



Hawai'i Natural Energy Institute Research Highlights

International Support

USAID Southeast Asia's Smart Power Program – Laos

OBJECTIVE AND SIGNIFICANCE: HNEI's Grid System Technologies Advanced Research Team (GridSTART) entered into a collaboration with Deloitte Consulting (Deloitte), the prime contractor for the USAID Southeast Asia Smart Power Program (SPP), in October 2022. This \$40 million, five-year initiative aims to mobilize \$2 billion in blended financing for clean energy infrastructure in Southeast Asia. The program's goal is to drive economic growth and development by creating secure, market-oriented, and environmentally responsible energy sectors, ultimately helping the region achieve net-zero greenhouse gas emissions by 2050. HNEI's role focuses on supporting Électricité du Laos (EDL) and the Lao Ministry of Energy and Mines (MEM) in enhancing power system resilience, implementing demand-side management/demand response (DSM/DR) strategies, and integrating variable renewable energy (VRE) resources.



Figure 1. Abstract of Laos map.

BACKGROUND: USAID SPP builds upon USAID's previous Clean Power Asia (CPA) program, under which HNEI delivered both collaborative (APRESA-funded) and CPA-funded support over the prior four years, expanding its scope to increase energy capacity, clean energy investments, and regional energy trade. The program leverages bilateral and multilateral partnerships, supports regional initiatives, accelerates cross-border interconnection, and establishes training centers for energy practitioners to develop solutions that enable Southeast Asian countries to become self-reliant and achieve their sustainable development aspirations.

HNEI GridSTART and USAID SPP anticipate further collaboration opportunities across various task areas, including utility modernization, DSM/DR, energy

innovation and emerging trends, competitive procurement, power trade, and grid integration.

PROJECT STATUS/RESULTS: In 2023, HNEI delivered updated Feasibility Study Guidelines for wind, solar, and biomass energy projects in Laos. The team also provided an updated Grid Code for Laos that incorporates interconnection standards for inverter-based resources (IBRs) as well as updated interconnection standards for PV systems connected at the distribution level. In addition, the team conducted two capacity building sessions in June and October for EDL and MEM staff, focusing on the updated Grid Code and distribution interconnection standards.

In May 2024, HNEI GridSTART virtually presented IBRs grid connection requirements and their applications at a capacity building workshop conducted in Vientiane, Laos. Approximately 30 key institutional representatives participated in the workshop, including the Japan-U.S.-Mekong Power Partnership (JUMPP) Technical Advisory Group, JUMPP workstream coordinators, EDL's Technical Working Group for Developing Rooftop Solar Installation and Management Regulations and Requirements, and relevant EDL departments and divisions.

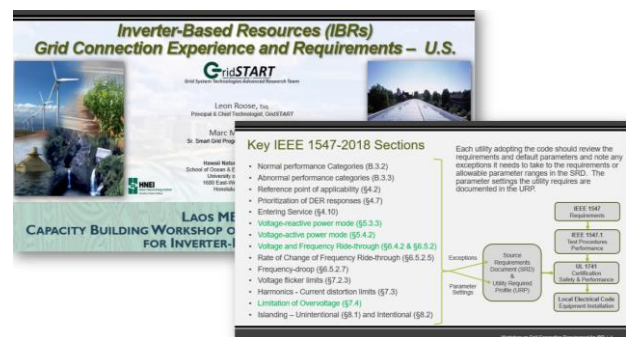


Figure 2. Portion of slides presented at the capacity building workshop in May 2024 in Vientiane, Laos.

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