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**Release of Technical Requirements for Power-Supply Interface of
Communications Equipment:
Toward Promotion and Proliferation of Direct-Current Power Supply
Systems that Contribute to Energy Saving**

Nippon Telegraph and Telephone Corporation (NTT; headquartered in Chiyoda-ku, Tokyo; president and CEO: Satoshi Miura) is promoting the deployment and proliferation of direct-current power supply for NTT Groups' communication and information systems. The goal is to save energy by reducing the loss of electrical power that accompanies the conversion of alternating current (AC) to direct current (DC) (June 2006 press release). This present release seeks to further the spread of use of DC power supply for communication systems (systems such as telephone and next-generation networks used by communication business operators). The "Technical Requirements for Power-Supply Interface of Communications Equipment" summarizes the optimal specifications developed by NTT during the deployment of DC power supplies.

1. Background

Batteries used for back-up systems during power stoppage are DC voltage, so communication and IT systems that require power back-up systems require conversion of AC and DC. This conversion incurs power loss every time. A DC power supply has few AC/DC conversions, so power loss is lessened. It is drawing attention as an energy-saving measure ([see Figure 1](#)).

Concerning communication systems that mainly use DC power supply, studies have begun worldwide on the use of DC power supply by information systems (systems such as data centers and business operation systems) that generally use AC power feed. Necessary information and know-how for the deployment of DC power supply is anticipated.

Thus the NTT Group has summarized in "Technical Requirements for Power Supply Interface of Communication Equipment" the optimal technical specifications combining energy saving and a high degree of reliability and safety, as developed by NTT during its development of DC power supply for communication systems. This document is released for application to general information systems and data centers so that DC power supply can become more widespread by improving its reliability and safety, and by expanding products supporting DC power supply.

2. Overview of Technical Requirements

The main points are given below ([see Figure 2](#)).

A. Input Voltage Range for Communication Equipment

Wide input voltage range for worldwide use is recommended. This enables a greater tolerance of fluctuation in power supply voltage and improvement in reliability.

B. Input Capacitor Capacity for Communication Equipment

We provide the recommended input capacitor capacity for communication equipment for improving reliability of power supply systems. Using the appropriate capacitor capacity makes it easier to prevent oscillations(*), and prevents breakdown in communication and failure of communication equipment.

C. Quotation of Operating Current for Communication Equipment

By clarifying the operating current of relevant communication equipment, the appropriate setting for power supply of the rectifier can be applied. This makes it possible to operate facilities so as to reduce environmental load due to excess production capacity and to save energy. It also allows DC power supply to further save energy.

The "Technical Requirements for Power-Supply Interface of Communications Equipment" is available on NTT's public website

(<http://www.ntt.co.jp/ontime/tr/tr.html>).

[Glossary]

* Measures to prevent oscillations

Measures to prevent stoppage of equipment due to cyclical voltage fluctuation of power supply voltage and current. This occurs when the input capacitor capacity of the communication equipment is insufficient.

- ([Figure 1](#)) [Overview of DC power supply](#)
- ([Figure 2](#)) [Main content of Technical Requirements for Power-Supply Interface of Communications Equipment](#)

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