

Batteries .

Ken Follett

From: Bernard Green [Syemon.Es@btinternet.com]
Sent: 13 December 2000 19:51
To: Ken Follett
Subject: Re: Franco-German telephones WW2

Ken

Is it necessary for the Germans to get the exchange working again in two weeks ?

Repairable damage is to remove the power supply

Breaking enough battery cells will shut the entire exchange down until new cells can be installed filled and charged. Some limited service could be provided by a small truck mounted battery within a few hours but full service would take several days. More if the transport of replacement cells was delayed by ambush etc.

Having the batteries in the cellar would make the spilt acid difficult to remove.

Each battery would be made up of 20 cells. The cells could be in glass vessels but this size is likely to be lead lined wooden vessels. Looking at a telephony book of the era it suggests that for 5000 lines and 10 calls per line per day the battery would be in the order of 16 feet long and 8 feet wide and 5 feet high and there would be two of these.

A minimum of 20 good cells would be needed to run the exchange and even then recharging from a normal charger would add a humming or whistling noise to all the telephone conversations. Special chargers which did not produce much electrical noise (interference) were available but were (in those days before semi-conductors) far more complicated and less efficient so with a two battery system the noisy chargers would have been installed.

The batteries then were supported off the ground so an explosive could be easily slid underneath.

Long time to repair

damage would be to ignite the explosive gases from overcharged batteries to collapse part of the building allowing some of the equipment racks to fall through a floor. This would rip its connections from other racks.

Did I mention that if the charger was turned to full and the ventilation system blocked a room full of highly explosive gases (hydrogen and oxygen in exactly the right mix) would result. Jam the door shut and when the flame or spark of a metal cutter got to the mixture there would be a very big bang

Flour into the clean air system. (exchanges often

have a filter system and the equipment room is slightly higher pressure than the outside to prevent dust getting in) would clog up the contacts of the equipment. Carbon dust would create short circuits.

Best regards

Bernard

----- Original Message -----

From: "Ken Follett" <kenprivate@ken-follett.com>
To: "'Bernard Green'" <syemon.es@btinternet.com>
Sent: Wednesday, December 13, 2000 4:52 PM
Subject: RE: Franco-German telephones WW2

| I think I understand the network now. The key remaining question is how
| to destroy the exchange so thoroughly that it will take the Germans some
| weeks to repair the damage and return to normal operations.

| -----Original Message-----

| From: Bernard Green
|[mailto:Syemon.Es@btinternet.com]
| Sent: 12 December 2000 12:18
| To: Ken Follett
| Subject: Franco-German telephones WW2

| Ken

| A contact in Germany has unearthed some old books
| with articles about telephone and telegraph connections from Germany to other countries in
| WW2

| He has offered to photo copy and post them if required.

| Shall I ask him to ?

| Regards

| Bernard