

## Chapter 4

# Modernisation of Communication System

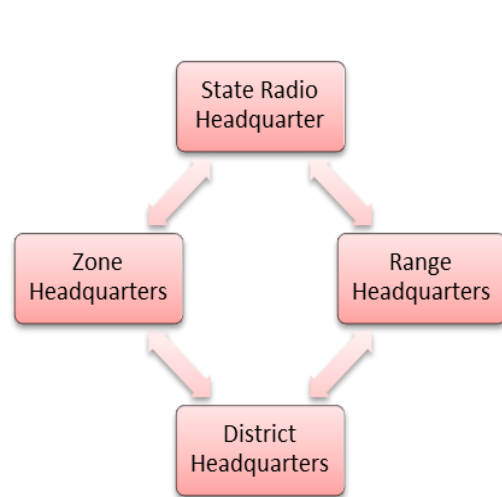


## Chapter 4

# Modernisation of Communication System

### 4.1 Introduction

Radio Headquarter is responsible for providing immediate and secure communication to police and administration for maintaining of law and order. It has to ensure availability of an efficient inter district and intra district communication system. Intra district communication interconnects police stations, police posts, mobile units, district police and administrative officers for which police radio control rooms established at district headquarter remain active for 24 hours. For inter district communication radio centres are established at state radio headquarter and at each district. State headquarter is connected with zonal and range headquarters which are connected with each other and district headquarters. Most secret communications are also sent by radio department for use in police and administration.



Inter district communication system



Intra district communication system

### 4.2 Communication systems used by the department

A captive network of radio telephony and radio telegraphy has been developed by the department. Department uses:

#### High Frequency (HF) Network

– It is an intra district communication network. All district and range headquarters are linked to the state headquarters at Lucknow through wireless telegraphy, using HF radios.



<p><b>Very High Frequency (VHF) Network</b> – It is an inter district network through which police stations, police outposts, district police and administrative officers are linked to control rooms established at district headquarters through wireless telephony.</p>	
<p><b>Range Repeaters</b> – Repeaters enhance the range of VHF radio telephony communication and enable the DIG of a Range to talk to any SP of his range on wireless set.</p>	
<p><b>Wireless Based Public Address System</b> – It is a public address system used by district police for crowd control and maintenance of law and order situation at religious and other important places.</p>	
<p><b>Police Communication Network (Polnet)</b> – It is a satellite based inter and intra district network. Polnet connectivity is not only a means of voice communication but also provides computer connectivity, data communication and fax too.</p>	
<p><b>Closed Circuit Television</b> – CCTV are used for video surveillance at religious and other sensitive places to monitor the security and law and order.</p>	
<p><b>Computer Aided Despatch System (CADS)</b> – It works like a call centre in which affected people contacts the centre through voice calls, SMS, emails etc. for police help. Locations of GPS equipped police vans are tracked and are directed to reach the aggrieved person.</p>	

### 4.3 Procurement of communication equipment

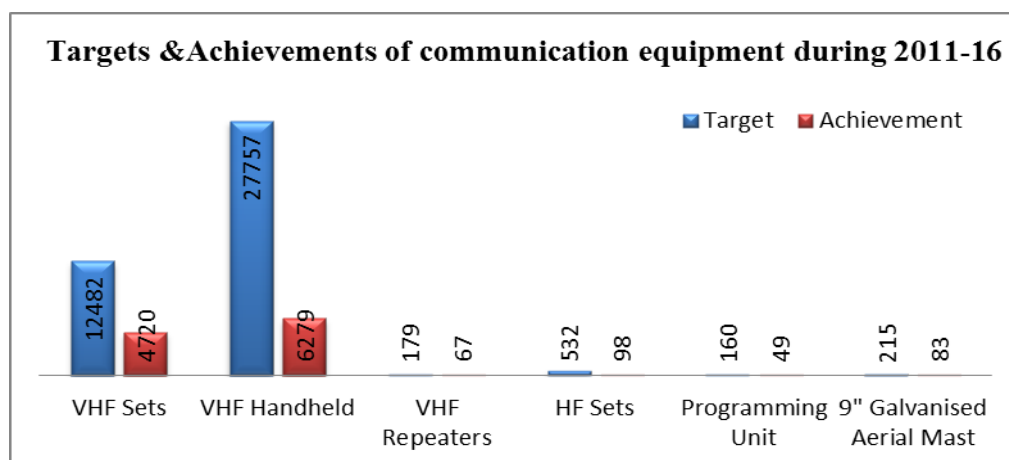
Radio headquarter had submitted (January 2010) a requirement based plan of ₹ 198.21 crore for strengthening of communication system under MPF Scheme of GoI which was to be implemented during 2011-16. As per the plan, communication systems were to be strengthened annually and any shortfalls were to be rectified by the end of financial year 2015-16. Budget requirement, projected allotment made and expenditure incurred during 2011-16 are given in the table below.

**Table 4.1: Details showing allotment and expenditure under MPF**

(₹ in crore)				
Year	Budget Requirement	Allotment	Expenditure	Surrender ( <i>per cent</i> )
2011-12	44.54	31.76	6.69	25.07 (79)
2012-13	53.76	28.00	5.94	22.06 (79)
2013-14	40.72	29.89	13.86	16.03 (54)
2014-15	25.28	33.86	17.32	16.54 (49)
2015-16	33.91	13.00	11.82	1.18 (9)
<b>Total</b>	<b>198.21</b>	<b>136.51</b>	<b>55.63</b>	<b>80.88 (59)</b>

(Source: Radio Headquarter, Lucknow)

It is evident from the above table that Radio Headquarters had received ₹ 136.51 crore for procurement of communication equipment against the requirement of ₹ 198.21 crore, but the department could utilise only 41 *per cent* of the allotment. The funds could not be utilized due to failure of the department to finalise purchase orders and so the funds had to be surrendered. Because of the failure to utilise the funds, the procurement plans of equipment under MPF scheme suffered badly and the achievements of procurements against the targets were very low. Shortfalls in communication devices viz., VHF sets, HF sets, VHF handheld sets, VHF repeaters, programming units etc. against the targets (2011-16) ranged between 50 and 100 *per cent*. Achievements vis a vis targets of important communication equipment are given in the chart below and details are given in *Appendix 4.1*.



Government in its reply stated (February 2017) that procurements could not be made as complete modernisation schemes of different years were not

sanctioned and all items were not approved by SLEC and HPC of GoI. Purchases are made as per sanctions under modernisation scheme as per the AAP. Further, Government stated that tenders were invited again and again as per norms. Purchases could not be made in the financial year 2011-12 as election code of conduct for 2012 legislative election had been invoked.

The reply of the Government was not acceptable as there was huge surrender in other years also i.e. in the years 2011-12 to 2014-15. The responsibility of sending proposals and its approvals as per requirement lies with the department and the Government. Open tender is always allowed as per financial rules whether DGS&D rate contract is available or not.

#### **4.4 Shortage of handheld sets**

For effective communication, BPR&D recommended the norms of one VHF Handheld set per three policemen in field offices. As of January 2015, the State had 1,36,577 constables and head constables. So according to the said norms, 1,01,341 handheld sets against the sanctioned posts and 45,525 handheld sets against the available manpower in constables and head constables cadres should have been available.



**Handheld Sets**

However, only 23,814 handheld sets (52 *per cent*) were available as of July 2016 and the shortage was as large as 21,711 sets (48 *per cent*) of men in position and 76 *per cent* when seen against sanctioned strength. Further, out of 23,814 available handheld sets, only 16,119 sets were distributed by field units and 7695 sets were kept in store as reserve. Hence, the actual availability of handheld sets in field units was only 16,119 (39 *per cent*) against the men in position and 16 *per cent* when seen the against sanctioned strength.

Further, as per information available through BPR&D data, 51 police stations did not have telephones and 17 police stations were running without wireless facilities as of January 2016.

Government in its reply stated (February 2017) that proposals were prepared as per norms taking into view the requirement of men in position of police force. Procurement of 13,970 handheld sets was in process and 14,445 handheld sets were proposed for procurement in the financial year 2016-17. No reply was given for keeping 7695 sets in store. No attempts were made to provide telephones in 51 police stations and wireless facilities in 17 police stations.

#### **4.5 Inventory of life expired Communication Sets**

A number of 50,216 communication sets were available out of which 33,089 sets were deployed in field units and remaining 17,127 sets were kept in reserve as given in table below.

**Table 4.2: Availability of communication devices-2017**

Devices	Holding	Deployed	Available in Store at Lucknow Radio Headquarter					Life expired	Net functional
			Functional	Defective	Unserviceable	Condemned	Total		
VHF Set	21,645	14,785	2,612	24	1,683	2,541	6,860	15,124	6,521
VHF PA Sets	1,375	1,370	0	0	5	0	5	202	1,173
VHF Backpack Set	948	948	0	0	0	0	0	269	679
VHF Repeaters	214	134	2	0	47	31	80	147	67
ROIP	9	9	0	0	0	0	0	0	9
UHF Sets	12	0	0	0	9	3	12	12	0
Handheld Sets	25,327	15,412	2,582	30	4,217	3,086	9,915	17,518	7,809
HF Sets	644	431	17	0	64	132	213	546	98
HF Backpack Sets	42	0	0	0	42	0	42	42	0
<b>Total</b>	<b>50,216</b>	<b>33,089</b>	<b>5,213</b>	<b>54</b>	<b>6,067</b>	<b>5,793</b>	<b>17,127</b>	<b>33,860</b>	<b>16,356</b>

(Source: Radio Headquarter, Lucknow)

It is evident from the above table that out of total holdings of 50,216 sets, deployment in field units were 33,089 and 17,127 sets were deposited in store. Further, 33,860 sets were life expired and only 16,356 sets were functional out of which 5,213 functional sets were kept in store. Life expired sets needed to be replaced but the same were still being used in field units as new sets had not been purchased. No replacement of sets has been done since 2009. Further, out of 17,127 sets kept in reserve, only 5,213 sets were functional and 6,067 sets were unserviceable. The cost of unserviceable sets was ₹ 7.62 crore. Thus, out of 50,216 communication sets only 16,356 sets (33 per cent) were functional and remaining 67 per cent sets were unserviceable, condemned or completed their lives.

Government in its reply stated (February 2017) that in view of law and order those functional sets which have completed their lives are not returned from units/districts in store until substitutes of these sets are not received by them.

As such, Government accepted in its reply that communication sets whose life had expired were being used in the department.

#### **4.6 Avoidable expenditure of ₹ 57.66 crore on spectrum charges**

Wireless Planning and Coordination (WPC) wing of Ministry of Communication, GoI issued (April 2004) a Memorandum regarding levy of spectrum charges on wireless sets being used for communication purposes. As per the memorandum, all government ministries/departments/organisations were to pay annual spectrum charges (License Fee and Royalty) to WPC Wing. In case of failure to pay spectrum charges by scheduled date 'late fee' at the rate of two per cent per month, compounded annually, was to be paid.

Scrutiny of records revealed that budget provisions for payment of spectrum charges were not made during 2011-12 to 2014-15 despite repeated requests



by Communication headquarter and demand by the WPC Wing of Ministry of Communication, GoI. Due to the failure to pay spectrum charges timely, late fee of ₹ 104.47 crore was levied by WPC for the period from 2004-05 to 2016-17 out of which ₹ 57.66 crore was paid by the department to GoI in September 2015. Had the department taken timely action and provided funds in the budget annually, the payment of late fee of ₹ 57.66 crore could have been avoided.

Government in its reply stated (February 2017) that ₹ 0.89 crore in August 2016 and ₹ 30.48 crore in October 2016 were paid to GoI as complete spectrum charges. But Government did not furnish reply about late payment due to which late fee at the rate of 2 *per cent* per month, compounded annually, amounting to ₹ 104.47 crore was levied by WPC and was paid by the department. This was avoidable if the department had paid spectrum charges timely.

#### **4.7 Usage of Wireless Sets without obtaining license**

As per telecom policy of GoI, all wireless users including state police forces are required to obtain license for usage of wireless devices. User Department submits application to Ministry of Communication for issue of new licenses for wireless devices. After examination of the application, Ministry of Communication issues *Letter of Intent* (LOI) and demands spectrum charges at specified rates. User Department has to pay these charges within one month, else the LOI is cancelled and the User Department is required to submit fresh applications. After User Department has paid the specified charges, *Agreement in Principle* (AIP) is issued by the Ministry and thereafter the User is authorised to purchase and use wireless devices.

Scrutiny of records revealed that Communication Wing of Uttar Pradesh Police applied for issuance of LOI in respect of different types of 1486 sets in November 2013 and 1,189 sets in October 2014. Ministry of Communication, GoI had issued LOI for the said devices and demanded ₹ 0.52 crore and ₹ 0.39 crore respectively on account of license fees. Department, however, failed to pay the said amount within the scheduled time as a result of which LOIs lapsed.. During 2014-16, Communication Wing of Uttar Pradesh Police again applied for license of 4,374 additional sets but the licenses were not issued. Audit however observed that the Police Department purchased the wireless devices and were using the same without obtaining the required license.

Government in its reply stated (February 2017) that the process of providing license for radio centres from Ministry of Communication, GoI is complex and time bound under which permissible time for payment of spectrum charges is only 30 days. Sanction of estimated heavy amount as spectrum charges is not received in this limited time. As a result the department repeats the process again and again.

Reply was not acceptable for as per rules State Police is required to take license for usage of wireless devices which was not done.



#### 4.8 Replacement of equipment which had completed their useful life

In March 2014, administrative and financial sanction of ₹ 45.04 crore was accorded for procurement of equipment<sup>5</sup> which had completed their useful life. However, procurement could not be done as purchase orders were not finalised and therefore the amounts had to be surrendered. Again in September 2014, sanctions for ₹ 43.54 crore were accorded to procure these equipment but the quantities were reduced as per fresh/new sanction. Meanwhile, engagement of “Shreetron India Ltd.”, a UP Government undertaking, was appointed as consultant for outsourcing the tendering process and finalising the supply orders for an administrative fees of ₹ 2.07 crore and tendering process has been completed by the consultancy firm. However, payment to the firm is yet to be released. The fact remains that required devices could not be procured till 2015-16. Not having HF and VHF sets could affect the communication of messages in the department. Audit further noticed that the unutilized amount of ₹ 43.54 crore was deposited in “PLA of *Police Awas Nigam*” out of which ₹ 4.07 crore has been utilised in 2016-17 for the purchase of SMF heavy duty batteries at DGS&D rate contract. Keeping the money in PLA after close of the financial year is not permissible as per rules and therefore the action of the department to retain the funds was irregular.

Government in its reply stated (February 2017) that in view of law and order those functional sets even if they have completed their lives are not returned from units/districts in store until substitutes of these sets are received.

As such, Government accepted in its reply that communication sets which had completed their useful life were being used in the department.

#### 4.9 Police Telecom Network (Polnet)

Polnet is a satellite based communication system which was established (2003-04) in 56 districts of the state by MHA. The facility was provided by GoI to all state forces and central forces and a National hub was established at New Delhi. The cost of Polnet V-Set established in 2003-04 was ₹ 3.10 crore for 56 sets. The system was more reliable and effective in disaster management. Network



services were being used for exchanging messages pertaining to law and order between state and central police forces in normal operations as well as for special events like elections, VIP movement, court matters, foreign nationals and other sensitive matters. The network started working from 2006.

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<sup>5</sup> VHF Sets – 8,192, Handheld Sets – 10,574, HF sets – 438, Batteries – 10,578.

Audit found that out of 56 Polnets established only 38 (68 *per cent*) was functional. This was because Annual Maintenance Contract (AMC) was not finalised by the department. In absence of AMC, the Polnet stopped functioning in 18 districts.

Government in its reply stated (February 2017) that Polnet were being maintained through an AMC with M/s Bharat Electronics Ltd. However, M/s Bharat Electronics Ltd. refused the AMC as their spare parts for maintenance were unavailable in the market. Now upgradation of Polnet system was in process by GoI under which upgradation of pre-established old Polnet system in 56 districts and installation of new Polnet centres in 19 districts was proposed by Radio Headquarter under the modernisation scheme in the year 2016-17.

#### **4.10 Delay in adoption of modern technology**

Department had established state-wise VHF grid in which analogue static/mobile radio set, handheld radio set and IP based controller/repeater sets were being purchased each year upto 2014-15. DGP, in November 2015, decided that analogue sets would not be purchased in any condition. Thus, only digital radio sets were to be purchased in future. Accordingly, 1204 analogue sets proposed for purchase at the cost of ₹ 1.96 crore were changed with digital sets. Department also decided to replace all analogue sets working in the VHF radio grid on completion of life (8 years) in year-wise phased manner starting from 2016-17 to 2023-24. Proposed estimated cost of replacement of analogue sets was ₹ 36.13 crore, ₹ 19.25 crore and ₹ 1.00 crore for 12046 number of static/mobile sets, 6418 handheld radio sets and 67 repeater sets respectively. These analogue sets were purchased during 2007-08 to 2014-15. Department's purchase of analogue sets continuously upto 2014-15 was highly imprudent and indicated lack of efficient planning for adoption of modern upgraded technology in communication.

#### **4.11 GPS System not functioning**

In Jhansi, 49 vehicles were equipped with GPS system and were connected to City Control Room for tracking the vehicles so that in case of any untoward incident, the nearest vehicle may be directed to reach the spot without delay. However, audit found that out of 49 GPS equipped vehicles, GPS system of 28 vehicles were not functioning due to technical reasons since August 2015. In Moradabad 56 GPS systems were purchased during March, 2014 and November 2015. However, these systems were not functional as rental charges of post-paid SIMs were not paid. As a result the police vehicles did not even have basic technical capability i.e. usage of maps for tracking of vehicles etc. which were available even with taxis like UBER, OLA.

No reply was furnished by the Government on our observation.

#### **4.12 More than a third of CCTV Camera not functioning**

CCTV Cameras are being used by police for crowd control, traffic management, monitoring important events, places, ensuring peace and security

and maintenance of law and order. The CCTV cameras are also being used in important cities under city surveillance system. CCTV cameras are connected with the Control Rooms to monitor the activities happening at the spot where these are installed.



City Surveillance by CCTV

Audit found that 269 (39 per cent) out of 691 CCTV Cameras installed in 15 test checked districts were not functioning due to technical defects or because AMC was not finalised. Further, out of 40 CCTV cameras installed at one religious place 13 did not function due to unsatisfactory services of firm hired for AMC by the SSP Faizabad (**Appendix 4.2**). Failure to have CCTV cameras functional defeated the purpose of installation of the cameras, and put the lives of common people as well as VIPs at risk besides compromising the security of an important religious place.

No reply was furnished by the Government on our observation.

#### **4.13 Modern Control Room Kanpur did not function**

With a view to provide immediate police help to caller on dialing 100, a Modern Control Room (MCR) at Kanpur was established (February 2014) by Radio Headquarters, Lucknow at the cost of ₹ 6.60 crore through Telecommunications Consultants India Ltd. (TCIL), a Public Sector Undertaking of GoI. The MCR started functioning in February 2014. As per the agreement, the supplier i.e. TCIL maintained the equipment for a period of two years upto February 2016. Audit found that after expiry of the warranty period of two years and department's failure and indecision to enter into an AMC, TCIL stopped providing services for running of the equipment. As a result, MCR stopped functioning (February 2016) and, therefore, Dial 100 system being operated through MCR has ceased to function in district Kanpur for the last six months. The system was still not functioning as of 31<sup>st</sup> August 2016, rendering the expenditure incurred (₹ 6.60 crore) on the scheme unfruitful and also resulting in the State Police not being able to provide help to callers in emergency situation.

Government in its reply stated (February 2017) that a proposal of ₹ 1.55 crore was sent to Police Headquarter by IG, Kanpur zone in May 2016 for AMC of Modern Control Room, Kanpur which was pending.

#### 4.14 Manpower shortages

Radio staff in different cadres were responsible for the operation and maintenance of police communication system. Non-gazetted technical staff of radio cadre were mainly responsible for operation and maintenance of equipment. Audit observed that there was shortage of 1,431 (25 per cent) as of July 2016 in non-gazetted radio cadre which included Inspector, Sub-Inspector, Operator responsible for operation of district radio centres, district control rooms and radio workshops. Further, audit found that 612 posts in non-gazetted category in 18 new established districts were not sanctioned.

Shortage of staff against sanction, combined with the failure to sanction for newly created districts could adversely affect the operation and maintenance of police communications. No recruitment of officials in communication wing has been done after 2006.

**Table 4.3: Manpower position in Communication Wing**

Post	Sanctioned Post	Availability	Shortage (%)
Gazetted Officer	63	41	22 (35)
Non-Gazetted Officer	5,710	4,279	1,431 (25)
Transport Wing	73	53	20 (27)
Group D Employee	664	525	139 (21)
<b>Total</b>	<b>6,510</b>	<b>4,898</b>	<b>1,612 (25)</b>

(Source: Radio Headquarter, Lucknow)

Government in its reply accepted (February 2017) that non-gazetted posts had not been sanctioned till now for the operation of radio systems at the headquarters of those 18 districts in the State while equipment were managed under modernisation schemes.

#### *Crime and Criminal Tracking Network Systems (CCTNS)*

A Performance Audit of CCTNS was conducted during 2015-16 and the findings were included in the Chapter 2 Performance Audit of CAG's Report (General and Social Sector Audit) for the year ended 31 March 2015. In the said report audit had commented on poor project implementation and serious delays in making the CCTNS fully operational.





#### 4.15 Network infrastructure and performance

As per agreement (April 2012), BSNL was to provide network connectivity between police stations/ higher offices and State Data Centre (SDC), SDC to National Data Centre and between SDC and Disaster Recovery Centre using technologies like Virtual Private Network over Broad Band (VPNoBB), Worldwide Interoperability for Microwave Access (WiMAX) and Very Small Aperture Terminal (VSAT). Status of connectivity provided by BSNL is given in below table.

**Table 4.4: Status of connectivity, as of March 2016**

Connectivity	Connectivity Status			Connectivity Percentage (available)
	Connectivity Required	Connectivity Available	Connectivity Not available	
VPNoBB	2,171	1,916	255	88
VPNoWiMAX	193	175	18	91
VSAT	123	00	123	00
<b>Total</b>	<b>2,487</b>	<b>2,091</b>	<b>396</b>	<b>84</b>

(Source: UPPTS connectivity status report March 2016)

It is evident from above table that only 84 *per cent* connectivity was made available.

As per Service Level Agreement (SLA) with BSNL, percentage uptime availability of more than 97 *per cent* was to be ensured. Status of percentage uptime availability of systems is detailed in Table below:

**Table 4.5: Status of percentage uptime availability of systems**

Percentage Availability	100 - 80 <i>per cent</i>	79 - 60 <i>per cent</i>	59 - 40 <i>per cent</i>	39 - 20 <i>per cent</i>	19 - 1 <i>per cent</i>	Zero <i>per cent</i>
No. of links	951	723	183	81	153	396
						<b>2,487</b>

(Source: UPPTS Network Monitoring System report (1 March 2016 to 31 March 2016))

This indicated that 16 *per cent* of the locations (396) had no uplink connection even for once, whereas only for 38 *per cent* of the locations (951) percentage uptime connectivity was over 80 *per cent* which reflected poor network performance. This was because of the failure to resolve the issues viz., inconsistent termination of line, absence of modems, adequate bandwidth availability and high latency with BSNL/SI/UPPTS.

#### 4.16 Operationalisation and use of CAS for core Services

Audit found that CCTNS has still not been made fully operational. The core modules of Core Application Software (CAS) included four modules viz. Registration module for submission and generation of response on the complaints submitted, Investigation module for capturing crime and investigation details, arrest cards, property seizure etc., Prosecution module for capturing prosecution details and Citizen Interface portal for citizens to register online complaint and view status on the complaint and Search and reporting module for search on specified criteria.

Study of implementation of CAS in test-checked districts disclosed that:

- Out of four modules, only Registration Module was being used for registration of FIRs. The remaining modules viz. Investigation, Prosecution and Search, Reporting though developed, were still not being used by the police authorities.
- Out of 1,504 police stations, only 1,461 police stations were registering FIRs through CAS (March 2016). Thus, even registration of FIRs through CAS has not been implemented in all the police stations of the State.
- Citizen Centric portal services envisaged to be made available through Police portal and via SMS were yet to be made fully functional and were not launched as of 31 March 2016.
- Integrated Information Form (IIF) generated from CAS for the period January 2013 to March 2016 (**Appendix 4.3**) in respect of test-checked districts disclosed that there was very little information available in CAS database of seizure memo (IIF-IV).

### ***Recommendations***

- *Availability of manpower, especially in technical category should be improved for better operation and maintenance of communication network in state police.*
- *Budget utilisation must be ensured by expediting procurement of essential equipment and replacement of obsolete equipment/ technologies.*
- *AMC of procured equipment must be planned and implemented timely.*