US Army Corps of Engineers®
Engineer Research and Development Center

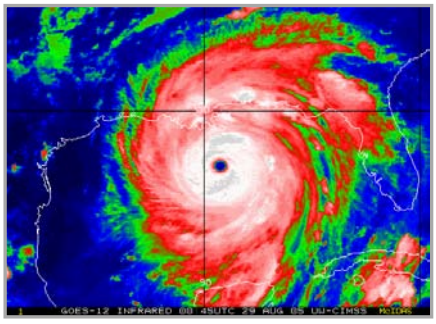
TeleEngineering Communications Equipment (TCE)

Purpose

TCE provides both a secure and a non-secure communications link between deployed USACE personnel, their higher Headquarters, engineer units and subject matter experts (SMEs) to meet mission objectives.

Background

USACE personnel and engineer units often deploy into areas where the communications infrastructure is unreliable or nonexistent. To overcome this deficiency, the U.S. Army Engineer Research and Development Center (ERDC), USACE Reachback Operations Center (UROC) developed a satellite-based system to allow deployed personnel the capability to send and receive data and to conduct video teleconferences (VTCs) in a secure or non-secure manner.



Facts

There are two different versions of the TeleEngineering Communications Equipment (TCE): a fixed-site (TCE-F) version that is used in garrison and a deployable (TCE-D) version that has been ruggedized for field use. The systems consist of a Polycom or Tandberg Video Conferencing System that is capable of H.320 based conferencing (with IP functionality supported), a Panasonic Toughbook (designed using MIL-STD-810F), an encryption device, an external hand-held camera, and other miscellaneous components. The fixed-site version is connected to terrestrial circuits, and the deployable system connects through an BGAN 700 providing ISDN functionality for video teleconference (VTC) capability. The deployable system uses auto-switching dual voltage power supplies and can operate from 110V to 220V AC. The system can also be operated solely using vehicle battery power.

Depending on their configuration, the systems can communicate point-to-point or they can be connected through a multipoint VTC bridge located at the ERDC UROC. The UROC's VTC bridge allows up to 44 simultaneous users in both secure and non-secure VTCs at one time. The standard data transfer rate and video connection for the deployable system is typically 64 kbps. However, newer terminals support IP connectivity at rates up to 492 kbps and the fixed-site version typically has a transfer rate of 128 kbps (can be increased to 512 kbps by upgrading). The system can also be used to send and receive non-secure e-mail traffic.

Point of Contact

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