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Bledsoe Telephone Cooperative, Inc.

Disaster Recovery Planning

for

Competitive Local Exchange Carriers and Other
Competitive Entities (CLECS)

Disaster Recovery Procedures

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General CLEC Disaster Recovery Procedures

1.0 Purpose

In the unlikely event of a disaster occurring that affects Bledsoe Telephone Cooperative, Inc.'s (BTC) long-term ability to deliver traffic to a Competitive Local Exchange Carrier or other competitive entity (CLEC), general procedures have been developed to hasten the recovery process. Since each location is different and could be affected by an assortment of potential problems, a detailed recovery plan is impractical. However, in the process of reviewing recovery activities for specific locations, some basic procedures emerge that appear to be common in most cases.

These general procedures should apply to any disaster that affects the delivery of traffic for an extended time period. Each CLEC will be given the same parity consideration during an outage and service will be restored as quickly as possible.

This document will cover the basic recovery procedures that would apply to every CLEC.

2.0 Single Point of Contact

When a problem is experienced, regardless of the severity, the BTC Network Management Center (NMC) will observe traffic anomalies and begin monitoring the situation. Controls will be appropriately applied to insure the sanity of BTC's network; and, in the event that a switch or facility node is lost, the NMC will attempt to circumvent the failure using available reroutes.

BTC's NMC will remain in control of the restoration efforts until the problem has been identified as being a long-term outage. At that time, the NMC will contact BTC's Emergency Control Center (ECC) and relinquish control of the recovery efforts. Even though the ECC may take charge of the situation, the NMC will continue to monitor the circumstances and restore traffic as soon as damaged network elements are revitalized.

The telephone number for the BTC Network Management Center in Pikeville, Tennessee is 423-447-6815.

3.0 Identifying the Problem

During the early stages of problem detection, the NMC will be able to tell which CLEC's are affected by the catastrophe. Further analysis and/or first hand observation will determine if the disaster has affected CLEC equipment only, BTC equipment only or a combination. The equipment that is affected will largely determine the initial restoration activity.

Once the nature of the disaster is determined and after verifying the cause of the problem, the NMC will initiate reroutes and/or transfers that are jointly agreed upon by the affected CLEC's Network Management Center and the BTC NMC. The type and percentage of controls used will depend upon available network capacity. Controls necessary to stabilize the situation will be invoked and the NMC will attempt to re-establish as much traffic as possible.

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For long-term outages, recovery efforts will be coordinated by the Emergency Control Center (ECC). Traffic controls will continue to be applied by the NMC until facilities are re-established. As equipment is made available for service, the ECC will instruct the NMC to begin removing the controls and allow traffic to resume.

3.1 Site Control

In the total loss of building use scenario, what likely exists will be a completely destroyed building and equipment. This total loss will contain many components, which could be dangerous. For these reasons, the local fire marshal with the assistance of the police will control the site until the building is no longer a threat to surrounding properties and the companies have secured the site from the general public.

During this time, the majority owner of the building should be arranging for demolition contractor to mobilize to the site with the primary objective of reaching the cable entrance facility for a damage assessment. The results of this assessment would then dictate immediate plans for restoration, both short term and permanent.

In a less catastrophic event, i.e., the building is still standing and the cable entrance facility is usable, the situation is more complex. Local authorities will initially control the site until the threat to adjacent property has diminished. Once the site is returned to the control of the companies, the following events should occur.

An initial assessment of the main building infrastructure systems (mechanical, electrical, fire & life safety, elevators, and others) will establish building needs. Once these needs are determined, the majority owner should lead the building restoration efforts. There may be situations where the site will not be totally restored within the confines of the buildings. The companies must individually determine their needs and jointly assess the cost of permanent restoration to determine the overall plan of action.

Multiple restoration trailers from each company will result in the need for designated space and installation order. This layout and control is required to maximize the amount of restoration equipment that can be placed at the site, and priority of placements.

Care must be taken in this planning to insure other restoration efforts have logistical access to the building. Major components of telephone and building equipment will need to be removed and replaced. A priority for this equipment must also be jointly established to facilitate overall site restoration. (Example: If the AC switchgear has sustained damage, this would be of the highest priority in order to regain power, lighting, and HVAC throughout the building.)

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If the site will not accommodate the required restoration equipment, the companies would then need to quickly arrange with local authorities for street closures, rights of way or other possible options available.

3.2 Environmental Concerns

In the worse case scenario, many environmental concerns must be addressed. Along with the police and fire marshal, the state environmental protection department will be on site to monitor the situation.

Items to be concerned with in a large central office building could include:

1. Emergency engine fuel supply. Damage to the standby equipment and the fuel handling equipment could have created "spill" conditions that have to be handled within state and federal regulations.
2. Asbestos containing materials that may be spread throughout the wreckage. Asbestos could be in many components of building, electrical, mechanical, outside plant distribution, and telephone systems.
3. Lead and acid. These materials could be present in potentially large quantities depending upon the extent of damage to the power room.
4. Mercury and other regulated compounds resident in the telephone equipment.
5. Other compounds produced by the fire or heat.

Once a total loss event occurs at a large site, local authorities will control immediate clean up (water placed on the wreckage by the fire department) and site access.

At some point, the companies will become involved with local authorities in the overall planning associated with site clean up and restoration. Depending on the clean up approach taken, delays in the restoration of several hours to several days may occur.

In a less severe disaster, items listed above are more defined and can be addressed individually depending on the damage.

In each case, the majority owner should coordinate building and environmental restoration as well as maintain proper planning and site control.

4.0 The Emergency Control Center (ECC)

The ECC is located in the BTC's Operation Building in Pikeville, Tennessee. During an emergency, the ECC staff will convene a group of pre-selected experts to inventory the damage and initiate corrective actions.

In the past, the ECC has been involved with restoration activities resulting from ice storms and floods. They have demonstrated their capabilities during these calamities as well as during outages caused by human error or equipment failures. This group has an excellent record of restoring service as quickly as possible.

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During a major disaster, the ECC may move emergency equipment to the affected location, direct recovery efforts of local personnel and coordinate service restoration activities with the CLECs. The ECC will attempt to restore service as quickly as possible using whatever means are available; leaving permanent solutions, such as the replacement of damaged buildings or equipment, for local personnel to administer.

Part of the ECC responsibility, after temporary equipment is in place, is to support the NMC efforts to return service to the CLECs. Once service has been restored, the ECC will return control of the network to normal operational organizations. Any long-term changes required after service is restored will be made in an orderly fashion and will be conducted as normal activity.

5.0 Recovery Procedures

The nature and severity of any disaster will influence the recovery procedures. One crucial factor in determining how BTC will proceed with restoration is whether or not BTC's equipment is incapacitated. Regardless of whose equipment is out of service, BTC will move as quickly as possible to aid with service recovery; however, the approach that will be taken may differ depending upon the location of the problem.

5.1 CLEC Outage

For a problem limited to one CLEC (or a building with multiple CLECs), BTC has several options available for restoring service quickly. For those CLECs that have agreements with other CLECs, BTC can immediately start directing traffic to a provisional CLEC for completion. This alternative is dependent upon BTC having concurrence from the affected CLECs.

Whether or not the affected CLECs have requested a traffic transfer to another CLEC will not impact BTC's resolve to re-establish traffic to the original destination as quickly as possible.

5.2 BTC Outage

Because BTC's equipment has varying degrees of impact on the service provided to the CLECs, restoring service from damaged BTC equipment is different. The outage will probably impact a number of Carriers simultaneously. However, the ECC will be able to initiate immediate actions to correct the problem.

A disaster involving any of BTC's equipment locations could impact the CLECs, some more than others. A disaster at a Central Office (CO) would only impact the delivery of traffic to and from that one location, but the incident could affect many carriers. If the CO is a Serving Wire Center (SWC), then traffic from the entire area to those Carriers served from that switch would also be impacted.

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If the switch functions as an Access Tandem, or there is a tandem in the building, traffic from every CO to every CLEC could be interrupted. A disaster that destroys a facility hub could disrupt various traffic flows, even though the switching equipment may be unaffected.

The NMC would be the first group to observe a problem involving BTC's equipment. Shortly after a disaster, the NMC will begin applying controls and finding reroutes for the completion of as much traffic as possible. These reroutes may involve delivering traffic to alternate Carriers upon receiving approval from affected carriers and notification of the CLECs involved. In some cases, changes in translations will be required. If the outage is caused by the destruction of equipment, then the ECC will assume control of the restoration.

5.2.1 Loss of a Central Office

When BTC loses a Central Office, the ECC will:

- a) place specialists and emergency equipment on notice;
- b) inventory the damaged to determine what equipment and/or functions are lost;
- c) move containerized emergency equipment and facility equipment to the stricken area, if necessary;
- d) begin reconnecting service for Hospitals, Police and other emergency agency customers of CLECs and BTC in a nondiscriminatory manner in accordance with NSEP-TSP guidelines; and
- e) begin restoring service to CLECs and other customers.

5.2.2 Loss of a Central Office with Serving Wire Center Functions

The loss of a Central Office that serves as a Serving Wire Center (SWC) will be restored as described in section 5.2.1.

5.2.3 Loss of a Central Office with Tandem Functions

When BTC loses a Central Office building that serves as an Access Tandem and as a SWC, the ECC will

- a) place specialists and emergency equipment on notice;
- b) inventory the damaged to determine what equipment and/or functions are lost;
- c) move containerized emergency equipment and facility equipment to the stricken area, if necessary;
- d) begin reconnecting service for Hospitals, Police and other emergency agency customers of CLECs and BTC in a nondiscriminatory manner in accordance with NSEP-TSP guidelines; and

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- e) redirect as much traffic as possible to the alternative access tandem (if available) for delivery to those CLECs utilizing a different location as a SWC;
- f) begin aggregating traffic to a location near the damaged building. From this location, begin re-establishing trunk groups to the CLECs for the delivery of traffic normally found on the direct trunk groups. (This aggregation point may be the alternate access tandem location or another CO on a primary facility route.)
- g) begin restoring service to CLECs and other customers.

5.2.4 Loss of a Facility Hub

In the event that BTC loses a facility hub, the recovery process is much the same as above. Once the NMC has observed the problem and administered the appropriate controls, the ECC will assume authority for the repairs. The recovery effort will include

- a) placing specialists and emergency equipment on notice;
- b) inventorying the damaged to determine what equipment and/or functions are lost;
- c) moving containerized emergency equipment to the stricken area, if necessary;
- d) reconnecting service for Hospitals, Police and other emergency agency customers of CLECs and BTC in a nondiscriminatory manner in accordance with NSEP-TSP guidelines; and
- e) restoring service to CLECs and other customers. If necessary, BTC will aggregate the traffic at another location and build temporary facilities. This alternative would be viable for a location that is destroyed and building repairs are required.

5.3 Combined Outage (CLEC and BTC Equipment)

In some instances, a disaster may impact BTC's equipment as well as the CLEC's. This situation will be handled in much the same way as described in section 5.2.3. Since BTC and the CLECs will be utilizing temporary equipment, close coordination will be required.

6.0 T1 Identification Procedures

During the restoration of service after a disaster, BTC may be forced to aggregate traffic for delivery to a CLEC. During this process, T1 traffic may be consolidated onto DS3s and may become unidentifiable to the Carrier. Because resources will be limited, BTC may be forced to "package" this traffic entirely differently than normally received by the CLECs. Therefore, a method for identifying the T1 traffic on the DS3s and providing the information to the Carriers is required.

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7.0 Acronyms

BTC -	Bledsoe Telephone Cooperative, Inc.
CO -	Central Office (BTC)
DS3 -	Facility that carries 28 TIs (672 circuits)
ECC -	Emergency Control Center (BTC)
CLEC -	Competitive Local Exchange Carrier
NMC -	Network Management Center
SWC -	Serving Wire Center (BTC switch)
T1	Facility that carries 24 circuits