Energy Resilience and Conservation Investment Program (ERCIP)
FY 2025 Military Construction, Defense-Wide
Project List by State/Country
($ in Thousands)

State / Country	Component	Project Title	Project Type	Authorization ($000)	Page No.
Alabama					
Anniston Army Depot	Army	Power Generation and Microgrid	ER	$56,450	191
AL Totals		**1 Project**		**$56,450**	
Delaware					
Biden National Guard/Reserve Center	ARNG	Microgrid and Backup Power	ER	$22,050	194
DE Totals		**1 Project**		**$22,050**	
Illinois					
Rock Island Arsenal	Army	Power Generation and Microgrid	ER	$70,480	197
IL Totals		**1 Project**		**$70,480**	
Indiana					
Camp Atterbury	ARNG	Power Generation and Microgrid	ER	$39,180	200
IN Totals		**1 Project**		**$39,180**	
Maine					
Naval Shipyard Portsmouth	Navy	Power Plant Resiliency Improvements	WR	$28,700	203
ME Totals		**1 Project**		**$28,700**	
Maryland					
Aberdeen Proving Ground (Edgewood)	Army	Power Generation and Microgrid	ER	$30,730	206
Joint Base Andrews	Air Force	Microgrid with Electric Vehicle (EV) Charging Infrastructure	ER	$17,920	209
MD Totals		**2 Projects**		**$48,650**	
New Jersey					
Joint Base McGuire-Dix-Lakehurst	Air Force	Microgrid with Electric Vehicle (EV) Charging Infrastructure	ER	$17,730	212
NJ Totals		**1 Project**		**$17,730**	
Ohio					
Wright-Patterson Air Force Base	Air Force	District Cooling Plant	ER	$53,000	214
OH Totals		**1 Project**		**$53,000**	

State / Country	Component	Project Title	Project Type	Authorization ($000)	Page No.
Washington					
Joint Base Lewis-McChord - Gray Army Airfield	Army	Power Generation and Microgrid	ER	$40,000	217
Naval Magazine Indian Island	Navy	Backup Power and Microgrid	ER	$39,490	220
WA Totals		**2 Projects**		**$79,490**	
Overseas Projects					
Bahrain					
Naval Support Bahrain	Navy	Ground Mounted Solar Photovoltaic System	EC	$15,330	222
Bahrain Totals		**1 Project**		**$15,330**	
Greece					
Naval Support Activity Souda Bay	Navy	Advanced Microgrid	ER	$42,500	225
Greece Totals		**1 Project**		**$42,500**	
Italy					
Naval Air Station Sigonella	Navy	Microgrid Control Systems	ER	$13,470	228
Italy Totals		**1 Project**		**$13,470**	
Japan					
Combined Arms Training Center, Camp Fuji	USMC	Microgrid and Backup Power	ER	$45,870	231
Japan Totals		**1 Project**		**$45,870**	
Department of Defense					
Various Locations	Defense-wide	Current Projects Cost to Complete		**$103,100**	234

CONUS ERCIP Construction Project Totals (11)	**$415,730**
OCONUS ERCIP Construction Project Totals (4)	**$117,170**
Defense-Wide Construction Projects Cost to Complete	**$103,100**
ERCIP Construction Project Totals (15)	**$636,000**
ERCIP P&D Funds Total	**$96,238**
ERCIP Program Total	**$732,238**

ER and WR are for Energy/Water Resilience projects; EC and WC are for Energy/Water Conservation projects

Energy Resilience and Conservation Investment Program (ERCIP)
FY 2025 Military Construction, Defense-Wide
Project List by Component
($ in Thousands)

Component	Location	State/ Country	Project Title	Project Type	Cost
Army					
94951	Biden National Guard/Reserve Center	DE	Microgrid and Backup Power	ER	$22,050
100282	Camp Atterbury	IN	Power Generation and Microgrid	ER	$39,180
100947	Joint Base Lewis-McChord - Gray Army Airfield	WA	Power Generation and Microgrid	ER	$40,000
100946	Rock Island Arsenal	IL	Power Generation and Microgrid	ER	$70,480
100949	Aberdeen Proving Ground (Edgewood)	MD	Power Generation and Microgrid	ER	$30,730
100945	Anniston Army Depot	AL	Power Generation and Microgrid	ER	$56,450
Army Project Totals			**6 Projects**		**$258,890**
Navy					
P-1112	Naval Shipyard Portsmouth	ME	Power Plant Resiliency Improvements	ER	$28,700
P-620	Naval Magazine Indian Island	WA	Backup Power and Microgrid	ER	$39,490
P-181	Naval Support Bahrain	Bahrain	Ground Mounted Solar Photovoltaic System	EC	$15,330
P-999	Naval Support Activity Souda Bay	Greece	Advanced Microgrid	ER	$42,500
P-139	Naval Air Station Sigonella	Italy	Microgrid Control Systems	ER	$13,470
Navy Projects Total			**5 Projects**		**$139,490**
USMC					
P-904	Combined Arms Training Camp Fuji	Japan	Microgrid and Backup Power	ER	$45,870
USMC Project Total			**1 Project**		**$45,870**
DAF - Air Force					
AJXF1114867	Joint Base Andrews	MD	Microgrid with Electric Vehicle (EV) Charging Infrastructure	ER	$17,920
PTFL223000	Joint Base McGuire-Dix-Lakehurst	NJ	Microgrid with Electric Vehicle (EV) Charging Infrastructure	ER	$17,730
ZHTV193001	Wright-Patterson Air Force Base	OH	District Cooling Plant	ER	$53,000
Air Force Project Totals			**3 Projects**		**$88,650**

Department of Defense

Multiple Projects	Multiple Installations	World-Wide	Current Projects Cost to Complete	**$103,100**

Energy/Water Resilience Projects (14)	**$517,570**
Energy/Water Conservation Projects (1)	**$15,330**
Defense-Wide Construction Projects Cost to Complete	**$103,100**
ERCIP Construction Projects Total (15)	**$636,000**
ERCIP P&D Funds Total	**$96,238**
ERCIP Program Total	**$732,238**

ER and WR are for Energy/Water Resilience projects; EC and WC are for Energy/Water Conservation projects

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Anniston Army Depot Alabama	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100945	56,450

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**40,720**
Primary Power Generation (CC81117)	KW	10,000	2,849	28,490
Microgrid Controls	LS	--	--	3,060
Transformers, Switchgear, Switches and Breakers Building	LS	--	--	7,570
Commissioning and Testing	LS	--	--	1,060
Cybersecurity	LS	--	--	540
SUPPORTING FACILITIES				**5,370**
Interconnection Fees and Engineering Studies	LS	--	--	2,310
Electric Service	LS	--	--	530
Water, Sewer, Gas	LS	--	--	800
Site Improvements	LS	--	--	600
Demolition	LS	--	--	540
Information Systems	LS	--	--	340
Environmental and Air Permitting	LS	--	--	250
SUBTOTAL				**46,090**
CONTINGENCY (15%)				6,914
TOTAL CONTRACT COST				**53,004**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				3,445
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**56,449**
TOTAL REQUEST (ROUNDED)				**56,450**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Construct an installation-wide microgrid with new natural gas (NG) generation and medium voltage distribution switchgear that will be combined with both an existing substation solar photovoltaic (PV) array owned by Alabama Power Company (APC), and an existing Army NG generation. The completed system will utilize automatic switching to isolate from the APC's electrical distribution system and prioritize critical loads to maintain continuity of operations across Anniston Army Depot (ANAD) during electrical outages for 14+ days.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
Construct a microgrid to secure resiliency for critical loads powered by a newly installed Army-owned NG generation plant, a existing Army-owned NG generation plant, and a utility-owned existing solar.

REQUIREMENT:
Installation of a microgrid with multiple energy sources will secure resilience for the total mission critical demand for powering the Industrial Area during a utility outage. This project provides the second phase of a two-phase approach to power critical facilities. This project will cover 100% of installation's critical load distributed.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Anniston Army Depot Alabama	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100945	56,450

CURRENT SITUATION:

Current power can only serve less than 50% of the critical load for a short period of time. The existing generators are not equipped to be grid-tied, and therefore would require cost-prohibitive modifications to be useful in a microgrid arrangement. Without this project, ANAD will continue to be susceptible to grid outages disrupting the operation of critical facilities supporting depot-level maintenance, conversion, and restoration of military vehicles.

IMPACT IF NOT PROVIDED:

This project will impact the maintenance and assembly of critical military systems. According to the IEWP, the mission of the ANAD is to build "Combat Power through advanced remanufacturing and reclamation to deliver agile sustainment that produces readiness today and posture for Surge sustainment level capability globally".

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	AUG/2023
(b) Percent of Design Completed as of Jan 2024:	35%
(c) Design or RFP Complete:	SEP/2024
(d) Total Design Cost ($000) *(C) = (A)+(B) or (D)+(E)*	
A. Production of plans and specifications	0
B. All other design costs	0
C. Total	8,100
D. Contract	6,900
E. In-house	1,200
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	No
(3) Construction Data:	
(a) Contract Award:	MAR/2025
(b) Construction Start:	MAY/2025
(c) Construction Complete:	MAY/2027
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Resilience	

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Anniston Army Depot Alabama	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100945	56,450

d. Rationale IAW 10 USC 2914: This project is critical for mission assurance at ANAD and will reduce the risk and consequences of electrical interruptions by providing improved energy resilience for 14+ days, by constructing an installation black-start capable microgrid to secure resiliency for ANAD critical loads powered by a 10MW newly installed Army-owned NG generation plant, a 7.5MW existing Army-owned NG generation plant, and a total of 7.4MW utility owned existing solar connected to the installation electric distribution system with the required switching and controls enabling islanding capability to provide self-sufficient electricity for mission-critical loads off the three existing onsite APC substations.

e. FRCS Requirements: Directorate Public Works (DPW) agrees to become the system owner, maintain the required ATO certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Army/National Guard	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Biden National Guard/Reserve Center New Castle, Delaware	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	94951	22,050

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**14,650**
Natural Gas Generator (CC81122)	KW	900	3,256	2,930
Battery Energy Storage System (BESS)	KW	700	2,072	1,450
Microgrid Control System	LS	--	--	8,550
Underground Primary Service	LS	--	--	1,070
Underground Secondary Service	LS	--	--	390
Cybersecurity Assessment and Authorization	LS	--	--	260
SUPPORTING FACILITIES				**3,352**
Interconnection, Infrastructure Improvements and Studies	LS	--	--	2,370
Site Improvements	LS	--	--	410
Commissioning	LS	--	--	572
SUBTOTAL				**18,002**
CONTINGENCY (15%)				2,700
TOTAL CONTRACT COST				**20,702**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				1,346
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**22,048**
TOTAL REQUEST (ROUNDED)				**22,050**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Construct a microgrid system for the Delaware Army National Guard (DEARNG) powered by two natural gas (NG) fired generators, a Battery Energy Storage System (BESS), and the connection of existing onsite solar photovoltaic generation. The system will also include all necessary infrastructure, electrical distribution equipment, fiber optic network, and microgrid controls needed to operate as a stand-alone autonomous electrical power system to support critical facilities. The project will include site work, power system studies, and commissioning.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
Construct a secure microgrid including a smart grid control system, a BESS, distribution upgrades to integrate of existing rooftop solar photovoltaic arrays, and two natural gas generators.

REQUIREMENT:
The site of this project is at the Biden National Guard/Reserve Center, a National Guard installation owned and operated by the State of Delaware and federally supported. Upon completion of construction, the improvements will become State property. The construction of a microgrid will supply adequate, dedicated, and dependable power to critical DEARNG infrastructure with the capability to send the campus into island mode, disconnecting it from the grid in the event of an emergency. The microgrid control system, BESS, and distribution upgrades will assure access to energy and allow islanded operation to increase resiliency and greatly enhance mission assurance during utility outages, while maximizing renewable energy assets.

1. COMPONENT Defense Wide – Army/National Guard	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Biden National Guard/Reserve Center New Castle, Delaware	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	94951	22,050

CURRENT SITUATION:

The four main buildings at the Biden National Guard/Reserve Center ARNG HQ location are each served by their own transformer from the local electric utility provider. One circuit provides electricity to the entire campus. The DEARNG campus has experienced 10 electrical outages in the past 5 years. The current diesel generators can only supply power for 24 hours, so any extended grid outage would have catastrophic consequences for DEARNG's emergency response operation. The generators are underutilized under normal operating loads, often operating between 25 and 40% of rated capacity. At these low operating conditions, the fuel efficiency is typically low and results in wet stacking of the generator system which can lead to operation and maintenance issues and increased operating costs. By integrating these generator systems into a more optimal operating configuration, the capabilities of the generator and installation will be better utilized.

IMPACT IF NOT PROVIDED:

During times when the region does not have power, the DEARNG HQ mission becomes a priority to provide support to the Delaware and the Federal Emergency Management Agencies (DEMA and FEMA). Primarily, response efforts and coordination with DEMA and FEMA for local and national emergencies will be severely hindered delaying response and critical support during state and national emergencies.

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	MAR/2023
(a) Design or Request for Proposal (RFP) Started:	35%
(b) Percent of Design Completed as of Jan 2024:	AUG/2024
(c) Design or RFP Complete:	
(d) Total Design Cost ($000) *(C) = (A)+(B) or (D)+(E)*	0
A. Production of plans and specifications	0
B. All other design costs	3190
C. Total	2700
D. Contract	490
E. In-house	Yes
(e) Energy Study and/or Life Cycle Analysis performed?	No
(f) Standard or definitive design used?	
(3) Construction Data:	MAR/2025
(a) Contract Award:	MAY/2025
(b) Construction Start:	MAY/2027
(c) Construction Complete:	

1. COMPONENT Defense Wide – Army/National Guard	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Biden National Guard/Reserve Center New Castle, Delaware	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	94951	22,050

b. Other Appropriations or Funding Sources: N/A

c. Project Type: Energy Resilience

d. Rationale IAW 10 USC 2914: Supply adequate, dedicated, and dependable power to critical Delaware Army National Guard facilities with the capability to send the campus into island mode, disconnecting it from the grid in the event of a grid emergency or cyber event. The microgrid control system, BESS, and distribution upgrades will assure access to energy and allow islanded operation. The region is susceptible to major storms nearly year-round, so it is imperative that utility infrastructure is bolstered to prepare for these natural disasters. This project supports Biden HQ, Army Aviation Support Facility, and Joint Operating Concept operations which are critical during times of local and national emergencies as coordinated response efforts are developed with Delaware Emergency Management Agency (DEMA) and Federal Emergency Management Agency (FEMA).

e. FRCS Requirements: Directorate of Public Works (DPW) agrees to become the system owner, maintain the required ATO certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Rock Island Arsenal Illinois	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100946	70,480

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**54,317**
Power Generation, Gas-Fired (CC81117)	KW	14,000	1,899	26,586
Power Generation, Photovoltaic (PV) (CC81122)	KW	3,000	7,037	21,111
Energy Storage System (ESS)	KW	400	825	330
Microgrid Controls	LS	--	--	2,060
Transformers, Switchgear, Switches, and Breakers Building	LS	--	--	3,010
Commissioning and Testing	LS	--	--	530
Environmental and Air Permitting	LS	--	--	440
Cybersecurity	LS	--	--	250
SUPPORTING FACILITIES				**3,230**
Interconnection Service Fees and Engineering Studies	LS	--	--	300
Electric Service	LS	--	--	2,080
Water, Sewer, Gas	LS	--	--	490
Site Improvements	LS	--	--	200
Information Systems	LS	--	--	160
SUBTOTAL				**57,547**
CONTINGENCY (15%)				8,632
TOTAL CONTRACT COST				**66,179**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				4,302
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**70,481**
TOTAL REQUEST (ROUNDED)				**70,480**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Construct a microgrid system at Rock Island Arsenal (RIA) powered by natural gas-fired (NG) Reciprocating Internal Combustion Engine (RICE) generators, solar PV with an Energy Storage System (ESS) and integrating that with an existing 2.8 MW hydro-electric power plant. The system includes automated isolating switchgear to form the microgrid system, paralleling switchgear for the generators, and other necessary controls. The microgrid operates as a stand-alone autonomous electrical power system with capability to provide data link connection to the installation monitoring and control system. Supporting facilities include site development, utilities and connections, lighting, paving, parking, walks, curbs, and gutters, storm drainage, landscaping, and signage. Project will include all necessary building information systems and fire detection, fire hydrant, and security protection and alarm systems. Sustainable principals, to include life cycle cost effective practices, will be integrated into the design, development and construction of the project.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

Construct a microgrid powered by natural gas (NG) fired reciprocating internal combustion engine (RICE) generators, solar PV with Energy Storage System (ESS), and connection to the existing 2.8 MW hydro-electric plant, capable of isolating and powering 100% of the installation's critical facilities and missions.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Rock Island Arsenal Illinois	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100946	70,480

REQUIREMENT:
This project is vital to army readiness. The Joint Manufacturing and Technology Center (JMTC) is the largest Government-owned weapons manufacturing facility in the United States with the only active foundry in the Army. The foundry converts raw material, into critical component parts for the manufacturing facility. The Project Feasibility Assessment (PFA) identified the microgrid project as the best approach to achieve critical mission readiness, uninterrupted emergency services, and resilient energy to ensure the installation can sustain operations through a grid outage. The microgrid provides a distribution level control system capable of isolating from the power grid into a self-sufficient grid with continuous power to support all mission critical facilities. Compared to traditional backup power, the microgrid will provide operational reliability, maintenance sustainability and intelligent management to the whole installation and almost double the renewables capacity that supply the power to RIA to almost 50% of critical load.

CURRENT SITUATION:
Currently, RIA remains at risk for insufficient energy supply in cases of catastrophic emergencies. Only 23% of the critical facilities have diesel generators in place, and none have an alternative source that provides continuous long-term power. Currently, RIA relies completely on diesel generators as backup power to critical facilities and will run less than one day before available onsite fuel stores are depleted. Refueling is limited to a total of 20,000 gallons of stored diesel in a variety of smaller storage tanks. During an extended outage, all critical facilities will go dark in less than the required 14 days.

IMPACT IF NOT PROVIDED:
This project is critical because an outage at the Army's only recoil mechanism assembly facility and the only facility in the US that builds, assembles, and distributes tool kits for combat operations. It is critical that RIA's Advanced Manufacturing Center of Excellence maintains mission continuity. Less than 25% of the critical facilities have diesel backup generators and the fuel supply will not last for more than 1 day. Without this project RIA is unable to recover after known natural and man-made vulnerabilities, such as cyber-attacks, on the power grid and cannot sustain mission critical facilities for at least 14 days during grid outages.

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	NOV/2023
(a) Design or Request for Proposal (RFP) Started:	35%
(b) Percent of Design Completed as of Jan 2024:	FEB/2025
(c) Design or RFP Complete:	
(d) Total Design Cost ($000) *(C) = (A)+(B) or (D)+(E)*	0
A. Production of plans and specifications	0
B. All other design costs	10,125
C. Total	9,425
D. Contract	700
E. In-house	Yes
(e) Energy Study and/or Life Cycle Analysis performed?	No
(f) Standard or definitive design used?	

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Rock Island Arsenal Illinois	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100946	70,480

(3) Construction Data: (a) Contract Award: (b) Construction Start: (c) Construction Complete:	 JUN/2025 AUG/2025 AUG/2027
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Resilience	
d. Rationale IAW 10 USC 2914: This project directly remediates disruption risks to critical missions and facilities and enhances installation energy security and reliability through the installation of NG RICE generators, solar PV and ESS, providing reliable, 24-hour per day power for at least 14 days. The RICE generators, ESS, solar and hydro-electric power included in the project will not only mitigate diesel backup generator failure risk but will cover all critical facilities that currently do not have backup generation. The microgrid controls and automatic switches will allow the whole installation including the critical loads, to be isolated and powered during a grid outage.	
e. FRCS Requirements: Director Public Works (DPW) agrees to become the system owner, maintain the required ATO certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Camp Atterbury Indiana	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	100282	39,180

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**28,510**
Primary Power Generation, Photovoltaic (PV) (CC81122)	KW	3,400	3,053	10,380
Battery Energy Storage System (BESS)	KW	5,000	704	3,520
Natural Gas (NG) Generator (CC81117)	KW	5,000	540	2,700
Redundant Electrical Distribution Lines	LS	--	--	4,680
T8 Light-Emitting Diode (LED) Lighting Retrofit	LS	--	--	2,700
Transformers, Switchgear, Switches and Breaker Building	LS	--	--	3,030
Commissioning and Testing	LS	--	--	1,140
Environmental and Air Permitting	LS	--	--	110
Cybersecurity	LS	--	--	250
SUPPORTING FACILITIES				**3,480**
Interconnection Fees	LS	--	--	1,500
Electric Service	LS	--	--	1,700
Water, Sewer, Gas	LS	--	--	60
Antiterrorism Measures	LS	--	--	200
Information Systems	LS	--	--	20
SUBTOTAL				**31,990**
CONTINGENCY (15%)				4,799
TOTAL CONTRACT COST				**36,789**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				2,391
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**39,180**
TOTAL REQUEST (ROUNDED)				**39,180**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Construct a fixed-axis ground-mounted photovoltaic (PV) solar array, PV solar panels mounted on a new military vehicle and storage structure, BESS, NG generator, campus-wide LED retrofit of T8 fixtures, and the installation of a redundant electrical distribution line. The proposed construction will include an interconnection to an existing utility-owned microgrid to add additional facilities and increase capacity to the existing system and support critical missions. The installation of a solar array will include the foundations, mounts, panels, inverters, distribution lines, wiring, controls, communication, and Information Technology (IT) infrastructure, and physical security measures. The installation of a battery storage system will include an energy storage unit, foundation pad, controls, inverters, system wiring and distribution lines, communication, and IT infrastructure. The installation of natural gas generator will include foundation pad, gas supply, wiring and distribution lines, controls, and communication and IT infrastructure. Install a redundant underground medium-voltage electric distribution line (approximately 12,500 LF) from the Duke Energy substation. The solar parking structure and the campus wide T8 LED retrofit are conservation efforts intended to reduce overall demand and consumption.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Camp Atterbury Indiana	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	100282	39,180

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
Install a solar array, BESS, a NG generator, and an underground electric distribution supply line. Install a solar parking structure and retrofit T8 fluorescent fixtures to LED fixtures across the garrison to reduce demand and consumption for the purpose of conservation.

REQUIREMENT:
On Camp Atterbury cantonment all utility infrastructure up to the building is owned by local utility. Camp Atterbury entered into a land use agreement with Duke Energy to allow Duke to install a solar array with battery backup on state-owned land within the Camp Atterbury land boundary. The land use agreement stipulates that the energy produced by the Duke solar array would feed an islanded microgrid for Camp Atterbury, while the routine generation of electrical energy would feed into the main power grid for Duke Energy. This project will install a solar array, battery, and generator capable of meeting a projected peak demand and projected daily demand. This project supports the critical facilities within the Camp Atterbury Installation Energy and Water Plan (IEWP).

CURRENT SITUATION:
The energy produced by the Duke renewable infrastructure does not satisfy the electrical demand requirements for the critical facilities that support the installation's critical mission of mobilization and force generation. Camp Atterbury lacks energy security and resiliency to meet the critical mission requirements as outlined in the Installation Energy and Water Plan.

IMPACT IF NOT PROVIDED:
Significant risk for disruption to the mission will remain. Inability to maintain mobilization throughput will have cascading consequences for the time-phased force flow deployment model and Army force projection. Consequential impacts include utility cost increases, as energy usage and intensity would remain unchanged while the cost for consumption is assumed to increase year-over-year in the future.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Camp Atterbury Indiana	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81122	100282	39,180

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:

(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	MAR/2023
(b) Percent of Design Completed as of Jan 2024:	35%
(c) Design or RFP Complete:	SEP/2024
(d) Total Design Cost ($000) *€ = (A)+(B) or (€(E)*	0
A. Production of plans and specifications	0
B. All other design costs	5,625
C. Total	5,000
D. Contract	625
E. In-house	Yes
(e) Energy Study and/or Life Cycle Analysis performed?	No
(f) Standard or definitive design used?	MAR/2025
(3) Construction Data:	MAY/2025
(a) Contract Award:	MAY/2027
(b) Construction Start:	
(c) Construction Complete:	

b. Other Appropriations or Funding Sources: N/A

c. Project Type: Energy Resilience

d. Rationale IAW 10 USC 2914: Camp Atterbury is designated as a mobilization and force generation installation (MFGI). Risk tolerance is low with regards to mobilization throughput during activation of a requirement for the MFGI mission. Any disruption that causes even a small delay (three days or less) in the departure of forces would disrupt the time-phased force flow deployment model (TPFFD) with cascading ramifications at strategic levels of military operations.

e. FRCS Requirements: Directorate of Public Works (DPW) agrees to become the system owner, maintain the required ATO certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Sea Systems Command (NSS) Portsmouth Naval Shipyard Kittery, Maine	Power Plant Resiliency Improvements

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	84125	P1112	28,700

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**13,291**
Desalination System at Existing Power Plant CC84125	KG	325	14.64	4,758
System Integration Control	LS	--	--	998
Cyber Security Requirements	LS	--	--	468
Ancillary Repairs	LS	--	--	624
Saltwater Feed Pumps, New Intake Structure	LS	--	--	1,841
Saltwater Pump Room Repairs	LS	--	--	967
Anti-Terrorism/Force Protection	LS	--	--	624
Built-In Equipment	LS	--	--	2,886
Operation & Maintenance Supp Info (OMSI)	LS	--	--	125
SUPPORTING FACILITIES				**10,140**
Site Preparations	LS	--	--	1,794
Special Foundation Features	LS	--	--	421
Electrical Utilities	LS	--	--	2,933
Mechanical Utilities	LS	--	--	1,841
Environmental Mitigation	LS	--	--	1,529
Mobilization	LS	--	--	1,622
SUBTOTAL				**23,431**
CONTINGENCY (15%)				3,515
TOTAL CONTRACT COST				**26,946**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				1,751
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				28,697
TOTAL REQUEST (ROUNDED)				**28,700**

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

Construct a Desalination System at Existing Power Plant with saltwater feed pumps and a new intake structure with system integration controls.

REQUIREMENT:

The power plant generates steam, electricity, and compressed air to complete the maintenance and overhaul of nuclear-powered warships and is the primary energy supply for all mission essential requirements located at the installation. Fresh water is required to support the operation of the plant, including the generation of steam, electricity, and compressed air which are used to complete the overhaul of nuclear-powered warships. Water is also required as a back-up for cooling when the cooling towers are out of service. The majority of shipyard facilities utilize steam to heat buildings and support production operations. A resilient water supply is required to ensure that the steam can be produced at the quantities, pressure, and temperature required to ensure the loads from the buildings heated by steam and all of the industrial processes are met. To ensure the power plant has adequate supply of water to produce steam (and by default electricity), a desalination plant will be constructed in the power plant, providing all the fresh water necessary to support power plant operations. This will also provide the power plant with a resilient supply of fresh water if the supply from Kittery is disrupted. This project will modernize the installation's infrastructure to

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Sea Systems Command (NSS) Portsmouth Naval Shipyard Kittery, Maine	Power Plant Resiliency Improvements

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	84125	P1112	28,700

increase utility and energy conservation, and improve energy flexibility while providing the base with resiliency to support the critical missions of overhauling nuclear submarines.

CURRENT SITUATION:

As currently configured, loss of the municipal water supply could result in the inability to produce steam to heat and compress air to the installation and result in a reduction of electrical production. There is no backup water supply for resiliency if there were a loss of water service from the local municipality. Construction of a desalination plant within the existing power plant will provide pure water to support the daily operation of the power plant. This project will provide a redundant water supply by producing processed water for on-site steam production, and make-up water for turbine generator and air compressor cooling using desalination.

IMPACT IF NOT PROVIDED:

Loss of the commercial water supply would result in the inability to produce steam to heat and compress air to the installation, and result in a reduction of electrical production. One of the two gas turbines must pass its exhaust through a Heat Recovery Steam Generator (HRSG). That turbine, which produces 25% to 75% of the shipyard's power on any given day, must produce steam to operate, and must have a reliable source of feed water for sustained operations. This project reduces demand on the Shipyard's existing water supply, which operates at its maximum supply capacity during the times steam production is needed the most. Failure to complete this project will result in added stress to the water supply to the facility. Also, the loss of compressed air will negatively impact production work for nuclear powered warships.

1. COMPONENT	FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA	2. Date
NAVY		11 October 2023

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Center Portsmouth Naval Shipyard Kittery, Maine	Power Plant Resiliency Improvements

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81125	P1112	28,700

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:

(1) Acquisition Strategy: Design Bid Build

(2) Design Data:

(a) Design or Request for Proposal (RFP) Started:	FEB/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	65%
(c) Design or RFP Complete:	MAY/2024
(d) Total Design Cost:	2,745,000
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	Yes

(3) Construction Data:

(a) Contract Award:	JAN/2025
(b) Construction Start:	APR/2025
(c) Construction Complete:	MAY/2027

b. Project Type: Energy/Water Resilience

c. Rationale IAW 10 USC 2914: This project will modernize the installation's infrastructure to increase utility and energy conservation and improve energy flexibility while providing the base with resiliency to support the critical missions of overhauling nuclear submarines.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Aberdeen Proving Ground Maryland	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100949	30,730

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**23,040**
Primary Power Generation Natural Gas-Fired (CC81117)	KW	2,000	5,900	11,800
Primary Power Generation Photovoltaic (PV) (CC81122)	KW	34	11,471	390
Battery Energy Storage System (BESS)	KW	1,000	2,670	2,670
Microgrid Controls	LS	--	--	4,650
Transformer, Switchgear, Switches and Breakers	LS	--	--	2,510
Commissioning and Testing	LS	--	--	360
Environmental and Air Permitting	LS	--	--	410
Cybersecurity Assessment and Authorization	LS	--	--	250
SUPPORTING FACILITIES				**2,050**
Interconnection	LS	--	--	280
Electric Service	LS	--	--	160
Water, Sewer, Gas	LS	--	--	1,460
Site Improvements	LS	--	--	150
SUBTOTAL				**25,090**
CONTINGENCY (15%)				3,764
TOTAL CONTRACT COST				**28,854**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				1,876
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**30,730**
TOTAL REQUEST (ROUNDED)				**30,730**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Construct a microgrid that adds a natural gas (NG) generator to an existing combined heat and power (CHP) plant and adds a carport solar photovoltaic (PV) array with transformers to connect electric vehicle (EV) charging stations, BESS, and microgrid controls and interface with upgraded switchgear to provide resilient power during utility outages. The isolating switches will isolate a portion of the grid by interfacing with the existing Supervisory control and data acquisition (SCADA) control system architecture installed by City Light and Power (CL&P), the utility distribution owner.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
Construct microgrid for critical loads powered by the combined technologies of a new generation with an existing CHP plant, energy storage, and microgrid controls together with the required switching and controls to enable islanding capability.

REQUIREMENT:
Aberdeen Proving Grounds (APG) spans two main areas: Aberdeen in the north (focused on Command, Control, Communication, Computers, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) weapons and vehicle testing) and Edgewood to the south (focused on public health and chemical and biological defense). The entire Edgewood area is on the National Priority List. It is a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) "Superfund" site. Any power disruption of the utility grid lasting longer than two to four days would have a negative impact on the critical missions of research, development, and test and evaluation activities for the joint services. The proposed microgrid will power at a minimum six (6)

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Aberdeen Proving Ground Maryland	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100949	30,730

mission critical facilities. This project addresses existing deficiencies in generator coverage and the current cost of contingency power to include the cost and resources needed to refuel. This project will provide self-sufficient electricity for the critical mission loads in Aberdeen Proving Ground during a commercial grid outage for a minimum of 14 days.

CURRENT SITUATION:
At APG, 46% have facility specific diesel and natural gas generators in place. None of the facilities have adequate onsite fuel storage or included resilient or redundant plans in place for refueling to ensure 14 days of continuous runtime. Additionally, 12 of those facility generators do not have the capacity to meet peak loads. The Edgewood area has a CHP plant capable of providing about half of the southern area's energy needs and about three quarters of the steam, but this system is not connected to the Aberdeen area to the north. Additionally, 12 facilities with generators do not have the capacity to meet peak loads. Natural gas is used for some backup power at APG but mostly at both critical and non-critical boilers associated with laboratory or research facilities which can require precise and consistent temperature control.

IMPACT IF NOT PROVIDED:
The Edgewood area experienced 13 outages, totaling 32.8 hours in 2021. If this system had been in place to provide backup power in all outages longer than an hour, the Edgewood area would have only experienced 6.0 hours of outages in 2021, an 81% reduction in outage duration. Considering limitations of onsite fuel storage there is significant risk for APG to not being able to effectively perform other mission critical functions during extended outages.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Aberdeen Proving Ground Maryland	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100949	30,730

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	NOV/2023
(b) Percent of Design Completed as of Jan 2024:	35%
(c) Design or RFP Complete:	SEP/2024
(d) Total Design Cost ($000)	0
A. Production of plans and specifications	0
B. All other design costs	4,410
C. Total	3,810
D. Contract	600
E. In-house	Yes
(e) Energy Study and/or Life Cycle Analysis performed?	No
(f) Standard or definitive design used?	
(3) Construction Data:	
(a) Contract Award:	MAR/2025
(b) Construction Start:	MAY/2025
(c) Construction Complete:	MAY/2027

b. Other Appropriations or Funding Sources: N/A

c. Project Type: Energy Resilience

d. Rationale IAW 10 USC 2914: This project is critical for the mission assurance at Aberdeen Proving Ground (APG) as only 46% of the critical facilities assessed have generators in place. This proposed system would operate in prolonged outages to augment the existing generator backup and provide more consistent power during these emergencies. This project will reduce the potential risk to the Edgewood area from electrical interruptions by providing flexible 14-day energy resilience outlined as a requirement in the IEWP.

e. FRCS Requirements*:* Director Public Works (DPW) agrees to become the system owner, maintain the required Authority to Operation certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.

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Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Andrews Joint Base Andrews, Maryland	Microgrid with Electric Vehicle (EV) Charging Infrastructure

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	811145	AJXF254867	17,920

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**13,192**
Electric Power Generation Plant (CC 811145)	KW	1,000	6,180	6,180
Battery Energy Storage System (BESS)	KW	1,000	2,656	2,656
Electric Power Generator	KW	3,000	845	2,535
Microgrid Control System	LS	--	--	1,321
Cybersecurity	LS	--	--	500
SUPPORTING FACILITIES				**907**
Site Preparations	LS	--	--	484
Utilities	LS	--	--	423
SUBTOTAL				**14,099**
CONTINGENCY (15%)				2,115
TOTAL CONTRACT COST				**16,214**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				1,054
DESIGN/BUILD – DESIGN COST (4%)				649
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**17,917**
TOTAL REQUEST (ROUNDED)				**17,920**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Construction of a photovoltaic array (PV) canopy, battery energy storage system, natural gas generation, a microgrid and EV ready infrastructure. These components will all be interconnected to a microgrid control system and will support mission critical buildings and the EV charging infrastructure. The construction of the microgrid will support critical building loads should there be a loss of commercial power and will enhance mission assurance by allowing EVs to be charged during power loss.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
This project constructs a microgrid with a battery energy storage system and installs EV ready infrastructure to support EV charging stations for Light and Medium Duty Vehicles.

REQUIREMENT:
This project will provide redundancy in the electrical distribution system and the black start ability to switch between grid power, on base resilient power, and generators at the critical facilities. The natural gas generator will provide power during periods when the PV array cannot provide sufficient power and the BESS is charging. The BESS will provide gap coverage while the generator starts and be able to island in unison with the solar array should the generator fail to start. The project concept includes installing make-ready infrastructure for future Level II chargers on the airfield side of the Passenger Terminal and make-ready infrastructure for future Level III chargers at the existing PAX Terminal parking lot. The EV ready infrastructure is required to support the installation of Electric Vehicle Charging Facilities (EVCF) for the new fleet of Light and Medium Electrical Vehicles (EV).

CURRENT SITUATION:
Electricity comes from two Potomac Electric Power Company (PEPCO) feeders connecting to a single substation on the installation, with a third feeder as an alternate power source to the base if needed. Though there is a backup feeder, Joint Base Andrews does not have a redundant power supply to support, airfield operations critical to the continuity of the flying missions.

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Andrews Joint Base Andrews, Maryland	Microgrid with Electric Vehicle (EV) Charging Infrastructure

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	811145	AJXF254867	17,920

The critical mission on the airfield do not have adequate backup power, nor do they have properly sized generators, leaving them susceptible to prolonged power outages and mission interruption. The airfield lighting vault lacks backup power system resulting in a lack of consistent power for critical approach lighting that is relied on during night and inclement weather flight operations. Although facilities that support the airfield are separated, most of them are all located on the same feeder, meaning with minimal rework of the existing distribution system a central microgrid, can support these facilities and increase their resilience.

IMPACT IF NOT PROVIDED:

Without the microgrid, critical airfield missions will remain vulnerable to power disruptions. The electric vehicles serving critical missions on base will not have a location to charge those vehicles on base. The generators that provide backup power to critical airfield operations require refueling which could become an issue in a long duration outage. If a critical mission was being undertaken, or a winter storm was approaching that could put the installation's energy in danger, the installation does not have a way to easily put the airfield on backup power. With this microgrid, the installation could easily transition off of commercial power to islanded operation to assure energy is provided to these critical missions.

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	JAN/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	100%
(c) Design or RFP Complete:	JAN/2024
(d) Total Design Cost ($000)	**2,400**
A. Production of plans and specifications	960
B. All other design costs	1,440
C. Total	2,400
D. Contract	2,400
E. In-house	0
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	No
(3) Construction Data:	
(a) Contract Award:	JAN/2025
(b) Construction Start:	APR/2025
(c) Construction Complete:	DEC/2027
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Resilience	

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Andrews Joint Base Andrews, Maryland	Microgrid with Electric Vehicle (EV) Charging Infrastructure

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	811145	AJXF254867	17,920

d. Rationale IAW 10 USC 2914: This project will provide multiple levels of redundancy for power supply to all critical mission facilities, as well address vulnerabilities in the existing on base power distribution grid. The microgrid and associated controls would allow electricity to be supplied from multiple directions and sources at the same time, so that an interruption from one source would not affect other sources or downtime from the loss of one or more power sources. The control system will allow direct monitoring of the system without having to field diagnosis issues.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base McGuire Dix Lakehurst Lakehurst, New Jersey	Microgrid with Electric Vehicle (EV) Charging Infrastructure

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0903904D	811145	MSBL223000	17,730

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**11,299**
Electric Power Generation Plant (CC 811145)	KW	400	8,480	3,392
Battery Energy Storage System (BESS)	LS	1,000	3,049	3,049
Electric Power Generator	KW	1000	2,182	2,182
Microgrid Control System	LS	--	2,175,983	2,176
Cybersecurity	LS	--	500,000	500
SUPPORTING FACILITIES				**2,648**
Site Preparations	LS	--	1,201,362	1,201
Utilities	LS	--	1,647,089	1,447
PRIVATIZED UTILITY CONNECTION AND SERVICE FEE				100
SUBTOTAL				**13,947**
CONTINGENCY (15%)				2,092
TOTAL CONTRACT COST				**16,039**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				1,043
DESIGN-BUILD DESIGN (4.0%)				642
TOTAL REQUEST (SUM OF TOTAL CONTRACT COST)				17,724
TOTAL REQUEST (ROUNDED)				**17,730**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Construct a photovoltaic array (PV) on a canopy above the existing parking lot with a BESS. Install infrastructure and concrete pad to support two electric vehicle charging facility (EVCF) connected to the PV system and generators. The electrical support infrastructure will be connected the PV array and BESS to the EVCF and building through the existing building transformer. Two generators will provide power during periods when the PV array cannot provide sufficient power and the BESS requires charging. These will all be interconnected and controlled by a microgrid control system constructed by this project.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
This project constructs a microgrid with a battery energy storage system and installs EV ready infrastructure to support EV charging stations for Light and Medium Duty Vehicles.

REQUIREMENT:
This project will provide redundancy in the electrical distribution system and the black start ability to switch between grid power, on base resilient power, and generators to support the critical facilities. The PV Array and BESS with associated controls would allow electricity to be supplied from the sun. This setup will supply power to the building as well as the EVCF, thereby supplying GOV electric vehicles with a location to charge during an electrical outage. The EV ready infrastructure is required to support the installation of EVCF for the new fleet of Light and Medium Duty Electrical Vehicles (EV).

CURRENT SITUATION:
In the early 1980s, Naval Air Systems Command started the concept of eliminating substations to use 34.5 kV three-phase power as the main distribution for the Lakehurst area. Primary backup power is offered from facility-level diesel generators. However, many critical loads throughout the installation are not adequately supported by backup generators. Some partial backup power

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base McGuire Dix Lakehurst Lakehurst, New Jersey	Microgrid with Electric Vehicle (EV) Charging Infrastructure

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0903904D	811145	MSBL223000	17,730

served by uninterruptible power supply (UPS) systems provides limited battery backup, but the lack of sustained backup power results in hard shutdowns, potential equipment damage, and mission interruption. Joint Base Lakehurst Dix McGuire does not have any infrastructure to support EVCF and must be installed to support new EV fleet.

IMPACT IF NOT PROVIDED:
The electrical distribution in the Lakehurst area is antiquated and older than the systems in the McGuire and Dix areas and has not been adequately maintained. Lakehurst does not have any electrical interconnections to other areas of the installation. The antiquated and ill-maintained equipment poses significant limits for large reconfigurations of the system. During a loss of commercial power event the building would be limited to operations supported by the emergency generator.

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	MAY/2024
(b) Percent of Design Completed as of Jan 2024 (BY-1):	35%
(c) Design or RFP Complete:	OCT/2024
(d) Total Design Cost ($000)	**2,400**
1. Production of plans and specifications	960
2. All other design costs	1,440
3. Total	2,400
4. Contract	2,400
5. In-house	0
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	No
(3) Construction Data:	
(a) Contract Award:	JAN/2025
(b) Construction Start:	MAR/2025
(c) Construction Complete:	NOV/2027
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Resilience	
d. Rationale IAW 10 USC 2914: The microgrid and associated controls would allow electricity to be supplied from multiple directions and sources at the same time, so that an interruption from one source would not affect other sources or downtime from the loss of one or more power sources. The power to all critical mission functions would continue without disruption. This project will provide multiple levels of redundancy for power supply to all critical mission facilities, as well address weakness in the existing on base power distribution grid and create redundancy in the power supplied. The control system will allow direct monitoring of the system without having to field diagnosis issues.	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Wright-Patterson Air Force Base Wright-Patterson Site #1 Ohio	District Cooling Plant

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	826123	ZHTV193001	53,000

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**36,701**
Air Conditioning Plant Over 100 Tons (CC 826123)	TN	2.,700	2,330	6,291
Air Conditioning Central Plant (CC 890123)	SF	1,592	1,531	26,235
Chilled Water Exterior Distribution Line (CC 827111)	LF	1,000	3,925	3,925
Cybersecurity	LS	--	--	250
SUPPORTING FACILITIES				**5,638**
Site Preparation	LS	--	--	235
Pavements	LS	--	--	4,188
Demolition	LS	--	--	547
Passive Force Protection	LS	--	--	105
Utilities	LS	--	--	563
PRIVATIZED UTILITY CONNECTION AND SERVICE FEE				903
SUBTOTAL				**43,242**
CONTINGENCY (15%)				6,486
TOTAL CONTRACT COST				**49,728**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				3,232
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**52,960**
TOTAL REQUEST (ROUNDED)				**53,000**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
The District Cooling Plant (DCP) will consist of four 675-ton chillers to provide for the existing 2000 tons of load capacity. Additional space will be built to accommodate up to two additional chillers for future planned load growth. Project includes electrical switchgear, transformers, cabling, and water softening treatment. Unit heaters will be located throughout the facility to provide heating and to prevent freezing. Ventilation will be provided to maintain a temperature of 10°F above the ambient temperature. Complete automated sprinkler protection and communication links will be provided.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
This project will construct a district cooling plant for the National Air and Space Intelligence Center (NASIC).

REQUIREMENT:
The NASIC is housed in a complex of 5 adjoining facilities built between the 1950's and 2008. As NASIC's mission has grown, the chilled water system was modified several times with the add-ons. This project provides a properly sized district cooling plant to support the intelligence activities of the NASIC and its data center with 99.982% availability (annual downtime of 1.6 hours) with concurrently maintainable site infrastructure that serves the computer equipment. To be considered concurrently maintainable, the chilled water systems must have redundancy with chillers, cooling towers and pumps. Additionally, separate piping must be provided to allow for servicing of any one piece of equipment or piping, without requiring the shutdown of the system.

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Wright-Patterson Air Force Base Wright-Patterson Site #1 Ohio	District Cooling Plant

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	826123	ZHTV193001	53,000

CURRENT SITUATION:

NASIC is served by six chillers, six chilled water pumps, six cooling towers, eight cooling tower pumps, brine tank/pumps, acid tank/pumps, and water treatment systems. Most of the chilled water infrastructure is over 20 years old, which is past its service life at the point of failure. The result is a dysfunctional set of chillers installed in several mechanical rooms, which is difficult to maintain and does not have enough built-in redundancy to meet its current mission requirements. Over the past 2.5 years there have been 25 outages related to the chilled water system components that have resulted in approximately $100k in damage to data center servers and resulted in classified data losses.

IMPACT IF NOT PROVIDED:

Devastating mission impact including mission output degradation or failure of intelligence analysis, server damage and associated costs, and/or loss of data containing one-of-a-kind classified foreign data. The NASIC mission will continue to be compromised due to the poor condition of its mechanical components, inefficient interior spatial arrangements, and lack of redundancy of the chilled water systems. Moreover, the plant capacity is not sufficient to serve existing mission and there is not enough existing mechanical space to allow for expansion of the system for future mission growth.

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design – Bid – Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	AUG/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	35%
(c) Design or RFP Complete:	AUG/2024
(d) Total Design Cost ($000) *€ = (A)+(B) or (€(E)*	
A. Production of plans and specifications	3,060
B. All other design costs	1,800
C. Total	**4,860**
D. Contract	4,250
E. In-house	610
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	No
(3) Construction Data:	DEC/2024
(a) Contract Award:	DEC/2024
(b) Construction Start:	APR/2028
(c) Construction Complete:	
b. Other Appropriations or Funding Sources ($000):	
(1) O&M–3400 - Escorts	2,900
(2) O&M–3400 - Site Security	220
(3) Equipment 3080 – ACS	150
(4) Equipment 3080 – Building Equipment	300
c. Project Type: Energy Resilience	

1. COMPONENT Defense Wide – Air Force	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024
3. INSTALLATION AND LOCATION Wright-Patterson Air Force Base Wright-Patterson Site #1 Ohio	4. PROJECT TITLE: District Cooling Plant	

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	826123	ZHTV193001	53,000

d. Rationale IAW 10 USC 2914: This project will enhance mission assurance and readiness by replacing an inadequate and failing chiller system with a properly sized chiller system with redundancies allowing for maintenance and repair without shutting down the whole system. There will be no mission impact with the new system that can be repaired and maintained with redundancy. The components of the system will be housed together, cutting down the complexity of servicing the system. The redundant chilled water distribution allows for rapid system reconfiguration during equipment disruption, minimizing downtime and giving repair technicians flexibility to isolate components for repair while system is operational.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)

703-843-0159

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Lewis – McChord Gray Army Airfield (GAAF), Washington	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100947	40,000

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES	KW	3,200	3,534	**22,749**
Primary Power Generation, Gas-Fired (CC81117)	KW	4,000	1,215	11,309
Energy Storage System (ESS)	LS	--	--	4,860
Microgrid Controls	LS	--	--	3,250
Transformers, Switchgear, Switches & Breakers Buildings	LS	--	--	1,700
Commissioning and Testing	LS	--	--	970
Environmental and Air Permitting	LS	--	--	410
Cybersecurity	LS	--	--	250
SUPPORTING FACILITIES				**9,910**
Interconnection	LS	--	--	4,120
Electric Service	LS	--	--	3,870
Water, Sewer, Gas	LS	--	--	690
Site Improvements Utilities	LS	--	--	690
Information Systems	LS	--	--	260
PRIVATIZED UTILITY CONNECTION AND SERVICE FEE				280
SUBTOTAL				**32,659**
CONTINGENCY (15%)				4,899
TOTAL CONTRACT COST				**37,558**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				2,441
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**39,999**
TOTAL REQUEST (ROUNDED)				**40,000**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Construct a microgrid system at Joint Base Lewis-McChord (JBLM) powered by natural gas-fired (NG) Reciprocating Internal Combustion Engine (RICE) generators, Energy Storage System (ESS), and microgrid controls. Generators will include sound reducing enclosures. Transformers and protective relaying will be provided to include source protection, feeder protection, and generation protection and synchronization. The proposed microgrid control system will provide automatic switching that will be transmitted through radio signals for the microgrid generators and isolation points. Supporting facilities include site development, utilities and connections, lighting, paving, parking, walks, curbs, and gutters, storm drainage, landscaping, and signage. The ESS will provide continuous power to the Gray Army Airfield (GAAF) critical flight operations for up to an hour or until the microgrid generators are operational. Project will include all necessary building information systems and fire detection, protection, and alarm systems.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

Construct a microgrid system powered by NG generators and an ESS to provide islanding capability for mission critical facilities.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Lewis – McChord Gray Army Airfield (GAAF), Washington	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100947	40,000

REQUIREMENT:

The project is required so JBLM can sustain operation of mission critical facilities at GAAF for 14+ days to meet requirements in accordance with Department of Defense Instructional (DoDI) 4170.11, the Army Directive (AD) 2020-03 and move towards carbon-pollution free electricity goals as directed by Executive Order (EO) 14008 and 14057. JBLM is a Mobilization Force Generation Installation (MFGI) and the only Army Power Projection Platform (PPP) west of the Rocky Mountains. JBLM's mission as a PPP, an MFGI and host of the Multi-Domain Task Force (MDTF), is dependent upon being able to quickly deploy service members and equipment to strategically significant areas of the world in support of National Defense, National Security, and humanitarian missions. To move those service members and equipment, JBLM has a continuing need to secure sufficient resilient power at GAAF to support the transportation infrastructure and ensure that its functional and secure. Additionally, GAAF serves as an alternate airfield for fixed wing operations on McChord Airfield. Without resilient power for the critical flight safety instrument landing systems, aircraft would be unable to safely approach and land at GAAF. The GAAF microgrid was originally identified as a course of action in the Security and Resilience Assessment (SRA), and later confirmed as a solution for JBLM's continuing resilience needs in the Installation Energy and Water Pan (IEWP). Project will support 100% of GAAF critical facilities.

CURRENT SITUATION:

The electricity distribution system is privatized. JBLM GAAF is currently powered by a 13.8kV distribution system with an average base load of 1.8MW, peak load is 3.4MW and critical load is 2.8MW. Currently, only 35% of their critical facilities have generators in place, and none have an alternative source providing continuous long-term power. Notably. JBLM standby generators operate on diesel fuel, and there is limited bulk diesel storage for extended periods of electrical power outage.
Once the project is completed, JBLM intends to convey ownership and operation of the project to the Utility Privatization (UP) contractor in accordance with 10 USC 2688 and receive proper compensation or receive utility services in accordance with 10 USC 2688 and the utility services contract.

IMPACT IF NOT PROVIDED:

This project is critical because JBLM must quickly deploy service members, equipment, and supplies to strategically significant areas of the world in support of National Defense and National Security. Without this project GAAF cannot meet the requirement to sustain critical missions for a minimum of 14 days. The islanding microgrid capabilities will significantly bolster resilience against known natural and man-made vulnerabilities, such as cyber-attacks on the power grid. If JBLM is unable to execute any of its critical missions, America's response to a global situation that threatens our National Security will be compromised.

1. COMPONENT Defense Wide – Army/Active	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Joint Base Lewis – McChord Gray Army Airfield (GAAF), Washington	Power Generation and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81117	100947	40,000

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:

(1) Acquisition Strategy: Design Bid Build

(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	MAR/2023
(b) Percent of Design Completed as of Jan 2024:	35%
(c) Design or RFP Complete:	SEP/2024
(d) Total Design Cost ($000) *(C) = (A)+(B) or (D)+(E)*	
A. Production of plans and specifications	0
B. All other design costs	0
C. Total	5,750
D. Contract	5,100
E. In-house	650
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	No
(3) Construction Data:	
(a) Contract Award:	MAR/2025
(b) Construction Start:	MAY/2025
(c) Construction Complete:	MAY/2027

b. Other Appropriations or Funding Sources: N/A

c. Project Type: Energy Resilience

d. Rationale IAW 10 USC 2914: JBLM's missions are dependent upon quickly deploying service members and equipment to strategically significant areas of the world in support of National Defense and National Security. Mobilization and deployment of troops is a critical mission that cannot be accomplished during an extended power outage at the GAAF. The microgrid mitigates the risk of existing backup diesel generators failing and of an interruption to the refueling supply chain. Microgrid controls and automatic switches allow critical loads to be isolated and powered during a grid outage.

e. FRCS Requirements: Directorate Public Works (DPW) agrees to become the system owner, maintain the required ATO certifications, and execute all responsibility for Risk Management Framework (RMF). The DPW agrees to maintain and will fund the Operations and Maintenance (O&M) of the system for this life of the project.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Magazine (NAVMAG) Indian Island Indian Island, Washington	Backup Power and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81160	P620	39,490

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**21,731**
Cybersecurity Features	EA	1	546,890.31	547
Emergency Power Plant (CC81160)	KV	4,500	3,606.07	16,227
Information Systems	LS	--	--	1,812
Anti-Terrorism/Force Protection	LS	--	--	196
Special Costs	LS	--	--	2,643
Operation & Maintenance Supp Info (OMSI)	LS	--	--	306
SUPPORTING FACILITIES				**10,506**
Site Preparations	LS	--	--	372
Paving And Site Improvements	LS	--	--	829
Anti-Terrorism/Force Protection	LS	--	--	241
Electrical Utilities	LS	--	--	5,438
Mechanical Utilities	LS	--	--	3,626
SUBTOTAL				**32,237**
CONTINGENCY (15%)				4,836
TOTAL CONTRACT COST				**37,073**
SUPERVISION, INSPECTION & OVERHEAD (6.5%)				2,410
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**39,483**
TOTAL REQUEST (ROUNDED)				**39,490**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Constructs Emergency Diesel Generators (EDGs) to support the base plus shore power. Upgrades the electrical and communications distribution system to create a new microgrid. Microgrid will have the capability to be shifted automatically from the existing incoming supply provided by the local utility provider to the EDGs via a new switchgear. Facility-related control systems include cybersecurity features in accordance with current Department of Defense criteria. Information systems include a microgrid-capable plant controller, controls integration, and generator controllers. Anti-Terrorism/Force Protection includes standard force protection measures such as mass notification systems, emergency shutoffs for ventilation systems, laminated windows, blast resistant window and door frames, and emergency lighting and signage. Special costs include Post Construction Contract Award Services and cybersecurity commissioning. Electrical utilities include switchgear, load break switches, conductor, manholes, duct banks, a canopy for the existing Switching Station 1 and the fuel pumping system, metering, and site lighting. Mechanical utilities include fuel storage and a fuel pumping system.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

Constructs emergency diesel generation and upgrades the electrical distribution system.

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Magazine (NAVMAG) Indian Island Indian Island, Washington	Backup Power and Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81160	P620	39,490

REQUIREMENT:
This project will provide resiliency, redundancy and reliability to NAVMAG Indian Island's missions. This project fully addresses the backup power availability gap and backup power for submarines when pier side. Additionally, the backup power and microgrid provides ability to island to fully support both base and shore power requirements.

CURRENT SITUATION:
NAVMAG Indian Head is geographically limited to a single lateral feed from the commercial power grid, which significantly increases the risk of loss of commercial power. There is insufficient backup power to support the critical missions in the event of a grid outage. There is insufficient backup power to meet shore power requirements in the event of a grid outage when a submarine is pier side. There is no current micro-grid, so all operations must be completed manually.

IMPACT IF NOT PROVIDED:
Without this project, the base and its critical missions will continue to be vulnerable to loss of power. The mission-oriented resiliency gap will persist and NAVMAG will not be able to achieve the Sept 2025 Secretary of the Navy's Installation Energy Resiliency Strategy.

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	FEB/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	65%
(c) Design or RFP Complete:	MAY/2024
(d) Total Design Cost:	3,777,000
A. Production of plans and specifications	--
B. All other design costs	--
C. Total	--
D. Contract	--
E. In-house	--
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	Yes
(3) Construction Data:	
(a) Contract Award:	JAN/2025
(b) Construction Start:	JUN/2025
(c) Construction Complete:	AUG/2027
b. Project Type: Energy Resilience	
c. Rationale IAW 10 USC 2914: Provides energy security and resiliency through on-site backup power generation for NAVMAG Indian Island to alleviate potential mission impacts caused by commercial power disruptions.	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity, Bahrain (Shaikh Isa, Southwest Asia) Bahrain	Ground Mounted Solar Photovoltaic System

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P181	15,330

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**8,611**
Ground Mounted Solar Photovoltaic (PV) System (CC81150)	KW	500	11,821.28	5,911
Batteries	LS	--	--	740
Information Systems	LS	--	--	90
Special Costs	LS	--	--	1,780
Operation & Maintenance Supp Info (OMSI)	LS	--	--	90
SUPPORTING FACILITIES				**3,810**
Site Preparations	LS	--	--	180
Special Foundation Features	LS	--	--	1,310
Paving and Site Improvements	LS	--	--	230
Electrical Utilities	LS	--	--	1,760
Communication Utilities	LS	--	--	250
Water Utilities	LS	--	--	80
SUBTOTAL				**12,421**
CONTINGENCY (15%)				1,863
TOTAL CONTRACT COST				**14,284**
SUPERVISION, INSPECTION & OVERHEAD (7.3%)				1,043
SUBTOTAL				**15,327**
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**15.327**
TOTAL REQUEST (ROUNDED)				**15,330**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

This project provides a solar ground-mounted array with construction of reinforced concrete foundation, steel frame structure, installation of renewable energy solar panels, invertors, wiring of protective devices, grounding conductors, lightning protection, automatic metering system and battery storage. The energy storage system shall be connected to the installation's primary electrical distribution grid and shall be capable of functioning as a component of a microgrid subsystem which is connected with other distributed generation and critical loads. The project will include battery storage system and microgrid infrastructure to work as a backup generator for a reverse osmosis plant and utility services building. Site preparations include excavation, trenching, utilities, paving, site improvements, grading, leveling, and compaction of existing undeveloped dirt land. Paving and site improvements include asphalt paving (fire department access and driveways), site lightning, and security fencing. Special foundation features include reinforced concrete foundations and steel structure for photovoltaic array. The system must withstand the expected wind loads for the location. Electrical utilities include utility trenches, cabling, underground ducts and manholes, conduit, step-up transformers with primary and secondary over-current protection, and lighting. The new water system will also be extended and provide service connections for maintenance. Information system includes cyber-security.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity, Bahrain (Shaikh Isa, Southwest Asia) Bahrain	Ground Mounted Solar Photovoltaic System

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P181	15,330

This project constructs a ground-mounted photovoltaic system with battery storage.

REQUIREMENT:
NSA Bahrain has ~350 sunny days per year, which is ideal for taking advantage of solar power generation opportunities. This project is critical to implementing distributed, low-carbon energy alternatives (solar), battery storage, and a microgrid to provide a sustainable form of support to the existing prime power for operations and reduces overall risk to meeting mission requirements. Renewable power, such as solar PV, alleviates the dependence on the generators by stretching the lifespan of the installation's diesel fuel supply. As a result, this project provides a reliable source of energy and will also reduce peak demand commercial power costs while generating additional energy savings.

CURRENT SITUATION:
The high cost of electricity is a result of Isa's exposure to peak commercial power costs. The generators use diesel fuel that is dependent on delivery. There have been multiple instances when the diesel fuel trucks were unable to deliver fuel due to Bahrain security restrictions, exposing the mission to fuel resupply insecurity. Complete dependence on Bahrain's grid and the unreliable ability of diesel fuel trucks to arrive on base introduce a resiliency gap that needs to be filled by an alternative and more reliable fuel source.

IMPACT IF NOT PROVIDED:
Isa Air Base will experience mission delays caused by fuel delivery disruptions and the lack of backup power for the utilities facility.

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity, Bahrain (Shaikh Isa, Southwest Asia) Bahrain	Ground Mounted Solar Photovoltaic System

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P181	15,330

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Bid Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	OCT/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	35%
(c) Design or RFP Complete:	DEC/2024
(d) Total Design Cost:	**$1,467,000**
A. Production of plans and specifications	--
B. All other design costs	--
C. Total	--
D. Contract	--
E. In-house	--
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	Yes
(3) Construction Data:	
(a) Contract Award:	JUN/2025
(b) Construction Start:	NOV/2025
(c) Construction Complete:	JUL/2028
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Conservation	
d. Rationale IAW 10 USC 2914:	
(1) Original Expected Savings-to-Investment Ratio:	0.51
(2) Simple Payback Estimate:	25+ years
(3) Measurement & Verification (M&V) Cost:	$6K per year
e. Brief Description of the M&V Plan: The Installation Energy Manager (IEM) will do the Annual M&V report with OMN funds. The M&V for this project will also include and use the Department of Energy (DOE) Federal Energy Management Program (FEMP) option (B) standard method of Measurement and Verification (M&V) measures to verify that the electricity production as calculated by design.	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity Souda Bay Souda Bay, Crete, Greece	Advanced Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P999	42,500

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**23,835**
Photovoltaic (PV) Module, Rooftop Mounted (CC81150)	KW	147	5,973.23	878
PV Module, Carport Mounted (CC81150)	KW	1,098	5,437.99	5,971
Battery Energy Storage System (BESS) (1.2MW, 2.8MWH) + Microgrid Controller (CC81160)	EA	1	4,795,742.29	4,796
Transformers (1000 KVA) (CC81212)	KVA	1,000	128,879.03	129
On-Base Switching Station (CC81310) (323SF)	m^2	30	5,675.00	170
Renovate Power Distribution Substation (CC81330)	LS	7	256,121.78	1,793
Generator Pads (CC85235)	m^3	60	1,039.33	62
Outdoor Switchgear (CC81330)	EA	1	1,235,806.60	1,236
Information Systems	LS	--	--	100
4-Way PMH Switch (CC81330)	LS	--	--	1,990
Built-In Equipment	LS	--	--	2,120
Special Costs	LS	--	--	4,240
Operation & Maintenance Supp Info (OMSI)	LS	--	--	350
SUPPORTING FACILITIES				**10,580**
Site Preparations	LS	--	--	250
Special Foundation Features	LS	--	--	6,700
Paving And Site Improvements	LS	--	--	120
Anti-Terrorism/Force Protection	LS	--	--	580
Electrical Utilities	LS	--	--	2,830
Demolition	LS	--	--	100
SUBTOTAL				**34,415**
CONTINGENCY (15%)				5,162
TOTAL CONTRACT COST				**39,577**
SUPERVISION, INSPECTION & OVERHEAD (7.3%)				2,889
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**42,466**
TOTAL REQUEST (ROUNDED)				**42,500**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Project provides a new microgrid, new switching station, and repairs/upgrades to substations that increase resiliency and reliability and promote sustainability. The project includes new rooftop PV panels, new carport mounted solar PV, a new switching station to connect to a dedicated power line, and a new BESS. The project will replace six substations and one medium voltage switchgear. The microgrid will integrate existing base-wide and facility-level diesel generation, existing solar PV systems, and metering systems to support management and supply of the installation's loads in the event that service from the local utility is lost. The microgrid will be capable of operating in both grid-connected and island mode.

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity Souda Bay Souda Bay, Crete, Greece	Advanced Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P999	42,500

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

Construct and install a new microgrid and a new switching station to connect two separate power utility feeds at NSA Souda Bay with a new rooftop solar PV panels, new carport mounted solar PV, and a new BESS.

REQUIREMENT:

This project creates a unique opportunity to modernize the power distribution system and at the same time provide energy security by onsite power generation systems and provide quality of service to support critical assets ashore. This project shall ensure seamless grid operation; provide reliable power supply to critical assets; enhance mission readiness to support air, sea, and logistic operations; provide modern and multifunctional facilities and infrastructure; create operationally efficient, safe, and well-connected functional zones; and promote environmental sustainability. NSA Souda Bay supports critical missions of DoD and North Atlantic Treaty Organization (NATO) as an enroute location for ships and aircraft traveling throughout Europe, Africa and the Middle East. Reliable power is essential, ever more so in this area of the world with increasing geopolitical volatility. The strategic advantage of a microgrid project at NSA Souda Bay is that it resolves a brownout issue in real time at a mission critical location the base size is ideal to handle a microgrid project and has already established itself as a leading installation for promoting and pursuing energy efficiency, resiliency, and reliability.

CURRENT SITUATION:

NSA Souda Bay is prone to frequent, unplanned, base-wide outages and sags and swells in the commercial utility power, causing the highest System Average Interruption Duration Index (SAIDI)/System Average Interruption Frequency Index (SAIFI) in the Navy. As a result, multiple buildings are affected by unreliable power, hindering mission operations, and causing equipment damage and data loss. Between February and September 2021, Souda Bay experienced 15 power outages/ 877 minutes of total utility service interruption.

IMPACT IF NOT PROVIDED:

NSA Souda Bay will continue to experience unreliable power supply and aging electrical infrastructure causing increased failure rates. NSA Souda Bay would not be able to reduce system losses and meet increasing load requirements and will continue to experience major maintenance costs. Furthermore, the Navy will miss the opportunity to provide NSA Souda Bay with a system that will significantly improve its power system.

1. COMPONENT Defense Wide – Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Support Activity Souda Bay Souda Bay, Crete, Greece	Advanced Microgrid

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P999	42,500

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:	
(1) Acquisition Strategy: (Design Bid Build)	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	FEB/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	65%
(c) Design or RFP Complete: (Ready to Solicit)	MAY/2024
(d) Total Design Cost ($000):	$4,063
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	Yes
(3) Construction Data:	
(a) Contract Award:	JAN/2025
(b) Construction Start:	JUL/2025
(c) Construction Complete:	DEC2027
b. Other Appropriations or Funding Sources: N/A	
c. Project Type: Energy Resilience/Energy Conservation	
d. Rationale IAW 10 USC 2914: NSA Souda Bay microgrid will support critical mission facilities, strengthen grid resilience, help mitigate grid disturbances, and function as a grid resource for faster system response and recovery improving installation resilience.	
e. For Energy Conservation projects only, provide the following:	
(1) Original Expected Savings-to-Investment Ratio:	0.33
(2) Simple Payback Estimate:	25+ years
(3) Measurement & Verification (M&V) Cost:	$6,000/year
(4) M&V Plan: For total system performance, Option D method will be used to quantify the energy consumption savings associated with renewable energy combined with battery energy storage to offset energy consumption. An energy model shall be used to analyze the savings from installing PV and BESS. Performance parameters include the measurement of systems efficiency or output. Option B method will be used to quantify the energy consumption savings associated for individual PV systems. The renewable energy electricity production is metered through a production (revenue grade) meter and may also utilize a net meter to track any exports to the installation grid.	
(5) M&V Planned Funding Source: FP funds the IEM position, and the IEM will perform the M&V.	
f. FRCS Requirements. The cost for RMF accreditation is $250k. The cost for cybersecurity commissioning is $112k. The cybersecurity sustainment and maintenance costs is $188k per year, funded by the resource sponsor, CNIC, which agrees to budget for these sustainment costs.	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide - Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Air Station (NAS) Sigonella Sigonella, Italy	Microgrid Control Systems

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	13510	P139	13,470

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**10,910**
Integrated Communication Systems (ICS) Communication Upgrades (CC89050)	LS			6,350
ICS Monitoring Station Upgrades (CC89051)	LS			1,990
Heating, Ventilation, and Air Conditioning (HVAC) Chiller Upgrades	LS			1,330
Exterior Lighting Upgrades (CC81220)	LS			60
Cybersecurity	LS			60
Special Costs	LS			1,120
SUBTOTAL				**10,910**
CONTINGENCY (15%)				1,637
TOTAL CONTRACT COST				**12,547**
SUPERVISION, INSPECTION & OVERHEAD (7.3%)				916
SUBTOTAL				**13,463**
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**13,463**
TOTAL REQUEST (ROUNDED)				**13,470**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
This project consolidates and integrates multiple operating systems into a common smart grid system, upgrade HVAC systems, replaces several chillers with high efficiency gas absorption chillers, and replaces exterior lights with Light Emitting Diode (LED) technology. This project will interconnect Smart Grid/Facility Related Control System (FRCS) by providing connections, repairs, upgrades, and commissioning of the Supervisory Control and Data Acquisition (SCADA) and existing Base energy controls. The control workstations will be collocated. The network will be hardwired to improve communications effectiveness and cybersecurity.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:
This project will repair and upgrade existing energy controls with control systems.

REQUIREMENT:
To meet cybersecurity requirements, the systems that are currently networked will require upgrades to meet Information Assurance (IA) compliance requirements. Moreover, existing HVAC systems are old, obsolete, inefficient, in poor operating condition, and they cause yearly energy waste while requiring extra maintenance costs. This project invests in energy resilience with an emphasis on conserving energy and water, decreasing utility costs, increasing Navy's climate resilience, and reducing Navy's effect on climate change. This project implements microgrid controls to remediate mission risks.

CURRENT SITUATION:
Currently, Sigonella has mission critical systems that are functional, but not standardized, not fully interconnected, not maximizing efficiency, and periodically they negatively impact the facility mission.

1. COMPONENT Defense Wide - Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Air Station (NAS) Sigonella Sigonella, Italy	Microgrid Control Systems

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	13510	P139	13,470

IMPACT IF NOT PROVIDED:

The Navy will continue to experience high energy costs while being unable to reduce energy consumption, increasing the labor and costs for continued maintenance. Critical mission will continue to experience poor power quality and voltage fluctuations. If this project is not executed, improvements in monitoring and control of building systems through the upgrade of FRCS in many facilities will not be realized. Allowing the active management of building operations, the establishment of operation schedules, temperature setbacks based on schedules and occupancy will not be achieved. Without a centralized control system, the Navy is unable to perform data analysis that will assist the operators in the detection, diagnosis, and restoration of service outages and in predicting failures before they take place will not take place. As a result, the Navy will not be able to quickly respond to service outages, reduce the number of tenants/customers impacted by the outages that occur, or in some cases be able to avoid service outages altogether. FRCS networks that are not IA compliant will need to be shut down.

1. COMPONENT Defense Wide - Navy	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Naval Air Station (NAS) Sigonella Sigonella, Italy	Microgrid Control Systems

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	13510	P139	13,470

12. SUPPLEMENTAL DATA:	
a. Estimated Execution Data:	
(1) Acquisition Strategy: Design Build	
(2) Design Data:	
(a) Design or Request for Proposal (RFP) Started:	FEB/2023
(b) Percent of Design Completed as of Jan 2024 (BY-1):	50%
(c) Design or RFP Complete:	MAY/2024
(d) Total Design Cost:	--
A. Production of plans and specifications	--
B. All other design costs	**$1,295,000**
C. Total	-
D. Contract	-
E. In-house	Yes
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	
(3) Construction Data:	
(a) Contract Award:	JAN/2025
(b) Construction Start:	JUL/2025
(c) Construction Complete:	OCT/2027
b. Project Type: Energy Conservation	
c. Rationale IAW 10 USC 2914:	4.08
(1) Original Expected Savings-to-Investment Ratio:	6.1 years
(2) Simple Payback Estimate:	$600 year
(3) Measurement & Verification (M&V) Cost:	
d. Brief Description of the M&V Plan: The local Installation Energy Manager (IEM) will use DOE/FEMP Option-A based on periodic new chillers efficiency tests, LED Technology Lights efficiency and electrical load management done by a dedicated Smart Grid Monitoring Supervisory Software.	
e. M&V Planned Funding Source: Operations and Maintenance, Navy (OMN)	

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide – USMC	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Combined Arms Training Center (CATC) Camp Fuji Japan	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P-904	$45,870

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES				**28,316**
Electric Power Plant – Photovoltaic System (CC81150)	KW	400	3,450.00	1,380
Electric Peaker Plant – Gas Peaker / Battery Energy Storage System	KW	800	3,330.00	2,664
Standby Generator Plant – Diesel (CC81160)	KW	400	2,980.00	1,192
Electrical	LS	--	--	10,460
Mechanical/Boilers/Decommissioning	LS	--	--	10,300
Controls/Microgrid	LS	--	--	1,260
Risk Management Framework (RMF) Accreditation	LS	--	--	580
Commissioning	LS	--	--	480
SUPPORTING FACILITIES				**8,850**
Site Work / Building Modifications	LS	--	--	980
Gas Line	LS	--	--	5,190
Other (shipping/offloading)	LS	--	--	80
General Requirements	LS	--	--	2,000
SUBTOTAL				**37,166**
CONTINGENCY (15%)				5,575
TOTAL CONTRACT COST				**42,741**
SUPERVISION, INSPECTION & OVERHEAD (7.3%)				3,120
TOTAL REQUEST (sum of total contract cost, SIOH and design build)				**45,861**
TOTAL REQUEST (ROUNDED)				**45,870**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

Install onsite generation including storage equipment from a solar photovoltaic system, peaker generation plant and/or battery storage assets, and diesel-fired standby generator. This work includes all required electrical, mechanical, plumbing, and controls work associated with each install. Additional electrical work will include modernizing the electrical distribution system by replacing aged transformers, upgrading/replacing the main substation, and replacing aged electrical feeders throughout the camp. Mechanical work will include decentralizing the Lower Camp boiler plant, installing satellite boilers at select facilities, and modernizing the Upper Camp boiler plant. A microgrid controller will be installed and generation assets will be connected to the microgrid. The controls and microgrid will be cyber-secured. The system will be commissioned. Site work, building modifications, utility upgrades, and supporting infrastructure for generation asset installation and utility upgrades are required. The gas line will be extended from gas utility company to the Camp's generation and heating assets. Other work includes equipment shipping and offloading and general requirements (e.g., project management, quality control, safety officer, office trailers, utilities, site cleanup, post construction award services).

1. COMPONENT Defense Wide – USMC	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Combined Arms Training Center (CATC) Camp Fuji Japan	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P-904	$45,870

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

PROJECT:

This microgrid and backup power project removes unacceptable energy risks and provides CATC Camp Fuji with a reliable, resilient, efficient, and cyber secure microgrid that will provide the base the ability to operate critical installation services and mission essential functions off the commercial electric grid for 14+ days in the event of a commercial power disruption. In addition, the Lower Camp boiler plant decommissioning and the Upper Camp boiler plant boiler upgrades, including fuel-switching from fuel oil to natural gas, will improve reliability, resilience, and efficiency of space heating and domestic hot water heating to multiple facilities.

REQUIREMENT:

The project is required to remove unacceptable energy risks identified in the Installation Energy Security Plan and provide the Camp the ability to provide III MEF combined arms live-fire and maneuver training without power from the commercial power grid.

CURRENT SITUATION:

CATC Fuji is a Marine Corps training camp south-west of Tokyo. The camp is located near China and North Korea, which both present security threats. CATC Fuji and the surrounding area has been utilized by the USMC since the early 1950s and has expanded gradually throughout the years. The aged electrical infrastructure is past due for modernization, creating unacceptable energy risks. Furthermore, Camp Fuji is the last customer on the utility company's (TEPCO) 6.6-kilovolt distribution feed and ground transportation currently delivers fuel oil (FJ-1) for space heating, domestic water heating, cooking, and fuel for backup generators. This area also is prone to typhoons and other climate and natural events that could disrupt energy system operations and military readiness.

IMPACT IF NOT PROVIDED:

Without this project, CATC Camp Fuji will continue to rely primarily on commercial power to support operations. This is a cause for concern due to ongoing security threats from adversaries and the potential for extreme climate impacts from typhoons and other natural events such as earthquakes. If the project is not provided, Camp Fuji's critical missions, to include supporting forward deployed training requirements, will remain vulnerable to mission downtime during commercial power disruptions.

1. COMPONENT Defense Wide – USMC	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Combined Arms Training Center (CATC) Camp Fuji Japan	Microgrid and Backup Power

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D	81150	P-904	$45,870

12. SUPPLEMENTAL DATA:

a. Estimated Execution Data:

(1) Acquisition Strategy: Design Bid Build

(2) Design Data:

(a) Design or Request for Proposal (RFP) Started:	JUN/2021
(b) Percent of Design Completed as of Jan 2024	35%
(c) Design or RFP Complete:	MAR/2025
(d) Total Design Cost ($000):	6,221
(e) Energy Study and/or Life Cycle Analysis performed?	Yes
(f) Standard or definitive design used?	Yes

(3) Construction Data:

(a) Contract Award:	AUG/2025
(b) Construction Start:	FEB/2026
(c) Construction Complete:	DEC/2027

b. Other Appropriations or Funding Sources: N/A

c. Project Type: Energy Resilience

d. Rationale IAW 10 USC 2914: This project supports mission assurance by providing Camp Fuji with a reliable, resilient, and cybersecure microgrid that enables islanding and continuity of operations for 14+ days. This project supports mission critical functions by allowing all functions, including mission critical training, to continue without disruption. This project addresses known vulnerabilities associated with potential climate impacts (typhoons), and manmade threats (conflict, terrorist attack, cyberattack, etc.), aging infrastructure, and backup power requirements. Vulnerabilities are mitigated by replacing aged energy systems with modern, reliable, resilient, efficient, and cybersecure systems and reducing reliance on the commercial energy system for power during normal and contingency operations.

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159

1. COMPONENT Defense Wide	**FY 2025 ENERGY RESILIENCE AND CONSERVATION MILITARY CONSTRUCTION PROJECT DATA**	2. Date MAR 2024

3. INSTALLATION AND LOCATION	4. PROJECT TITLE:
Various locations world-wide	ERCIP Construction Cost to Complete

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0904903D			103,100

9. COST ESTIMATES

Item	U/M	Quantity	Unit Cost	Cost ($000)
PRIMARY FACILITIES	LS	--	--	**103,100**
SUPPORTING FACILITIES None				**0**
SUBTOTAL				**103,100**
TOTAL REQUEST (ROUNDED)				**103,100**

10. DESCRIPTION OF PROPOSED CONSTRUCTION:
Cost to complete funds to address prior year ERCIP projects that have experienced cost challenges. Several factors are influencing final project costs and corresponding cost challenges to include volatile market conditions, high inflation, unforeseen construction challenges resulting in additional labor and material costs, and lack of a historical cost database for newer technologies, such as microgrids.

11. REQUIREMENT: N/A ADQT: N/A SUBSTD: N/A

Cost to complete for projects currently authorized and appropriated as part of ERCIP (10 United States Code (U.S.C.) 2914) to complete military construction projects for energy resilience, energy security, and energy conservation. These projects achieve the objectives in 10 U.S.C. 2920.

The lack of additional funds to complete projects will result in some project cancellations to cover the increased costs. The critical missions of the cancelled projects would be vulnerable and jeopardized.

12. SUPPLEMENTAL DATA:

Office of the Deputy Assistant Secretary of Defense (Environment & Energy Resilience)
703-843-0159