



**BELGIAN INSTITUTE FOR POSTAL SERVICES
AND TELECOMMUNICATIONS**

B I P T

**COMMUNICATION OF THE BIPT COUNCIL
OF 18 NOVEMBER 2015
ABOUT
THE RISK OF POWER CUTS DURING WINTER 2015/2016**

Contents

1. The risk of electricity shortage	3
2. Power cuts as a solution to restore the electrical balance.....	3
3. Impact of the power cuts on electronic communications.....	5
3.1. FIXED SERVICES	6
3.2. MOBILE SERVICES	6
4. Maintenance of the access to emergency services providing on-site assistance via the number 112 over mobile networks	6
4.1. INTRODUCTION.....	6
4.2. MEASURES TAKEN OR TO BE TAKEN BY THE OPERATORS	6
4.2.1. <i>Improvement of base stations' batteries by the operators</i>	6
4.2.2. <i>National roaming for 112 calls</i>	7
4.2.3. <i>Suspension of data services</i>	7
4.3. MEASURES TO BE TAKEN BY THE END-USERS OF ELECTRONIC COMMUNICATIONS SERVICES.....	7
4.3.1. <i>Recharge your mobile telephone</i>	7
4.3.2. <i>Limit your electronic communications to the strict minimum</i>	7
4.3.3. <i>Do not call 112 if it is not essential</i>	7
4.3.4. <i>Make your calls outside</i>	7
4.3.5. <i>Do not make a call immediately after the restoration of the telephony service</i>	8
5. For more information	8

1. The risk of electricity shortage

After the extended shutdown of several nuclear reactors, the risk of electricity shortage (in other words, an imbalance between electricity supply and demand) cannot be ruled out during the next winter.

The situation is better than during winter 2014/2015, thanks to an increase of the strategic reserve that can be activated on the request of ELIA in case of an important imbalance between the electricity production and the general consumption of the country.

However, Belgium will still remain dependent on electricity import capacities from our immediate neighbours. During intense cold periods in these countries, this import capacity can be reduced.

2. Power cuts as a solution to restore the electrical balance

In case of an electricity shortage and in order to avoid a generalised blackout of the electrical network, the Minister of Energy could decide to resort to these power cuts in different regions of the country (these regions would then be deprived of electricity during a limited period of time).

These power cuts are planned in the National Emergency Plan of Electricity Supplies Disruption (August 2015). This Plan specifies a number of zones in Belgium:

- zones (or sections) 2 to 8, where there could be planned power cuts;
- zones (or sections) 0 and 9, where there won't be any power cuts.

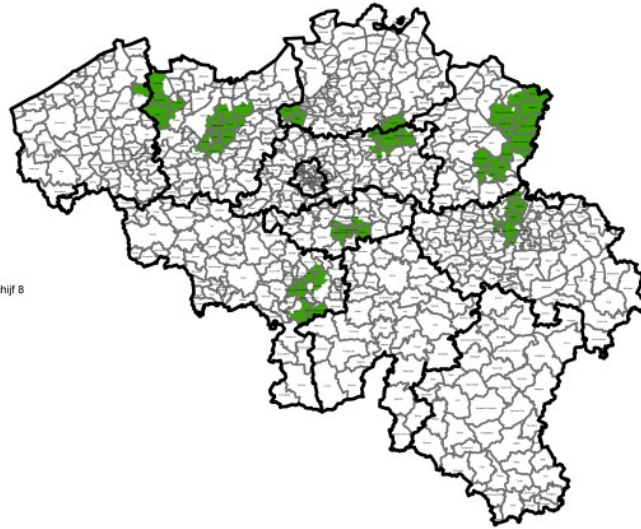
The Plan lays down the order in which zones are cut off. The first zone from which power is to be cut off would be zone 8, then it would be zone 7 and so on to zone 2. Save in exceptional circumstances, power cuts will be limited to one section a day.

During the preparatory meetings held over the past few months of this year¹, authorities have communicated their will to favour, as far as possible, the implementation of power cut measures in sections 8, 7 and 6 of the new cartography relating to the Power Cut Plan.

The next three figures illustrate power cut zones 6, 7 and 8.

¹ Meetings between mobile operators having their own network, representatives of Ministers of the Interior, Energy and Electronic Communications, the General Direction Crisis Centre of the government, BIPT and the General Direction Energy of the FPS Economy.

Communes ou parties de communes avec des cabines dans la tranche 8
Gemeenten of deelgemeenten met cabines in schijf 8



Tranche 8 / Schijf 8

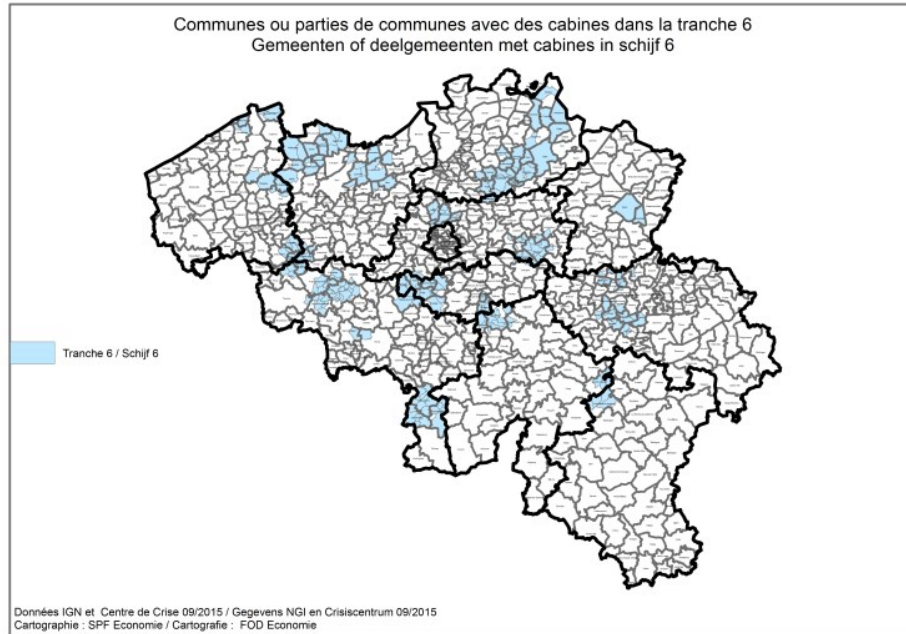
Données IGN et Centre de Crise 09/2015 / Gegevens NGI en Crisiscentrum 09/2015
Cartographie : SPF Economie / Cartografie : FOD Economie

Communes ou parties de communes avec des cabines dans la tranche 7
Gemeenten of deelgemeenten met cabines in schijf 7



Tranche 7 / Schijf 7

Gegevens NGI en Crisiscentrum 09/2015 / Données IGN et Centre de Crise 09/2015
Cartografie: FOD Economie / Cartographie : SPF Economie



According to the analysis carried out in preparation of winter 2015-2016, periods of potential power cuts should be limited to periods of important consumption, generally in the early evening or, more rarely, in the morning.

The duration of a period of power cut will be specified by Elia but should be limited to 4 hours – it is anyway the assumption chosen during the preparatory works.

3. Impact of the power cuts on electronic communications

The circumstances potentially leading to power cuts and the power cuts themselves are the consequences of circumstances completely independent of BIPT and operators, and are therefore beyond their control.

When the power of a section is cut off, electronic communications will be directly affected. The implementation of the Power Cut Plan is likely to cause a discontinuity of the telephony service.

These authorities also reminded that if power cuts take place during the winter 2015-2016, the likelihood of the necessity to cut the power from more than one section a day would be very low.

The impact of the implementation of a power cut plan varies according to the services concerned (fixed or mobile services):

3.1. Fixed services

- Internet, television and fixed telephony services for residential customers are likely to be stopped immediately in case of power shortage (xDSL or coax networks). These services use terminal equipment installed in subscribers' homes (e.g. modems) that will no longer be electrically supplied. The wireline networks used by these operators to convey the signal must also be supplied in order to remain operational. Any power shortage will therefore cause a signal interruption (Internet/television/telephony).
- However, classic PSTN lines of Proximus (network powered telephones) have a 4-hour autonomy and shouldn't therefore be affected by a power cut.
- Subscribers won't be able to use phones (DECTs or others) allowing calls within a limited radius of the base station (base stations must remain powered).
- The situation of services for non-residential customers is subject to special provisions. Customers are advised to contact their operator, in function of their own situation.

3.2. Mobile services

- The network allowing the provision of mobile electronic communications services is also negatively affected by the power cuts. Operators' masts spread all over the country (hereafter the base stations) have capacities (emergency batteries or even a generator) to overcome power shortages of a certain duration. However, all these base stations do not have the autonomy to make up for power shortages as lasting as those foreseen in the Plan.
- Certain base stations can be affected while being in zones where power has not been cut off (signals passing by zones where power has been cut off).
- The power restoration does not imply an immediate restoration of the electronic communications services. The return to normality for electronic communications services may take some time after the power restoration: the reconnection of equipment at the operators' locations may require interventions in the field.

4. Maintenance of the access to emergency services providing on-site assistance via the number 112 over mobile networks

4.1. Introduction

In the context of the preparatory works of the potential implementation of the power cut plan, it was planned to implement everything in order to allow, as far as possible, a voice phone call over mobile networks to emergency services providing on-site assistance (emergency medical service; fire services; police services; civil protection) via the emergency number 112 during the 4 consecutive hours of power cut.

The measures needed consist of measures taken or to be taken by the operators and measures to be taken by the end-users of electronic communications services.

4.2. Measures taken or to be taken by the operators

4.2.1. Improvement of base stations' batteries by the operators

For this winter 2015-2016, the analysis was carried out on sections 8, 7 and 6 and aimed at ensuring the identification of the coverage network to 112 emergency services on all of these zones – where power is likely to be cut off this winter.

Given the lessons learned by the parties after these analyses, the mobile operators concerned strengthened the autonomy of certain base stations, in some very specific sectors.

In order to achieve this result, the methodology applied consisted in determining, based on the list of the base stations of each operator, the electrical cabinet supplying it and, consequently, the power cut zone affecting it. A particular attention has been paid to the base stations supplied by the priority feeders (hospitals...).

Coverage maps of the BTS that would no longer be supplied after 3 hours have been drawn and incorporated in BIPT's database. BIPT could then determine the base stations needing to be strengthened, as far as their autonomy is concerned, and shared this result with the operator concerned.

4.2.2. National roaming for 112 calls

When the operator providing a mobile telephony service, to which the customer has subscribed, can no longer provide this service, the national roaming activated between Base Company, Proximus and Mobistar, should enable this subscriber to access the emergency services providing on-site assistance via a call to the emergency number 112, and this thanks to the fact that the communication will be conveyed over the network of another operator than the operator of which the subscriber is a client.

4.2.3. Suspension of data services

In order to guarantee an access to the emergency services, operators proposed to focus on the phone calls to these services, if needed at the expense of other 2G (data), 3G and/or 4G services during the power cut and in the sections concerned.

4.3. Measures to be taken by the end-users of electronic communications services

4.3.1. Recharge your mobile telephone

Do not forget to recharge your mobile telephone before the power cut.

4.3.2. Limit your electronic communications to the strict minimum

In order to limit the saturation risk of GSM networks and in the common interest, it is essential that everyone should limit their electronic communications to what is strictly necessary.

As described above, in the event of a power cut, interruptions remain possible on certain services in the sections concerned. It is therefore necessary to preserve technical capacities in order to guarantee the access to emergency services providing on-site assistance via the number 112.

4.3.3. Do not call 112 if it is not essential

Do not call the emergency number 112 if you do not need help from the emergency medical service, fire services, police services or the civil protection.

4.3.4. Make your calls outside

The coverage of the telephony network will be better outside. If needed, it is therefore recommended to go out in order to make a call.

4.3.5. Do not make a call immediately after the restoration of the telephony service

Avoid making a call immediately after the restoration of the electronic communications services if it is not essential. By doing so, you avoid an unnecessary saturation of the networks that enable the provision of these services.

5. For more information

For more information, visit the following websites:

- Website of the FPS Energy www.offon.be (hashtag #offon, twitter @offon, facebook.com/offon, e-mail hello@offon.be).
- Website of the FPS Economy: <http://economie.fgov.be/en/>
- Elia: www.elia.be
- Crisis Centre: www.centredecrise.be
- BIPT: www.bipt.be
- The website of your operator