



GPA

New Resource Projects & Demand Side Management

STAKEHOLDER MEETING #2
GPA INTEGRATED RESOURCE PLAN 2021

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What GPA is doing to address compliance requirements and meet customer demand

- Federal Emissions Regulations
 - Consent Decree Projects
 - Energy Storage System
 - **Additional 120 MW Solar Plant Energy Contracts**
 - **180 MW New Power Plant**
 - Fuel Conversion of Piti 8&9
 - GPA Bulk Storage Tank Inspection/Repairs/Conversion
 - Retirement of Cabras 1&2
- Renewable Portfolio Standards (RPS) amended 2019 by PL 35-46 for 50% of energy sales produced by renewable energy by 2035
 - Renewable Energy Contracts



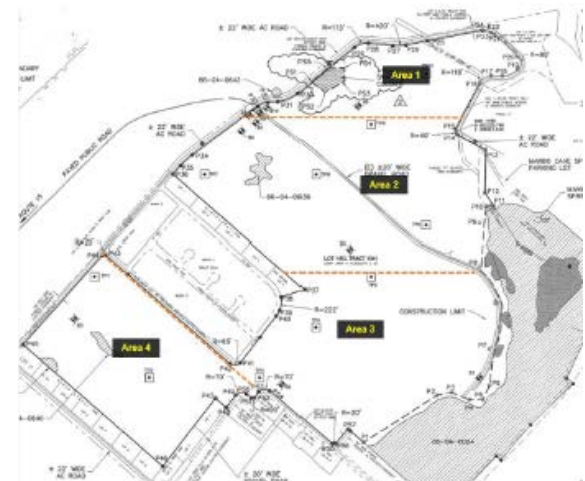
What GPA is doing to address compliance requirements and meet customer demand

- **Customer Demand**

- Demand Side Management (DSM)
 - Help Customers Reduce Energy Use and Cost
 - Improve Quality of Life
 - Energy Efficient Rebate Programs
 - Reduce Energy Demand and Consumption
 - Lower Fuel and Non-Fuel Operating Expenses
 - Improve the Environment and Enhance Sustainability
 - Greater Value to Customers
- Utility Energy Service Contract (UESC)
 - GPA Partnered with ESCO (Siemens) to Implement Energy Efficient Projects
 - Financing is done by Customers or Grants
 - Customers - GDOE, UOG, NAVFAC (Anderson Air Force Base)

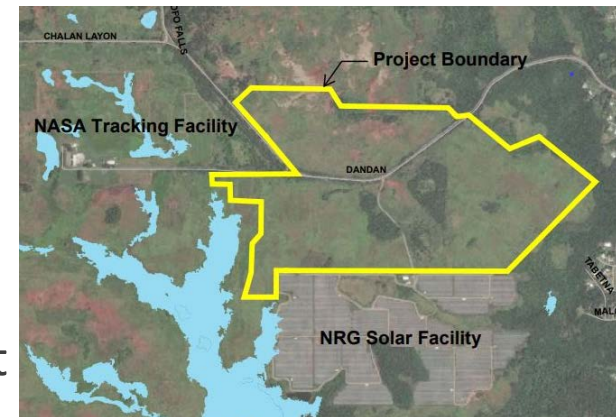
Renewable Energy Contracts

- KEPCO Mangilao Solar LLC
 - Solar PV Capacity – 60 MW
 - Integrated ESS – 32 MW/32 MWh
 - Ramp Rate Control
 - Smooth out the solar plant fluctuation output
 - Location – Mangilao
 - 25 Year PPA
 - Status – Construction ongoing
 - 62,300 (of 220,000) Solar Panels Installed



Renewable Energy Contracts

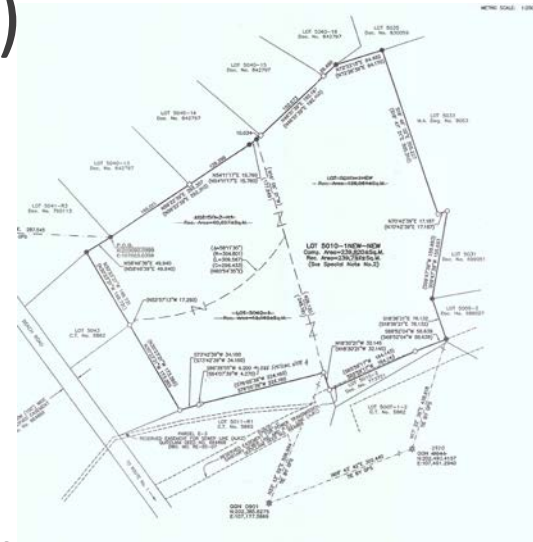
- HEC Guam A&B Solar LLC
- Solar PV Capacity – 60 MW
- Integrated ESS – 40 MW/65 MWh
 - Ramp Rate Control
 - Smooth out the solar plant fluctuation output
 - Shift 15MW of PV output
- Location – Inarajan
- 25 Year PPA
- Status – Engineering design and permitting ongoing





180 MW Ukudu Power Plant

- Guam Ukudu Power LLC (KEPCO)
 - 3 x 57 MW Combustion Turbines and HRSG
 - 1 x 27 MW Steam Turbine
 - Dual Fired – (ULSD) Diesel and LNG
 - 41 MW Reserved Diesel Plant
 - Location – Harmon
 - 25 Year ECA
 - Status – Engineering design and permitting ongoing





Demand Side Management

- **Energy Sense Program**

- **Residential Customers**

- Rebates for Energy Efficient Air Conditioning Units, Washer and Dryer Appliances
 - Status – Ongoing

- **Expansion Programs to include Commercial Customers**

- Energy Efficient Air Conditioning Units
 - Energy Efficient Lighting



Demand Side Management (Continue)

- **Utility Energy Service Contract (UESC)**
 - **GDOE**
 - **BEST Schools**
 - Preliminary Audit of 41 GDOE Schools (Elementary, Middle and High Schools)
 - Lighting, Air Conditioning (Solar Assisted), Building Management System Pilot Project at Carbullido Elementary
 - **Grants**
 - LED Lighting Retrofits for GDOE (US DOI Funded)
 - George Washington High School and Southern High School
 - Agueda Johnston and Maria Ulloa Elementary Schools (Initiatives with GEO) (US DOE Funded)
 - Energy Smart Schools
 - Energy Audits, Energy Management Plan Development, Curriculum Training, Conference
 - Bishop Baumgartner Memorial, Santa Barbara Catholic School, Temple Baptist, and Academy of Our Lady of Guam



Demand Side Management (Continue)

- **Utility Energy Service Contract (UESC)**
 - **UOG**
 - Smart House Pilot Program – Sea Grant Office
 - Energy Efficient Air Condition, Efficient Lighting (LED), Energy Efficient Water Heater, Low Flow Shower Head, Energy Efficient Refrigerator, EV Charging Station
 - **NAVFAC**
 - Energy Efficient LED Lighting Upgrades to Various Parking Lot or Street Security Lighting Locations (Anderson Air Force Base)



Project Status

- Completed
 - Smart House Pilot Program for UOG Sea Grant Office – March 2018
 - Preliminary Audit of 41 GDOE Schools (Elementary, Middle and High Schools) – July 2018
 - LED Lighting Retrofits at George Washington High School – August 2019
 - LED Lighting Retrofits at Southern High School – August 2019
 - Carbullido Elementary School Pilot – November 2019
 - Energy Storage System – March 2021
- Ongoing
 - GPA Bulk Storage Tank Inspection/Repairs/Conversion - Expected Completion 2021
 - LED Lighting Retrofits at Agueda Johnston Middle School & Maria Ulloa Elementary School – Ongoing
 - Energy Efficient LED Lighting Upgrades to Various Parking Lot or Street Security Lighting Locations (Anderson Air Force) – Expected Completion 2021
 - Energy Smart Schools – Expected Completion 2021
 - Fuel Conversion of Piti 8&9 – Expected Completion 2022
 - KEPCO Mangilao Solar LLC - Expected Completion 2022
 - HEC Guam A&B Solar LLC - Expected Completion 2023
 - 180 MW Ukudu Power Plant - Expected Completion 2023
 - Retirement of Cabras 1&2 – After Completion of 180MW Ukudu Power Plant