RECOMMENDATIONS

COMMISSION RECOMMENDATION (EU) 2020/775

of 5 June 2020

on the key elements of the fair compensation and other key elements to be included in the technical, legal and financial arrangements between Member States for the application of the assistance mechanism under Article 15 of Regulation (EU) 2019/941 of the European Parliament and of the Council on risk-preparedness in the electricity sector and repealing Directive 2005/89/EC of the European Parliament and of the Council

(notified under document C(2020) 3572)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Article 15(7) of Regulation (EU) 2019/941 of the European Parliament and of the Council of 5 June 2019 on risk-preparedness in the electricity sector and repealing Directive 2005/89/EC [1],

Whereas:

(1) Article 194(1) of the Treaty on the Functioning of the European Union (TFEU) states that EU energy policy should aim for security of energy supply in the Union, in a spirit of solidarity between Member States.

(2) The Regulation on risk-preparedness in the electricity sector is intended to contribute to the implementation of the objectives of the Energy Union, of which energy security, solidarity, trust and an ambitious climate policy are an integral part.

(3) The Regulation introduces an assistance mechanism between Member States as an instrument to prevent or manage electricity crises within the Union.

(4) When adopting the measures needed to implement the assistance mechanism, Member States have to agree on a number of technical, legal and financial issues in the regional or bilateral arrangements and describe them in their risk-preparedness plans.

(5) To assist Member States in implementation, and having consulted the Electricity Coordination Group (ECG) and the Agency for the Cooperation of Energy Regulators (ACER), the Commission has prepared this non-binding guidance on the key elements that should be included in such arrangements,

HAS ADOPTED THIS RECOMMENDATION:

1. Member States should follow the non-binding guidance in the Annex to this Recommendation. This guidance should help Member States put in place technical, legal and financial arrangements to apply the assistance obligations in Article 15 of Regulation (EU) 2019/941 and describe them in the risk-preparedness plans they are required to draw up under the Regulation.

2. This Recommendation shall be published in the *Official Journal of the European Union*.

Done at Brussels, 5 June 2020.

For the Commission
Kadri SIMSON
Member of the Commission

[1] OJ L 158, 14.6.2019, p. 1.

ANNEX

1. INTRODUCTION

Regulation (EU) 2019/941 ('the Regulation') translates the concept of solidarity into practice and establishes an assistance mechanism between the Member States that comes into play when the conditions set out in the relevant provisions are fulfilled. Assistance is a mechanism of last resort to prevent or manage electricity crises.

1.1. **The assistance mechanism**

If a Member State requests assistance, the assistance mechanism includes an obligation for the other Member States within the regional agreement or with a bilateral agreement ([1]) to cooperate in a spirit of solidarity to prevent and manage electricity crises. The limits on the help a Member State can provide are generally:

— the maximum possible, under the specific crisis conditions, available cross-zonal capacity,

— the amount of electricity necessary for the purpose of protecting its own public safety and personal security ([2]),

— the operational security of its own electricity network.

The different elements of a regional or bilateral arrangement covering the legal, technical and financial aspects of assistance are already partly covered by Article 15 of the Regulation. In addition, the Member States have to agree in their regional or bilateral arrangements on all necessary elements and details, in order to provide certainty and security to all involved in making the assistance mechanism work. These arrangements have to be described in the respective risk-preparedness plans; in particular, the economic compensation mechanism must be included. The Regulation and this guidance do not harmonise all aspects of the fair compensation between Member States.

Compensation as described in Article 15 of the Regulation is wide-ranging. It encompasses payments for the electricity delivered into the territory of the Member State requesting assistance, and additional costs such as associated transmission costs and other reasonable costs incurred by the Member State providing assistance.

There are several conditions for the assistance to work properly.

Firstly, market-based measures should be pursued for as long as possible. Member States need to make every effort to complete the development of coordinated mechanisms or platforms that allow for voluntary demand-side response sharing and the sharing of other flexible capacity. It is in the interest of the potential providing and requesting Member States to avoid situations in which non-market measures – including forced curtailment of customers – need to start at an earlier stage. It is also in line with the general principle in the Regulation that the market should be given maximum leeway to solve electricity supply issues.

Secondly, variation of wholesale prices in accordance with the market rules should be allowed, even in an electricity crisis, as long as the operation of the electricity markets does not cause further deterioration of the electricity crisis. In fact, bidding restrictions and implicit or explicit price caps, which do not comply with well-designed market rules ([3]), prevent price signals from reflecting the need for additional electricity, thus preventing electricity from flowing where it is needed. This means market prices should be allowed to form based on supply and demand for as long as possible in the lead up to a crisis, and imbalance settlement prices after a crisis should reflect the cost to consumers of any disconnections to supply. This prevents implicit price caps in the balancing rules acting as a disincentive for investments in the flexible and reliable capacity that can help avoid electricity crises.

([1]) In accordance with Article 12.1 of the Regulation, 'regional measures' should be agreed within the region concerned between Member States that have the technical ability to provide each other assistance in accordance with Article 15. For that purpose, Member States may also form subgroups within a region and agree on regional measures bilaterally or multilaterally. In addition, 'bilateral measures' should be agreed between Member States which are directly connected but are not within the same region.

([2]) The ultimate goal of the assistance mechanism is to protect public safety and personal security, as established in Article 15.2 of the Regulation.

([3]) Rules related to price caps and technical bidding limits are set out in Article 10 of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

Thirdly, cross-border access to infrastructure should be maintained for as long as is technically and safely possible in accordance with Regulation (EU) 2019/943 of the European Parliament and of the Council ([4]), at all times, even in an electricity crisis. Depending on the technical constraints in each Member State, arrangements should ensure that cross-zonal capacity and demand-side offers, where appropriate, are fully accessible to market players across the border. This will delay the need to curtail customers in the Member State facing supply difficulties.

Fourthly, Member States are encouraged to cooperate throughout all stages of an electricity crisis. Effective cooperation in the early stages could prevent the occurrence or escalation of an electricity crisis, and mitigate its effects.

Assistance can only be triggered by a requesting Member State as a last resort if all options provided by the market have been exhausted or where it is evident that market-based measures alone are not sufficient to prevent a further deterioration of the electricity supply situation, especially when it fails to offer the electricity necessary to protect public safety and personal security. Moreover, the national measures in the requesting Member State's risk-preparedness plan must have been exhausted.

1.2. **Legal basis**

Article 15(7) of the Regulation states that the Commission, after consulting the ECG and ACER, must provide non-binding guidance on the key elements of the fair compensation referred to in paragraphs 3 to 6 and other key elements of the technical, legal and financial arrangements referred to in paragraph 3, as well as on general principles of mutual assistance referred to in paragraph 2.

1.3. **Scope of the guidelines**

Articles 12 and 15 of the Regulation identify several elements and aspects of the assistance mechanism that need to be agreed and included in the regional and bilateral arrangements. However, the Regulation gives Member States wide discretion when agreeing on the content of such coordinated measures and, by consequence, on the content of the assistance that they offer. It is for Member States to decide and agree on such coordinated measures, in particular on the necessary technical, legal and financial arrangements for their implementation.

Offering useful guidance on these and any further elements that might be included in such arrangements first requires a better understanding of the situation in which assistance might be triggered, and the efforts and basic principles that could prevent such a situation from emerging at all. The current non-binding guidance does not, and cannot, provide an exhaustive and prescriptive list appropriate for all Member States, as they must have the freedom to choose solutions that best suit their capabilities, existing frameworks, situation and priorities. Instead, it recommends the use of a set of necessary and optional elements and describes possible ways of running certain assistance measures.

The proposed approach is for Member States to build the coordinated measures on existing national frameworks and procedures wherever possible, and to adapt them as necessary for assistance purposes. This may include the use of existing platforms or mechanisms for demand-side measures or existing customer compensation mechanisms.

2. LEGAL, TECHNICAL AND FINANCIAL ARRANGEMENTS

2.1. **Legal arrangements**

The objective of the legal arrangements is to provide legal certainty to all involved in providing or receiving electricity in an electricity crisis. Member States involved in applying the assistance mechanism are advised to put in place clear, transparent and effective legal arrangements so that stakeholders know the rules and procedures for cross-border assistance.

([4]) OJ L 158, 14.6.2019, p. 54.

Article 12 of the Regulation requires that risk-preparedness plans include regional and, where applicable, bilateral measures to ensure that crisis situations with a cross-border impact are properly prevented or managed. When establishing legal arrangements, Member States may also consider the possibility of creating sub-groups within a region ([5]), comprising those Member States which are technically able to provide each other with assistance. This is because not all members of a larger region will necessarily be able to provide electricity to another Member State in a crisis. Thus, there is no need to conclude regional agreements on concrete cross-border measures with all Member States in a region, but only with those which have the technical ability to provide assistance. Bilateral measures should be agreed between Member States which are directly connected but not part of the same region.

There can be particular situations where a Member State is not directly connected to any other Member State. With infrastructure projects for interconnections currently under development, this may change. Should the interconnections come online after the adoption of the risk-preparedness plans, the concerned Member States will need to put in place the legal, financial, and technical arrangements set out in Article 15 of the Regulation at the earliest opportunity, and update their risk-preparedness plans to reflect them.

2.1.1. *Member States concerned*

The Member States concerned by the assistance mechanism are:

— the Member State that requested assistance, and

— all Member States which are technically able to provide assistance within the same region (with a regional agreement) and Member States with bilateral agreements (connected with the requesting Member State but not belonging to the same region).

If the requesting Member State has in place a regional agreement and/or a bilateral agreement, then it should communicate its need of assistance to all the Member States that can provide such assistance.

2.1.2. *Request for assistance*

Since electricity crises call for fast responses, the request for assistance should be short, standardised and contain a minimum amount of necessary information. Ideally, Member States concluding a regional or bilateral arrangement may agree on a template for the request and attach it to the arrangement as an annex. The following information would appear to be the minimum needed to efficiently respond to an assistance request:

— name of the requesting Member State, including the entity in charge and contact person(s),

— name of the Transmission System Operator (TSO) and Nominated Electricity Market Operator (NEMO) and responsible contact person(s),

— indication of the expected deficit in terms of energy and power (measured in a commonly agreed unit) and the anticipated duration of this gap,

— indication by the requesting Member State of the preferable interconnector or delivery points, where relevant (for example, for mobile generators),

— for some particular agreed technical tools (request to reactivate mothballed power plants, transfer of mobile generators, activation of strategic reserves, etc.), a request to indicate the timing of the first possible delivery and the anticipated duration of the provision of supplies (indicating the anticipated period during which the assisting Member State will provide assistance),

— a reference to the commitment by the requesting Member State to pay compensation for assistance.

2.1.3. *Electricity users entitled to receive special protection against disconnection for reasons of public safety and personal security*

Article 11 of the Regulation describes which measures should be included in the risk-preparedness plans as regards the national measures to prevent, prepare for and mitigate an electricity crisis. Point (h) of paragraph 1 allows Member States to specify, with regard to public safety and personal security, which categories of electricity users are, in accordance with national law, entitled to receive special protection against disconnection, and to

([5]) The Regulation defines a 'region' as a group of Member States whose transmission system operators share the same regional coordination centre as referred to in Article 36 of the Electricity Regulation.

justify the need for such protection. 'Public safety and personal security' concern the welfare and protection of the general public, and concern prevention and protection from dangers associated with users entitled to receive special protection against disconnection.

To protect public safety and personal security, Member States should establish special measures to ensure continuity of power supply in light of:

— national, regional or local critical need,

— public health and safety issues,

— the potential for catastrophic damage or a high risk of significant safety issues (due for example to environmental risks),

— potential exposure to security threats,

— technical capabilities for selective disconnections.

Pursuant to the Regulation, Member States can define by national law which categories of electricity users are entitled to receive special protection against disconnection. In defining these categories, Member States should take into account the duration and extent of the crisis, which may influence the list of electricity users entitled to receive special protection against disconnection. If the crisis lasts beyond a certain time or extends beyond a certain scope, it may endanger the life, security or health of larger parts of the population. In any case, the list of electricity users entitled to receive special protection against disconnection should be clearly defined in the risk-preparedness plans, including the category of users that may only be included in the event of an extensive crisis of long duration. The list has to be consistent with the risk scenarios identified at national and at regional levels included in the risk-preparedness plans and with their estimated impact.

Examples of electricity users that could be entitled to receive special protection against disconnection are:

— Energy sector:

  — Electricity subsector: electricity system own critical requirements, particularly those to maintain generating capacity and nuclear safety, and dispatch centres.

  — Gas subsector: critical gas system facilities to maintain the safety of gas installations, and dispatch centres.

  — Oil refineries and vital oil pumping stations to maintain the safety of the installations.

— Transport sector:

  — Air transport: major airports and associated control facilities.

  — Rail transport: significant railway operations if dependent on the general electricity supply.

  — Road transport: traffic management control systems and traffic signals.

  — Maritime transport: major ports and docks and associated control facilities.

— Health sector: healthcare settings including hospitals and private clinics.

— Water supply: essential water and sewage installations.

— Digital and telecommunication services where there is a national need for continued operation.

— Security and safety:

  — Emergency services of national/regional significance.

  — Civil protection facilities.

  — Armed forces sites, notably those that provide civil protection support.

  — Public or private prison services.

— Administration facilities where there is a national need for continued operation.

— Financial services where there is a national or EU-wide need for continued operation.

— Sites with industrial processes not sustainable through standby generation, where disconnection might cause significant safety issues.

For those countries that define by national law electricity users entitled to receive special protection against disconnection, the list should be kept updated, with the estimated consumption for each of the elements.

It is recommended that it be ensured that electricity users entitled to receive special protection against disconnection also have robust business continuity arrangements in place to maintain adequate supply of services in the event of an electricity crisis, rather than relying only on the arrangements under the risk-preparedness plans.

All electricity users entitled to receive special protection against disconnection should also reduce their load as much as possible in the event of an electricity crisis. If the situation deteriorates and the risk of shortfall of supply to these electricity users is imminent, priority should be given to preventing loss of life and to minimising the risk of disasters that could involve loss of life or major damage.

2.1.4. *Start and end of provision of assistance*

Article 15(3) of the Regulation requires that Member States have to agree on the trigger for any assistance and for its suspension. This has to be done subject to the necessary technical, legal and financial arrangements.

Article 2(9) of the Regulation defines an 'electricity crisis' as a present or imminent situation in which there is a significant electricity shortage, as defined by the Member States and described in their risk-preparedness plans, or in which it is impossible to supply electricity to customers. Following the declaration of an electricity crisis by the competent authority of the Member State concerned, all the agreed measures should be implemented to the fullest possible extent.

The trigger to request assistance should be defined in relation to any existing or imminent situation, when non-market measures are expected to be necessary to avoid or minimise impacts of the electricity crisis.

In particular, where categories of electricity users entitled to receive special protection against disconnection are defined by national law, the trigger to request assistance should be defined in relation to an existing or imminent situation in which a Member State cannot ensure protection against disconnection for the categories of electricity users specified with regard to public safety and personal security, despite all national market and non-market measures. For the Member States that do not define by national law categories of electricity users entitled to receive special protection against disconnection, the trigger to request assistance should be defined in relation to an existing or imminent situation in which a Member State cannot supply the amount of electricity necessary for the purpose of protecting its public safety and personal security.

For each risk scenario identified in the risk-preparedness plan, Member States should specify the triggering event. This may be an operational or non-operational event. Operational events may be loss of controllability, lack of balance between generation and demand, lack of reserves or inability to supply electricity due to physical damage to parts of the systems. Non-operational events may, for example, be external security threats.

The risk of misuse of the assistance mechanism by an unjustified assistance request is very small because of the strict conditions that must be fulfilled before the assistance mechanism is triggered.

Without prejudice to what Member States agree in the respective regional or bilateral agreements, the obligation to provide assistance should cease to apply when:

— the Member State that requested assistance informs the Member State(s) providing assistance that it is again in the position to supply electricity to its electricity users entitled to receive special protection against disconnection or to ensure the supply of electricity necessary for the purpose of protecting public safety and personal security,

— the Member State providing assistance can no longer supply its own electricity users, especially the users entitled to receive special protection against disconnection or can no longer ensure the supply of electricity for the purpose of protecting public safety and personal security, due to a deterioration of its own system.

It is also possible that, despite an ongoing acute electricity crisis, the Member State that initially requested assistance decides to request suspension of the assistance, for example because it cannot afford to pay.

2.1.5. *Roles and responsibilities*

Ultimate responsibility for running the assistance mechanism should rest with the Member States. This includes in particular the decision to request assistance and overall monitoring of how the entities responsible for specific tasks are operating the mechanism. The Regulation does not require the creation of new specific entities. Member States are advised to allocate responsibilities preferably to existing entities or, in special circumstances, to new entities, taking account of their organisational structure and experience in crisis management and emergency response. In order to reduce costs, and particularly to avoid fixed costs, Member States should rely on existing mechanisms where possible. The guiding principle in this respect should be that assistance is provided efficiently and effectively.

The competent authorities under the Regulation are responsible for implementing the framework, with tasks and responsibilities clearly assigned to the respective actors, such as the national crisis coordinator, the coordinator or a team composed of the relevant national electricity crisis managers, TSOs, the national regulatory authority and electricity undertakings. The competent authorities are also best placed to prepare the regional and bilateral arrangements together with the competent authorities of other Member States. These arrangements will form the legal basis of the assistance, including payment of compensation and financial settlement after the assistance has been provided. Member States and their competent authorities are also best placed to be responsible for sending or receiving requests for assistance, coordinating measures and notifying when the assistance application has been suspended. Financial responsibility for compensation should also ultimately lie with the Member States, in order to provide sufficient assurances of prompt payment of fair compensation.

Subject to the technical and legal constraints in each Member State, national regulatory authorities are best placed to lead, or at least be involved in, the process of calculating compensation costs. The TSOs should preferably be in charge of dispatching the necessary electricity quantities in a cost-efficient manner.

The TSOs, with the support of the regional coordination centres and the regional security coordinators (pending establishment of regional coordination centres) are best placed to take responsibility for coordinating all technical aspects and implementing all necessary operational measures when assistance is applied. The entity in the Member State that is in charge of providing assistance could also be in charge of collecting claims for electricity and additional costs, verifying them and channelling them to the entity in the Member State that benefited from assistance. In this context, a one-stop-shop approach would be useful. The Member States are advised to identify and agree on which entity is in charge of collecting and channelling claims for compensation for curtailment.

Making provision for a mediator in the regional and bilateral arrangements concluded between Member States might reassure all parties concerning payment and the calculation of compensation costs. The mediator would help resolve any disagreements about the amount of the compensation to be paid.

2.1.6. *Legal form of the regional and bilateral arrangement*

There is no explicit requirement with regard to the legal form of the regional and bilateral arrangements. Member States are free to find a legal form that creates rights and obligations between them if the assistance mechanism is applied. The right to request assistance and the obligation to provide assistance are laid down in Articles 14 and 15 of the Regulation. The regional and bilateral arrangements will define how these rights and obligations, established in Union law, are to be exercised. The arrangements should be operational, not political in nature. Depending on the requirements of the national law of each Member State, it may be enough for implementation purposes for the relevant authorities to conclude a binding administrative arrangement. This might include existing regional or bilateral treaty provisions, contractual arrangements between TSOs, or specific licensing conditions for electricity entities, provided they are overseen by the relevant competent authorities. On the other hand, a non-binding legal instrument such as a memorandum of understanding would not be sufficient on its own, as it does not create legal obligations between the participants. Relying solely on arrangements in the form of a memorandum would therefore fall short of the requirements of Article 15 to create a legally binding system for assistance, and could be interpreted as insufficient implementation of Article 15 ([6]).

([6]) Arrangements in the form of a memorandum of understanding should be complemented by national binding measures that ensure the application of the provisions of the memorandum of understanding.

2.1.7. *Assistance before regional and bilateral agreements have been concluded*

In accordance with Article 15 of the Regulation, in the event of an electricity crisis where Member States have not yet agreed on coordinated measures and technical, legal and financial arrangements, Member States should agree on ad hoc measures and arrangements, including as regards fair compensation. Where a Member State requests assistance before such agreements have been concluded, it should undertake to pay fair compensation prior to receiving assistance.

2.1.8. *Treatment of confidential information*

Any procedures involving Member States or their authorities referred to in the Regulation are to be implemented by them in line with the applicable rules, including national rules related to the handling of confidential information and processes. If this leads to a situation where information cannot be disclosed, including as part of risk-preparedness plans, the Member State or authority in question may provide a non-confidential summary thereof, or must do so upon request.

The Commission, ACER, the ECG, ENTSO-E, Member States, competent authorities, national regulatory authorities and other relevant bodies, entities or persons that receive confidential information pursuant to the Regulation should ensure that the confidentiality of sensitive information is maintained.

2.2. **Technical arrangements**

The purpose of the technical arrangements is to describe all necessary technical provisions and conditions that would enable the assistance mechanism to work in practice. This would require compulsory prior sharing of information about the technical capability and constraints of the relevant electricity infrastructure, and the maximum theoretical amount of electricity relevant for assistance, together with an assessment of the technical constraints that would make assistance difficult. If technical or other constraints exist, Member States are encouraged to identify and agree on mutually acceptable solutions to be applied in order to secure the necessary cross-zonal capacity if the assistance mechanism is triggered.

Depending on the technical constraints within each Member State, it may be that the TSOs, with the support of the regional coordination centre, are best placed to take responsibility for coordinating all technical aspects and implementing all necessary operational measures based on their knowledge of the electricity systems and their existing cross-border cooperation schemes in case of emergency ([7]). These existing cooperation structures, agreements and experience should serve as a basis for assistance. In any case, a clear overarching framework should be identified (if already in place) or established, including the technical conditions, so that the necessary cooperation can be undertaken with legal certainty. Technical data can be updated as necessary in the risk-preparedness plans.

2.2.1. *Technical solutions and coordination (Article 15(2))*

Technical solutions and arrangements can be made for the various parts of the infrastructure in a given Member State. This will provide a clear picture of the assistance available, the technical constraints involved and a better estimate of the costs of implementing each measure (if relevant). As potential crisis situations can be very different, it is important that Member States are left with a wide range of options and tools to draw on. An indicative and non-exhaustive list of technical solutions can be described in the technical arrangements, so that the parties are aware of the steps that might be taken for assistance purposes before and during an emergency. Simulations of assistance measures may be beneficial for preparedness for such situations.

The system operation guidelines ([8]) and the network code on emergency and restoration ([9]) constitute a detailed rulebook governing how transmission system operators and other relevant stakeholders should act and cooperate to ensure system security. They also harmonise TSOs' technical standards and emergency protocols within each synchronous area. These technical rules aim to ensure that most electricity incidents are dealt with effectively at operational level. To address electricity crisis situations that could have a larger scale and impact where market and system operation rules alone no longer suffice, Member States should agree on specific measures going beyond the TSOs' responsibility to prevent, prepare for and manage such situations. Even during these crisis situations, rules governing the internal market, and system operation rules included in the system operation guidelines and the network code on emergency and restoration (which govern transaction curtailment, limitation of provision of cross-zonal capacity for capacity allocation, or limitation of provision of schedules), should be respected.

([7]) For example: Mutual Emergency Assistance Service. (MEAS) TSO-TSO contracts.

([8]) Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (OJ L 220, 25.8.2017, p. 1).

([9]) Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (OJ L 312, 28.11.2017, p. 54).

The network code on emergency and restoration establishes the requirements for the management by TSOs of the emergency, blackout and restoration states and the coordination of system operation across the Union in such states, including the procedure for suspension of market activities, the defence plan and the restoration plan. The system defence plan is the compilation of the technical and organisational measures to be undertaken to prevent the propagation or deterioration of a disturbance in the transmission system, in order to avoid a wide area state disturbance and blackout state.

Technical solutions and arrangements should take full advantage of the opportunities provided by regional cooperation. Therefore, these arrangements should include the agreed technical steps needed to prevent the crisis, as well as the agreed technical steps needed to mitigate its effects and avoid its escalation when the crisis has occurred.

Some of the technical solutions are preventive, i.e. carried out well in advance in order to minimise the risk of future crises (for example, development of winter re-dispatch products for extreme events or modification of the duration of a planned outage). Others are used just before the event, i.e. when there is evidence that the crisis could happen (in the preparation phase). Finally, others are deployed during the disruption to limit or shorten the effects of the crisis.

For each technical solution, it is recommended that risk-preparedness plans include information about its capability (GWh/week), whether or not it has already been verified in practice, start-up time from decision to effect, potential duration, entity responsible for each measurement, dependency on other measures, side effects, and any other remarks. For non-market solutions, in accordance with Article 11.1 (g), it should be indicated how they comply with the requirements laid down in Article 16.

When the crisis is declared existent or imminent, there will have to be coordination across the relevant TSOs, NEMOs, distribution system operators (DSOs), national emergency coordinators, competent authorities, and entities involved in delivering the electricity. They should be involved early enough in the discussions on assistance provisions and possibly tasked to work together to execute the assistance arrangements.

In exceptional cases where cross-zonal capacity has been offered to the market but has remained unused, TSOs should be entitled to utilise those capacities.

2.2.2. *Technical information in the early warning and declaration of crisis (Article 14) and methodology for estimation pursuant to Article 15(3) (which should be re-assessed based on the technical ability to deliver once assistance is required during the crisis)*

For the sake of transparency and as a basis for the discussions on the required assistance, Member States should inform other Member States within their regional agreement and any further bilateral agreements (i.e. potential providers of assistance) about the theoretical maximum electricity quantities they may request, the status and limit of cross-zonal capacity, the possible period when assistance will be required and the trigger for the assistance. Nevertheless, the exact electricity quantities needed, requested and available will only be known once assistance is triggered. For the calculation of these theoretical maximum electricity quantities, the following elements should be taken into consideration as a minimum:

— indication of the expected deficit in terms of energy and power and the anticipated duration of this gap due to unavailability of generation and/or cross-zonal capacity,

— indication of the uncertainty of the expected deficit that is a function of the limited predictability of variable renewable generation, the limited predictability of the actual demand as well as the possibility of unplanned outages of generation assets,

— specific characteristics of the Member State system: the state of interconnectors if relevant (in case of outage), the level of hydro reservoirs and its expected evolution, storage capacity, demand-side response possibilities, possibility of fuel shortages etc.,

— any other critical operational characteristic than can be impacted due to the crisis (for example, a gas shortage might impact the frequency control capabilities of a particular area or reduce the available amounts of frequency containment reserves and automatic frequency restoration reserves).

A good starting point for the analysis of the potential electricity quantities can be the latest seasonal and short-term adequacy assessments. The previous information should be updated when new information is available and when the crisis effectively occurs, to re-assess the requirements and the system state.

2.2.3. *Operational security of networks*

Risk scenarios can consider more extreme events, other exceptional contingencies and out-of-range contingencies not considered in the contingency list ([10]), or violations of operational security limits that have to be taken into account. A specific assessment should be carried out to determine the potential non-security situations and the potential lines of action to deal with them.

The arrangements may provide a description of the technical possibilities and constraints of the individual electricity networks that need to be maintained for the electricity system to operate safely and reliably. This is important information for both the assisting and the assisted Member States.

2.2.4. *Observance of market rules*

Pursuant to Article 16 of the Regulation, measures taken to prevent or mitigate electricity crisis situations must comply with the rules governing the internal electricity market and system operation. Notably, markets should remain active and market measures be pursued to the largest possible extent, i.e. prices should follow demand and supply conditions and access to cross-border interconnectors should be kept open under standard conditions. High prices (in hours of scarcity) should be seen as normal in the operation of power markets, as they constitute a key tool to triggering additional electricity to come online and meet demand in both the short and long term.

In the same way, the system operation guideline must be followed for normal and alert states of the system and the emergency and restoration network code must be followed in the event of emergency, blackout and restoration states.

2.2.5. *Activation of non-market-based measures*

Pursuant to Article 16 of the Regulation, non-market-based measures may be activated in an electricity crisis only:

— as a last resort if all options provided by the market have been exhausted, or

— where it is evident that market measures alone are not sufficient to prevent a further deterioration of the electricity supply situation.

In addition, non-market-based measures may not unduly distort competition and the effective functioning of the internal electricity market. They must be necessary, proportionate, non-discriminatory and temporary. Non-market based measures constituting a restriction of electricity flows between Member States cannot go beyond the measures listed in point 2.2.5.1 and can only be initiated as provided by the rules referred under that point.

Non-market-based measures should be activated as late as possible, taking into account the most up-to-date information regarding the situation of the power system (system status and forecasts). In addition, enough time should be allowed to communicate to the Member States, TSOs, relevant stakeholders and NEMOS in the region and to take the necessary actions. The duration of non-market-based measures should be as short as possible and the relevant hours of their application must be established in advance.

2.2.5.1. Non-market based measures constituting a restriction of electricity flows between Member States

Transaction curtailment can be carried out in the following cases:

(a) curtailment of already allocated cross-zonal capacity (as referred to in Article 51 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation ([11]) and Article 72 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ([12]));

([10]) Contingency lists are established pursuant to Article 33 of Regulation (EU) 2017/1485 (OJ L 220, 25.8.2017, p. 1).
([11]) OJ L 259, 27.9.2016, p. 42.
([12]) OJ L 197, 25.7.2015, p. 24.

(b) limitation of provision of cross-zonal capacity for capacity allocation, (as referred to in Article 16.3 of Regulation (EU) 2019/943 and in Article 35(2)(a) of Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on emergency and restoration ([13])); or

(c) limitation of provision of schedules after the outcome of the day-ahead or intra-day markets (as referred in referred to in Article 111(1) and 111(2) of Commission Regulation (EU) 2017/1485 ([14])).

The sub-sections below describe the existing rules applicable to each case.

(a) Curtailment of already allocated cross-zonal capacity (as referred in Regulation (EU) 2016/1719 and in Regulation (EU) 2015/1222)

Article 51 of Regulation (EU) 2016/1719 establishing a guideline on forward capacity allocation establishes that all TSOs must develop harmonised allocation rules (HAR) for long-term transmission rights. Long-term cross-zonal capacity curtailment rules are established in title 9 of the HAR ([15]).

Article 72(1) of Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management establishes that curtailment of allocated cross-zonal capacity is only possible in the event of force majeure or an emergency situation where the TSO must act in an expeditious manner, and re-dispatching and countertrading are not possible. In all cases, curtailment must be undertaken in a coordinated manner following liaison with all directly concerned TSOs. Article 72(3) establishes how the curtailment must be compensated.

(b) Limitation of provision of cross-zonal capacity for capacity allocation (as referred in Regulation (EU) 2019/943 and Regulation (EU) 2017/2196)

The limitation of provision of cross-zonal capacity for capacity allocation is only possible when it is expected that the transmission system will not be restored to the normal or alert state.

(c) Limitation of provision of schedules (as referred in Regulation (EU) 2017/1485)

Limitation of schedules due to local problems in the physical network or in ICT systems (tools and communication means) should be communicated as soon as possible. In the case of ICT problems, alternative channels of communication or backup procedures should be in place to limit the impact of the ICT problem. In the case of a problem in the physical network that produces a limitation of schedules, the risk preparedness plans at national level should define the procedure to manage and compensate it.

2.2.5.2. Market suspension

Article 35(1) of Regulation (EU) 2017/2196 establishing a network code on emergency and restoration defines cases in which market activities may be suspended.

Article 35(2) lists the market activities that the TSO may temporarily suspend. TSOs in a region must agree on the decision regarding the suspension of each of the activities and the rationale behind that decision.

No regionally or bilaterally agreed crisis measures or national non-market based measures should result in the suspension of market operations for reasons other than those listed in Article 35(1) of Regulation (EU) 2017/2196 establishing a network code on emergency and restoration.

2.3. **Financial arrangements**

Financial arrangements should ensure that electricity supplied under the assistance mechanism is paid for at an appropriate price. These arrangements might cover the calculation of costs, compensation for assistance (including compensation for curtailment), and the payment procedures to be identified and established between the relevant entities.

([13]) OJ L 312, 28.11.2017, p. 54.
([14]) OJ L 220, 25.8.2017, p. 1.
([15]) Decision of the Agency for the Cooperation of Energy Regulators No 03/2017 of 2 October 2017 on the electricity transmission system operators' proposal for harmonised allocation rules for long-term transmission rights.

The financial arrangements should not introduce perverse incentives, which could themselves trigger the need for assistance. Compensation for assistance is supposed to cover no more than the costs actually incurred; it cannot become a source of profit for the providing entity. The Member State receiving assistance should promptly pay the provider Member State a fair price for the electricity received. The latter will then determine how these funds are handled and how they fit with existing rules for imbalance settlement.

Any compensation paid to customers who are curtailed in an emergency – whether this stems from the obligation to provide cross-border assistance, or a national emergency – should be the same as that set out in national law.

In view of the above, Member States may maintain the existing national mechanism (on forced curtailment-related compensation) for purely national emergencies (i.e. where there is no request for assistance). This gives them the freedom to decide whether they wish to pay compensation or not to forcibly curtailed customers. However, when a national emergency develops into a situation where cross-border assistance is triggered, one option may be to distribute the compensation for assistance paid by the requesting Member State to the providing Member State among all forcibly curtailed consumer groups, regardless of whether they were curtailed before or after assistance was triggered. This option would follow a scheme designed in the Member State providing assistance, but would preferably be based on a 'value of lost load'-type approach. Alternatively, Member States may also decide to pay compensation received for assistance into a centrally managed 'assistance fund'. This way, existing national compensation mechanisms for curtailment remain within the Member States' remit and different approaches in Member States will not lead to different treatment of curtailed consumer groups within a country when assistance is provided across borders, where compensation for assistance is obligatory.

The main elements of the compensation for assistance are i. the electricity price and ii. the additional costs to the assisting Member State for making sure the electricity gets across the border, based on costs actually incurred that the national legal framework in the assisting Member State allows to be paid out.

Different approaches to determining the electricity price may be used and agreed in the arrangements. However, it is important that the arrangements are clear about the agreed approach and the circumstances under which it would apply, and that they identify any known parameters that would be used (e.g. the premium, if the last known trade plus premium is chosen).

2.3.1. *Price of electricity*

The financial arrangements should refer to the price of delivered electricity and/or the methodology for setting the price, taking into account the impact on market operations. This latter condition can be understood as aiming at a price or methodology that does not distort the market or create perverse incentives. The electricity price serving as the basis for compensation for assistance is determined (by market or other means) in the Member State providing assistance.

(a) Market price

As a guiding principle, the price of electricity, supplied under the assistance mechanism, should not be lower than the market price, such that would lead to perverse incentives. If the price is kept unfrozen and allowed to dynamically follow electricity demand and supply, it can provide a signal even during a crisis.

Regarding market prices in general terms, a key driver is the level of market integration that is considered as a base case. If full implementation of the internal electricity market is assumed, including balancing markets, then the reference price could be provided directly by any of the future platforms created for the exchange of balancing energy according to Commission Regulation (EU) 2017/2195 ([16]) on electricity balancing. A methodology for calculating a 'reference price' would be needed only when there are no more available bids in the balancing market (which could indicate a simultaneous crisis) or when market specificities (i.e. the existence of purely national balancing products) do not permit their activation by the requesting Member State. Finally, if there are no more available bids in the balancing market (i.e. there are no more available resources in the market) the latest available tool is load shedding. In this case, the price of the energy should reflect the cost of implementing such load shedding (see point (b)).

([16]) Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (OJ L 312, 28.11.2017, p. 6).

(b) Administrative pricing/forced curtailment

If there is no market price, other approaches to setting the electricity price may be necessary, such as the last known balancing market price or intra-day market price whichever is higher. Alternatively, the price of the last known electricity trade or measure with or without a premium may also be a pointer. A premium may be considered in order to fill the gap – if such a gap exists – between the last known price and the curtailed customers' value of lost load (VoLL) ([17]).

A VoLL calculation can be used to determine the price of the customers being forcibly curtailed in the Member State providing assistance. The value reflects the benefits that the specific consumer group has lost as a result of being curtailed. The VoLL should be derived using the methodology referred to in Article 11 of Regulation (EU) 2019/943.

Usually the adopted values will also be reflected in the curtailment order in the risk-preparedness plans.

Lastly, it may be worth looking at a methodology for price-setting by the national regulatory authority or competent authority, or the use of a proxy, such as the price of call options ([18]).

(c) Willingness to pay

It may be reasonable to determine the maximum amount each Member State is willing to pay for electricity in a crisis situation. The maximum value would likely be the VoLL for categories of electricity users who are entitled to receive special protection against disconnection in a given Member State. Should the price of electricity exceed this value, it may not be in the Member State's interest to ask for electricity under the assistance mechanism. This information, however, does not necessarily need to be part of the arrangements or be reflected in the plans.

2.3.2. *Other categories of costs*

The financial arrangements should cover any other categories of costs, including relevant and reasonable costs for measures established in advance (Article 15(4) of the Regulation) that will have to be covered by fair and prompt compensation. Additional costs should be kept at a minimum and attention paid to avoiding double counting, as some of the additional cost elements may already be reflected in the price of electricity.

(a) Associated transmission costs

The compensation should cover transmission-associated costs related to the capacity needed for the assistance quantities.

(b) Damages for forcibly curtailed customers (compensation for curtailment)

Other costs may also be those incurred under an obligation to pay compensation in the assisting Member State, including damages to forcibly curtailed customers. Such costs can be included in the compensation cost if the national legal framework provides for the obligation to pay damages to forcibly curtailed customers, including compensation for economic damage, on top of the electricity price. The relevant methodology for the calculation needs to be included in the arrangements. There may be an agreement to pass on the amount of compensation actually incurred to the entities that use the assistance electricity in the Member State receiving assistance.

However, the cost of damages to forcibly curtailed customers may only be covered by compensation if it is not reflected in the electricity price that the requesting Member State has to pay. The requesting Member State should not have to pay compensation for the same costs twice.

([17]) There are cases where the premium covers the 'insurance value' of the freed-up electricity.

([18]) Call options give the buyer of the call option the right, but not the obligation, to purchase a specific quantity of electricity at a fixed price in the future. The buyer of the option pays a premium for the right to exercise the option. Options are composed of a strike price, a pricing period, settlement methodology, and a premium. Options are traded at exchanges or they can be private bilateral deals OTC.

(c) Cost of judicial proceedings in the assisting Member State

Other costs may also relate to reimbursement for any costs resulting from judicial proceedings, arbitration proceedings and settlements, along with any related costs from such proceedings involving the assisting Member State vis-à-vis the entities involved in providing such assistance (Article 15(4)(b) of the Regulation). However, such compensation should only be paid against proof of costs incurred.

In the event of litigation involving a Member State and the entity providing assistance over (insufficient) compensation from the Member State receiving assistance, there should be safeguards to protect the latter Member State. There may be circumstances in which the entity concerned and the Member State where it is established take each other to court to obtain a higher electricity price or more compensation for the entity, and act to the detriment of the requesting Member State, which is not a party in the legal proceedings. Such circumstances should be avoided.

The above situation is different from a situation where a company in the assisting Member State launches judicial proceedings against an entity in the receiving Member State over the price of electricity or compensation for curtailment. In such a situation the company or entity that loses the case would be liable to pay the costs involved.

2.3.3. *Indication of the method of calculating fair compensation*

The following methods may be considered in calculating fair compensation:

— simple sum of all the applicable elements described in the section above,

— time value of money: payment should be made promptly. However, Member States may agree on an interest rate to be applied to the compensation once a realistic period has elapsed after the provision of assistance, and once the exact amount of the compensation has been calculated and agreed,

— agreement between Member States using different currencies on the currency in which compensation should be calculated and paid, including the relevant exchange rate.

2.3.4. *Calculating the compensation of all relevant and reasonable costs and undertaking to pay for compensation*

It is likely that the calculation of the exact payment to the Member State that provided assistance and to entities in that Member State can only realistically happen some time after the electricity requested under the assistance mechanism has been delivered. In their regional or bilateral arrangement, Member States can agree on the approach to calculating the price of electricity and additional costs, and on a realistic deadline for the payment.

Information about the electricity quantities actually delivered and any other relevant information for calculating the compensation should be sent to the relevant contact person(s) in the Member States involved in the assistance exercise, so that both can carry out a final calculation of the compensation. The information may be available from the TSO, DSO, strategic reserve operator, a supplier or NEMO, depending on the measure applied. The calculation of the compensation may be delegated to another predefined entity.

2.3.5. *Arrangements for payment*

As a guiding principle, existing procedures for domestic payments and compensation (or balancing-type transactions) in a Member State and existing roles and responsibilities in this regard should be maintained and applied wherever possible to compensation payments for assistance between Member States as well. Arrangements between Member States should focus on how to connect or implement an interface between these existing national frameworks. The nature of assistance may require making the Member State or competent authority the interface bearing ultimate financial responsibility.

2.3.6. *Roles and responsibilities – who pays whom and who arranges payments*

When voluntary demand-side measures are still possible in the assisting Member State, access to the relevant platform and cross-zonal capacity needs to be maintained. It should be possible for a buyer across the border to make payments in the same way as a local buyer would do for the electricity, according to what is defined in the electricity balancing guideline.

When curtailments are introduced, any existing legal framework, payment process or authority responsible for managing the payments in the Member State providing assistance could be used or adapted as necessary for compensation payments from a neighbouring country.

The ultimate beneficiary of assistance is the supplied consumer. In the event of curtailment, the electricity supplier of the curtailed non-protected customer should be sure of continued payments, taking into account the assistance volumes. These should be settled according to the compensation scheme in the Member State. The potential roles and responsibilities can be distributed as described in point 1.5.

2.3.7. *Description/steps of the payment process*

Depending on the existing frameworks and how the interface between these frameworks is agreed by the Member States, the agreed procedures need to be included in the arrangements.

Assuming Member-State-to-Member-State involvement in financial aspects – and in particular monitoring, checking and channelling claims after assistance electricity has been delivered – the relevant entity in the assisting Member State calculates the amount of the compensation based on the quantity of electricity delivered, the agreed cost elements and the agreed calculation method, and submits its request for payment to the relevant entity in the requesting Member State. The requesting Member State then confirms the service received, checks the calculation and, if it has no objections, pays within the agreed deadline. Financial processes within the Member States – such as distribution of compensation or charging compensation for assistance – follow national rules (e.g. they may be applied directly to the offering/curtailed entity or socialised –distributed among all customers).

The deadlines for the compensation calculation for assistance, scrutiny and payment should be included in the arrangements. The same applies to the applicable law and dispute settlement options in the event of a dispute arising from use of the assistance mechanism.

3. CONCLUSION

Thanks to the Regulation on risk preparedness, the political desire for assistance between Member States has become a reality on the ground. Moreover, the Regulation elevates assistance from the status of a nationally applied concept to that of an EU-wide protection of public safety and personal security. For the purpose of protecting public safety and personal security, it introduces far-reaching rights and obligations that provide electricity users entitled to receive special protection against disconnection with the certainty and security of an uninterrupted electricity supply. The guidance in this document offers a wide range of options for making the assistance mechanism work, while Member States remain free to choose the solutions that best suit them.