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Smart community infrastructure — Electric power infrastructure — Measurement methods for the quality of thermal power infrastructure and requirements for plant operations and management

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Introduction

This document describes methods for measuring the quality of thermal power infrastructure (QTPI) during the operational phase as well as the requirements for operations and management activities for the purpose of maintaining and improving the QTPI in the medium and long term in order to realize the objectives of the 3E+S (energy security, environmental conservation, economic efficiency, safety) energy policy. The 3E+S energy policy is a framework established to ensure QTPI during its operational phase.

Considering the importance of a sufficient and stable electric power supply to the economy, standard of living and day-to-day needs, electric power shortages or frequent power outages are serious risks to society. Maintaining and improving the QTPI is an important concern for all regions, particularly for regions in the process of rapid economic growth. A sufficient and stable electric power supply can be achieved by establishing thermal power infrastructure as planned and operating this effectively throughout its life cycle.

Reducing the environmental impacts associated with thermal power infrastructure, such as greenhouse gas (GHG) emissions, is a global issue and reduction of the impacts is a goal of this document. Minimizing the impacts needs to take into account the social costs of the environmental impact, the costs required for environmental protection measures and the effectiveness of these measures.

From these viewpoints, it is expected that efforts to maintain and improve the QTPI by applying appropriate operations and management will make society more sustainable. This document is intended to contribute to the Sustainable Development Goals outlined by the United Nations, specifically goal 7 (affordable and clean energy), goal 11 (sustainable cities and communities), goal 13 (climate action), goal 14 (life below water) and goal 15 (life on land).