to fully charge
Physical Constraints:	Southern Mountain side	Has an elevation leading up to the mountain

Variable	Value	Notes
Site Details		
Min. Ambient Temp.	34 F	
Max. Ambient Temp.	105 F	
Site Altitude	3004ft	
Site Latitude / Longitude	(34.548784, -117.452575)	
Max. Wind gusts at site	50+ MPH	(Average High 28 MPH)
Seismic Activity Level	Weak	Level 2 or below
Corrosive Environment(NEMA enclosures)		
Site Available Internet Access		
Zoning	**Commercial/Agriculture**	
Total Acreage	**22**	
Dimension		
Dimensions(Y)		

Rates and Tariff Schedules

Base Rate					
	2024	2025	2026	2027	2028
SCE IND	19.88	21.0728	22.33717	23.6774	25.09804
SCE COMM	21.11	22.3766	23.7192	25.14235	26.65
SCE RES	30.48	32.3088	34.24733	36.30217	38.4803

EPC Labor and Wages

- **CIOPROUSA:** Started by Elias Cortez, with over 40 years in IT and former CIO of California, focusing on both private and public sector projects.
- **American Construction Services:** Offers over 100 years of combined experience in general contracting, serving government bodies and major corporations since 1993.
- **ASG Solutions Corporation:** Specializes in safety construction with more than 16 years of experience, overseeing projects worth over $10 billion and employing over 65 experts.
- **Greenrock Panels:** EPC and Expert Photovoltaic Module Manufacturer
- **Powin**: Commercial & Grid-Scale LDES Provider

Appendix I

- 15/15 Rule: any aggregated customer information provided by SCE be made up of at least 15 customers and a single customer's load must be less than 15% of an assigned category.
- Alternative CoGen Exists with Cummins HSK78G Series Engine (2MW)

Adjacent Solar Farms - 9001 Cassia Road, Unit #2, Adelanto, CA 92301 and 9001 Cassia Road, Unit #2, Adelanto, CA 92301 producing approximately 6.7 GWh annually combied b Clean Focus Yield LLC.