



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

9/1/22

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS,
ENERGY, AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY (ENERGY,
INSTALLATIONS, AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE
(INSTALLATIONS, ENVIRONMENT, AND ENERGY)
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Fiscal Year 2025 Energy Resilience and Conservation Investment Program
Guidance

This memorandum is a data call for Department of Defense Components to submit proposed Energy Resilience and Conservation Investment Program (ERCIP) projects for Fiscal Year (FY) 2025, and for the Components' Integrated Priority Lists (IPL) for FY 2025-FY 2028. Detailed guidance for the FY 2025 ERCIP program is included in Attachment A.

The National Defense Authorization Act and Consolidated Appropriations Act for FY 2022 continued to emphasize the need for ERCIP MilCon to establish resilient installations and support critical missions. Energy resilience and energy security projects will continue to be preferred for ERCIP consideration. Submissions should focus on proposed projects that increase installation resilience and reduce GHG emissions. Projects should be designed to support other energy efforts such as ESPC/UESC's or power purchase agreements. Please provide your proposed FY 2025 projects in the "FY 2025 ERCIP Project Submission Template" (Attachment B), upload the associated project documentation to the ERCIP Portal, and email all project documentation to Ms. Krista Stehn by November 18, 2022.

To support advanced project and program planning, please submit your proposed projects in the IPL using the "FY 2026-2028 ERCIP FYDP Project Submission Template" (Attachment C). In addition to aligning ERCIP planning with the rest of your Military Construction planning process, this will enable you to communicate funding plans for phased and multi-year ERCIP projects. Please return Attachment C by November 18, 2022.

Please direct all questions and submit all files to Ms. Krista Stehn (krista.r.stehn.civ@mail.mil). Thank you for your continued support of this critical program.

KIDD.RICHARD.GO
ODWIN.IV.1163856
081

Digitally signed by
KIDD.RICHARD.GOODWIN.IV.1
163856081
Date: 2022.09.01 09:23:02 -04'00'

Richard G. Kidd IV
Deputy Assistant Secretary of Defense
(Environment and Energy Resilience)

Attachments:
As stated

TAB B:

FISCAL YEAR 2025
ENERGY RESILIENCE AND
CONSERVATION INVESTMENT
PROGRAM (ERCIP)
GUIDANCE

August 2022

Table of Contents

1.	Introduction.....	1
1.1	Roles and Responsibilities.	1
2.	Strategic Vision for the Program	2
2.1	Purpose of ERCIP.	2
2.2	Requirements for All ERCIP Projects.....	3
2.3	Energy Resilience Projects.....	4
2.4	Water Resilience Projects.....	4
2.5	Energy Conservation Projects.	4
2.6	Water Conservation Projects.....	4
2.7	Proposed Energy Resilience, Energy Security, and Energy Conservation Projects that Include Activities Related to Privatized Utility Systems (10 U.S.C. § 2914(d)).	5
2.7.1	Proposed Activities Related to a Utility System Authorized Under 10 U.S.C. § 2688(h), (j), and (k):.....	5
2.7.2	Proposed Activities Related to a Utility System Authorized Under 10 U.S.C. § 2913:.....	6
2.7.3	Proposed Energy-Related Activities Included as a Separate Requirement in an Energy Savings Performance Contract:	6
2.8	Technology Transfer Initiatives.	7
2.9	Proposed Projects that Include Activities Related to Stormwater Management for Installations and Defense Access Road Resilience and Waterway and Ecosystem Conservation.	7
3.	Funding Details.....	7
3.1	Military Construction Funds Available for ERCIP.....	7
3.2	ERCIP Projects Authorization	9
3.3	Evaluation of Projects Prior to Submission to Congress.....	9
4.	Prioritization Criteria for Selecting ERCIP Projects to Submit to Congress.....	10
4.1	Other Criteria for Additional Consideration	11
5.	ERCIP Project Submissions.....	12
5.1	FY25 ERCIP Project Submissions.....	12
5.2	FY25 ERCIP Project Submission Supporting Documents	12
5.3	FY25 - FY28 ERCIP IPL Submissions.....	15
5.4	ERCIP Project Submittal Package.	15
5.5	Best Practices for ERCIP Submissions	15
6.	Measurement & Verification (M&V).....	16
6.1	Standard M&V Plans	16
6.2	M&V Cost.....	16
6.3	M&V Plan Updates	16
6.4	Non-Standard M&V Plans	16
7.	Economic Analysis	17

7.1	Requirements for the Economic Analysis for FY25 ERCIP submissions	17
8.	Operational Technology and Control Systems	18
9.	DoD Component Responsibilities and Program Administration.....	19
9.1	Identifying and Executing ERCIP Projects.....	19
9.2	ERCIP Portal Requirements.....	20
9.3	Reporting Requirements.....	20
9.4	Project Changes and Cancellations	21
10.	ERCIP Annual Timeline	21
Appendix I:	ERCIP Portal.....	23
	Portal Access.....	23
	Portal Project Records.....	23
Appendix II:	Energy Resilience Project Questions.....	26
Appendix III:	Water Resilience Project Questions	27
Appendix IV:	Additional Requirements for Energy Resilience Projects implementing §2914(d).28	
Appendix V:	Estimated Useful Life of Energy Efficiency, Renewable Energy, and Water Conservation Technologies.....	29
Appendix VI:	Conversion Factors for Calculations of Energy Savings	30
Appendix VII:	Project Change/Cancellation Notification Template	31
Appendix VIII:	Additional Planning & Design Funds Request Template	33
Appendix IX:	Energy Resilience Assessment (ERA) Tool	34
Appendix X:	Defense Climate Assessment Tool (DCAT)	35
Appendix XI:	Definitions.....	38
Appendix XII:	References.....	40

1. Introduction

The Energy Resilience and Conservation Investment Program (ERCIP) is a Military Construction (MilCon) program that is a critical element of the Department of Defense’s (DoD’s) strategy to improve the energy resilience, energy security, and energy conservation of its fixed installations. ERCIP is used to address energy resilience, energy security, and energy conservation requirements of existing missions. ERCIP should **not** be used to fund “New Mission” requirements on installations. New mission requirements must be captured and funded by the “New Mission” owner.

ERCIP is the program used to implement energy resilience, energy security, and energy conservation projects addressed by 10 U.S.C. § 2914. Although 10 U.S.C. § 2914 does not authorize water-related projects, ERCIP will be used to develop proposals for submission to Congress for water-related projects that are not addressed by § 2914.

Development of energy resilience projects is the current ERCIP priority. Projects developed and submitted through ERCIP should primarily build installation energy resilience. Ideally, energy resilience projects should include intentional, integrated design to incorporate energy conservation to reduce energy demand for important energy loads as part of a “systems” approach, reducing the potential for energy vulnerabilities and/or incorporating on-site supplied energy that does not depend on external re-supply in the event of energy disruption. However, “stand-alone” energy conservation projects with a high savings-to-investment ratio (SIR) may still be considered. Projects will be selected for submission to Congress as part of a deliberative and prioritized response that considers mission criticality and an all-hazards threat assessment. Emphasis will be given to deploying on-site energy generation assets as part of cyber-secure microgrids, with priority given to carbon pollution-free electricity generation.

ERCIP projects are part of a comprehensive approach to achieving energy resilience that compliments, but does not replace, other investment methods. DoD Components are expected to continue to implement facility energy investment programs that take full advantage of non-DoD financing authorities (e.g., Energy Savings Performance Contracts¹ (ESPCs), Utility Energy Service Contracts² (UESCs), Utilities Privatization³ (UP), Power Purchase Agreements⁴ (PPAs), and/or Enhanced Use Leases (EULs)⁵ to improve energy resilience, conserve energy, produce carbon-free electricity, and reduce or stabilize DoD’s utility costs. ERCIP should be used to develop projects that are not a good fit for use with non-DoD financing authorities. DoD Components are expected to also consider carefully the reliability and up-time requirements for energy infrastructure supporting critical missions and weigh the ability for staff or support contracts or alternative financing contracts to best maintain that infrastructure according to reliability requirements for the service life of the infrastructure.

1.1 Roles and Responsibilities.

1. Deputy Assistant Secretary of Defense for Environment and Energy Resilience (DASD(E&ER)). The DASD(E&ER) is assigned the responsibility of overseeing the management of ERCIP IAW 10 U.S.C. § 2914 and other authorities to include: developing and

¹ 42 U.S.C. § 8287 et seq.

² 10 U.S.C. § 2913(d)

³ 10 U.S.C. § 2688

⁴ 10 U.S.C. § 2922a

⁵ 10 U.S.C. § 2667(b)(5), (c)

issuing ERCIP policy and guidance, ERCIP POM development and project selection, approving ERCIP FY project lists and Unfunded Requirements (UFR) lists, drafting input to the ERCIP President’s Budget (PB) Submission package (i.e., Division B, J-Book, and DD Form 1391s), coordinating with Office of the Under Secretary of Defense (Comptroller) (OUSD(C)) regarding distribution of MilCon and Planning & Design (P&D) funds to the DoD Components, and with overseeing the management of ERCIP project change requests.

2. Deputy Assistant Secretary of Defense for Construction (DASD(Con)). The DASD(Con) is assigned the responsibility to oversee the execution of ERCIP military construction projects to include: finalizing and submitting the ERCIP PB package to OUSD(C), advising ODASD(E&ER) when to issue P&D for projects, providing approval to DoD Components to advertise construction projects, and overseeing ERCIP project congressional notifications.
 - a. USD(A&S) delegated congressional notifications pursuant to 10 U.S.C. § 2853 to the DoD Components, with a requirement to coordinate with ODASD(E&ER), ODASD(Con), and OUSD(Comptroller).⁶
 - b. USD(A&S) delegated congressional notification authority pursuant to 10 U.S.C. § 2807 to DASD(Con), therefore DoD components may not obligate MilCon P&D funds to award a contract for architect-engineer services, or to carry out construction design until the notification requirements are complete and the fourteen day waiting period has passed.⁷

2. Strategic Vision for the Program

2.1 Purpose of ERCIP. 10 U.S.C. § 2914, *Military construction projects for energy resilience, energy security, and energy conservation* authorizes the Secretary of Defense to “carry out such military construction projects for energy resilience, energy security, and energy conservation as are authorized by law, using funds appropriated or otherwise made available for that purpose.” The Department will continue to prioritize funding for projects that directly contribute to energy resilience for installations on the DoD Mission Assurance (MA) Priority Installation list, the Joint Mission Priority list, and the Service Capability Priority list, and which are reflected in Installation Energy Plans (IEPs).⁸

The administration of ERCIP will incorporate climate change resilience and climate change mitigation efforts. Executive Order (EO)14008, *Tackling the Climate Crisis at Home and Abroad*, requires the Secretary of Defense to consider “the security implications of climate change” in developing strategy, planning, and programming documents and processes.⁹ Pursuant to the White House Interim National Security Strategic Guidance, DoD is pursuing ways to “rapidly lower global carbon emissions, while also enhancing resilience to [all threats, including] climate change.”¹⁰

ERCIP will also integrate with 2021 DoD Climate Adaptation Plan (CAP) lines of effort to enhance resilient built and natural infrastructure “necessary for successful mission preparedness, military readiness, and operational success in changing conditions,” into its evaluation of project

⁶ USD(A&S), *Delegation of Authority for Cost and Scope Variations for Energy Resilience and Conservation Improvement Program Military Construction Projects*, May 19, 2022.

⁷ USD(A&S), *Delegation of Authority for the Design of Energy Resilience and Conservation Improvement Program Military Construction Projects*, May 19, 2022.

⁸ DoD Components are to expect forthcoming guidance from DASD(E&ER) and DASD(DC&MA) regarding the Joint Mission Priority and Service Capability Priority list(s).

⁹ E.O. 14008, *Tackling the Climate Crisis at Home and Abroad*, Sec. 103(d).

¹⁰ Interim National Security Strategic Guidance, March, 2021, pg 12, 1st paragraph.

submissions.¹¹ As noted in the CAP, “energy resilience is crucial to maintain mission essential functions,” and ERCIP will help increase the energy resilience of installations through prioritizing Energy Resilience project submissions.

ODASD(E&ER) will continue to leverage ERCIP, as appropriate, to seek new technologies and opportunities that ensure secure power management and distribution at the installation level. New technologies and opportunities include the fielding of microgrids, strengthening the grid for Electric Vehicle Supply Equipment (EVSE) installation, utilizing renewable energy, and funding energy conservation projects which significantly reduce an installation’s energy demand and carbon footprint while enhancing the installation’s energy resilience to the effects of climate change. Microgrids will be designed to allow for future expansion and integration with other projects that improve energy resilience, including third party financed activities such as PPA, UESC/ESPCs, and EUL.

Water security is increasingly recognized as a key component to overall installation resilience and oftentimes cannot be treated separately from energy security. While 10 U.S.C. § 2914 does not apply to projects for water resilience, water security, or water conservation, Congress has authorized and appropriated funding for water projects submitted through the process described in 10 U.S.C. § 2914 regardless of statutory language. Accordingly, these projects will be considered for submission using the process described in 10 U.S.C. § 2914 when the proponent can establish a clear linkage to overall installation resilience as addressed in 10 U.S.C. § 2815. DoD will submit such project proposals to Congress along with proposals for energy resilience, energy security, and energy conservation projects in accordance with the process set forth in 10 U.S.C. § 2914.

Projects for the construction of water conservation projects that are unrelated to energy conservation, energy security, or energy resilience, may be selected by the Department and implemented in accordance with 10 U.S.C. § 2866(c). Water resilience and water security projects must include an element of water conservation to be considered under this authority.

2.2 Requirements for All ERCIP Projects. It is existing DoD policy that all proposed ERCIP projects require a life cycle cost analysis (LCCA), which will also provide the Savings to Investment Ratio (SIR). The SIR will not be a selection criterion for resilience and security projects because it is not an accurate measure of the benefits of resilience. However, the SIR will be a selection criterion for energy conservation and water conservation projects. DoD components should continue to evaluate savings opportunities within resilience projects that make the project more financially viable, such as demand response programs, avoided demand charges, rate/tariff adjustments, net metering credits, etc.

Where available to accompany FY2025 and Integrated Priority List (IPL) project package submissions, DoD Components should provide documentation of economic analysis performed IAW DoDI 7041.03 procedures. DoD Components will be required to provide economic analysis IAW DoDI 7041.03 for energy resilience projects submitted for the FY25 ERCIP program.

The economic analysis and LCCA for ERCIP projects proposed by DoD Components should address the social cost of carbon IAW Section 5 of E.O. 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*.

Projects that proposed to take advantage of 10 U.S.C. § 2914(d) must be accompanied by a legal sufficiency analysis from the Service’s Office of General Counsel addressing the elements in Section 2.7 below.

¹¹ *Department of Defense Climate Adaptation Plan*, 1 September 2021, pg 12-13.

2.3 Energy Resilience Projects. Energy Resilience is defined as “the ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements.”¹² Examples of energy resilience projects include, but are not limited to: microgrids, battery energy storage systems, power plants (i.e., geothermal, natural gas, renewable and/or clean energy generation systems, nuclear reactors, etc.), cooling towers, and hardening of electrical infrastructure against terrorist/enemy attacks and/or natural disasters, etc., to ensure the ability to provide sufficient power to enable installation resilience and mission assurance. Energy resilience projects proposed by DoD Components that are CO₂-producing investments should also align with Part II of E.O. 14008, *Tackling the Climate Crisis at Home and Abroad*.

2.4 Water Resilience Projects. Water resilience projects are projects that improve or enable access to water in support of mission functions. Specifically, a water resilient force supports mission preparedness, military readiness, and operational success. Proposed projects that are solely for water compliance (i.e., a project whose sole objective is to enable installations to meet environmental and permitting standards) will not be considered or selected for submission to Congress. As explained in Section 2.2, while 10 U.S.C. § 2914 does not include projects for water resilience, DoD will consider water resilience projects for submission when they contribute to overall energy resilience. For example, water resilience projects that contribute to overall energy resilience could be projects that ensure cooling for data centers and mechanical equipment during temperature increases, or a desalination plant that supports power plant resiliency. Such project proposals will be submitted to Congress in accordance with the process set forth in 10 U.S.C. § 2914.

Water resilience projects related to water conservation may also be considered and submitted in accordance with 10 U.S.C. § 2866(c).

Examples of water resilience projects include, but are not limited to: construction of water treatment plants, installation of additional water supply lines, construction of emergency water supplies utilizing reverse osmosis purification systems, desalination plants that support power plant resiliency, redundant chilled water systems, hardening of water infrastructure against terrorist/enemy attacks and/or natural disasters, etc., to ensure the ability to provide sufficient potable and non-potable water to enable installation resilience and mission assurance.

2.5 Energy Conservation Projects. Energy Conservation projects are projects that improve energy efficiency, are life cycle cost-effective, and have the minimum SIR of 1.25:1. In general, ERCIP funds should not fund energy conservation projects that fit within the scope of other investment methods (e.g. ESPC, UESC, etc.). Energy conservation projects submitted for ERCIP shall contribute to DoD’s energy resilience efforts.

2.6 Water Conservation Projects. Water Conservation projects are projects that improve the efficiency of water use, are life cycle cost-effective, and involve water conservation, water recycling or reuse, more efficient treatment of wastewater, improvements in operation or maintenance efficiencies, retrofit activities, or other related activities. Examples of water conservation projects include, but are not limited to: irrigation system upgrades, reclaimed water systems, etc., all of which must meet the minimum SIR of 1.25:1.

Water conservation construction projects are authorized through 10 U.S.C. § 2866(c), which provides that “the Secretary of Defense may carry out a military construction project for water conservation,

¹² 10 U.S. Code § 101(e)(6)

not previously authorized, using funds appropriated or otherwise made available to the Secretary for water conservation.” Projects submitted under this authority should have a high SIR and follow the same submission requirements as addressed in Section 5 of this guidance.

2.7 Proposed Energy Resilience, Energy Security, and Energy Conservation Projects that Include Activities Related to Privatized Utility Systems (10 U.S.C. § 2914(d)). 10 U.S.C. § 2914(d) addresses application of ERCIP projects to utility infrastructure located on an installation that are not owned by the government:¹³

(d) Relation to Certain Other Authorities – A project under [Section 2914] may include:

- (1) activities related to a utility system authorized under subsections (h), (j), and (k) of section 2688 or section 2913 of this title, notwithstanding that the United States does not own the utility systems covered by the project; and
- (2) energy-related activities included as a separate requirement in an energy savings performance contract (as defined in section 304(d) of the National Energy Conservation Policy Act (42 U.S.C. § 8287c (3))).

Because § 2914(d) does not waive any statutory requirements, when implementing § 2914(d), all statutory requirements applicable to ERCIP projects must be satisfied, including but not limited to the following:

- For projects funded with Military Construction appropriations, 10 U.S.C §§ 2801, 2802, and 2851.
- For all ERCIP projects, regardless of the appropriation: 10 U.S.C. §§ 3201 and 3204

ERCIP proposals that include implementing § 2914(d) must be accompanied by a legal sufficiency analysis from an attorney within the military service’s Office of General Counsel.

2.7.1 Proposed Activities Related to a Utility System Authorized Under 10 U.S.C. § 2688(h), (j), and (k):

With regard to a utility system that has not been privatized:

If ERCIP funds have been authorized and appropriated for a project to “construct, repair, or replace a utility system,” instead of carrying out that ERCIP project, the Secretary of a Military Department may use the ERCIP funds to “facilitate the conveyance of [the] utility system” by providing the chosen system owner with a contribution toward the cost of construction, repair, or replacement of the utility system that will be subsequently made by the utility system owner after conveyance.

With regard to utility systems that have already been privatized:

- 1) ERCIP funds may be used to construct or install an ERCIP project that will be subsequently conveyed to the system owner. In order to convey the ERCIP-funded infrastructure:

¹³ In addition to utility systems conveyed to a third party under 10 U.S.C. § 2688, title to energy-saving devices or technologies installed via an UESC may be held by the utility until the expiration of the UESC (see §2913(d)(4)), and title to ECMs installed via an ESPC may also be held by the ESCO. It may be policy for the military departments to own the UESC and ESPC ECMs after contract execution, but that is not required by statute.

- a) The Secretary of a military department must determine that the ERCIP-funded utility infrastructure cannot operate without being part of the utility system that has already been conveyed; or
 - b) The Secretary of a military department must determine that operation of the ERCIP-funded infrastructure by the system owner would be in the best interest of the Government; and
 - c) The military department must receive consideration for the transferred ERCIP-funded infrastructure in the same manner as would be required for the initial conveyance of the utility infrastructure pursuant to § 2688(c).
- 2) If the utility system provides utility services solely to the military installation, the Secretary concerned may use amounts authorized and appropriated for the ERCIP project to improve the reliability, resilience, efficiency, physical security, or cyber security of the utility system.

2.7.2 Proposed Activities Related to a Utility System Authorized Under 10 U.S.C. § 2913:

An ERCIP project may be separately executed and then, through a modification to an existing UESC, be operated and maintained by the utility company along with the existing UESC Energy Conservation Measures (ECM).

An ERCIP project also may be executed as part of a new UESC. The ERCIP Project may not be the only ECM in the UESC.

For both options, the title to the ERCIP project must remain with the government.

2.7.3 Proposed Energy-Related Activities Included as a Separate Requirement in an Energy Savings Performance Contract:

ESPCs are contracts “solely for the purpose of achieving energy savings and benefits ancillary to that purpose,” which require the contractor to “incur costs of implementing energy savings measures, including . . . acquiring and installing equipment . . . in exchange for a share of any energy savings directly resulting from implementation of such measures during the term of the contract.”¹⁴

Although § 8287(a)(2)(E) provides that ESPCs may be paid using “any combination of (i) appropriated funds and (ii) private financing under an energy savings performance contract,” §8287a provides that “any amount paid by a Federal agency pursuant to [and ESPC] may be paid only from funds appropriated or otherwise made available for . . . the payment of energy, water, or wastewater treatment expenses, including related operation and maintenance expenses.” Section 2914 does not waive any of the statutory requirements applicable to ESPCs.

An ERCIP project for energy resilience, energy security, or energy conservation may be separately executed and then, through a modification to an existing ESPC, be operated and maintained by the Energy Service Company (ESCO) along with the existing ESPC ECMs.

An ERCIP project for energy resilience, energy security, or energy conservation may be planned and executed simultaneously with a new ESPC as a separate contract item not executed under the 42 U.S.C. § 8287 authority, and operated and maintained by the ESCO pursuant to the ESPC.

For both options, the title to the ERCIP project must remain with the government.

¹⁴ 42 USC 8287(a)(1)

2.8 Technology Transfer Initiatives. With the recent release of the Interim National Security Strategy (NSS) Guidance and EO 14008, *Tackling the Climate Crisis at Home and Abroad*, the DoD is exploring ways to better integrate ERCIP with broader climate and modernization initiatives (including the transfer of technology between DoD, industry, and academia) that can be executed as a “military construction project” as defined in 10 U.S.C. § 2801(b). As a result, DoD will increase consideration for technology transfer in its ERCIP investment criteria with an emphasis on renewable energy and clean energy production to conserve energy and water, decrease utility costs, increase DoD’s energy resilience to the effects of climate change, and assist with DoD’s climate mitigation efforts. For example, ERCIP is critical to implementing distributed, low-carbon energy alternatives (solar and wind), battery storage, and microgrids to remediate mission risks. Links to access the Interim NSS Guidance and EO 14008 can be found in Appendix XII: References.

2.9 Proposed Projects that Include Activities Related to Stormwater Management for Installations and Defense Access Road Resilience and Waterway and Ecosystem Conservation.

The National Defense Authorization Act for Fiscal Year 2022 established statute 10 U.S.C. § 2815a(a), to allow a stormwater management program on or related to a military installation to (1) improve military installation resilience or the resilience of a defense access road or other essential civilian infrastructure supporting the military installation; and (2) protecting nearby waterways and stormwater-stressed ecosystems. Projects may be carried out as a military construction project under several authorities including as a military resilience project under section 2815 and as a construction project under section 2914 of 10 U.S.C.

Energy Resilience projects that require incorporation of stormwater attributes in order to protect energy infrastructure being constructed may be submitted for consideration in ERCIP but will **not** automatically be afforded special prioritization or approval. Stormwater projects that do not have energy attributes will **not** be considered for ERCIP.

Military Services and Defense Agencies are required to coordinate between 10 U.S.C. § 2914 and § 2815a projects regarding water access, management, conservation, security, and resilience aspects.¹⁵

3. Funding Details

3.1 Military Construction Funds Available for ERCIP.

1. **Planning and Design (P&D) Funds.** P&D funds, as authorized by 10 U.S.C. § 2807, are used for architectural and engineering services required to prepare ERCIP projects for budget submission, authorization, and execution. Refer to DoD 7000.14-R, Volume 3, Chapter 17. Additional details regarding P&D funds follow:
 - a. P&D funds are 5-year funds and are available for obligation for four years following the year of appropriation.
 - b. P&D funds may be combined with prior year P&D funds, provided the prior year funds are not expired and are still available for obligation.
 - c. To assist with developing ERCIP submission packages, DoD components are authorized to use P&D funds in accordance with the approved ERCIP IPL.
 - d. DoD Components are required to notify ODASD(E&ER) and ODASD(Con) of their current working estimate (CWE) for projects at the completion of the 35% design.

¹⁵ 10 U.S. Code § 2815a(e)

- e. The amount of P&D provided for a project will be based on the amount of P&D requested by DoD Components on their FY25 ERCIP Project Submission spreadsheet; however, the actual amount of P&D distributed will be subject to the availability of funds.
- f. For ERCIP projects requiring more than \$1,000,000 of P&D funds, ODASD(Con) is responsible for congressional notification IAW 10 U.S.C. § 2807. DoD components are responsible for providing the required information including the scope of the proposed project and the estimated cost to perform P&D before any funds can be obligated. The Component may obligate the funds only after the end of the 14-day period beginning on the date on which the notification was received by the committees.¹⁶
- g. If it is determined that additional P&D is needed for a project, DoD Components must submit a request to ODASD(E&ER) using the template included as Appendix VIII. The template requires information on the original P&D amount, remaining P&D, requested P&D amount, and rationale for request.
- h. Advance Planning: Advance planning is not encompassed by, and should not be performed under, the authority for MilCon project planning and design efforts. Advance planning costs for ERCIP projects are required to be funded from DoD component appropriations available for operation and maintenance.

Refer to FMR Vol 3, Chapter 17, section 5.0 (Related costs funded by other than MilCon appropriations) and specifically 5.2 on advance planning. Additional advance planning and programming information is also contained in FMR Vol 3, Chapter 17, Appendix A.

Absent other specific guidance issued by OSD, component policies should be followed for specified MilCon projects. The following are examples of advance planning:

- Development of a Master plan or related sub-plan or Base Electronic Systems Engineering Plan (BESEP).
- Site selection efforts/studies, including preliminary site investigation and utility analysis for the purpose of determining a suitable site for a MilCon project.
- Development of project requirements, concept studies, economic analysis, and DD Form 1391 documentation (except for cost certification effort) required as part of the budget development, justification and submission process.
- Studies, surveys, documentation, consultation or other efforts necessary to meet other federal, state or local environmental requirements (e.g. National Environmental Policy Act, Endangered Species Act, Coastal Zone Management Act, National Historic Preservation Act).
- Development of a Preliminary Hazards Analysis (PHA), or any radiation contamination, asbestos, radon or other hazardous substance investigations/surveys necessary to quantify the remediation required for budget and NEPA purposes.
- Preservation activities associated with historic properties and cultural and archaeological sites, including investigation, documentation and consultation (e.g. state historic preservation office (SHPO) recordation effort), any subsequent documentation of further study required by agreement, and recovery/salvage.

¹⁶ 10 U.S. Code § 2807(b)(a)

Please note the DD Form 1391 identified above is for planning level DD Form 1391s. It does not include the 35% design effort that would inform a Budget Ready DD Form 1391.

2. **Military Construction (MilCon) Funds.** MilCon requirements for executing the FY25 ERCIP shall be programmed and budgeted consistent with 10 U.S.C. § 2914 and Volume 2B, chapter 6, of the DoD Financial Management Regulation. MilCon appropriations ordinarily are available for obligation for five (5) years. ERCIP projects are selected using the process described in Section 5 – *ERCIP Project Submissions*. ERCIP MilCon projects should be designed to the 35% design stage and inform the project cost (Block 8) on the DD Form 1391 prior to OSD’s Budget Submission.

3.2 ERCIP Projects Authorization. Prior to FY21, 10 U.S.C. § 2914 provided ERCIP project authorization and Congress appropriated the funds for ERCIP by including an amount for the program within the Defense-wide MilCon appropriation, along with amounts provided for the Unspecified Minor Military Construction program and for individual specified or “major” MilCon projects. In recent years, NDAA Division B also conferred project authorization for specific ERCIP projects. In FY21, Congress amended § 2914 to repeal the standing project authorization for ERCIP projects, making project execution dependent on specific authorization. Requesting that authorization is subject to the process set out in 10 U.S.C. § 2914, or reliance on other standing title 10 military construction authority (e.g., 2805, 2811, 2854). For those ERCIP projects requiring specific project authorization, Congress provides that authorization on a line-item basis in the NDAA, which lists each authorized project, its location, and the amount authorized to be appropriated for that project.¹⁷ Fiscal Year 2023 was the first year that DD Form 1391s were submitted to Congress for line-item approval. Congress has continued appropriating ERCIP project funds within the Defense-Wide account. For any changes to ERCIP projects authorized prior to FY 2021, the DoD Components must submit project change requests to ODASD(E&ER) using the guidance in section 9.4. Cost or scope changes needed for ERCIP projects in FY 2021 and beyond will need to adhere to 10 U.S.C. § 2853 requirements as addressed in section 9.4.

3.3 Evaluation of Projects Prior to Submission to Congress. For purposes of evaluating ERCIP projects for submission to Congress, projects are grouped into two primary categories: Energy Resilience and Energy Conservation.

1. Energy Resilience includes two subcategories: Energy Resilience and Water Resilience.
 - a. To help differentiate which Energy Resilience projects specifically support Utility Privatization (UP) or ESPC/UESC projects, sublevels for each were also created and shall be used as appropriate. Project submissions with these sublevels must conform with Section 2.7 requirements.
2. Energy Conservation includes three subcategories: Renewable Energy, Energy Efficiency, and Water Conservation.

¹⁷ FY21 NDAA (see Tables listed in § 2402(a) and (b) and § 4601.

Project Category	Energy Resilience (ER)				Energy Conservation (EC)		
Subcategory	<i>Energy Resilience</i>		<i>Water Resilience</i>		<i>Renewable Energy</i>	<i>Energy Efficiency</i>	<i>Water Conservation</i>
Sublevel ¹⁸	<i>Utility Privatization</i>	<i>ESPC/UESC</i>	<i>Utility Privatization</i>	<i>ESPC/UESC</i>			

Table 1. ERCIP Project Categories

Table 1 illustrates the project categories for FY25 and later projects. There is no specific percentage of projects that will be approved for submission to Congress allocated to categories or subcategories.

4. Prioritization Criteria for Selecting ERCIP Projects to Submit to Congress

ODASD(E&ER) ensures alignment of proposed projects with applicable statutes and executive orders, then evaluates and prioritizes projects within each of the two categories listed in Table 1 in order to maximize the benefit of the project portfolio for contribution to mission assurance and the strategic vision for the program. The following weighted criteria are utilized by ODASD(E&ER) to score and select projects that are then submitted to Congress for ERCIP authorization and funding:

1. Projects that improve energy resilience on installations listed on the **DoD Mission Assurance Priority List** or on a Service’s submitted installation priority list.
2. Documented Plan: ERCIP projects must address mission requirements in an Installation Energy plan (IEP). If an IEP has **not** been completed yet for the installation, the ERCIP project must be included in and address a mission resilience requirement identified in some form of another Master Plan (i.e., an installation, region, department, or DoD Component energy plan). Other factors being equal, projects at installations that have a completed IEP will be given additional consideration.
3. Projects that include specific goals for the FY25 ERCIP Program. Specific goals for FY25 include improvements to energy resilience and investments in technologies as follows:
 - a. Microgrids with the ability to expand and incorporate new technologies over time in order to 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.
 - b. Renewable energy, clean energy, and energy storage project(s), particularly when they create a synergistic effect with other technologies, efficiency improvements and “smart” building or grid management systems.
 - c. Base-load power technologies, such as geothermal and nuclear reactor generation systems connected to a microgrid for onsite energy production.
 - d. Accelerated deployment of Air Source Heat Pump project(s) as demonstrated by ESTCP to support a specific building or a series of buildings.
 - e. Infrastructure projects directly supporting Electric Vehicle (EV) charging stations.
 - f. Water Resilience projects that improve overall energy resilience or enable access to water in

¹⁸ FY21 NDAA, Sec. 2823. “Promotion of Energy Resilience and Energy Security in Privatized Utility Systems.”

support of mission functions.

4. Energy Resilience (ER) / Water Resilience (WR): Contribution to energy/water resilience, energy security, and mission readiness and assurance at an installation. Projects that meet the following requirements will be prioritized over other projects:
 - a. Projects that meet critical mission requirements and are the best solution to improve mission readiness and assurance at a DoD installation or DoD-owned facility.
 - b. Projects that enhance ER and generate on-site clean/pollution free energy, to include but not limited to photovoltaic (PV), wind, geothermal, or energy storage.
 - c. Projects that enhance water resilience and address climate threats, to include construction of water treatment plants, installation of additional water supply lines, construction of emergency water supplies utilizing reverse osmosis purification systems, desalination plants that support power plant resiliency, redundant chilled water systems, and hardening of water infrastructure against terrorist/enemy attacks and/or natural disasters.
5. Executability: Components are required to provide estimated execution data to include acquisition strategy, summary of advance planning efforts (NEPA, facility planning requirements, site approvals, cultural resource surveys, etc.) completed or underway, amount of P&D required to support development of a budget ready DD Form 1391, when and how much additional P&D is required to support final design/solicitation documents, and estimated construction contract award date.
6. Projects that contribute to GHG reduction that include energy systems like fuel cells and battery energy storage systems, heat sinks like green or cool roofs, innovative building materials like the use of high performing sustainable concrete, the inclusion of energy efficient technology, and other emission reducing technologies and strategies.
7. Projects that create a synergistic effect: Diversification of energy technologies meaning combining different types of energy technologies, such as generation (i.e., PV, wind, geothermal, nuclear reactors, air source heat pump), storage (i.e., battery or other), and control technologies (i.e., microgrid/smart grid). Benefits should be described and quantified.

4.1 Other Criteria for Additional Consideration. ODASD(E&ER) considers other project criteria when evaluating project submissions. Criteria in this category are not weighted, but are considered important attributes for ERCIP projects. Other criteria reviewed for additional consideration by ODASD(E&ER) during the project selection process includes the following:

1. The DoD Component priority is used as a discriminating criterion in the project selection process.
2. A complete project package that includes all required supporting documentation noted in Section 5.2.
3. Energy Conservation (EC) / Water Conservation (WC) projects: Improvements to energy/water efficiency such as life cycle cost-effective improvements in operations and maintenance efficiencies, or retrofit activities, or energy consuming devices and required support structures. ER/WR projects are prioritized higher than EC/WC. However, EC/WC projects are still a valuable part of the ERCIP portfolio. When submitted, EC/WC projects:
 - a. Must meet critical mission requirements and are the best solution to improve mission readiness and assurance at a DoD installation or DoD-owned facility.

- b. Must include SIR value and the Simple Payback: An energy investment's "Simple Payback" is the time it would take to recover the initial investment in the project by utilizing energy savings generated by the project. $\text{Payback} = \text{Cost of project} / \text{Energy savings per year}$.
4. Defense Climate Assessment Tool (DCAT) Results: Component assessment of 30 and 50 year scenarios that will impact the proposed infrastructure project and the missions supported by the investment. Components will use DCAT or an equivalent Component tool when developing IEPs, and by extension to inform ERCIP projects (energy and water). To learn more about the DCAT, please see Appendix X: Defense Climate Assessment Tool.
5. Projects that support and enhance the mission of other tenant agencies on an installation.
6. Projects located at National Guard Headquarters that enhance resilience and the ability to respond to emergencies.
7. Energy Resilience Assessment (ERA) Tool Results: Assessment of existing and alternative installation backup power systems through modeling of life-cycle cost and energy technology architectures. More information regarding the purpose of the ERA Tool can be found in Appendix IX: Energy Resilience Assessment (ERA) Tool.
8. Projects that promote new technology transfer (i.e., Test Bed Application/Innovative Technology): Leverage of DoD demonstrated technology (e.g., a technology that has been demonstrated in an Environmental Security Technology Certification Program (ESTCP) project). See Appendix XII: References for test bed technology program links.

5. ERCIP Project Submissions

5.1 FY25 ERCIP Project Submissions. For the FY25 selection cycle, DoD Components must submit to ODASD(E&ER) their FY25-FY28 ERCIP IPL, their FY25 ERCIP Project Submission spreadsheet, and all required supporting documents as listed in Section 5.2 – *FY25 ERCIP Project Submission Supporting Documents*. The template for the FY25 ERCIP Project Submission is included as Tab C of the FY25 ERCIP Guidance memorandum. Submissions must include Component rankings of all FY25 projects along with high level project data and additional information as seen in the submission template. All data on the submission template must match information provided in the additional supporting documents. Components are required to conduct their own quality reviews to ensure that information provided in the template and in all supporting documentation matches.

5.2 FY25 ERCIP Project Submission Supporting Documents. The following supporting documents must be included in the ERCIP submittal package for each ERCIP project:

1. Quad Chart – The Quad Chart provides a high-level overview of each project including the basic project data, the project scope and requirements, the project justification, and the project's contribution to mission assurance. The template for the Quad Chart will be provided by ODASD(E&ER).
2. DD Form 1391 – [*Note: DoD Components should be aware that substantial refinements were made by OSD to previously-submitted DD Form 1391 documents for FY23 project submittals, in an effort to standardize terminology and requirements descriptions to aid the review and approval process going forward, and to normalize ERCIP documents in alignment with the traditional MilCon program DD Form 1391 documents in reaction to FY22 NDAA requirements previously described. Components should review the refined*]

FY23 project submittals to familiarize themselves with these refinements to help facilitate successful OSD and congressional review of FY25 submittals.] ODASD(E&ER) will provide the ERCIP DD Form 1391 template that must be used for each project. The ERCIP template will include instructions from ODASD(E&ER) and ODASD(Con) to help DoD Components fill out Planning Level DD Form 1391s for FY25 projects. Budget-Ready DD Form 1391 templates will be provided in September 2022 to help the Components update their FY24 project DD Form 1391s ahead of the President’s Budget submission. In addition to the standard information required on the Planning Level DD Form 1391, DoD Components must also include the following:

- a. Energy Resilience / Water Resilience projects: Components shall include the following information in Block 12d on the DD Form 1391 as rationale for how the project would:¹⁹
 - Enhance mission assurance and readiness;
 - Support mission critical functions; and
 - Address known vulnerabilities (exercise vigilance with classification levels of this information).
- b. Energy Conservation / Water Conservation projects: Components shall include the following information in Blocks 12e and 12f, on the DD Form 1391.²⁰
 - The original expected SIR ratio and simple payback estimates and M&V cost estimate.
 - If the project scope and/or cost changes from a prior FY submission, provide the most current expected SIR and simple payback estimates and the M&V plan and costs.
 - A brief description of the M&V plan and planned funding source. The DoD Component is required to ensure the goals of the project are met through an M&V plan. Section 6 – *Measurement & Verification* and Appendix XII: References contain additional information.
- c. For ERCIP projects that will provide funds for utility systems that are currently privatized (i.e., UP), or scheduled to be privatized within the current POM cycle, the following information must be included on the DD Form 1391:
 - The cost estimate should be shown as a lump sum requirement for each privatized utility system funded as an ERCIP project.
 - The cost estimate of the work should be reflected as a separate line item titled “PRIVATIZED UTILITY CONNECTION AND SERVICE FEE” in Block 9 of the DD Form 1391.
 - All DD Form 1391 requests will be evaluated for compliance with the above established language prior to allocating funds to the project.
 - Include comments to validate that the business case analysis supports
- d. ERCIP projects that propose the use of MilCon funds to procure and install Facility Related Control Systems (FRCS), government owned Operational Technology (OT) supporting FRCS, and to certify and/or obtain accreditation of these systems in

¹⁹ 10 U.S. Code § 2914(b)(3)

²⁰ 10 U.S. Code § 2914(b)(2)

accordance with the Risk Management Framework (RMF), must be listed separately in Block 9 as "RMF Accreditation." All other costs related to the design and initial Assessing and Authorizing (A&A) of these systems required prior to construction may use P&D, or other funding sources. These requirements should be listed as "12g. FRCS Requirements:" in the Supplemental Data section of Block 12 on the DD Form 1391 to identify the requirement, fund source to be used, and line item costs. DD Form 1391s should also identify expected recurring costs for sustainment of FRCS cybersecurity as an Operations & Maintenance (O&M) appropriation expense and acknowledge that the appropriate organization agrees to budget for future sustainment costs. Additionally, if the installation's IEP includes FRCS cybersecurity, that information should be included in the DD Form 1391. For more information, see Section 8 – Operational Technology and Control Systems.

- e. Site information data consisting of site approval, National Environmental Policy Act (NEPA) documentation, mitigation issues (e.g., wetlands, hazardous waste, etc.), environmental cleanup, and any other potential project issues (e.g., permits, land acquisition, historical preservation, etc.).
3. Energy Resilience Questionnaire – Energy Resilience project submissions must also include responses to the Energy Resilience questions listed in Appendix II.
4. Water Resilience Questionnaire – Water Resilience project submissions must also include responses to the Water Resilience questions listed in Appendix III.
5. Appendix IV – Projects implementing § 2914(d) must conform with Section 2.7 above and must be categorized as Energy Resilience projects. Components must also address the additional questions for non-DoD owned infrastructure as listed in Appendix IV.
 - a. Projects implementing section 2914(d) must include a legal sufficiency review from the Service's Office of General Counsel, which will be confirmed by OSD OGC.
6. OSD Energy Resilience Assessment (ERA) Tool Results Narrative Statement, Input Data, and Output Data – As an analysis methodology and software modeling tool that assesses the resilience of existing and alternative installation backup power systems, use of the ERA Tool applies to all ERCIP projects that are adding new energy generation or storage technologies, **except** water, natural gas distribution system resilience, electrical distribution system hardening, redundant utility lines, or redundant distribution pathways. Components must provide a brief, 3-5 sentence narrative in addition to the OSD ERA Tool input and output data. The narrative must summarize the results of the ERA Tool output and clearly explain whether the ERA Tool output is supportive of the project. As a discriminating criterion, if another tool or source is used to support and justify the project, please provide a 3-5 sentence narrative explaining how that tool or source supports the project. Otherwise, state "N/A" for not applicable where appropriate in the submission documents. For more information on using the OSD ERA tool, see the link provided in Appendix XII: References.
7. Economic Analysis – Life Cycle Cost Analyses (LCCAs) are required for **all** ERCIP projects and must include a SIR calculation and documentation for all energy and non-energy savings accounted for in the project. Military installations must perform LCCAs based on MilCon and DoDI 4170.11 requirements. DoD Components shall include evidence that the most cost-effective life cycle solution was chosen for the proposal. Provide documentation of economic analysis performed IAW DoDI 7041.03 procedures if available for to accompany FY2025 project package submissions. Section 7 – *Economic Analysis* – contains additional

information.

8. Measurement & Verification (M&V) Plan and M&V Cost – An M&V Plan and a M&V Cost must be included for all ERCIP projects. Please see Section 6 – *Measurement and Verification* for more details.
9. DoD Climate Assessment Tool (DCAT) and Climate Exposure Assessment Results – The DCAT, equivalent Component tool, or climate exposure assessment is used to develop IEPs, and by extension, to inform ERCIP project selection (energy and water) and ensure alignment with the 2022 National Defense Strategy and EO 14008. Components should provide a 3-5 sentence narrative in the FY25 project submission spreadsheet reporting the relative installation risk ranking and discuss any relevant indicator data. To learn more about the DCAT, please see Appendix X: Defense Climate Assessment Tool.

5.3 FY25 - FY28 ERCIP IPL Submissions. For FY25-28 ERCIP IPL project submissions, DoD Components must submit their ERCIP IPL Project Submission spreadsheet to ODASD(E&ER) **NLT November 18, 2022**. The template for the FY25-28 ERCIP IPL Submission is also included in D and must include Component prioritization of all submitted projects along with high level project data. Supporting documents listed in 5.2 are only required for FY25 project submissions.

5.4 ERCIP Project Submittal Package. Components must upload their ERCIP Project Submission packages to the ERCIP Portal as well as provide them to the ODASD(E&ER) EP Program Director via DoD’s Secure Access File Exchange (DoD SAFE). See Appendix I for information on how to upload the submission package to the Portal and Appendix XII: References for more information about DoD SAFE.

5.5 Best Practices for ERCIP Submissions. To ensure completeness of ERCIP submissions and ease of review, below are additional best practices for ERCIP submissions.

1. Project titles should be concise, easy-to-comprehend, and indicative of the overall project objective. The title should include the specific energy system being improved. Details such as the size of the system and the site of the installation should be included in Block 10: Description of Proposed Construction and not the project title. If multiple technologies are being utilized, the main energy system of the project should be identified in the project title.
2. Ensure project data is consistent across documents. For example, ensure values for SIR, simple payback, project cost, LCCA, etc. are consistent throughout the submission template and project supporting documents. All project packages must contain information that is accurate, current, and verified.
3. Energy Resilience / Water Resilience projects should reference how they fill energy resilience gaps identified in the IEP and/or other Master Plan if an IEP does **not** exist.
4. Energy Resilience / Water Resilience project submissions must demonstrate how the project enhances mission assurance, supports mission critical functions, addresses known vulnerabilities, and is cost-effective.
5. Energy Resilience / Water Resilience projects must demonstrate that they meet or exceed a mission requirement. The military installation proponent is required to submit the critical energy loads serviced by the project and the mission requirement that the Energy Resilience project is planned to support, including the expected level of availability for the critical loads. This information must be included in project submissions. If information is classified, inform ODASD(E&ER) and provide the submission using the appropriate information technology (IT)

system.

6. ERCIP projects should **not** be proposed to increase energy generation in response to mission growth. Projects to increase energy generation specifically to support a new “New Mission” should be funded by the “New Mission” owner.
7. Responses to the Energy Resilience / Water Resilience questions should provide sufficient explanation for reviewers to understand the resilience benefits of the project. **Yes/No responses are not sufficient.** Additionally, if the project fills a gap identified in the installation’s IEP, that information should clearly be noted in the responses.

6. Measurement & Verification (M&V)

All ERCIP projects require M&V to facilitate tracking of energy savings and/or energy generation/availability for the entire life of the project, as listed in the LCCA. Consequently, **all** ERCIP projects must have an M&V plan that shows how the project meets, exceeds, or contributes to a mission requirement, and the M&V plan must clearly provide the annual M&V cost. For Energy Conservation projects, M&V activities should occur at least every four years to verify the energy savings expected in the LCCA.²¹ For Energy Resilience projects, M&V will be accomplished as necessary to ensure mission readiness as well as ensure Energy Resilience goals are met by verifying that power is available for critical loads. DoD Components must develop a metric for each Energy Resilience project in the DD Form 1391 and a M&V plan. Components will use the M&V plan to establish activities for ensuring that metric is met. For more information on developing a metric, see the link for the February 25, 2020 memorandum, *Metrics and Standards for Energy Resilience at Enduring Installations* in Appendix XII: References. For additional guidance describing operations, maintenance, and testing aspects of energy resilience, please see the link provided for the March 2017 memorandum, *Energy Resilience: Operational, Maintenance, & Testing (OM&T) Strategy and Implementation Guidance* also provided in Appendix XII: References.

6.1 Standard M&V Plans. M&V plans shall closely follow the Federal Energy Management Program (FEMP) M&V guidance - Option A, B, C, or D (See Appendix XII: References for FEMP M&V guidance). Slight variations of these Options, such as using a “calculated” method for small projects can be utilized. M&V plans must be uploaded to the Portal before projects can be awarded.

6.2 M&V Cost. The M&V cost estimate shall be included on the DD Form 1391 package, as well as a draft plan, if available.

6.3 M&V Plan Updates. If, within the lifetime of project operation, a technology, environmental, or other change occurs that significantly alters the project scope or performance, then the DoD Component must prepare a new M&V plan that is more suitable for the new conditions. The DoD Component shall notify ODASD(E&ER) of the change using the process as described in Section 9.4 – *Project Changes and Cancellations*. Upon completion of the new M&V plan and approval of the project change request, the entire Change package shall be uploaded to the Portal to replace the current plan.

6.4 Non-Standard M&V Plans. If a project does **not** easily fit into FEMP’s M&V options, then the DoD Component will create a plan IAW the following criteria: M&V plans shall identify M&V

²¹ 42 U.S. Code § 8253, “Energy Management Requirements”

activities that have the most likelihood of being performed in the current budget and resource constrained environment. Automating data collection and data analysis to the maximum extent possible may reduce the amount of resources necessary for documenting project performance. In addition, for Energy Conservation projects, the cost of conducting M&V activities should be commensurate with the estimated savings potential of the project. In other words, M&V costs should **not** significantly affect the savings realized from the project. Non-Standard M&V plans shall address, at a minimum:

1. Details of baseline conditions and data collected;
2. Documentation of all assumptions and sources of data;
3. Equipment necessary for M&V;
4. Processes to ensure data are captured accurately and in a timely manner;
5. How data will be used to monitor equipment performance;
6. Opportunities for continuous improvement of data collection;
7. Overview of proposed energy and cost savings;
8. Utility rates and the method used to calculate cost savings;
9. Details of post-installation verification activities, including inspections, measurements, and analysis; and
10. Costs associated with performing M&V and the source of the funds.

7. Economic Analysis

An economic analysis is required for all ERCIP projects; therefore, ODASD(E&ER) requires LCCAs for all ERCIP projects to assess their long-term cost-effectiveness. An LCCA considers all costs associated with an alternative over its entire useful life, as well as the cost arising from constructing or procuring, operating, maintaining, and ultimately disposing of a project. Projects proposed as a replacement for a cancelled project also require an LCCA.

As in previous years, DoD Components shall base the SIR and the LCCA on the recommended useful life of a new asset, retrofit, or the remaining life of the basic system being retrofitted, whichever is less (see Appendix V). In addition, DoD Components shall use the actual cost of energy purchased for use at the facility as the basis for energy cost analysis rather than stock fund prices or Working Capital Fund rates as these rates are often out-of-date and may include storage and other overhead costs. DoD Components should also ensure they are using the most up-to-date data from the International Energy Agency (IEA) / National Institute of Standards and Technology (NIST) for their cost factors, which means they may have to download new versions of the LCCA / Building Life Cycle Cost (BLCC) templates. See Appendix XII: References for the link to an ERCIP-specific module available for download at the energy.gov website.

7.1 Requirements for the Economic Analysis for FY25 ERCIP submissions.

1. The SIR calculation savings are limited to savings that cash flow to DoD.
 - a. As stated in Section 2.2 – *Requirements for all ERCIP Projects*, the SIR is required for all ERCIP projects. However, for Energy / Water Resilience projects, SIR will **not** be a selection criterion if the project removes unacceptable energy resilience risks. In order to ensure the SIR is calculated in a standard fashion across installations and Components, this

guidance requires that cost savings included in the SIR calculation be limited to those that result in cash flow savings to DoD. Cash flow savings may include energy and power cost savings (with associated escalation rates), utility rebates, demand response program payments, avoided demand charges, rate/tariff adjustments, net metering credits, and O&M costs directly eliminated, such as contracts related to replacing equipment. Any savings included must be as accurate as possible and defensible.

2. The project amount used for the SIR calculation must include A&A cost associated with obtaining Authority to Operate (ATO) for a control system.
 - a. The anticipated cost for A&A shall be included in LCCA calculations to determine SIR and Simple Payback. LCCAs must be submitted with documentation on all cost savings included in the calculation so that ODASD(E&ER) can understand the factors considered. For more information, see Section 8 – *Operational Technology and Control Systems*.
3. LCCAs must also include the project’s annual energy savings and when applicable, address the social cost of carbon IAW Section 5 of EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*.
4. For projects with energy resilience attributes that do **not** cash flow, DoD Components may add a section to their submission describing the project’s value beyond cash flow savings (e.g., cost avoidance, such as the labor cost of a work stoppage). This section is OPTIONAL.
 - a. If Components choose to include this type of information, the resilience value described by the Components should include the following elements:
 - i. Qualitative description of the value ascribed to the resilience attribute;
 - ii. Methodology for calculating the resilience attribute; and
 - iii. Dollar amount for the resilience attribute.

ODASD(E&ER) recognizes that adding requirements to ERCIP submissions is cumbersome and labor-intensive. Despite the added effort, there are several reasons this guidance encourages Components to describe the added value of resilience projects:

1. Support for ODASD(E&ER) justification to Congress on the on-going need and value of ERCIP;
2. Justify the project’s value to Congress, despite a low SIR;
3. Describe and quantify the project’s value perceived by DoD Components;
4. Collect information on the potentially disparate types of additional value provided by resilience projects; and
5. Support the DoD-wide conversation about the value of resilience.

8. Operational Technology and Control Systems

Many ERCIP projects require installation or modification of Operational Technology (OT), which is hardware and software that detects or causes a change through the direct monitoring and control of physical devices, processes, and events in the enterprise, including Facility-Related Control Systems (FRCS). FRCS encompass several types of systems used in operating DoD buildings, facilities, utilities, and other infrastructure that require specialized actions to ensure they remain cybersecure. Examples of FRCS on DoD facilities can be found in October 19, 2020 memo,

Distribution of the Facility-Related Control Systems Master List, at the link provided in Appendix XII: References.

To ensure that FRCS systems installed or modified under ERCIP have the proper NIST cybersecurity controls applied during the design phase, all ERCIP projects involving FRCS must account for and fund the initial cost of A&A using the Risk Management Framework (RMF). At the end of the A&A process, the project shall achieve ATO as a project deliverable, if applicable. ERCIP funds and other funding sources (e.g., procurement funding) may be used to fund A&A.

For FRCS costs incurred in advance of the award of a construction project, P&D funding is authorized; for FRCS costs incurred post-award of the construction project must be funded with MilCon. Generally, the following are construction costs related to the installation of FRCS that ERCIP can fund: procurement and installation of FRCS, procurement and installation of government owned OT supporting FRCS, and certification and/or accreditation of these systems in accordance with the RMF (listed separately in Block 9 as "RMF Accreditation"). All other costs related to the design and initial A&A of these systems required prior to construction may use P&D, or other funding sources. These requirements should be listed as "12g. FRCS Requirements:" in the Supplemental Data section of Block 12 on the DD Form 1391 to identify the requirement, funding source to be used, and line item costs.

Regardless of funding source, all DD Form 1391s for ERCIP projects shall identify the anticipated cost of A&A and identify the source of the funding, if it is **not** ERCIP. DD Form 1391s should also identify expected recurring costs for sustainment of FRCS cybersecurity as an Operations & Maintenance (O&M) appropriation expense and acknowledge that the appropriate organization agrees to budget for future sustainment costs. These recurring O&M costs may include, but are **not** limited to, technology refreshes, annual contract labor support, installation management of the ATO, cyclical contract maintenance review of O&M for compliance with system design requirements, etc. ERCIP funds may be used for IT costs if directly required for A&A, but shall **not** be used for any IT costs beyond initial A&A. All FRCS projects must be designed in accordance with Unified Facilities Criteria (UFC) 4-010-06 *Cybersecurity of Facility-Related Control Systems* dated September 2016, and Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7012 *Safeguarding Covered Defense Information and Cyber Incident Reporting*. All energy projects must adhere to the applicable DoD Component's existing cybersecurity policy and guidance.

For ERCIP projects funded in FY 2017 or earlier, ERCIP funds may be used to pay for CS A&A ONLY, if those costs are identified and accounted for before contract award. ERCIP funds shall **not** be used to modify existing contracts to include the cost of A&A. No additional ERCIP funds will be made available from ODASD(E&ER) to account for A&A costs on prior year projects. Funds must come from a DoD Component's available unobligated balance. DoD Components shall notify ODASD(E&ER), before contract award, on any previously approved project that intends to add A&A using ERCIP funds.

The anticipated cost for A&A shall be included in LCCA calculations to determine SIR and Simple Payback. Guidance for applying the RMF and CS A&A can be found in Appendix XII: References. ODASD(E&ER) Subject Matter Experts (SMEs) are available to assist project teams in performing RMF A&A, including documentation and packages.

9. DoD Component Responsibilities and Program Administration

9.1 Identifying and Executing ERCIP Projects. DoD Components are responsible for identifying

and executing ERCIP projects and providing regular updates on the progress of their program's implementation. As such, each DoD Component shall:

1. Develop and submit projects for ODASD(E&ER) approval;
2. Execute projects authorized and appropriated by Congress;
3. Maintain current, auditable documentation and report consistently on the execution of each approved ERCIP project, including M&V;
4. Identify a main point of contact for matters related to programmatic decisions, administration, and communication with ODASD(E&ER); and
5. Provide evidence of A&A and ATO for FRCS ERCIP projects.

9.2 ERCIP Portal Requirements. To streamline management and administration of the program and to facilitate the proposal, approval, tracking, and monitoring processes of ERCIP projects, ODASD(E&ER) maintains a centralized web based ERCIP Portal (Portal), which supports all project submissions and subsequent updates. The Portal enables the DoD Components and ODASD(E&ER) to track the status and actual performance of projects, and thus offers better insight into the program's overall effectiveness. Additionally, the Portal allows convenient access to project data to complete the ERCIP Annual Report to Congress as well as data calls to support Congressional and other inquiries. For DoD Components to access the ERCIP Portal, they must be on a Non-classified Internet Protocol Router Network (NIPRNet) or use a Virtual Private Network (VPN) to connect to the NIPRNet if accessing from a remote location. For remote access, DoD Components **cannot** use a Common Access Card (CAC) reader alone to gain access to the ERCIP Portal. Appendix I contains instructions on accessing the Portal and requirements for maintaining project records.

9.3 Reporting Requirements.

1. **Actual Performance Data:** DoD Components shall provide actual performance data obtained through the identified project M&V plan of their completed projects on an annual basis. If, per the M&V plan, no data collection is required in a given year, that information should be noted in the Portal. Data will be submitted through the Portal no later than October 31 each year and shall reflect data for the previous year. Annual updates shall be made in the Portal during the entire life cycle of the project. Refer to Appendix I for more information.
2. **ERCIP Portal Updates:** DoD Components are required to update the status of the projects quarterly, by validating, updating, or entering new ERCIP project data in the ERCIP Portal. Updates in the ERCIP Portal must be complete each year NLT **January 21, April 20, July 21, and October 21**, which is NLT 10 days prior to the end of the quarter (i.e., January 31, April 30, July 31, and October 31). DoD Components will be required to verify accuracy of all information for their projects in the ERCIP Portal. Refer to Appendix I for more information on the data required for the Quarterly Reports, and the *Metrics and Standards for Energy Resilience at Enduring Installations* memo dated February 25, 2020 for more information on developing energy resilience metrics.
3. **Execution Updates:** DoD Components will present Senior Executive-level briefs to the ODASD(Con) providing an update regarding the execution of their ERCIP projects. During the ERCIP Execution Review, DoD Components will discuss the execution of their projects and review program financial information, such as obligation rates, available funding, and status of expired funds. ODASD(Con) will provide a briefing template prior to the initial

execution update.

4. **Program Reviews:** DoD Components will provide a Senior Executive-level brief to the ODASD(E&ER) annually during November/December each FY providing a strategic overview of their program; execution summary of their ERCIP program; discuss successes, challenges, and lessons learned; and provide feedback and recommendations regarding OSD ERCIP policy changes needed. ODASD(E&ER) will provide a briefing template prior to each program review.

9.4 Project Changes and Cancellations. DoD continues to manage and execute funding for ERCIP projects under two separate conditions; FY20 and earlier or FY21 and later. DoD Components are encouraged to discuss funding issues with OSD before submitting requests for change in programmed amount or scope. DoD Components may need to consider options such as project cancellation or reprogramming. Construction Funds are good for five years for new obligations, after which they are considered expired for five years and can be used for upward obligation adjustments. After that ten-year period, the funds are canceled and can no longer be used.

1. Updates to a project’s cost based on the projects 35% design can be made on the DD Form 1391 by coordinating with ODASD(E&ER) up to the point that the project is submitted for inclusion in the President’s Budget, and the total of all ERCIP projects at time of President’s Budget (PB) submission is consistent with the total ERCIP construction funding approved at budget lock.
2. OSD recognizes that DD1391s may be based on cost and scope of 15% design prior to President's Budget submission until such time that sufficient P&D is available and executed to build an appropriate pipeline of projects 2-3 years in advance of the year of construction appropriations.
3. For FY20 and earlier ERCIP projects, change requests/cancellations need to be submitted to ODASD(E&ER) using the project change request/cancellation process as outlined in the FY22/23 ERCIP Program Guidance.
4. Cost or scope changes needed for FY21 or later ERCIP projects must adhere to 10 U.S.C. § 2853 requirements. Cost variations may be increased or decreased by not more than 25 percent of the total authorized cost of the project. Pursuant to 10 U.S.C. § 2914, when DoD Components require a project cost and/or scope of work change or need to cancel an ERCIP project, they are required to comply with the ASD(EI&E) policy memorandum “Updated Guidance for Authorized Cost and Scope of Work Changes” dated June 29, 2018. Copies of signed notifications are required to be provided within five working days to ODASD(Con) and ODASD(E&ER).

10. ERCIP Annual Timeline

The ERCIP Annual Timeline outlines the program milestones and deadlines that DoD Components should plan for when managing their ERCIP programs.

Due Date	Task	Action
June 24, 2022	DoD Components resubmit FY24 projects to ODASD(E&ER).	DoD Components
July 21, 2022	Q3FY22 ERCIP Portal Updates.	DoD Components
September 2022	Q4FY22 ERCIP Execution Update to DASD(Con)	DoD Components

October 21, 2022	Q4FY22 ERCIP Portal Updates	DoD Components
October 31, 2022	Components input annual performance data updates into the ERCIP Portal for completed projects IAW M&V plans.	DoD Components
Potentially October 2022	FY23 ERCIP Construction and P&D funds received and distributed as authorized in the FY23 NDAA and appropriated in the Appropriations Act.	USD(C) per request from ODASD(E&ER)
October 2022	DoD Components submit updated FY24 ERCIP 1391s and cost to complete 1391s for FY22-23 projects with CWE change greater than \$2M for BES package.	DoD Components
November 18, 2022	DoD Components submit FY25 project documents and proposed FY25–28 IPL project submission spreadsheet to ODASD(E&ER).	DoD Components
January 2023	Components provide SES-level ERCIP Program Review briefing to ODASD(E&ER).	DoD Components
December, 2022/January, 2023 (subject to FY 23 PB guidance)	ODASD(Con) submits FY24 ERCIP BES package to OUSD(C) for inclusion in President’s Budget (PB).	ODASD(Con), OUSD(C)
January 27, 2023	Q1FY23 ERCIP Portal Updates.	DoD Components
February 2023	OUSD(C) submit FY24 PB (including ERCIP) to Congress.	OUSD(C)
February/ March 2023	Q2FY23 ERCIP Execution Update to DASD(Con).	DoD Components
February/ March 2023	FY25 ERCIP Project Selection.	ODASD(E&ER)
March/April, 2023	ERCIP brief for MilCon Congressional Staffer Days.	ODASD(E&ER), ODASD(Con)
April 21, 2023	Q2FY23 ERCIP Portal Updates.	DoD Components
June/July 2023	Q3FY23 ERCIP Execution Update to DASD(Con).	DoD Components
June 30, 2023	ODASD(E&ER) release FY26 ERCIP guidance for upcoming ERCIP IPL cycle.	ODASD(E&ER)
June/July 2023	Q3FY23 ERCIP Execution Update to DASD(Con).	DoD Components
July 21, 2023	Q3FY23 ERCIP Portal Updates.	DoD Components
~Monthly	ERCIP Working Group (WG) meetings conducted to continuously improve ERCIP process.	ODASD(E&ER) / DoD Components
As needed	ERCIP Change Notification Submissions and supporting documentation.	ODASD(E&ER) / DoD Components

Appendix I: ERCIP Portal

Portal Access

The Portal is found at the following link: <https://dais.osd.mil/DAIS/index.jsp>. The *ERCIP Manual*, found within the Portal, provides information and instruction on how to navigate through the site, submit, update, and track projects.

Users are required to register to access and use the site:

1. User Requirement
 - a. Users must have a valid Certificate/Certificate Authority and Common Access Card.
 - b. Users must be on NIPR to access the site.
2. Registration Process
 - a. Click the link on the DAIS Home Page to begin registration for basic DAIS access.
 - b. Fill out the required (marked with an asterisk) fields on the registration form, and submit the request.
 - i. The sponsor must be a government employee who currently has DAIS access.
 - c. Wait for the sponsor in Step 2 to approve the DAIS access request.
 - i. On the home page, there should now be a message that states “Until your sponsor has approved your account, you will **not** be able to access DAIS or its communities.”
 - d. Once the sponsor approves the request, the user will receive an email notifying him/her of the approval, and the user can now request ERCIP community access. Return to the DAIS Home Page, and click “ERCIP” on the toolbar. Click the “Request Community Access” button at the bottom of the page.
 - e. Complete the access request, and select one of the additional permissions if the user must submit or approve project data. Basic community access only allows users to view project data that has already been approved.
 - i. Project Manager
 - ii. Service Representative – non-contractors only
 - iii. ERCIP Head
 - f. The user can access the ERCIP community once the administrator selected during registration approves the request.

Portal Project Records

It is critical that the Portal consistently and accurately reflects the current ERCIP portfolio. It is most useful for all users when the data is current, and analysis, inquiries, and reports can be completed without data calls. At a minimum, all project records in the Portal shall be updated at the following milestones:

- 1) **Project Creation:** All projects submitted for consideration for FY25 ERCIP funds shall be uploaded by the Component as “Proposed” projects in the Portal no later than the submission FY25 deadline of **November 18, 2022** along with appropriate supporting documentation: FY25 ERCIP Project Submission Template, DD Form 1391, LCCA, Quad Chart, Energy/Water

Resilience Questions (Appendix II and III, if applicable), ERA tool input, results, and narrative explanation, if applicable, and Climate Assessment Tool results (optional). Projects **not** uploaded to the Portal by the deadline will **not** be considered for the FY25 program. The DD Form 1391 must include a description of the expected M&V plan, estimated M&V cost, the appropriation that will be utilized to resource the M&V effort and all other requirements as stated in Section 5.2 – *FY25 ERCIP Project Submission Supporting Documents* in this guidance. *Responsibility: Service Point of Contact (POC) or Project POC (Service POC and Project POC are role-based access types established within the Portal)*

- 2) **Project Creation**: For all other projects added to the program using available prior-year funds, project data including DD Form 1391 and LCCA shall be uploaded by the Component immediately upon ODASD(E&ER) approval of the project. *Responsibility: Service POC or Project POC*
- 3) **Project Selected for Funding**: Upon notification of selection for ERCIP funding (i.e., included on the President’s Budget submission), the Component shall update the project status to “Budgeted.” The ODASD(E&ER) ERCIP manager will notify the DoD Components of projects selected to be “budgeted” via separate correspondence. *Responsibility: ODASD(E&ER) and Service POC or Project POC*
- 4) **Project Awarded**: Upon contract award, the project status shall be changed by the Component to reflect as “Awarded”. In addition, the Component shall ensure the project cost is updated with actual award amount and ensure that the award date is populated. Changing the project status to “Awarded” also requires an M&V plan be uploaded to the Portal. See Appendix XII: References for M&V guidance. *Responsibility: Service POC or Project POC*
- 5) **Project Under Construction**: When construction begins, the Component shall update the project status in the Portal to reflect as “Under Construction.” *Responsibility: Service POC or Project POC*
- 6) **Construction Completed**: Upon commission and initiation of energy savings, the Component shall update the project status in the Portal to reflect as “Completed/Operational.” *Responsibility: Service POC or Project POC*
- 7) **Project Cancelled**: Use Project Change/Cancellation Notification template in Appendix VII to notify ODASD(E&ER) of a project cancellation. Upon notifying ODASD(E&ER) of a project cancellation at any stage of a project life, the Component must ensure the project status in the Portal is updated to reflect as “Cancelled.” For detailed instructions on the Project Cancellation process, see Section 9.4 – *Project Changes and Cancellations*. *Responsibility: Service POC or Project POC*
- 8) **Project Decommissioned**: When the project is taken out of operation because it has served its useful life or for other valid reasons, the Component shall update the project status to “Decommissioned.” *Responsibility: Service POC or Project POC*
- 9) **Project Change**: If, at any stage during the life of a project, there is any change in cost, scope, or any other aspect of the project (including M&V plan), notify ODASD(E&ER) of the change using the Project Change/Cancellation Notification template in Appendix VII. The template should be used for all change notifications going forward, including changes to projects

authorized in prior fiscal years. If and when ODASD(E&ER) approves changes to a project, upload the email approval of the change and the associated revised project documentation (DD Form 1391, LCCA, etc.) to the Portal project record. For detailed instructions on the Project Change process, see Section 9.4 – *Project Changes and Cancellations*.

Responsibility: Service POC or Project POC

- 10) **Actual Performance Data:** DoD Components shall provide actual performance data obtained through the identified project M&V plan of their completed projects on an annual basis within the ‘Performance Update’ tab of the Portal Menu. M&V needs to be conducted quadrennially for Energy Conservation projects; however, M&V should ideally be updated for Energy Resilience projects as soon as possible. Performance data will include Actual Annual Energy Savings (MMBTU/year), Actual Annual Energy Production (MMBTU), Actual Annual Water Savings (MGals/year), Actual Annual Energy Cost Savings, Actual Annual Water Cost Savings, Energy Resilience Metrics Performance, Water Resilience Metrics Performance, Energy Resilience Economic Performance, and Water Resilience Economic Performance, as applicable. Updates shall reflect the most current actual performance data. Annual updates shall be made in the Portal no later than **October 31** each year during the entire life cycle of the project. See Appendix XII: References for M&V guidance.

Responsibility: Service POC or Project POC

- 11) **Quarterly Reports:** Each quarter, DoD Components will validate that all project data in the ERCIP Portal is accurate. Validation will occur each year on **January 31, April 30, July 31, and October 31**. DoD Components will be required to:

- a. Verify that projects listed in the report reflect the current program;
- b. Verify that all project data including PA, SIR, payback, bid savings, and award data (if applicable) is accurate;
- c. Validate the balance of P&D funds for each year of active funding and update as appropriate;
- d. Validate the balance of Construction funds for each year of active funding and update as appropriate;
- e. Check obligation rates for active fiscal year funding;
- f. Provide feedback on any discrepancies; and
- g. Update the Portal to correct any discrepancies.

Responsibility: ODASD(E&ER) with Service POC input and coordination

Appendix II: Energy Resilience Project Questions

When proposing an Energy Resilience project, provide responses to the questions below as a supplement to the project's DD Form 1391 to support the energy resilience claim. Ensure responses are complete and thorough (i.e., yes/no responses are **not** sufficient).

Project Description

1. What are the components of the project (e.g., generation, infrastructure, equipment, and fuel) that are tied to the critical load and are needed to remediate disruption risk?

Critical Mission

- 2a. What is the critical mission(s) the project supports?
- 2b. What are the critical mission(s) requirements (e.g., downtime risk tolerance requirement used to determine energy resilience metrics, such as availability, reliability, and quality thresholds)?
- 3a. What is the critical load (e.g., kW, MWs, etc.) of the critical mission? For information on determining critical load, see the February 25, 2020 memo, Metrics and Standards for Energy Resilience at Enduring Installations memo.
- 3b. What portion of the critical load is being affected by the project?
- 4a. Does the project directly remediate disruption risks to critical mission operations on the base? This is determined by the current state of the availability/reliability of the current system and the improvement expected by the project to meet the critical mission requirements. If so, describe.
- 4b. Provide quantification of resilience metrics (e.g., technical metrics: availability, reliability, and quality).
- 5a. Is the base currently compliant with near-term energy resilience requirements to assure critical mission operation during disruptions (e.g., current level of reliability is aligned to what missions require, generator and other system OM&T, etc.)? If so, how?
- 5b. Does the base require additional energy resilience? If so, describe using IEP or other analysis.

Project Planning

- 6a. Has an analysis of alternatives been conducted? If so, describe.
- 6b. Have cost and mission tradeoffs been assessed across alternatives (inclusive of upgrades)? If so, describe.
7. How have the near-term execution impediments been remediated prior to project selection (e.g., infrastructure ownership, integration of power systems, land ownership, and host-tenant/installation-mission agreements)?
- 8a. Describe how the M&V plan will ensure performance.
- 8b. Describe how the M&V metrics will be included in contracting to ensure the performance of contractors/vendors and ensure that missions' requirements are met.

Stakeholder Support

9. Does the project have support/commitment from mission owners, operators, and other tenants (e.g., commitment documents, letter of support from a commanding officer)?
- 10a. Have the appropriate mission owners and other stakeholders coordinated on the project selection (e.g., installation support, financial support)? If so, describe.
- 10b. Is there commitment to sustain the project over its life?
- 10c. Have each stakeholders' budgets been reviewed to identify "fair share" contributions to implement/execute the project?

Appendix III: Water Resilience Project Questions

When proposing a Water Resilience project, provide responses to the questions below as a supplement to the project's DD Form 1391 to support the water resilience claim. Ensure responses are complete and thorough providing sufficient detail (i.e., yes/no responses are **not** sufficient).

Project Description

1. What are the components of the project (e.g., infrastructure, equipment) that remediate disruption risk?

Critical Mission

- 2a. What is the critical mission(s) the project supports?
- 2b. What are the requirements of the critical mission(s) (e.g., water volume, availability, reliability, flow rate, and quality thresholds)?
- 2c. What portion of the critical mission requirement is being affected or improved by the project?
- 3a. Does the project directly remediate disruption risks to critical mission operations on the base? This is determined by the current state of the availability/reliability of the current system and the improvement expected by the project to meet the critical mission requirements. If so, describe.
- 3b. Provide quantification of resilience metrics (e.g., technical metrics: availability, reliability, and quality).
- 4a. Is the base currently compliant with near-term water resilience requirements to assure critical mission operation during disruptions (e.g., current level of reliability is aligned to what missions require)? If so, how?
- 4b. Does the base require additional water resilience? If so, describe (reference IEP/IEWP, black start exercises or other analysis performed, if applicable).

Project Planning

- 5a. Has an analysis of alternatives been conducted? If so, describe.
- 5b. Have the cost and mission tradeoffs been assessed across the alternatives (inclusive of upgrades)? If so, describe.
6. How have the near-term execution impediments been remediated prior to project selection (e.g., infrastructure ownership, integration of water systems, land ownership, and host-tenant/installation-mission agreements)?
- 7a. Describe how the M&V plan will ensure performance.
- 7b. Describe how the M&V metrics will be included in contracting to ensure the performance of contractors/vendors and ensure that missions' requirements are met.

Stakeholder Support

8. Does the project have support and commitment from mission owners, operators, and other affected tenants (e.g., commitment documents, such as a letter of support from a commanding officer)?
- 9a. Have the appropriate mission owners and other stakeholders coordinated on the project selection (e.g., installation support, financial support)? If so, describe.
- 9b. Is there commitment to sustain the project over its life?
- 9c. Have each stakeholders' budgets been reviewed to identify "fair share" contributions to implement/execute the project?

Appendix IV: Additional Requirements for Energy Resilience Projects implementing §2914(d).

Proposed energy resilience ERCIP projects that implement 2914(d) must conform with Section 2.7. In addition to the requirements outlined in Section 5 – *ERCIP Project Submissions*, the following additional documentation is required for such proposals:

1. Include a legal sufficiency analysis from the Service’s Office of General Counsel addressing the elements in Section 2.7:
 - a. Include a line item for a "Service Connection Fee" in Block 9 of the DD Form 1391 as a "Supporting Facility" cost. The "Service Connection Fee" shall include all costs to be incurred by the private system owner as necessary to connect the new asset(s) to their system;
 - b. Provide financial analysis showing consideration of potential cost savings a system owner constructed project may provide;
 - c. Provide confirmation that the ERCIP project will conform to the definition of “military construction project” in 10 U.S.C. § 2801(b).
2. Additionally, for requests for energy resilience projects that will be applied to non-DoD owned infrastructure pursuant to § 2914(c)(1):
 - a. State whether the infrastructure is owned by non-DOD party pursuant to 10 U.S.C. § 2688, or whether the infrastructure is owned by a utility pursuant to 10 U.S.C. § 2913(d). For the latter, note when title to that infrastructure will vest in the United States, as required by § 2913(d)(4);
 - b. Indicate who owns the current systems, who will own the completed ERCIP project, and the statutory authority under which that party would own the new infrastructure or the statutory authority for conveying the new infrastructure.
3. For requests for energy resilience projects that will be applied “as a separate requirement in an energy savings performance contract” pursuant to § 2914(c)(2):
 - a. Indicate whether the ESPC is an existing contract or a new contract.
 - i. If the ESPC has already been executed, provide the contract information, and explain whether the amendment to implement the ERCIP is within the scope of the contract, or outside the scope of the contract. If outside the scope of the contract, provide the statutory basis for waiver of competitive procedures;
 - ii. If the ESPC has not yet been executed, explain where the planned ESPC is in the planning process, and how the ERCIP project will be incorporated into that process.

For more information on Utilities Privatization, ESPCs and UESCs, links to those guidance documents are located in Appendix XII: References.

Appendix V: Estimated Useful Life of Energy Efficiency, Renewable Energy, and Water Conservation Technologies

Project Category	Technology	Economic Life	Description
Energy Efficiency (EE)	EMCS or HVAC Controls	15 years	Projects that centrally control energy systems with the ability to adjust temperature, shed electrical loads, control motor speeds, or adjust lighting intensities.
EE	Steam and Condensate Systems	20 years	Projects to install condensate lines, cross-connect lines, distribution system loops, repair or install insulation, and repair or install steam flow meters and controls.
EE	Boiler Plant Modifications	20 years	Projects that upgrade or replace central boilers or ancillary equipment to improve overall plant efficiency, this includes fuel switching or dual fuel conversions.
EE	Heating, Ventilation, Air Conditioning	20 years	Projects to install more efficient heating, cooling, ventilation, or domestic hot water heating equipment, this includes the HVAC distribution system (ducts, pipes, etc.).
EE	Weatherization	15 years	Projects that improve the thermal envelope of a building, this includes building insulation (wall, roof, foundation, doors), windows, vestibules, earth berms, shading, etc.
EE	Lighting Systems	15 years	Projects to install replacement lighting systems and controls, this would include new fixtures, lamps, ballast s, photocells, mot ion sensors, light wells, highly-reflective painting, etc.
EE	Energy Recovery Systems	20 years	Projects to install heat exchangers, energy wheels, heat reclaim units, or other systems to recapture energy lost to the environment.
EE	Electrical Energy Systems	25 years	Projects that increase the energy efficiency of an electrical device or system or reduce the cost by reducing peak demand.
EE	Daylighting	25 years	Project s that optimize natural light for internal lighting.
Water Conservation (WC)	Potable Water Conservation	20 years	Projects that involve devices or processes to reduce potable water loss, waste, or use. Most of these are in the ground, but liners will be less in ponds, but under normal maintenance.
WC	Non-Potable Water Conservation	25 years	Projects that involve the re-use, recycling, and eventual reduction of non-potable water such as waste water and irrigation run-off. Most of these are in the ground, but pumps etc. are under normal maintenance.
Renewable Energy (RE)	Geothermal	40 years	Projects that generate electrical power or process thermal energy using a high-temperature geothermal source.
RE	Ground Source Heat Pump	40 years	Projects to install a central heating and/or cooling system to store and retrieve heat from the ground: 40 years for in-ground systems, 15 years for control systems.
RE	Hydroelectric	30 years	Projects to generate electrical power using water as the potential energy source.
RE	Solar Power	25 years	Projects to generate electrical power with a heat engine using solar energy as the source (solar powered stirling engines, heliostats, etc.).
RE	Solar Photovoltaic	25 years	Projects to install solar photovoltaic panels to generate electrical power.
RE	Solar Thermal	25 years	Projects to generate thermal energy using solar energy as the source.
RE	Waste to Energy	30 years	Projects to generate electrical power using waste products as the energy source.
RE	Waste to Fuel	30 years	Projects to generate fuel products from waste products.
RE	Wind	25 years	Projects to generate electrical power using wind energy as the source.
RE	Ocean Thermal Energy Conversion (OT EC) – Ocean	25 years	Projects to generate electrical power using deep ocean thermal gradients as the source.
RE	Biofuels	25 years	Projects to develop liquid fuel sources (biodiesel, ethanol, etc.) from biomass feed stocks.
RE	Biogas	25 years	Projects to develop gas fuel sources from the breakdown of organic matter.
RE	Hydrokinetic	25 years	Projects to generate electrical power using the energy available in waves or water currents.

Appendix VI: Conversion Factors for Calculations of Energy Savings

Commodity	Conversion
Purchased electricity	3,412 BTU per kWh
Purchased steam	1,000 BTU per lb
Distillate fuel oil	138,700 BTU per gal
Natural gas	1,031 BTU per ft ³
LPG, propane, butane	91,960 BTU per gal
Butane	102,032 BTU per gal
Bituminous coal	24,000,000 BTU per short ton
Anthracite coal	25,000,000 BTU per short ton
Residual fuel oil #1	135,425 BTU per gal
Residual fuel oil #2	138,000 BTU per gal

Appendix VII: Project Change/Cancellation Notification Template

[Date]

[Fiscal Year, Project Number and Title, Location] Change or Cancellation Notification (circle one)

BLUF: A short description of the reason for the change or cancellation, the cost impacts, the SIR/Payback impact, and recommended action.

DETAILS:

1. *Scope of Work*

- a. Original Scope: A description of the original approved scope.
- b. Revised Scope: A description of the proposed scope. (If cancellation, N/A)

(Complete tables and bullets below for all project changes/cancellations; for cancellations use NA for new values)

*Enacted Amount		SIR		Payback		Energy (MMBTUs/year) / Water Savings (MGals/year)	
Original	New	Original	New	Original	New	Estimated	New

*A project that has been authorized in an NDAA and appropriated funds in an appropriations act.

Funds being moved to/from:

Amount (\$K) (List Appropriation FY)	To (FY/Project #)	From (FY/Project #)

Funds remaining for future use:

Amount	Planned Use

2. **Reason for Change/Cancellation**: A description of the circumstances that necessitate the proposed change.
3. **Financial Impacts**: Any financial impacts beyond the information in the tables above.
4. **Other Details**: Explain any other pertinent details or alternative solutions considered.

RECOMMENDATION: Recommended action for which you are seeking ODASD(E&ER) approval.

Attachments: (*Include all appropriate attachments*)

1. Original DD Form 1391
2. Revised DD Form 1391
3. Original LCCA
4. Revised LCCA
5. Original M&V Plan
6. Revised M&V Plan
7. Any other pertinent documents

Appendix VIII: Additional Planning & Design Funds Request Template

[Date]

Additional Planning and Design Funds Request

[Fiscal Year, Project Number and Title, Location]

DETAILS:

- a. Original P&D amount, remaining P&D, and requested P&D amount.
- b. Rationale for funding request.
- c. Any other pertinent details.

Appendix IX: Energy Resilience Assessment (ERA) Tool

ERA Tool Overview

The ERA Tool is a web-based, Amazon Web Services (AWS)-hosted, interactive application that can guide ERCIP proposals towards establishing energy systems with better resilience at the lowest possible cost. As an analysis methodology and software modeling tool, it assesses the resilience of existing and alternative installation backup power systems. Any user with a DoD Common Access Card (CAC) can access the tool and input data on their installation's existing energy infrastructure, fuel and electricity costs, and distribution system reliability. The tool then estimates the life-cycle cost and energy resilience of a broad range of possible technology architectures composed of renewable resources, gas-fired generators, and battery storage. Users can explore alternative energy system architectures that may provide lower cost, better efficiency, and improved resilience during both intermittent, short power outages, as well as long-duration outages. Use of the ERA Tool is required for all ERCIP projects **with some exceptions** as explained in paragraph 5.2.6.

ERA Tool Access

Insert your CAC into your card reader and navigate to <https://era.dod-energy-resilience.com/index.html#/tool> using Chrome or Microsoft Edge browser. The site is CAC enabled, and will prompt for a CAC pin before displaying the home page. If you encounter issues with accessing the page, try closing out all browser windows, removing your CAC, and then re-inserting your CAC and navigating to the page. If you continue to have problems accessing the site, it may be due to a VPN firewall issue with your government NIPRNet. Therefore, close out the web browser, disconnect your government laptop from the government VPN, and try accessing the site again without being connected to the VPN. After entering your pin, you will see the home page.

Using the Tool

Keep your CAC inserted while navigating to the tool resources, as the site will periodically check your name and credentials to ensure you have access to only your data. The homepage provides some brief explanations of the purpose and intention of the tool. Navigate to the Tool tab, where you will find the input form required for submitting an assessment. Instructions on how to fill out the form can be found in the Documentation tab. After filling out the form and pressing Submit, your assessment should take 5 minutes to complete, will be visible on the Assessments page, and can be viewed by clicking Results. For any issues, contact osdera-help@ll.mit.edu.

Incorporating into ERCIP Submissions

Scan through the potential architectures that are presented on the Results page by hovering over the bar charts, and find the architecture that best matches your project. Answer the following questions about the selected architecture:

1. Does the simulation estimate that the proposed architecture will have better reliability than the current system?
2. If not, has a different analysis suggested that the proposed project will improve mission resilience?
3. Are there nuances to the project or site that might not be captured by this tool?
4. Are there architectures with similar performance to the proposed project that can be achieved at lower cost?
5. If so, why are these projects not feasible or not cost-effective?

Appendix X: Defense Climate Assessment Tool (DCAT)

DCAT Access:

1. For CONUS, Alaska, and HI, use URL:
https://dodclimate.sec.usace.army.mil/dcat_conus_ak_hi:
2. For international locations, use: https://dodclimate.sec.usace.army.mil/dcat_row

Basic Climate Information Instructions for locations contained within DCAT:

1. Upon sign-in, respond to the pop-up window with the name of the location you are assessing.
2. Navigate to Standard Assessment, then Reports.
3. Scroll down to “Site Climate Assessment Summary Reports,” and click on “Extreme Weather and Climate Change Hazard Report.”
4. Select your Department, Region (if you know it), Installation, and appropriate Site associated with the installation from the drop-down menus and click on Submit.
5. Review the standard Extreme Weather and Climate Change Hazard Report to screen for past extreme weather events recorded in that area that might require consideration in a proposed ERCIP project.
6. Review inundation hazard tables, and if necessary, review maps in the “Site Maps” tab or the DISDI link provided to assess whether inundation is a factor in the proposed ERCIP project.
7. Based on this information (or equivalent), provide a one-paragraph summary of if and how climate change hazards included in the Extreme Weather and Climate Change Hazard Report factor into the proposed ERCIP project.
8. Use the “Printable Report” button to print to pdf or printer if desired.

If a location is not contained within DCAT, use the regional information contained within the “Hazard Awareness” tab to produce a qualitative summary of how climate change hazards could factor into the proposed ERCIP project.



DoD Climate Assessment Tool

WHAT IS THE DoD CLIMATE ASSESSMENT TOOL?

A CAC-enabled, web-based collection of scientific climate data to support research, analysis, and decision making about exposure to historical extreme weather and reasonably foreseeable climate effects.

WHAT IS THE PURPOSE OF THE CLIMATE TOOL?

Enables Military Departments and their installation personnel to deliver consistent exposure assessments and identify regions or installations for additional climate-related studies.

HOW WILL THE TOOL SUPPORT ANALYSIS AND DECISION MAKING?

The tool uses data from past extreme weather events (e.g., hurricanes, tornado tracks) and the effects of future changes in sea levels, riverine flooding, drought, heat, land degradation, energy demand, and wildfires to produce hazard indicators. The data supports a screening-level assessment of installation vulnerability expressed as a combination of exposure (designated by the tool) and sensitivity. This high-level assessment is useful for long-term planning and informed decision making. In the report accompanying the tool, an example installation illustrates the concept of sensitivity with different types of military assets (e.g., airfields, piers, training and testing areas).

The Climate Assessment Tool provides an important component towards understanding an installation's vulnerability to climate-related hazards. Other crucial vulnerability considerations include validating climate-related impacts through additional site-specific analysis; determining potential mission impacts; and conducting detailed engineering studies to assess which adaptation strategies may be effective to reduce risk. Using the Climate Assessment Tool as part of a comprehensive analysis will help the Department determine where best to apply resources to improve climate adaptation and resiliency.

Vulnerability is determined by three components—**exposure**, **sensitivity**, and **adaptive capacity**:



Exposure is the degree to which an installation, due to its location, may be susceptible to a climate or weather phenomenon (e.g., Is the installation located in a flood-prone region?)



Sensitivity is the degree to which an installation could be affected by a climate or weather phenomenon (e.g., Are assets located in flood hazard areas? Are assets already elevated above the flood hazard area? How much damage could be caused to important assets?)



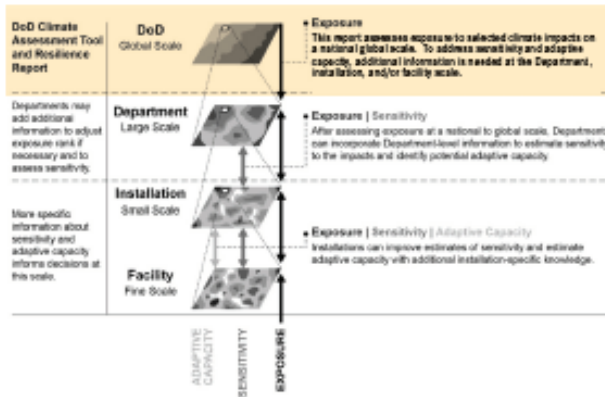
Adaptive capacity is an installation's existing ability to address the potential impacts (e.g., Can important assets be relocated out of the flood hazard area? Do redundant capabilities exist to cover the most important installation functions?)

Climate Assessment Tool Users	Impacts on Decision Making
Installation-level Planners and Engineers	<ul style="list-style-type: none"> Analyze an installation's exposure or susceptibility to climate and extreme weather events. Use this information to help inform planning and land use recommendations, and support resilient design, engineering, and construction. Add separate geographic information system (GIS) layers (e.g., flooding) available for Military Department-specific GIS systems used at the installation level.
Military Department Headquarters	<ul style="list-style-type: none"> Identify regions or installations for focused attention, such as performing detailed studies to determine mission impacts and strategies to mitigate exposure.
DoD Leadership	<ul style="list-style-type: none"> Compare exposure across the Department to answer questions from Congress. Inform investment and policy decisions.

Below are examples of how the tool provides installation-specific data and mapping, as well as visualization of global trends.

Variation between DoD Global and Installation-specific Assessments and Reporting

Climate exposure occurs on different scales. On a global scale, trends such as hurricanes, warming global average temperatures, and changing sea level are evident. More apparent at smaller scales are impacts such as soil moisture, precipitation effects, temperature effects, and local relative sea-level rise that can affect ecosystems and social systems important to how installations and facilities function.



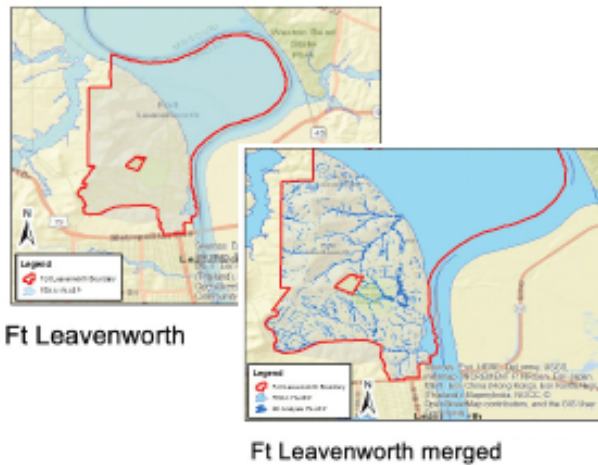
Installation-Level Flood Mapping

GIS shapefiles are available for local, installation-level mapping of coastal and riverine flooding. The maps provide planners and engineers with the percent of installation area inundated.



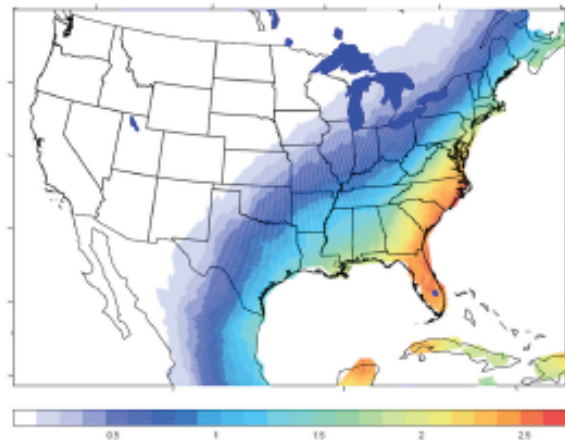
Installation-level Flood Mapping

The tool provides flood plain maps using a combination of Federal Emergency Management Agency and U.S. Army Corps of Engineers data to depict the flooding exposure on tributaries and rivers.



Historical Extreme Weather Events across the United States

The tool incorporates historical data on landfalling tropical storms between 1948 and 2018 across the United States into an extreme weather indicator.



The Climate Assessment Tool will generate reports at the Military Department or installation level to help DoD understand and manage exposure from climate-related hazards.

Office of the Secretary of Defense Climate Resilience Report: Summary of exposure information for 157 CONUS locations and examples of resilience measures and rough order magnitude of costs. The report will increase DoD leadership awareness of climate exposure and support adaptation planning.

Military Department Summary Report: High-level exposure analysis for each Military Department.

Appendix XI: Definitions

All-Hazards Threat Assessment (AHTA): An assessment that identifies threats and hazards capable of exploiting, denying, deceiving, degrading, disrupting, or destroying the asset or system supporting the essential capability, along with assessing the likelihood of these events occurring.

Carbon Pollution-Free Electricity: Electrical energy produced from resources that generate no carbon emissions, including marine energy, solar, wind, hydrokinetic (including tidal, wave, current, and thermal), geothermal, hydroelectric, nuclear, renewably sourced hydrogen, and electrical energy generation from fossil resources to the extent there is active capture and storage of carbon dioxide emissions that meets U.S. Environmental Protection Agency (EPA) requirements (E.O. 14057, Sec 603(d)).

Energy Resilience: The ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements (10 U.S.C. § 101(e)(6)).

Energy Savings Performance Contract (ESPC): A contract entered into pursuant to 42 U.S.C. § 8287.

Energy Security: Having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission essential requirements (10 U.S. C. § 101(e)(7)).

Hardening: Measures identified in military installation resilience plans pursuant to 10 U.S.C. § 2864 to fortify the physical environment or provide backup to utilities, communications, and transportation to ensure that the critical infrastructure of Department facilities are improved, developed, or constructed for quick recover

Measurement and Verification (M&V): The process of quantifying the energy and cost savings resulting from improvements in energy-consuming systems. The effort required and the rigor achieved should be commensurate with the project capital investment and savings risk. Energy and cost reductions are compared to a historical baseline, which may be adjusted to reflect changing operating conditions or utility rates (DOE FEMP M&V Guidelines: Measurement and Verification for Performance-Based Contracts Version 4.0.)

Microgrid: An integrated energy system consisting of interconnected loads and energy resources that, if necessary, can be removed from the local utility grid and function as an integrated, stand-alone system (Pub. L. 111–383, div. A, title II, § 242, Jan. 7, 2011, 124 Stat. 4176(f)(2)).

New Mission: A new mission project is a project that supports the deployment and/or bed-down of a new weapons system, mission, or initiative that drives additional supporting infrastructure rather than one that supports a weapons system, mission, or initiative already operating on the installation.

Renewable Energy Sources: Includes, but is **not** limited to, sources such as agriculture and urban waste, geothermal energy, solar energy, and wind energy (42 U.S.C. § 8259(8)).

Scope of Work: Refers to the function, size, or quantity of a facility or item of complete and useable infrastructure contained in the justification data provided to Congress as part of the request for authorization of the project, construction, improvement, or acquisition (10 U.S.C. § 2853(b)(3)).

Technology Transfer: Draft DODI 5535.08 defines Technology Transfer as “Transfer of DoD originated technology to non-DoD activities including the private sector and other public sectors for conversion into new products and services. These activities:

- Are beneficial to US citizens in supporting the advancement of technology and industrial innovation, offering an improved standard of living, increased public and private sector productivity, creation of new industries and employment opportunities, improved public services and enhanced competitiveness of United States products in world markets.
- Are beneficial to the DoD in supporting the national technology and industrial base as well as gaining access to resulting products and services of potential interest to DoD.
- May also include making available and use of DoD technology by non-DoD entities for non-military purposes.”

Utility Energy Service Contract (UESC): A contract entered into pursuant to 10 U.S.C. § 2913(d).
Utility System: A system for the generation and supply of electric power, the treatment or supply of water, the collection or treatment of wastewater, the generation or supply of steam, hot water, and chilled water; the supply of natural gas, and a system for the transmission of telecommunications. (10 U.S.C. § 2688.

Utilities Privatization: The conveyance of a utility system, or part of a utility system, to a municipal, private, regional, district, or cooperative utility company or other entity pursuant to 10 U.S.C. § 2688.

Appendix XII: References

Office of the Assistant Secretary of Defense for Sustainment

- a. Energy Resilience and Conservation Investment Program (ERCIP) website:
https://www.acq.osd.mil/eie/ie/FEP_ECIP.html
- b. ODASD Construction (CON) website: <https://www.acq.osd.mil/log/CNST/index.html>

Public Law and Statutes

- c. Public Law (PL) 116-283, The William M. (MAC) Thornberry National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2021. <https://www.congress.gov/bill/116th-congress/house-bill/6395>
- d. 10 U.S.C. § 101. Definitions.
[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:101%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section101\)&f=treesort&edition=prelim&num=0&jumpTo=true](https://uscode.house.gov/view.xhtml?req=(title:10%20section:101%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section101)&f=treesort&edition=prelim&num=0&jumpTo=true)
- e. 10 USC § 2688. Utility systems: conveyance authority.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2688%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2688\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2688%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2688)&f=treesort&edition=prelim&num=0&jumpTo=true)
- f. 10 USC § 2801. Scope of chapter; definitions.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2801%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2801\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2801%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2801)&f=treesort&edition=prelim&num=0&jumpTo=true)
- g. 10 U.S.C. § 2805. Unspecified minor construction.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2805%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2805\)&f=treesort&num=0&edition=prelim](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2805%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2805)&f=treesort&num=0&edition=prelim)
- h. 10 U.S.C. § 2807. Architectural and engineering services and construction design.
[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:2807%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2807\)&f=treesort&edition=prelim&num=0&jumpTo=true](https://uscode.house.gov/view.xhtml?req=(title:10%20section:2807%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2807)&f=treesort&edition=prelim&num=0&jumpTo=true)
- i. 10 U.S.C. § 2815. Military installation resilience projects.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2815%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2815\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2815%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2815)&f=treesort&edition=prelim&num=0&jumpTo=true)
- j. 10 U.S.C. § 2815a, Stormwater management projects for installation and defense access road resilience and waterway and ecosystems conservation.
[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:2815a%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2815a\)&f=treesort&edition=prelim&num=0&jumpTo=true](https://uscode.house.gov/view.xhtml?req=(title:10%20section:2815a%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2815a)&f=treesort&edition=prelim&num=0&jumpTo=true)
- k. 10 U.S.C. § 2853. Authorized Cost and Scope of Work Variations.
[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:2853%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2853\)&f=treesort&edition=prelim&num=0&jumpTo=true](https://uscode.house.gov/view.xhtml?req=(title:10%20section:2853%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2853)&f=treesort&edition=prelim&num=0&jumpTo=true)

- l. 10 U.S.C. § 2866(c). Water conservation at military installations.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2866%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2866\)&f=treesort&edition=prelim&num=0&jumpTo=true#substructure-location_c](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2866%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2866)&f=treesort&edition=prelim&num=0&jumpTo=true#substructure-location_c)
- m. 10 USC 2913: Energy savings contracts and activities.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2913%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2913\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2913%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2913)&f=treesort&edition=prelim&num=0&jumpTo=true)
- n. 10 U.S.C. § 2914. Military Construction Projects for energy resilience, energy security, and energy conservation.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2914%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2914\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2914%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2914)&f=treesort&edition=prelim&num=0&jumpTo=true)
- o. 10 USC § 2920. Energy resilience and energy security measures on military installations.
[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:2920%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2920\)&f=treesort&edition=prelim&num=0&jumpTo=true](https://uscode.house.gov/view.xhtml?req=(title:10%20section:2920%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2920)&f=treesort&edition=prelim&num=0&jumpTo=true)
- p. 10 USC 2922a. Contracts for energy or fuel for military installations.
[http://uscode.house.gov/view.xhtml?req=\(title:10%20section:2922a%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title10-section2922a\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:10%20section:2922a%20edition:prelim)%20OR%20(granuleid:USC-prelim-title10-section2922a)&f=treesort&edition=prelim&num=0&jumpTo=true)
- q. 42 USC § 8259. Definitions.
[http://uscode.house.gov/view.xhtml?req=\(title:42%20section:8259%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title42-section8259\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:42%20section:8259%20edition:prelim)%20OR%20(granuleid:USC-prelim-title42-section8259)&f=treesort&edition=prelim&num=0&jumpTo=true)
- r. 42 USC § 8287. Authority to enter into Energy Savings Performance Contracts.
[http://uscode.house.gov/view.xhtml?req=\(title:42%20section:8287%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title42-section8287\)&f=treesort&edition=prelim&num=0&jumpTo=true](http://uscode.house.gov/view.xhtml?req=(title:42%20section:8287%20edition:prelim)%20OR%20(granuleid:USC-prelim-title42-section8287)&f=treesort&edition=prelim&num=0&jumpTo=true)
- s. 42 USC § 8287c. Definitions.
[http://uscode.house.gov/view.xhtml?req=\(title:42%20section:8287c%20edition:prelim\)%20OR%20\(granuleid:USC-prelim-title42-section8287c\)&f=treesort&num=0&edition=prelim](http://uscode.house.gov/view.xhtml?req=(title:42%20section:8287c%20edition:prelim)%20OR%20(granuleid:USC-prelim-title42-section8287c)&f=treesort&num=0&edition=prelim)

Technical Assistance for Life Cycle Cost Analysis

- t. Financial Management Regulation, DoD 7000.14-R, Vol 2b.
https://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf
- u. Economic Analysis for Decision Making, DoD Instruction (DoDI) 7041.03, CH 1, 2017.
<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/704103p.pdf?ver=2019-08-12-152105-700>
- v. The Department of Energy (DOE) Federal Energy Management Program (FEMP) maintains a webpage entitled “*Building Life Cycle Cost Programs*”.
<http://energy.gov/eere/femp/building-life-cycle-cost-programs>
This page includes links to many life cycle costing resources including:

- 1) *Life Cycle Costing Manual for the Federal Energy Management Program*, NIST

Handbook 135 (current version April 2022)

- 2) *The Annual Supplement to NIST Handbook 135, Energy Price Indices and Discount Factors for Life Cycle Cost Analysis. The format of the 2022 Annual Supplement to Handbook 135 has been modified. The new format includes a streamlined PDF document as well as a Data Table Spreadsheet containing the associated data tables. The Encost22 data and the 2022 Discount Rates are included in the spreadsheet.*
 - 3) *Energy Escalation Rate Calculator (EERC)*
 - 4) *NIST Building Life Cycle Cost (BLCC) Program Version 5_3_22*
- q. *The Memorandum of Agreement on Criteria/Standards for Economic Analysis/Life Cycle Costing for MilCon Design (1991) - The Tri-Services memorandum establishes criteria and standards for performing economic analysis for MilCon projects using a different discounting approach, yet consistent with the LCC rule promulgated in 10 CFR 436.*
<https://www.wbdg.org/files/pdfs/moa.pdf>

Measurement & Verification (M&V) Guidance

- r. DOE FEMP M&V Guidelines: *Measurement and Verification for Performance-Based Contracts Version 4.0.*
http://energy.gov/sites/prod/files/2016/01/f28/mv_guide_4_0.pdf
- s. OSD February 25, 2020 memo, *Metrics and Standards for Energy Resilience at Enduring Installations.*
https://www.acq.osd.mil/eie/IE/FEP_Energy_Resilience.html

Information Technology (IT) and Control Systems (CS) Security

- t. Executive Order (EO) 13800, *Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure.*
<https://www.govinfo.gov/content/pkg/FR-2017-05-16/pdf/2017-10004.pdf>
- u. *NIST Special Publication 800-53, Security and Privacy Controls for Federal Information Systems and Organizations.*
<http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-53r4.pdf>
- v. *NIST Special Publication 800-82, Guide to Industrial Control Systems (ICS) Security.*
<https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-82r2.pdf>
- v. *Federal Information Processing Standards Publication 200: Minimum Security Requirements for Federal Information and Information Systems.*
<http://csrc.nist.gov/publications/fips/fips200/FIPS-200-final-march.pdf>
- w. DoDI 8500.01, *Cybersecurity.*
http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/DoDi/850001_2014.pdf
- x. DoDI 8510.01, *Risk Management Framework (RMF) for DoD Information Technology (IT).*
http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/DoDi/851001_2014.pdf
- y. DoDI 8530.01, *Cybersecurity Activities Support to DoD Information Network Operations.*
<http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/DoDi/853001p.pdf>
- z. Additional information about DoD CS and associated cybersecurity requirements may be found on the DoD Chief Information Officer's Risk Management Framework Knowledge Service portal, and the ESTCP Cybersecurity Guidelines Resources website. Contains FOUO

documents and guidance such as Joint Staff Mission Assurance Benchmarks. (CAC required).
<https://rmfks.osd.mil/login.htm>

- aa. ESTCP Cyber Security Guidelines Resources website. Contains a cyber-effort cost sheet, the EI&E Control Systems Master Naming List, how to create Test and Development Environments and other relevant guidance. (No CAC required, all public domain, no FOUO).
<https://www.serdp-estcp.org/Tools-and-Training/Installation-Energy-and-Water/Cybersecurity>
- bb. Department of Homeland Security Industrial Control Systems Cyber Security Evaluation Tool (CSET).
<https://www.us-cert.gov/forms/csetiso>
- cc. Unified Facilities Criteria (UFC) 4-010-06 Cybersecurity of Facility-Related Control Systems Sep 2016.
<https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-4-010-06>
- dd. UFGS 25 05 11 Unified Facilities Guide Specifications Cybersecurity for Facility-Related Control Systems 11/1/2017.
<https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-25-05-11>
- ee. National Institute of Standards and Technology (NIST) Special Publication (SP) 800-30 Rev 1, “Guide for Conducting Risk Assessments,” Sep 2012.
<https://csrc.nist.gov/publications/detail/sp/800-30/rev-1/final>
- ff. National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171 Rev. 1, “Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations,” June 2018.
<https://csrc.nist.gov/publications/detail/sp/800-171/rev-1/final>
- gg. Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7012, Safeguarding Covered Defense Information and Cyber Incident Reporting, Oct 2016.
<https://www.acq.osd.mil/dpap/dars/dfars/html/current/252204.htm#252.204-7012>
- hh. Examples of FRCS on DoD facilities can be found in the October 19, 2020 memo, Distribution of the Facility-Related Control Systems Master List.
https://www.acq.osd.mil/eie/IE/FEP_Energy_Resilience.html

Technology Test Bed Links

- ii. DoD Environmental Security Technology Certification Program.
<http://www.serdp-estcp.org/Program-Areas/Energy-and-Water>
- jj. General Services Administration (GSA) Proving Ground.
<https://www.gsa.gov/governmentwide-initiatives/sustainability/emerging-building-technologies/about-gsa%E2%80%99s-proving-ground-gpg>
- kk. DOE Commercial Buildings Integration Funding Opportunity Announcement.
<https://www.energy.gov/eere/buildings/buildings-funding-opportunities>
- ll. Navy’s Technology Validation (TechVal) Program.
https://www.navfac.navy.mil/navfac_worldwide/specialty_centers/exwc/products_and_services/energy_and_public_works/UEM-PS.html
- mm. National Renewable Energy Lab (NREL) Technology Performance Exchange (TPEX).
<https://www.tpex.org/>

Energy Resilience

- nn. OASD Memo: Energy Resilience Operations, Maintenance, and Testing Guidance, March 2017.
[https://www.acq.osd.mil/eie/Downloads/IE/2%20-%20Energy%20Resilience%20-%20OM&T%20Guidance%20\(v17\)%20-%20PR%20Version%20-%20approved.pdf](https://www.acq.osd.mil/eie/Downloads/IE/2%20-%20Energy%20Resilience%20-%20OM&T%20Guidance%20(v17)%20-%20PR%20Version%20-%20approved.pdf)
- oo. Energy Resilience: Operational, Maintenance, & Testing (OM&T) Strategy and Implementation Guidance and Attachments 1 thru 4.
https://www.acq.osd.mil/eie/IE/FEP_Energy_Resilience.html
- pp. OUSD(A&S) Memo: Metrics and Standards for Energy Resilience at Enduring Installations; February 25, 2020.
https://www.acq.osd.mil/eie/IE/FEP_Energy_Resilience.html
- qq. ODASD(E&ER) Installation Energy Policy and Program Guidance website.
https://www.acq.osd.mil/eie/IE/FEP_Policy_Program_Guidance.html
- rr. Life Cycle Cost Analysis (LCCA) / Building Life Cycle Cost (BLCC) ERCIP-specific templates are available for download at the energy.gov website:
<https://www.energy.gov/eere/femp/building-life-cycle-cost-programs>

Climate

- ss. Department of Defense Draft Climate Adaptation Plan. Report Submitted to National Climate Task Force and Federal Chief Sustainability Officer, 1 September 2021.
<https://www.sustainability.gov/pdfs/dod-2021-cap.pdf>
- tt. Department of Defense Climate Risk Analysis, October 2021.
<https://media.defense.gov/2021/Oct/21/2002877353/-1/-1/0/DOD-CLIMATE-RISK-ANALYSIS-FINAL.PDF>
- uu. Department of Defense Installation Exposure to Climate Change at Home and Abroad, April 2021. <https://media.defense.gov/2021/Apr/20/2002624613/-1/-1/1/DOD-INSTALLATION-EXPOSURE-TO-CLIMATE-CHANGE-AT-HOME-AND-ABROAD.PDF>
- vv. Department of Defense Climate Change Adaptation Roadmap (DOD 2014).
https://www.acq.osd.mil/eie/downloads/CCARprint_wForward_e.pdf
- ww. Interim National Security Strategy Guidance, March 2021.
<https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/03/interim-national-security-strategic-guidance/>
- xx. Executive Order (EO) 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.
<https://www.federalregister.gov/documents/2021/01/25/2021-01765/protecting-public-health-and-the-environment-and-restoring-science-to-tackle-the-climate-crisis>
- yy. Executive Order (EO) 14008, Tackling the Climate Crisis at Home and Abroad.
<https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad>

Utilities Privatization

- zz. Supplemental Guidance for the Utilities Privatization Program, February 7, 2019.
https://www.acq.osd.mil/eie/IE/FEP_Utility.html

Energy Savings Performance Contracts (ESPCs) / Utility Energy Services Contracts (UESCs)

aaa. Policy on Energy Savings Performance Contracts and Utility Energy Service Contracts, November 20, 2018.

<https://www.acq.osd.mil/eie/Downloads/IE/Signed%20ESPC%20and%20UESC%20Policy%20Nov%2020%202018.pdf>

DoD Secure Access File Exchange (SAFE)

bbb. A DoD service to exchange unclassified files up to 8.0 GB that can't be sent through email.

<https://safe.apps.mil/>

Fiscal Guidance and Office of the Undersecretary of Defense (Comptroller)

ccc. Department of Defense Financial Management Regulation (DoD FMR), DoD 7000.14-R.

<https://comptroller.defense.gov/FMR/fmrvolumes.aspx>

ddd. Department of Defense Budget Requests and Materials.

<https://comptroller.defense.gov/Budget-Materials/>

Clean Energy and Technology

eee. Considerations for Department of Defense Implementation of Zero-Emission Vehicles and Charging Infrastructure, March 2022.

<https://www.acq.osd.mil/eie/Downloads/IE/Considerations%20for%20DoD%20Implementation%20of%20ZEVs%20and%20Charging%20Infrastructure.pdf>

fff. Federal Sustainability Plan, December 2021. Office of the Federal Chief Sustainability Officer, Council on Environmental Quality (CEQ).

<https://www.sustainability.gov/federalsustainabilityplan/index.html>.

ggg. Executive Order (EO) 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability. [https://www.whitehouse.gov/briefing-room/presidential-](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/)

[actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/).

hhh. Federal Fleet EV Training Materials. Federal Energy Management Program.

<https://www.energy.gov/sites/default/files/2021-10/federal-fleet-ev-training-materials-fy22.pdf>

Military Construction (MilCon)

iii. DoDI 4165.70, August 31, 2018.

<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/416570p.pdf>

jjj. DoDI 4270.5, August 31, 2018.

<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/427005p.pdf>