

Execution of Agreement on the “Project for Power Quality Improvement through
Upgrading Grid Code and Strengthening its Enforcement System”

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Tokyo Electric Power Company Holdings, Inc.
Tokyo Electric Power Company Power Grid, Inc.
Tokyo Electric Power Services Co., Ltd.
Nippon Koei Co., Ltd.

Tokyo Electric Power Company Holdings, Inc., TEPCO Power Grid, Inc., Tokyo Electric Power Services Co., Ltd. and Nippon Koei Co., Ltd. have formed a consortium and concluded an agreement today with the Japan International Cooperation Agency (hereinafter referred to as, “JICA”) on the “Project for Power Quality Improvement through Upgrading Grid Code (hereinafter referred to as, “GC”) and Strengthening its Enforcement System”.

Hydroelectricity is the main source of power production in Lao People’s Democratic Republic (hereinafter referred to as, “Laos”), and the country exports power to adjacent nations (Thailand, Vietnam, Cambodia), but export volume is limited due to the substandard planning and operation of power grids thereby making it difficult to further increase power exports in conjunction with supply and demand conditions both in Laos and neighboring countries. This project was started in response to a request made to the Japanese government by the government of Laos to establish a wide-area linkage system that can link the power grids of Laos to those of adjacent countries, and also train engineers upon establishing technological standards that will allow optimal operation of domestic power grids in Laos.

The four members of the consortium will leverage technologies for grid planning and operation that they have cultivated in Japan’s electricity industry and also their overseas consulting experience to establish a GC that will enable players in Laos’s power industry, such as the Ministry of Energy and Mining, and Électricité du Laos (EDL), to suitably plan and operate power grids, while also contributing to the realization of an autonomous and stable wide-area linkage system in Laos.

Through the JICA “The Study on Power Network System Master Plan in Lao People's Democratic Republic” (2017~2020), the consortium has already made

domestic power demand predictions for Laos and created a power development plan in addition to creating rules and a roadmap for the operation of power grids through creating new power grid development plans and examining existing GC in light of the power development plans of neighboring countries.

*: Grid Code: Comprehensive conditions that cover broad rules that must be complied with when connecting assets to a power system or market, and that support the cost-effective and highly reliable operation of power systems. (From the International Energy Agency)

<Attachment>

Overview of the “Project for Power Quality Improvement through Upgrading Grid Code and Strengthening its Enforcement System”

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1. Term/Region
 - February 2021~January 2024 (tentative)
 - Whole of Laos
2. Contracting party
 - JICA
3. Project Details
 - Create GC and strengthen systems for the autonomous monitoring and control of central feed command centers operated by the EDL, strengthen the ability to operate transmission and transformation facilities, and strengthen regulatory functions for monitoring and making corrections to these facilities.
4. Business Details
 - Examine, assess, and identify problems with existing GC types
 - Create GC
 - Examine, assess, and identify problems with existing power grid systems
 - Create technical rules and manuals related to the level of supply reliability, frequency, voltage, and stability
 - Provide OJT and training on the creation and use of regulations and manuals
 - Create a system for monitoring the Ministry of Energy and Mining, and Électricité du Laos (EDL)
 - Implement the PDCA (Plan, Do, Check, Act) cycle for GC planning, operation and revision
5. Location of Laos

