



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
MANILA

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DEPARTMENT ORDER)
NO. **135**)
Series of 2014)

SUBJECT: Redefining the Duties and Responsibilities of Central, Regional and District Engineering Offices in the Implementation of the Communication Network and Application Systems

In line with our effort to conduct continuing review of the duties and responsibilities of offices involved in the implementation of the Department Wide Area Communication Network and in order that the said communication system will be used in a manner that is cost effective and supportive of the objectives of the Department, the duties and responsibilities of the Central, Regional and District Engineering Offices in the implementation of the DPWH Communication Network and Application Systems are hereby redefined as follows:

1. Definition of Terms

For purposes of this Department Order, the following terms shall mean as defined below:

- 1.1 Structured cabling – medium of data communication such as, but not limited to, fiber optic cables, unshielded twisted pairs, conduits, connectors and I/O ports.
- 1.2 Network equipment – devices used in computer network such as, but not limited to, servers, data switches, routers, modems/multiplexers, automatic voltage regulator, and uninterrupted power supply, computers and other peripherals.
- 1.3 Call accounting – a system that monitors outgoing calls.
- 1.4 Server – a computer that provides services to the network.
- 1.5 Communication network – the transfer of information among interconnected computers.
- 1.6 Genset – generator set for power supply in case of power interruption.
- 1.7 IP PBX – Internet Protocol Private Branch Exchange – equipment which facilitates the voice communication network.
- 1.8 WAN Connectivity – Wide Area Network connectivity connection between two (2) different offices.
- 1.9 Information and Communication Technology (ICT) - is often used as an extended synonym for Information Technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as

necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information.

- 1.10 Hardware - all equipment involved in the operations of a computer system, including, but not limited to, computers, data communications equipment, workstations, and various peripherals such as printers and plotters.
- 1.11 Software - all programs involved in the operation of a computer system, including, but not limited to, operating systems, data communications software, database management systems and applications software.

2. Duties and Responsibilities

2.1 Regional Directors and District Engineers

- 2.1.1 Ensure that the appointed Information Technology Officer I and Computer Programmer II in the Regional Office and the Computer Maintenance Technologist II in the District Engineering Office are acting full-time Regional/District IT Support Officers.
- 2.1.2 Shall course through to the Information Management Service (IMS) for concurrence, the evaluation and screening of candidates for the above positions, if vacant, to ensure that the ones hired have the requisite technical competence demanded by the position.
- 2.1.3 Furnish IMS, copies of the performance ratings for the above positions.
- 2.1.4 Ensure that this Department Order and other ICT-related Department Orders are followed accordingly.

2.2 Central Office Systems/Network Administrators and Regional/District IT Support Officers

- 2.2.1 Manage and maintain the wide area network which includes the network infrastructure enterprise servers and technology for both voice and data.
- 2.2.2 Ensure that mission-critical networks are operational and that downtimes, if unavoidable, are reduced to the minimum.
- 2.2.3 Ensure the security of the network equipment, structured cabling and the network room.
- 2.2.4 Accept, sign delivery receipts, and ensure responsibility and accountability of the ICT equipment, structured cabling, and other facilities for the network configuration.
- 2.2.5 Provide support for application deployment, including application distribution and configuration management.
- 2.2.6 Ensure that the required preventive maintenance activities on all ICT equipment and facilities are performed hereunder listed in Annex 'A' of this Department Order.

- 2.2.7 Ensure that the standby generator and air conditioning unit are to be used strictly for the network room only.
- 2.2.8 Troubleshoot problems of the network jurisdiction.
- 2.2.9 Help users in the resolution of ICT problems.
- 2.2.10 Track ICT problems and recommend enhancements and trainings.
- 2.2.11 Ensure that workstations and other peripherals are operational and that downtimes, if unavoidable, are reduced to minimum.
- 2.2.12 Administer call accounting on the telephone system.
- 2.2.13 Provide application user support services including user coordination.
- 2.3 Information Management Service (IMS)
 - 2.3.1 Direct and oversee the responsibilities of the Regional IT Support Officers.
 - 2.3.2 Supervise and monitor the activities of Regional IT Support Officers.
 - 2.3.3 Evaluate the performance of the Regional IT Support Officers.
- 2.4 Regional IT Support Officers
 - 2.4.1 Direct and oversee the responsibilities of the District IT Support Officers.
 - 2.4.2 Supervise and monitor the activities of District IT Support Officers.
 - 2.4.3 Evaluate the performance of the District IT Support Officers.
 - 2.4.4 Coordinate activities with the IMS.
 - 2.4.5 Perform other duties as may be appropriate upon direction and instruction from the IMS.
- 2.5 District IT Support Officers
 - 2.5.1 Coordinate activities with the Regional IT Support Officers.
 - 2.5.2 Perform other duties as may be appropriate upon direction and instruction from the IMS and Regional IT Support Officers.

3. Cost

The cost involved in the operations of the communication network that would be shouldered by offices shall include the following:

- 3.1 Human Resource and Administrative Service (HRAS):
 - 3.1.1 Operation and maintenance expenses, which include fuel and oil cost for backup generator in Central Office.

3.2 Information Management Service (IMS):

- 3.2.1 Any cost involved in the operation and maintenance on monthly recurring charges of telephone services at the Central Office and all leased lines connecting the Central Office and the Regional and District Engineering Offices.

3.3 Regional and District Engineering Offices:

- 3.3.1 One time installation cost and monthly recurring charges of telephone service.
- 3.3.2 Operation and maintenance expenses, which include fuel and oil cost for backup generators.
- 3.3.3 Any cost involved in movement or replacement of network equipment and cabling.
- 3.3.4 Additional network equipment for office expansion.

3.4 Bureaus, Services, Project Management Offices and other Offices:

- 3.4.1 Any cost involved in movement or replacement of network equipment and cabling.
- 3.4.2 Additional network equipment for office expansion.
- 3.4.3 Call usage costs for National and International Direct Dialing (NDD/IDD).

4. Training

On-the-job training will be provided by the IMS to all Regional/ District IT Support Officers as part of the implementation of the Communication Network and Application Systems. The IMS may provide additional training as the need warrants it.

This Order supersedes Department Order No. 22, Series of 2007 and shall take effect immediately.


ROGELIO L. SINGSON
Secretary

Department of Public Works and Highways
Office of the Secretary



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4.5.2 RGG/NSP

Annex "A"

Preventive Maintenance Guidelines and Activities for ICT Equipment and Facilities

Network Room

- a. The following should be performed on an ongoing basis:
 - lock the network room at all times, un-authorized personnel should not be allowed inside;
 - maintain cleanliness constantly in the network room (all aspects);
 - prohibit bringing food or eating inside the network room;
 - ensure that there is nothing blocking cabinets/equipment so that airflow is proper;
 - ensure that all miscellaneous cabling is protected and properly installed;
 - ensure that all equipment is properly installed and functioning;
 - ensure that electrical outlets and lights are properly functioning;
 - ensure that roof has no leaks (this should be done frequently during heavy rains);
 - ensure that walls, floor, ceiling, doors have no holes (to keep rodents out); and,
 - maintain proper constant temperature and humidity in network room (should be 23 degrees C).

Air Conditioning Units

- a. Set the temperature at 23 degrees and leave it at that temperature or on window type, set temperature at about half, and fan at medium.
- b. Clean the air conditioning units at least monthly (filters, etc.).
- c. Perform periodic maintenance quarterly on the air conditioning units including power washing (pull air cons out). Check refrigeration, drip pans, and other parts.

Building Distributors (BDs) and Floor Distributors (FDs)

- a. Perform inspection weekly of all BDs and FDs.
 - verify if everything is working, patched, and secure;
 - ensure that all exhaust fans are properly functioning;
 - check for holes in sides, floors, and top. If holes exist, patch or correct them;
 - look for evidence of rodents. If there is evidence, administer pest control. Determine source of rodents and eliminate source;
 - ensure that the BDs and FDs are secured and locked; and
 - ensure that no items are stored on top, side or back of BDs and FDs.
- b. Clean all BDs and FDs every month.
 - vacuum the BDs and FDs to clean it of dust;
 - clean the sides and top of the cabinets inside and outside, and all equipment; and,
 - clean behind (and sides) of BDs and FDs;

Cable Patching in BDs and FDs

- a. Label properly all patch cables.
- b. Use standard cable color for data and voice.
 - orange cables should be utilized for data. Cable should be on right side of BD or FD; and,
 - gray cables should be utilized for voice. Cable should be on left side of BD or FD.

- c. Ensure that all patch cables are properly installed in an organized manner.
- d. Regularly update the Cable Management System after patching.

WAN Connectivity

- a. Perform daily monitoring of the WAN connections. When the connection between the District/Regional Office and the Central Office is down and/or intermittent, the District/Regional IT Support Officers concerned should report the incident immediately to the IMS. The IMS shall report this incident to the concerned network provider and shall monitor the same until it is fixed.
- b. Ensure that connections are on its maximum operating condition.

Generator Set (Genset)

- a. Perform periodic maintenance of Genset every six (6) months, as follows:
 - change oil;
 - change oil filter;
 - drain and change coolant in radiator. Ensure that new coolant has proper amount of anti-corrosions/coolant; and,
 - tune up Genset
 - calibrate fuel injectors;
 - check/replace various air filters; and,
 - check carbon on alternator, if very thin, replace carbon.
- b. Perform periodic maintenance of Genset every month, as follows:
 - check battery and battery charger to ensure they properly charged and operating correctly;
 - check all gauges/readings on the control panel of Genset to ensure that they are properly functioning. This includes:
 - RPM
 - Voltage
 - Ammeter
 - Water temperature
 - Oil gauge
 - Voltage of alternator
 - Hour meter
 - check electrical conduits and conduit connectors to see if loose or missing. If loose, correct these;
 - check Day Fuel tanks and lines for leaks. If leaking, have these corrected immediately; and,
 - drain Day tank and water separator if full of water or near full.
- c. Check all wiring monthly to ensure that it is secured and it has not been tapped into. If found that it has been tapped into, disconnect them, and take steps to ensure that it does not continue to occur.
- d. Check oil and water levels at least weekly or more frequently if Genset is running frequently.
- e. Check periodically for leaks.
- f. Ensure that circuit breakers are always on.

Automatic Transfer Switch (ATS)

- a. Ensure that ATS is set to automatic.

- b. Test ATS weekly, preferably on Saturday to ensure that it is functioning properly.
 - Switch off main electrical circuit breaker in powerhouse. Genset should automatically start. Let Genset run for one (1) hour, then turn main electrical circuit breaker back on, Genset should automatically turn off although. There is usually a five-minute delay; and,
 - Ensure that Genset is functioning properly during the test. Ensure that all network equipment has power being properly supplied.

Powerhouse

- a. Ensure that powerhouse remains locked at all times.
- b. Maintain always an adequate supply of diesel fuel.
- c. Check periodically for leaks on the roof.

Uninterruptible Power Supply (UPS)

- a. Test all UPS every month by pulling the power cord.
- b. Let UPS run without power for 30 minutes to see if properly functioning.
- c. If UPS is not functioning properly, immediately plug power back into UPS, and take steps to have UPS repaired immediately.

Cabling

- a. Ensure that cabling stays secured. Conduct a physical inspection of all cabling every month.
 - ensure that cabling is in conduits/molding and not exposed. Correct if found;
 - cover pull boxes and ensure that cover is properly screwed; and,
 - ensure that conduits are properly connected to pull boxes with a clamp.
- b. Require that all offices notify the network administrator before cablings are moved or relocated. Contact the Information Management Service (IMS) when this is needed. Cabling should NEVER be cut.

Private Branch Exchange (PBX)

- a. Ensure call accounting procedures are followed.
- b. Test the batteries monthly to ensure they are charged.
- c. Test the PBX quarterly using batteries and rectifier.
- d. Clean the PBX monthly with vacuum.
- e. Test the power supply monthly to ensure it is working properly.
- f. Perform a complete system backup on both PBXs monthly to floppy disk.
- g. Generate the system error report weekly.
- h. Review the report, and correct all errors.
- i. Generate updated phone directory including access permission.

Servers

- a. Monitor daily, the server up time and connectivity.
- b. Monitor daily, the server utilization, e.g. CPU, memory, hard disk space, etc. Server utilization should not reach more than 80%.
- c. Check periodically, the server event logs for critical errors. Notify IMS if critical errors are found.

- d. Check periodically, for hardware alarms/warnings or error signals. Notify IMS if hardware alarms/warnings or error signals are found.
- e. Check periodically, if anti-virus definition files are up to date. If not updated, check communication settings and perform manual update.
- f. Perform daily backup of database servers.
- g. Update active directory as necessary.
- h. Maintain an accurate manual log of users and access rights.

Workstations

- a. Ensure that all workstations are configured to the DPWH domain.
- b. Ensure that all users are able to access application systems, intranet, internet and email. If problems found, coordinate immediately with IMS.
- c. Check periodically, if anti-virus definition files are up to date. If not updated, check communication settings and perform manual update.
- d. Perform a monthly full anti-virus scan of all workstations.
- e. Check for unauthorized software installed. All unauthorized software found should be uninstalled immediately.
- f. Check for any hardware warnings or error indicators. If errors found, report immediately to the supplier if under warranty.

Preventive Maintenance Activities

Network Room:

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check cablings if protected and properly installed	Monthly		
2.	Check electrical outlets and lights if functioning properly	Monthly		
4.	Check walls, floors, ceiling and doors for holes to keep rodents out.	Monthly		
3.	Check roofs for leaks during rainy days	Daily		
5.	Check temperature and humidity (should be 23 degrees C)	Daily		

Air Conditioning Unit:

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Perform periodic maintenance including power washing (pull aircons out).	Quarterly		
2.	Check refrigeration, drip pans and other parts	Quarterly		
3.	Clean air vents and filters	Monthly		

Building Distributors (BDs) and Floor Distributors (FDs):

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Vacuum-clean BDs and FDs	Monthly		
2.	Check all equipment are working.	Weekly		
4.	Check all cables are properly connected	Weekly		
3.	Check and patch holes	Weekly		
5.	Check for evidence of rodents and administer pest control	Weekly		

Item No.	Task	Frequency	Date/Time Completed	Remarks
6.	Check if BDs and FDs are secured and locked	Weekly		
7.	Remove any items stored on top, side or back of BDs and FDs	Weekly		

Cable Patching if BDs and FDs:

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check if cables are properly patched	Monthly		
2.	Check if cables are organized properly and follows the standard cable color (gray = voice; orange = data)	Monthly		
3.	Check if cables are properly tagged.	Monthly		

WAN Connectivity:

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check connections between Region to District and Region/District to Central	Daily		
2.	Check routers for any error indications and messages	Daily		

Generator Set (GenSet)

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Change oil	6 Months		
2.	Change oil filter	6 Months		
3.	Drain and change coolant in radiator	6 Months		
4.	Tune-up genset	6 Months		
5.	Check battery and battery charger if functioning properly	Monthly		
6.	Check all gauges/readings in the control panel if functioning properly	Monthly		

Item No.	Task	Frequency	Date/Time Completed	Remarks
7.	Check electrical conduits and connectors if properly connected	Monthly		
8.	Check fuel tanks for leaks	Monthly		
9.	Check electrical wirings if not tampered	Monthly		
10.	Check oil and water levels	Monthly		
11.	Check leaks on the roofing during rainy days	Weekly		
12.	Check circuit breaker if set to on	Weekly		
13.	Check gasoline level	Weekly		

Automatic Transfer Switch (ATS)

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check if set to automatic	Monthly		
2.	Test ATS if functioning properly	Monthly		

Power House

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check if secured and locked	Weekly		
2.	Check leaks on the roofing during rainy days	Weekly		
3.	Check diesel fuel level if adequate	Weekly		

Uninterruptible Power Supply (UPS)

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Test standby power for 30 minutes	Monthly		
2.	Check for loose cables	Monthly		
3.	Check for error indicators	Weekly		

Private Branch Exchange (PBX)

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check batteries if properly working	Monthly		
2.	Vacuum-clean the PBX	Monthly		
3.	Perform complete system backup	Monthly		
4.	Review error reports	Weekly		

Servers

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Vacuum-clean server	Monthly		
2.	Check event logs for errors	Weekly		
3.	Check hardware alarms, warnings or error signals	Weekly		
4.	Check anti-virus definition dates if updated	Weekly		
5.	Check server utilization if below 80%	Daily		
6.	Check connectivity	Daily		
7.	Backup database	Daily		

Workstations

Item No.	Task	Frequency	Date/Time Completed	Remarks
1.	Check for unauthorized software installed	Quarterly		
2.	Scan computers for virus infection	Quarterly		
3.	Check if anti-virus definitions files are up to date	Quarterly		
4.	Check for any hardware warnings or error indicators.	Quarterly		
5.	Check if users are able to access the internet and intranet	Daily		
6.	Check if users are able to receive and send email	Daily		

Item No.	Task	Frequency	Date/Time Completed	Remarks
7.	Check if users are able to access application systems	Daily		

Accomplished by:

(Signature of Printed Name)