The Standardization Design and Implementation of Voice Communication System of Large Enterprise Group

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Abstracts. Communication means each order the necessary analysis of nuclear power plant, a stage through side regret, for nuclear power and multi pass liquid, means integration for more business, the cost of safety and convenience of system test, with the help of the multi Taiwan card speed to introduce multi communication system integration to solve the purple construction requirements and fusion methods, combined with the nuclear power plant on the point, from the value node angle in operation and operation in order dispatch station communication means fusion provides a new way with words hung off wrinkles.

Introduction

Nuclear power technology matures, the construction of nuclear power plants is accelerating, as more and more investment in the construction of new plants and raw power plants under construction and put into use, for the voice communication mode necessary in the operation of nuclear power construction, power plants under construction facing infrastructure environment is poor due to the introduction of fixed communication means, a temporary solution is not included in the permanent planning cause temporary solution costs are too high. In the transport station there daily operation requires a lot of communication also makes operation and maintenance costs of the station at the same time increasing nuclear power to expand regional overbite ceaselessly, accompanied by the nuclear radiation area of communication is more and more wide, performing on the market communication number length in certain emergency situations also bring some convenience for communication the influence of.

The nuclear power plant according to industry standards are generally designed with administrative office telephone system (DTT), DTT security telephone system) and internal intercom system (DTI), the system runs in an independent manner: to ensure the independent operation of the multi system communication redundancy and high reliability, but also the existence of communication system cannot cause interoperability poor communication.

To this end, based on the transmission system RPR (resilient packet ring) technology, at the same time to achieve E1, P1 and other services access processing and transmission: DTT /DTI / DTS three sets of systems can be equipped with DTH system to achieve the telephone terminal mutual call function.

System Introduction

Administrative Office Telephone System (DTT)

Each system introduces 1 administrative telephone system, which is used in the administrative office telephone service of the plant in the nuclear power plant, covering the whole plant, adopting the server gateway cloth cover, and the server adopting redundant service backup principle. Meet and communicate within the plant, communicate with the group, and communicate with other nuclear power stations within the group. The core of the system control devices are installed by P and analog phone mixed in the BABX floor room and AF room floor layer server can use Gigabit Ethernet characteristics of data synchronization, the two servers placed a AF node and BA/BX node, the design and implementation of several remote disaster recovery. The 5730 server with hot standby configuration and characteristics, according to design requirements of independent survival
of nodes, node design scheme of the system reliability provided disaster preparation server in hot configuration Ava Ye Enterprise Server: $3820 renewable easy words so the control server, the E55 server can take control of the node or the whole network. The type of Aavaya server should be selected type 5730, so the configuration can guarantee the core control has three level backup mechanism (main 8730 server, standby 8730 server). Relying on the system reliability of single-mode optical fiber network and RPR ring network, the unified communication network of Yangjiang project realizes the development of communication services and the development of value-added services, and the administrative.

Figure 1. Telephone system topology group.

**Secure Telephone System (DTS)**

Secure telephone system, power plant, referred to as DTs, connects all key and important posts in nuclear power plant, and maintains special, reliable and effective communication links in the accident and emergency state of nuclear power plant. To ensure the high reliability of communication in emergency situations, a kind of emergency communication system in power plant. The program controlled switch is HARRIS IXP2000.

Figure 2. Security telephone system topology.

**Internal Intercom System (DTI)**

Internal intercom system intercom function positioning: for nuclear power plant production plant staff and the main control room operator communication between; use multiple sets of equipment, each unit can be interconnected. To meet the communication between the production staff and the main control room in the factory.
Voice System Based On the Transmission System Interworking Scheme

DTT. system and DTH system interconnection kinetic energy, the final line of force phone, wall hanging phone, safe phone call each other in the factory. The Internet through a dedicated RPR ring network implementation of each section of the building, the daily flow of voice IP protocol data after, through the local node MsR5060 multi service router gateway access H3C9512E Gigabit high-end multi service routing switch, by configuring the Gigabit RPR service module, the realization of the EM / BA / 9W601 / / 8 W601 core nodes the interconnection of devices Gigabit port access node to the core equipment H3C-9512E;

9W601. room three sets of system interconnection scheme of G650 connected to the H3C5060 link: the increase of G650 (TND2464PC), TN2464PC relay card provides 2 BNC interface, through the E1 line system (75 balanced cable access to Europe and Africa) MSR 50 interface card.IXP2000 control switch and H3C5060 link connection mode: IXP2000 Adds the relay board (XXXX),0XXX provides 2 BNC interfaces, through the E1 cable access MSR card 60/1 interface. The internal docking system of this node is interconnected with the DTH system, using a dual backup link, that is, using 2 E1 cable interconnections.

8W601. room three sets of system interconnection scheme G650 connected to the H3C5060 link: the increase of G650 (TN464PC), TN2464PC relay card provides 2 BNC interface, through the E1 line system (70 thousand orfei balance cable) 50 P2000 interface control switch is connected with H3C5060 link access to the MsR board: XP200 relay board (* X2X is provided for 2 BNC interface, through the 60/1 E1 cable access MR card interface. The internal docking system of this node is connected with the DTH system, using dual backup link road, that is, using 2 E cable interconnection.

DTT. DIH system (access DTH Fang Qin) G650 connection with H3C5060 link: G650 relay board (TN2464PC), increased TN2464PC 2 BNC four, through the E1 line (775 African Commission on the balance board to access cable) MR 50 interface. 2) card configuration, G650 increase relay configuration, H3C5060/MsR card 50 interface configuration.

DTH. DTH system interconnection scheme of DTH system G650 connected to the H3C5060 link: the increase of G650 (TN2464PC), TN2464PC relay card provides 2 BNC interface, through the E1 cable (75 wire line access to the balance of Europe and Africa) MSR 50 interface card. G650 adds 5-0 interface configuration in relay configuration H3C5060/MSR card.

DTS. DTH system interconnection scheme, 2 control switch and H3C5060 link connection mode: P200 adds the relay board (XX, xXX provides 2BNC interface, through the E1 cable access MSR
card 60/1 interface. H3C5060/MSR card 5-0 interface configuration: XP2000 relay card (xX configuration 4 Summary voice set system of voice operation).

Summary
To ensure the safety of the system, the same set of voice system interconnection to ensure the smooth communication of power plant staff. To ensure the normal and stable operation of nuclear power, while ensuring the further improvement of communication function, it has high application value in engineering construction.

References