

# Army Net Zero Prove Out (Task N.0818)

## Statement of Need

The intent of the Army's Net Zero (NZ) Initiative originated from energy-related federal mandates, including Executive Order (EO) 13514 Federal Leadership in Environmental, Energy, and Economic Performance, the Energy Policy Act of 2005 (EPA05) and the Energy Independence and Security Act (EISA) of 2007. On 19 April 2011, the Army identified 17 pilot installations striving to bring the overall consumption of resources within their respective assigned category down to an effective rate of zero by 2020. The pilot installations have and will continue to serve as model communities for sustainability and quality of life while the Army applies the NZ concept to all Army Installations.

With the 28 January 2014 issuance of the Army Net Zero Installation Directive, it became Army policy for all installations to implement Net Zero to the maximum extent practical and fiscally prudent by

- (1) reducing overall energy use, maximizing efficiency, implementing energy recovery and cogeneration opportunities, offsetting the remaining demand with the production of renewable energy from onsite sources so that the Net Zero Energy installation produces as much renewable energy as it uses over the course of a year.
- (2) reducing overall water use, regardless of the source; increasing use of technology that uses water more efficiently; recycling and reusing water, shifting from the use of potable water to non-potable sources as much as possible; and minimizing interbasin transfers of any type of water, potable or non-potable, so that a Net Zero Water installation recharges as much water back into the aquifer as it withdraws.
- (3) reducing, reusing, recycling/composting and recovering solid waste streams and converting them to resource values, resulting in zero landfill disposal.

In support of Task No. 0818, "Army Net Zero Prove-Out, the NDCEE completed the following:

**The FY13 Net Zero Progress Summary and FY14 Net Zero Transition Status Report:** The report provides a summary of the progress made in FY13 towards achieving NZ such as completing roadmaps, action plans, guides – both resource specific and integrated - and energy security and energy and water security development. Additionally, the report describes the planned efforts in FY14 to institutionalize NZ Army-wide across Army Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) and identifies leadership support and responsibilities directed through the NZ Policy to implement NZ through various activities.

**Gap Analysis:** The NDCEE reviewed existing Army Regulations (ARs) and policies related to the goals of NZ Energy, NZ water, and NZ waste to determine appropriate insertion points for NZ into existing Army regulation, policy and guidance, or to recommend changes to regulation or new policy and guidance, as appropriate. Efforts were completed in coordination with the ODASA(E&S) who supplied the required list of documents that were reviewed.

**The Net Zero Commander's Guide:** The objective of the Net Zero Commander's Guide or GC Guide was to expand on the Army's NZ policy by recommending the actions that installation leadership can take to ensure progress toward the implementation of NZ to support sustainable, resilient, and secure installations. The GC Guide was developed with the intent that it be used by installation Commanders and personnel that will be carrying out NZ implementation activities. The supplements in the GC Guide

present a practical, step-by-step framework to assist installations in striving toward NZ by thinking innovatively about how to meet existing and future requirements.

**Net Zero Metrics Report:** Army NZ metrics were developed with the objective of allowing installations to measure and document progress and enable aggregation by Headquarters, Department of Army (HQDA). In order to meet this objective the NDCEE conducted the following activities: 1) established linkages between NZ and sustainability, energy security, and water security; 2) reviewed existing doctrine calling for sustainability, energy security and water security; 3) reviewed existing data management systems and reporting requirements; 4) identified gaps; and 5) developed NZ metrics recommendations.

**Net Zero Best Practices Brochures:** The NZ Best Practices brochures capture significant, demonstrated best practices at the NZ pilot installations. Previous experience from NDCEE Task 0755, ongoing collaboration calls, and NZ meeting support was leveraged to capture achievements of the pilot installations, identify those projects that can be replicated at other installations and help the transition of the NZ Pilot Installation Initiative concepts to a wider Army audience

**NZ training modules:** The NDCEE drafted NZ training briefs and scripts to record online via the Defense Connect Online (DCO) website. Six (~60 minute) training modules were developed with each containing approximately 30 presentation slides and accompanying scripts. The overall purpose of the training was to present relevant information to support an installation's journey towards NZ, emphasizing the specific hierarchy of approaches the Army has developed for NZ Energy, NZ Water, and NZ Waste and sharing best practices and lesson's learned from the participants of the Army's NZ Pilot Installation Initiative.

## Results and Benefits

The intent is that NZ supports and enhances installation management while meeting existing mandates and preparing installations for forthcoming energy, water and waste challenges. The NDCEE articulated the linkage between NZ and sustainability, energy security, and water security as a critical aspect of this task. This is a key step in transitioning the current volunteer-based NZ Initiative into existing programs of record with the appropriate requirements and to clearly define NZ as an organizational model and to project NZ as an established institutionalized process.

## Technology Transfer and Outreach

The NDCEE designed and refined the NZ Hierarchies as shown below and are inserted into various printed material such as the NZ Best Practices and CG Guide which were provided to the Government for distribution at appropriate Army events. Additionally, the training modules that were uploaded to DCO were also converted to a PowerPoint Show file and transferred to the Government via disc to support NZ's transition from a pilot program to the entire Army installation community.

## Government POC

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## Status

Complete

