



RESTORATION PRIORITY PLAN

Approved by: *Tammy Courtney* Date: 1/29/19
Tammy Courtney
Project Manager

Effective Date: _____

TABLE OF CONTENTS

REVISION SUMMARY	3
ACRONYM LIST	4
1.0 INTRODUCTION.....	5
1.1 SCOPE.....	5
1.2 PURPOSE.....	5
2.0 RESTORATION PRIORITY PLAN.....	5
2.1 CORE POWER AND ENVIRONMENTAL RESTORATION	5
2.2 TELEPHONE SERVICES RESTORATION.....	6
2.3 RADIO SERVICES RESTORATION.....	6
2.4 MOBILE DEVICE MANAGEMENT RESTORATION.....	6
3.0 REFERENCES.....	7
4.0 ATTACHMENTS	7

REVISION SUMMARY

Rev. No.	Description of Change	Pages	Date
0	Document established to provide guidance regarding Paducah Infrastructure Support Services contract DE-EM0003733.	All	01/29/16
1	Periodic review performed. Updated Attachment A. Formatted into new template, previous no. SST.IT-0042.	All	01/29/19

ACRONYM LIST

MDM	Mobile Device Management
PAD	Paducah
PAX	Private Automatic Exchange
PBX	Private Branch Exchange

1.0 INTRODUCTION

In accordance with Section C.3.4.2.10, *Restoration*, of the Paducah Infrastructure Support Services Contract, this document outlines the Restoration Priority List for the telecommunications and radio services at the Paducah (PAD) site. The document describes the necessary sequence to restore the telecommunications and radio services to a fully functional state after an outage.

1.1 Scope

The following assumptions are made within this document:

- The restoration plan assumes that all of the telecommunications and radio services at the PAD site are without power, and outlines the proper sequence to restore these services to a functional working order.
- The plan assumes that all endpoint wiring between equipment is still intact and viable.

1.2 Purpose

The purpose of the plan is to provide the proper sequence of events to properly restore telecommunications and radio services at the PAD site to a fully functional state.

2.0 RESTORATION PRIORITY PLAN

Based on the needs of the site, the telecommunications services need to be restored in the following order:

1. Core power and environmental services
2. C-100 Private Branch Exchange (PBX) telephone services
3. C-320 Private Automatic Exchange (PAX) telephone services
4. PAD site radio systems
5. Core network equipment
6. Core server equipment
7. Core server infrastructure
8. Mobile Device Management (MDM) systems
9. Phone audio conferencing bridge
10. Radio management servers.

2.1 CORE POWER AND ENVIRONMENTAL RESTORATION

Prior to any restoration of any services, the core power and air conditioning systems must be restored. This must be done to ensure the systems can be brought back

safely, with no potential damage due to overheating. The core power and environmental services must be restored to the following locations:

- C-100 Server Room
- C-100 PBX Room
- C-320 PAX Building
- C-802 Radio Tower

2.2 TELEPHONE SERVICES RESTORATION

Once the power and environmental services have been restored, the telephone systems in C-100 and C-320 can be restored to service. The C-100 PBX System needs to be restored first due to its significant coverage throughout the site. The present telephone system provides power to the handsets; therefore, no additional power is necessary for the end user to make telephone calls. In addition, the voice mail system will need to be restored in order to allow users the ability to check their voice mail messages. Lastly, the Competitive Local Exchange Carrier equipment and services need to be restored in order to restore offsite telephone communications.

Once C-100 services have been restored, the C-320 PAX phone system can be restored. This includes rebooting the phone system located in the C-320 building and verifying phone calls within the site. Similar to the C-100 PBX system, the PAX phone system provides power to the handsets; therefore, no additional power is necessary for the end user to make telephone calls.

2.3 RADIO SERVICES RESTORATION

Once power has been restored to the C-802 building, the radio system can then be rebooted in order to restore radio communications across the site. Once the radio system has been fully powered up, the handsets can resume communications throughout the site.

2.4 MOBILE DEVICE MANAGEMENT RESTORATION

In order to restore MDM services for the BlackBerry smartphones, core server equipment must be restored first before the MDM services can be restored. The core server equipment consists of the following components:

- Core network switches
- Internet services and firewalls
- HP 3PAR storage array
- VMware virtual machine hosts

After these systems have been started, the following virtual machines would need to be rebooted in order to provide MDM to the BlackBerry smartphones:

- PAD Active Directory Domain Controllers
- Swift & Staley Team and Deactivation Active Directory Domain Controllers
- Dynamic Host Configuration Protocol Servers

- BlackBerry Enterprise Version 5 Servers
- BlackBerry Enterprise Version 12 Servers

3.0 REFERENCES

- DE-EM0003733, *Paducah Infrastructure Support Services Contract*
- DE-EM0003733, Section C.3.4.2, *Telecommunications and Radio Communications*
- DE-EM0003733, Section C.3.4.2.10, *Restoration*

4.0 ATTACHMENTS

Attachment A, *Restoration Priority List Matrix*

ATTACHMENT A – SECTION 3.4.2.10, RESTORATION PRIORITY LIST (UPDATED 1/24/19)

Global Priority	Category	Subtype	Subtype Priority	Description	Dependencies	Required Dependencies					Comments
						Core Power	Network Core	Server Core	Server Infrastructure	C-300	
1	Environment	Core Power	1	Verify Server Room Power	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	2	Verify Server Room AC	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	3	Verify Power to CLEC equipment	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	4	Verify Power to C-100 PBX / CLEC	None	-	-	-	-	-	Required to start C-100 PBX Phone
1	Environment	Core Power	5	Verify Power and AC to C-802	None	-	-	-	-	-	Required to start Radio System
1	Environment	Core Power	6	Restore C-320 Building Power	None	-	-	-	-	-	Required to start C-320 PAX Phone System
2	Telecom	Telephone	1	Reboot C-100 PBX Phone System	Core Power	X	-	-	-	-	
2	Telecom	Telephone	2	Reboot Meridian Voice Mail System	Core Power	X	-	-	-	-	Included with PBX system
2	Telecom	Telephone	3	Restore CLEC Equipment	Core Power	X	-	-	-	-	AT&T demarcation equipment; necessary for offsite communications
2	Telecom	Telephone	4	Verify Inbound and Outbound Calls	Core Power	X	-	-	-	-	Perform tests to verify connectivity; phones receive power from PBX system
2	Telecom	Telephone	5	Reboot C-320 PAX Phone System	Core Power	X	-	-	-	-	Perform tests to verify connectivity; phones receive power from PBX system
2	Telecom	Telephone	6	Verify intraplant calling	Core Power	X	-	-	-	-	Perform tests to verify connectivity; phones receive power from PBX system
3	Telecom	Radio	1	Reboot Radio System at C-802	Core Power	X	-	-	-	-	
3	Telecom	Radio	2	Verify Inbound and Outbound Radio Communications	Core Power	X	-	-	-	-	
4	Network	Network Core	1	Reboot Core Nexus Switches	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	2	Restore Core Edge Switch	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	3	Restore Internet Firewall	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	4	Restore Internet Connectivity	Core Power	X	-	-	-	-	Required to start MDM servers
5	Server	Server Core	1	Restore 3PAR Storage	Network Power, Network Core	X	X	-	-	-	Required to start MDM servers
5	Server	Server Core	2	Restore Vsphere Server	Network Power, Network Core	X	X	-	-	-	Required to start MDM servers
5	Server	Server Core	3	Restore ESX Servers	Network Power, Network Core	X	X	-	-	-	Required to start MDM servers
6	Server	Infrastructure Server	1	Restore PAD Domain Controllers	Core Power, Network Power, Server Core	X	X	X	-	-	Required to start MDM servers
6	Server	Infrastructure Server	2	Restore SST and DEAC Domain Controllers	Core Power, Network Power, Server Core	X	X	X	-	-	Required to start MDM servers
6	Server	Infrastructure Server	3	Restore DHCP Servers	Core Power, Server Core, Server Infrastructure	X	X	X	-	-	Required to start MDM servers
7	MDM	Blackberry	2	Reboot BES12 MDM Servers	Core Power, Server Core, Server Infrastructure	X	X	X	X	-	Will Restore management capabilities of Blackberry devices
8	Telecom	Conference Bridge	1	Reboot Conference Bridge in Server room	Core Power, Server Core, Server Infrastructure	X	X	X	X	-	Needed to restore phone conference bridge functions
9	Telecom	Radio	1	Restore Power to C-300 Basement	Core Power	X	-	-	-	-	Needed to restore radio management capabilities
10	Telecom	Radio	2	Reboot Radio Management Servers	Core Power, C-300 Power	X	-	-	-	X	Needed to restore radio management capabilities
11	Telecom	Radio	3	Reboot Exacom Radio Recording System	Core Power, C-300 Power, Radio Management Server	X	-	-	-	X	Needed to record radio transmissions

BES12 - Blackberry Enterprise Server Version 12
DHCP - Dynamic Host Configuration Protocol

CLEC - Competitive Local Exchange Carrier (i.e. AT&T, Verizon, or CenturyLink)
MDM - Mobile Device Management

ENCLOSURE 2

Redline Copy of ISSC-IT-PL-006, *Restoration Priority Plan*



RESTORATION PRIORITY PLAN

Approved by: _____ Date: _____
Tammy Courtney
Project Manager

Effective Date: _____

TABLE OF CONTENTS

REVISION SUMMARY	3
ACRONYM LIST	4
1.0 INTRODUCTION.....	5
1.1 SCOPE.....	5
1.2 PURPOSE.....	5
2.0 RESTORATION PRIORITY PLAN	5
2.1 CORE POWER AND ENVIRONMENTAL RESTORATION	5
2.2 TELEPHONE SERVICES RESTORATION.....	6
2.3 RADIO SERVICES RESTORATION.....	6
2.4 MOBILE DEVICE MANAGEMENT RESTORATION.....	6
3.0 REFERENCES.....	7
4.0 ATTACHMENTS	7

REVISION SUMMARY

Rev. No.	Description of Change	Pages	Date
0	Document established to provide guidance regarding Paducah Infrastructure Support Services contract DE-EM0003733.	All	01/29/16
1	Periodic review performed. Updated Attachment A. Formatted into new template, previous no. SST.IT-0042.	All	01/29/19

ACRONYM LIST

MDM	Mobile Device Management
PAD	Paducah
PAX	Private Automatic Exchange
PBX	Private Branch Exchange

1.0 INTRODUCTION

In accordance with Section C.3.4.2.10, *Restoration*, of the Paducah Infrastructure Support Services Contract, this document outlines the Restoration Priority List for the telecommunications and radio services at the Paducah (PAD) site. The document describes the necessary sequence to restore the telecommunications and radio services to a fully functional state after an outage.

1.1 Scope

The following assumptions are made within this document:

- The restoration plan assumes that all of the telecommunications and radio services at the PAD site are without power, and outlines the proper sequence to restore these services to a functional working order.
- The plan assumes that all endpoint wiring between equipment is still intact and viable.

1.2 Purpose

The purpose of the plan is to provide the proper sequence of events to properly restore telecommunications and radio services at the PAD site to a fully functional state.

2.0 RESTORATION PRIORITY PLAN

Based on the needs of the site, the telecommunications services need to be restored in the following order:

1. Core power and environmental services
2. C-100 Private Branch Exchange (PBX) telephone services
3. C-320 Private Automatic Exchange (PAX) telephone services
4. PAD site radio systems
5. Core network equipment
6. Core server equipment
7. Core server infrastructure
8. Mobile Device Management (MDM) systems
9. Phone audio conferencing bridge
10. Radio management servers.

2.1 CORE POWER AND ENVIRONMENTAL RESTORATION

Prior to any restoration of any services, the core power and air conditioning systems must be restored. This must be done to ensure the systems can be brought back

safely, with no potential damage due to overheating. The core power and environmental services must be restored to the following locations:

- C-100 Server Room
- C-100 PBX Room
- C-320 PAX Building
- C-802 Radio Tower

2.2 TELEPHONE SERVICES RESTORATION

Once the power and environmental services have been restored, the telephone systems in C-100 and C-320 can be restored to service. The C-100 PBX System needs to be restored first due to its significant coverage throughout the site. The present telephone system provides power to the handsets; therefore, no additional power is necessary for the end user to make telephone calls. In addition, the voice mail system will need to be restored in order to allow users the ability to check their voice mail messages. Lastly, the Competitive Local Exchange Carrier equipment and services need to be restored in order to restore offsite telephone communications.

Once C-100 services have been restored, the C-320 PAX phone system can be restored. This includes rebooting the phone system located in the C-320 building and verifying phone calls within the site. Similar to the C-100 PBX system, the PAX phone system provides power to the handsets; therefore, no additional power is necessary for the end user to make telephone calls.

2.3 RADIO SERVICES RESTORATION

Once power has been restored to the C-802 building, the radio system can then be rebooted in order to restore radio communications across the site. Once the radio system has been fully powered up, the handsets can resume communications throughout the site.

2.4 MOBILE DEVICE MANAGEMENT RESTORATION

In order to restore MDM services for the BlackBerry smartphones, core server equipment must be restored first before the MDM services can be restored. The core server equipment consists of the following components:

- Core network switches
- Internet services and firewalls
- HP 3PAR storage array
- VMware virtual machine hosts

After these systems have been started, the following virtual machines would need to be rebooted in order to provide MDM to the BlackBerry smartphones:

- PAD Active Directory Domain Controllers
- Swift & Staley Team and Deactivation Active Directory Domain Controllers
- Dynamic Host Configuration Protocol Servers

- BlackBerry Enterprise Version 5 Servers
- BlackBerry Enterprise Version 12 Servers

3.0 REFERENCES

- DE-EM0003733, *Paducah Infrastructure Support Services Contract*
- DE-EM0003733, Section C.3.4.2, *Telecommunications and Radio Communications*
- DE-EM0003733, Section C.3.4.2.10, *Restoration*

4.0 ATTACHMENTS

Attachment A, *Restoration Priority List Matrix*

ATTACHMENT A – SECTION 3.4.2.10, RESTORATION PRIORITY LIST (UPDATED 1/24/19)

(Excel spreadsheet to be inserted)

ACRONYMS

- ~~BES5~~ - ~~Blackberry Enterprise Server Version 5~~
- BES12 - Blackberry Enterprise Server Version 12
- CLEC - Competitive Local Exchange Carrier (i.e. AT&T, Verizon, or CenturyLink)
- DHCP - Dynamic Host Configuration Protocol
- MDM- Mobile Device Management

Global Priority	Category	Subtype	Subtype Priority	Description	Dependencies	Core Power	Network Core	Server Core	Server Infrastructure	Required Dependencies	
										C-300	Comments
1	Environment	Core Power	1	Verify Server Room Power	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	2	Verify Server Room AC	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	3	Verify Power to CLEC equipment	None	-	-	-	-	-	Required to start Server Core
1	Environment	Core Power	4	Verify Power to C-100 PBX / CLEC	None	-	-	-	-	-	Required to start C-100 PBX Phone
1	Environment	Core Power	5	Verify Power and AC to C-	None	-	-	-	-	-	Required to start Radio

				802							System
1	Environment	Core Power	6	Restore C-320 Building Power	None	-	-	-	-	-	Required to start C-320 PAX Phone System
2	Telecom	Telephone	1	Reboot C-100 PBX Phone System	Core Power	X	-	-	-	-	
2	Telecom	Telephone	2	Reboot Meridian Voice Mail System	Core Power	X	-	-	-	-	Included with PBX system
2	Telecom	Telephone	3	Restore CLEC Equipment	Core Power	X	-	-	-	-	AT&T demarcation equipment; necessary for offsite communications
2	Telecom	Telephone	4	Verify Inbound and Outbound Calls	Core Power	X	-	-	-	-	Perform tests to verify connectivity; phones receive power from PBX system
2	Telecom	Telephone	5	Reboot C-320 PAX Phone System	Core Power	X	-	-	-	-	
2	Telecom	Telephone	6	Verify intraplant calling	Core Power	X	-	-	-	-	Perform tests to verify connectivity; phones receive power

											from PBX system
3	Telecom	Radio	1	Reboot Radio System at C-802	Core Power	X	-	-	-	-	
3	Telecom	Radio	2	Verify Inbound and Outbound Radio Communications	Core Power	X	-	-	-	-	
4	Network	Network Core	1	Reboot Core Nexus Switches	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	2	Restore Core Edge Switch	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	3	Restore Internet Firewall	Core Power	X	-	-	-	-	Required to start MDM servers
4	Network	Network Core	4	Restore Internet Connectivity	Core Power	X	-	-	-	-	Required to start MDM servers
5	Server	Server Core	1	Restore 3PAR Storage	Network Power, Network Core	X	X	-	-	-	Required to start MDM servers
5	Server	Server Core	2	Restore Vsphere Server	Network Power, Network Core	X	X	-	-	-	Required to start MDM servers
5	Server	Server Core	3	Restore ESX Servers	Network Power, Network	X	X	-	-	-	Required to start MDM servers

					Core						
6	Server	Server Infrastructure	1	Restore PAD Domain Controllers	Core Power, Network Power, Server Core	X	X	X	-	-	Required to start MDM servers
6	Server	Server Infrastructure	2	Restore SST and DEAC Domain Controllers	Core Power, Network Power, Server Core	X	X	X	-	-	Required to start MDM servers
6	Server	Server Infrastructure	3	Restore DHCP Servers	Core Power, Server Core, Server Infrastructure	X	X	X	-	-	Required to start MDM servers
7	MDM	Blackberry	1	Reboot Blackberry BES5 Servers	Core Power, Server Core, Server Infrastructure	X	X	X	X		Will Restore management capabilities of Blackberry devices
7	MDM	Blackberry	2	Reboot Blackberry BES12 MDM Servers	Core Power, Server Core, Server Infrastructure	X	X	X	X	-	Will Restore management capabilities of Blackberry devices
8	Telecom	Conference Bridge	1	Reboot Conference Bridge in Server room	Core Power, Server Core, Server Infrastructure	X	X	X	X	-	Needed to restore phone conference bridge functions
9	Telecom	Radio	1	Restore Power to C-300 Basement	None Core Power	-X	-	-	-	-	Needed to restore radio management capabilities

10	Telecom	Radio	2	Reboot Radio Management Servers	Core Power, C-300 PowerNone	-X	-	-	-	X	Needed to restore radio management capabilities
11	Telecom	Radio	3	Reboot Exacom Radio Recording System	Core Power, C-300 Power, Radio Management Server	X	-	-	-	X	Needed to record radio transmissions